

# IGNACIO HAYA PARK LIVING SHORELINE PROJECT



PREPARED FOR:  
CITY OF TAMPA  
DEPARTMENT of  
PARKS & RECREATION  
306 E. JACKSON STREET  
TAMPA, FL 33603



PREPARED BY:  
ENVIRONMENTAL SCIENCE ASSOCIATES  
4200 W. CYPRESS ST., SUITE 450  
TAMPA, FL 33607

LEGAL DESCRIPTION:  
IGNACIO HAYA LINEAR PARK - NW 1/4 OF NW  
1/4 SECTION 01-29-18

## SHEET LIST:

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Know what's below.  
Call before you dig.

## GENERAL NOTES

- THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF THE QUANTITIES OF WORK REQUIRED TO COMPLETE THE CONSTRUCTION SHOWN ON THE PLANS. THE CONTRACTOR SHALL ALSO MAKE THEIR OWN ASSESSMENT OF THE SITE AND THE WORK REQUIRED PRIOR TO BIDDING AND ANY DISCREPANCIES, ERRORS OR OMISSIONS, SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE THE BID DUE DATE. THE CONTRACTOR SHALL CHECK PLANS FOR CONFLICTS AND DISCREPANCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD OF ANY CONFLICT BEFORE PERFORMING ANY WORK IN THE AFFECTED AREA.
- ALL EXCAVATION AND PLACEMENT MUST BE COMPLETED BY MECHANICAL METHODS.
- ALL CONSTRUCTION ACTIVITY WILL BE CONDUCTED DURING DAYLIGHT HOURS FROM 8AM TO ONE HALF-HOUR BEFORE SUNSET.
- ALL WORK WILL BE COMPLETED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
- ALL WORK WILL BE COMPLETED WITHIN DESIGNATED AREAS AND TO DESIGNATED ELEVATIONS.
- CONTRACTOR MUST OBSERVE A 3 FOOT BUFFER FROM ANY SUBMERGED AQUATIC VEGETATION (SAV). NO CONSTRUCTION ACTIVITY, MATERIALS, OR TEMPORARY TURBIDITY MEASURES WILL BE ALLOWED WITHIN 3 FEET OF SAV.
- THE CONTRACTOR WILL BE REQUIRED TO CONDUCT THE WORK IN SUCH MANNER AS TO NOT OBSTRUCT CITY OF TAMPA OPERATIONS. CONTRACTOR SHALL MAKE REASONABLE EFFORTS TO AFFORD A PRACTICABLE AND SAFE PASSAGE. UPON THE COMPLETION OF THE WORK THE CONTRACTOR SHALL PROMPTLY REMOVE THE EQUIPMENT, ETC. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE FOR ALL EQUIPMENT INGRESS AND EGRESS TO AND FROM THE PROJECT WORK AREAS. THE CONTRACTOR SHALL MAKE AN INVESTIGATION OF ACCESS ROUTES AND THE ROADS FOR TRANSPORTATION, LOAD LIMITS FOR BRIDGES AND ROADS, AND OTHER ROAD CONDITIONS AFFECTING THE TRANSPORTATION OF MATERIALS AND EQUIPMENT TO THE WORK SITES. THE CONTRACTOR SHALL ALSO INVESTIGATE THE AVAILABILITY OF ANY STAGING, STORAGE, AND STOCK PILING AREAS AND SHALL MAKE ALL ARRANGEMENTS FOR USE OF ANY SUCH AREAS FOR THE DELIVERY OF ANY MATERIALS AND EQUIPMENT TO BE USED IN COMPLETING THE WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UNDERGROUND UTILITIES OR OTHER OBJECTS PRIOR TO COMMENCING WORK AT THE SITE. CONTACT "SUNSHINE" AT 1-800-432-4770.
- ALL AREAS OR ITEMS THAT ARE DAMAGED OR DISTURBED ABOVE OR BELOW GROUND BY THE CONTRACTOR SHALL BE RESTORED TO THEIR ORIGINAL OR BETTER CONDITION AT NO COST TO THE CITY. REPAIR AND REPLACEMENT OF ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION OF EQUAL TO, OR BETTER THAN EXISTING CONDITIONS UNLESS SPECIFICALLY EXEMPTED BY THE PLANS.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING HORIZONTAL AND VERTICAL ACCURACY DURING EXCAVATION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE PERMIT AND INSPECTION REQUIREMENTS OF THE VARIOUS GOVERNMENTAL AGENCIES. ALL WORK PERFORMED SHALL COMPLY WITH THE REGULATIONS AND ORDINANCES OF THE VARIOUS GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE WORK.
- CONSTRUCTION TRAFFIC SHALL NOT IMPEDE THE SAFE AND EFFICIENT USE OF SURROUNDING ROADWAYS. CONTRACTOR SHALL FOLLOW FDOT STANDARD INDICES 600 AND 604 FOR MAINTENANCE OF TRAFFIC DURING CONSTRUCTION OF THE TEMPORARY CONSTRUCTION ACCESS CONNECTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE TIMELY REMOVAL OF ANY FUGITIVE DUST, SAND OR DEBRIS WHICH MAY BE CAUSED BY THEIR ACTIONS FROM THE RIGHT OF WAY.
- RECORD DRAWINGS: TWO (2) SETS OF THE FINAL RECORD DRAWING AS-BUILTS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD.
- REPORT SUBMISSION: THE CONTRACTOR SHALL MAINTAIN A LOG DETAILING DAILY CONSTRUCTION ACTIVITY DURING THE CONTRACT PERIOD. THE DATA SHALL BE RECORDED ON FORMS PROVIDED BY THE CITY/ENGINEER. ALL DATA IN ORIGINAL FORM SHALL BE FORWARDED DIRECTLY TO THE CITY/ENGINEER, WITHIN 10 DAYS OF COLLECTION AND COPIES OF THE DATA SHALL BE SUPPLIED TO THE CITY/ENGINEER. FOLLOWING PROJECT COMPLETION, A REPORT SUMMARIZING THE ABOVE INCIDENTS AND SIGHTINGS SHALL BE SUBMITTED TO THE FOLLOWING:

ENVIRONMENTAL SCIENCE ASSOCIATES  
4200 W. CYPRESS ST., SUITE 450  
TAMPA, FL 33607  
(813) 207-7216

## SURVEY NOTES

- HYDROGRAPHIC AND TOPOGRAPHIC SURVEY PERFORMED BY SURVTECH SOLUTIONS.
- VERTICAL DATUM SHOWN IS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). HORIZONTAL DATUM SHOWN IS BASED ON FLORIDA EAST ZONE STATE PLANE COORDINATES, NORTH AMERICAN DATUM 1983 (NAD83). ALL ELEVATIONS ARE REPORTED IN U.S. FEET.
- AERIAL PHOTOGRAPHY PROVIDED BY FLORIDA DEPARTMENT OF TRANSPORTATION, 2017.
- DRAWINGS REPRESENT CONDITIONS ENCOUNTERED AT TIME OF SURVEY. SITE CONDITIONS ARE DYNAMIC AND SUBJECT TO CHANGE. CONTRACTOR SHALL CONDUCT SURVEY PRIOR TO SITE DISTURBANCE TO VERIFY SITE CONDITIONS PRIOR TO CONSTRUCTION.
- THE CITY HAS PERFORMED A FEASIBILITY LEVEL SURVEY THAT IS INCLUDED IN THE CONTRACT DRAWINGS. THIS PRE-EXCAVATION SURVEY WAS USED TO CALCULATE AN ESTIMATED QUANTITY OF MATERIAL TO BE EXCAVATED. THIS QUANTITY IS CONSIDERED AN ESTIMATE AND IS NOT THE BASIS FOR PAYMENT TO THE CONTRACTOR. PAYMENT FOR THIS WORK SHALL NOT BE BASED ON THE VOLUME OF MATERIAL (CUBIC YARDS) PLACED AT THE WORK AREA. THE CONTRACTOR SHALL BE COMPENSATED SOLELY BASED ON THE LUMP SUM BID PRICE. CONTRACTOR SHALL MAKE AN ASSESSMENT OF THIS AND ANY OTHER RELEVANT INFORMATION NECESSARY, IN THE JUDGMENT OF THE CONTRACTOR, IN DETERMINING THE EXPECTED VOLUME TO BE REMOVED/ADDED.
- THE ELEVATIONS AND EXTENTS OF THE NEW BREAKWATER AND ROCK REVETMENT SHALL BE PROVIDED IN AN AS-BUILT SURVEY AT THE TIME OF SUBSTANTIAL PROJECT COMPLETION.

## ENVIRONMENTAL PROTECTION NOTES

- THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING CONSTRUCTION CONDITIONS FOR PROTECTION OF MANATEES, SEA TURTLES AND SMALLTOOTH SAWFISH:
  - THE CONTRACTOR SHALL INSTRUCT ALL PERSONNEL ASSOCIATED WITH THE PROJECT OF THE POTENTIAL PRESENCE OF THESE SPECIES AND THE NEED TO AVOID COLLISIONS WITH MANATEES, SEA TURTLES AND SMALLTOOTH SAWFISH. ALL CONSTRUCTION PERSONNEL ARE RESPONSIBLE FOR OBSERVING WATER-RELATED ACTIVITIES FOR THE PRESENCE OF THESE SPECIES.
  - THE CONTRACTOR SHALL ADVISE ALL CONSTRUCTION PERSONNEL THAT THERE ARE CIVIL AND CRIMINAL PENALTIES FOR HARMING, HARASSING, OR KILLING MANATEES, SEA TURTLES OR SMALLTOOTH SAWFISH, WHICH ARE PROTECTED UNDER THE ENDANGERED SPECIES ACT OF 1973.
  - SILTATION BARRIERS SHALL BE MADE OF MATERIAL IN WHICH A MANATEE, SEA TURTLE OR SMALLTOOTH SAWFISH CANNOT BECOME ENTANGLED. SILTATION BARRIERS SHALL BE PROPERLY SECURED AND REGULARLY MONITORED TO AVOID PROTECTED SPECIES ENTRAPMENT. BARRIERS MAY NOT BLOCK MANATEE, SEA TURTLE OR SMALLTOOTH SAWFISH ENTRY TO OR EXIT FROM DESIGNATED CRITICAL HABITAT WITHOUT PRIOR AGREEMENT FROM THE NATIONAL MARINE FISHERIES SERVICE'S PROTECTED RESOURCES DIVISION, ST. PETERSBURG, FLORIDA.
  - SILTATION BARRIERS, STAKES, ROPES AND/OR ANCHORS MUST REMAIN 3 FEET FROM ANY SUBMERGED AQUATIC VEGETATION.
  - ALL VESSELS ASSOCIATED WITHIN THE CONSTRUCTION PROJECT SHALL OPERATE AT "NO WAKE/IDLE" SPEEDS AT ALL TIMES WHILE IN THE CONSTRUCTION AREA AND WHILE IN WATER DEPTHS WHERE THE DRAFT OF THE VESSEL PROVIDES LESS THAN A FOUR-FOOT CLEARANCE FROM THE BOTTOM. ALL VESSELS WILL PREFERENTIALLY FOLLOW DEEP-WATER ROUTES (E.G., MARKED CHANNELS) WHENEVER POSSIBLE.
  - IF A MANATEE, SEA TURTLE OR SMALLTOOTH SAWFISH IS SIGHTED WITHIN 100 YARDS OF THE ACTIVE DAILY CONSTRUCTION OPERATION OR VESSEL MOVEMENT, ALL APPROPRIATE PRECAUTIONS SHALL BE IMPLEMENTED BY THE CONTRACTOR TO ENSURE ITS PROTECTION. THESE PRECAUTIONS SHALL INCLUDE CESSATION OF OPERATION OF ANY MOVING EQUIPMENT CLOSER THAN 50 FEET OF A MANATEE, SEA TURTLE OR SMALLTOOTH SAWFISH. OPERATION OF ANY MECHANICAL CONSTRUCTION EQUIPMENT SHALL CEASE IMMEDIATELY IF A MANATEE, SEA TURTLE OR SMALLTOOTH SAWFISH IS SEEN WITHIN A 50 - FT RADIUS OF THE EQUIPMENT. ACTIVITIES MAY NOT RESUME UNTIL THE PROTECTED SPECIES HAS DEPARTED THE PROJECT AREA OF ITS OWN VOLITION.
  - ANY COLLISION WITH AND/OR INJURY TO A MANATEE, SEA TURTLE OR SMALLTOOTH SAWFISH SHALL BE REPORTED IMMEDIATELY TO THE OWNER/ENGINEER AND TO THE NATIONAL MARINE FISHERIES PROTECTED RESOURCES DIVISION (727-824-5312) AND TO THE LOCAL AUTHORIZED SEA TURTLE STRANDING/RESCUE ORGANIZATION.
- CONTRACTOR SHALL NOT OCCUPY PRIVATE LAND OUTSIDE OF ANY EASEMENTS OR RIGHTS OF WAY.
- MATERIAL REMOVED FROM BEYOND THE CONSTRUCTION LIMITS AS SPECIFIED ON THE CONTRACT DRAWINGS SHALL BE CONSIDERED EXCESSIVE EXCAVATION FOR WHICH PAYMENT WILL NOT BE MADE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEDERAL, STATE, AND LOCAL REGULATORY PERMITS, IMPLICATIONS, VIOLATIONS AND/OR FEES AS A RESULT OF EXCESSIVE EXCAVATION.
- IF ARCHEOLOGICAL OR HISTORIC RESOURCES ARE ENCOUNTERED THE CONTRACTOR SHALL NOTIFY THE CITY/ENGINEER IMMEDIATELY AND STOP WORK UNTIL DIRECTED TO RESTART.
- THE CONTRACTOR SHALL STRICTLY ADHERE TO ALL MANATEE REGULATIONS FOR IN WATER WORK.
- TURBIDITY CONTROL MEASURES WILL BE PROPERLY MAINTAINED IN COMPLIANCE WITH FEDERAL AND STATE WATER QUALITY STANDARDS. IF TURBIDITY LEVELS EXCEED WATER QUALITY STANDARDS, DREDGING ACTIVITY WILL CEASE UNTIL LEVELS RETURN TO THE ACCEPTABLE RANGE. WATER QUALITY WILL BE MONITORED BY THE CITY'S REPRESENTATIVE. SHOULD TURBIDITY BE MEASURED MORE THAN 29 NTUS ABOVE BACKGROUND, WORK WILL CEASE UNTIL TURBIDITY HAS FALLEN TO AN ACCEPTABLE BACKGROUND LEVEL.
- BEST MANAGEMENT PRACTICES FOR EROSION AND TURBIDITY CONTROL, INCLUDING BUT NOT LIMITED TO THE USE OF STAKED HAY BALES, TURBIDITY BARRIERS, AND SILT SCREENS, SHALL BE USED AND MAINTAINED AS NECESSARY AT ALL TIMES DURING THE PROJECT. TURBIDITY CONTROL DEVICES SHALL BE MAINTAINED AND SHALL REMAIN IN PLACE FOR THE DURATION OF CONSTRUCTION TO ENSURE THAT TURBIDITY LEVELS OUTSIDE THE CONSTRUCTION AREA DO NOT EXCEED BACKGROUND LEVELS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT TURBIDITY CONTROL DEVICES ARE INSPECTED DAILY AND MAINTAINED IN GOOD WORKING ORDER SO THAT THERE ARE NO VIOLATIONS OF STATE WATER QUALITY STANDARDS OUTSIDE OF THE TURBIDITY SCREENS. A DAILY TURBIDITY LOG SHALL BE MAINTAINED BY THE COUNTY WITH ENTRIES PRIOR TO THE START OF EACH DAY'S WORK, EACH HOUR THROUGHOUT THE DAY, AND 30 MINUTES PRIOR TO THE END OF WORK. THE DISTRICT REPRESENTATIVE WILL EVALUATE THE IMPLEMENTATION, DEPLOYMENT, AND EFFECTIVENESS OF SILTATION/TURBIDITY CONTROL DEVICES.
- ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 7 DAYS AFTER DISTURBANCE.
- THE CONTRACTOR SHALL DISTURB NO MORE GROUND THAN WHAT IS NECESSARY FOR CONSTRUCTION. NO OPEN EXCAVATED TRENCH, OR OTHER UNSAFE CONDITION, WILL BE LEFT OVERNIGHT. ALL WORK SITES WILL BE COMPLETELY RESTORED WITHIN SEVEN (7) CALENDAR DAYS OF SITE COMPLETION. THE INTENT OF THIS PROVISION IS TO "SAFE UP" THE PROJECT SITE AS WORK PROGRESSES, AND SHALL INCLUDE REMOVING FORMS, FILLING HOLES, GRADING, AND REMOVAL OF DEBRIS.
- ALL SIDEWALK DAMAGED BY THE CONTRACTOR OR SUBCONTRACTORS SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR, AT THE DIRECTION OF THE ENGINEER.
- EXOTIC OR NUISANCE PLANT SPECIES TO BE TREATED AND REMOVED THROUGHOUT THE SHORELINE AND DITCH, PRIOR TO STRUCTURE OR FILL PLACEMENT INCLUDE: WLD TARO (*Colocasia esculenta*), CATTAIL (*Typha sp.*), LEADTREE (*Leucaena leucocephala*), BRAZILIAN PEPPER (*Schinus terebinthifolius*), PRIMROSE WILLOW (*Ludwigia peruviana*), TORPEDO GRASS (*Panicum repens*), PARAGRASS (*Urochloa mutica*), AND CREEPING OXEYE (*Sphagneticola trilobata*).
- HERBACEOUS EXOTIC/NUISANCE VEGETATION TO BE KILLED IN PLACE I.E. TREATED WITH APPROVED HERBICIDE VIA BACKPACK SPRAYER AND LEFT IN PLACE. REMOVAL OF LEADTREE AND BRAZILIAN PEPPER SHOULD INCLUDE THE ROOT SYSTEMS IN AREAS THAT ARE TO BE DISTURBED BY CONSTRUCTION. IN AREAS WHERE THE REMOVAL OF THE ROOT SYSTEMS OF THESE TREE SPECIES WILL DISTURB CONSOLIDATED GROUND NEAR THE SHORELINE THAT IS OTHERWISE NOT TO BE DISTURBED, REMOVAL IS BY STUMP CUT WITH DISPOSAL OF THE CUT VEGETATION AND TREATMENT OF THE STUMP WITH AN APPROVED HERBICIDE.

## TREE PROTECTION NOTES

- IT IS IMPORTANT TO NOTE THE PROTECTION OF THE TREES TO BE PRESERVED AS IMPORTANT PARK AMENITIES. THE RIVERFRONT OVERHANGING LIMBS SHOULD BE PROTECTED AS AESTHETICALLY IMPORTANT.
- ROOT SYSTEMS ON THE LAND SIDE OF FILL TO BE REPLACED AT THE ERODED ESCARPMENT NEED TO BE PROTECTED FROM SOIL COMPACTION OR DISTURBANCE. TRIMMING OF ANY LIMBS AND THE PLAN TO ACCESS AREAS OF FILL NEED TO BE PRE-APPROVED BY AN ENGINEER SUPPORTED ARBORIST.
- TREE BARRICADES WILL BE USED OTHERWISE TO AVOID IMPACTS.

## CONSTRUCTION NOTES

- ALL STONE SHALL BE HARD, DURABLE QUALITY STONE SUCH THAT IT WILL NOT DISINTEGRATE UNDER THE ELEMENTS AND IT WILL NOT BREAK UNDER HANDLING. ALL STONE SHALL BE CLEAN AND FREE FROM EARTH, DUST, OR OTHER REFUSE.
- ARMOR STONE AND RIP-RAP SHALL PASS A "DROP TEST" AT THE QUARRY WITNESSED BY THE ENGINEER OR ENGINEER'S REPRESENTATIVE PRIOR TO TRANSPORTING THE FIRST TRUCKLOADS OF ARMOR STONE TO THE PROJECT SITE.
- THE FACES OF INDIVIDUAL PIECES OF STONE SHALL BE ROUGHLY ANGULAR, NOT ROUNDED, IN SHAPE. THE LEAST DIMENSION OF EACH STONE SHALL NOT BE LESS THAN ONE-THIRD (1/3) OF THE GREATEST DIMENSION OF THAT STONE.
- THE STONES SHALL BE PLACED IN SUCH A MANNER THAT THEY WILL BE PROPERLY INTERLOCKED WITH THE UNDERLYING OR ADJACENT STONES TO RESIST DISPLACEMENT BY WAVE ACTION AND FORM A UNIFORM AND COMPACT SECTION. EACH STONE SHALL BE FIRMLY SET AND WELL-SUPPORTED BY UNDERLYING AND ADJACENT STONE WITH A MINIMUM OF 4 POINTS OF CONTACT.
- "ARMOR STONE" SHALL BE UP TO 3-FEET IN DIAMETER, LIMESTONE. "RIP-RAP" SHALL BE UP TO 2-FEET IN DIAMETER LIMESTONE (OR AS OTHERWISE APPROVED BY THE ENGINEER) AND BOTH SHALL HAVE A MINIMUM UNIT WEIGHT OF 140 PCF.
- ARMOR STONE AND RIP RAP SHALL CONSIST OF SOUND, HARD, DURABLE RUBBLE, FREE OF OPEN OR INCIPIENT CRACKS, SOFT SEAMS, OR OTHER STRUCTURAL DEFECTS, CONSISTING OF BROKEN STONE WITH A BULK SPECIFIC GRAVITY OF AT LEAST 2.30. ENSURE THAT STONES ARE ROUGH AND ANGULAR WITH A MAXIMUM DIAMETER OF 3.0 FEET (UNLESS OTHERWISE SPECIFIED). FOR THIS APPLICATION, USE BROKEN STONE MEETING THE FOLLOWING GRADATION AND THICKNESS REQUIREMENTS:

### ARMOR STONE

WEIGHT MAXIMUM (POUNDS)	WEIGHT 50% (POUNDS)	WEIGHT MINIMUM (POUNDS)	MINIMUM BLANKET THICKNESS (FEET)
925	585	350	3.0

### RIP-RAP

WEIGHT MAXIMUM (POUNDS)	WEIGHT 50% (POUNDS)	WEIGHT MINIMUM (POUNDS)	MINIMUM BLANKET THICKNESS (FEET)
550	350	180	2.0

ENSURE THAT AT LEAST 97% OF THE MATERIAL BY WEIGHT IS SMALLER THAN MAXIMUM POUNDS. ENSURE THAT AT LEAST 50% OF THE MATERIAL BY WEIGHT IS GREATER THAN WEIGHT 50% POUNDS. ENSURE THAT AT LEAST 85% OF THE MATERIAL BY WEIGHT IS GREATER THAN WEIGHT MINIMUM POUNDS.

## OFF-SITE DISPOSAL NOTES

- DEBRIS, SUCH AS STUMPS, ROCK FRAGMENTS, ROOTS, LOGS, TRASH, VEGETATION, FILTER FABRIC, ETC. AND ANY OTHER OBJECTS EXCEPT ARCHEOLOGICAL OR HISTORIC RESOURCES THAT EXIST WITHIN THE PROJECT AREA OR ARE UNEARTHED DURING OPERATIONS, SHALL BE REMOVED, TRANSPORTED, AND DISPOSED OF AT THE COUNTY LANDFILL AND SHOULD BE EXPECTED TO BE ENCOUNTERED DURING THE OPERATIONS AND WILL NOT CONSTITUTE A CHANGE OF CONDITION TO THE CONTRACT/AGREEMENT. REMOVAL AND DISPOSAL OF DEBRIS WILL BE SOLE RESPONSIBILITY OF THE CONTRACTOR IN ITS ENTIRETY. REMOVAL AND DISPOSAL OF DEBRIS AND OBSTRUCTIONS SHALL NOT BE PROVIDED FOR SEPARATELY FOR PAYMENT. ALL COSTS ASSOCIATED WITH THE REQUIRED DISPOSAL OF DEBRIS SHALL BE INCLUDED IN THE CONTRACT PRICE. THESE SPECIFICATIONS ARE NOT AN ALL-INCLUSIVE REFERENCE OF DEBRIS TYPES, WHICH MAY BE ENCOUNTERED. IT IS ANTICIPATED THAT DURING CLEARING/CONSTRUCTION ACTIVITY DEBRIS (INCLUDED BUT NOT LIMITED TO VEGETATION, TREES, ROOTS, ROCKS, BEDROCK, FILTER FABRIC, CONCRETE, ASPHALT, WOOD, TRASH, GARBAGE, UNUSABLE SOIL, METAL, ETC.) WILL BE ENCOUNTERED. THE CONTRACTOR SHALL BE PREPARED AND RESPONSIBLE FOR PROPER REMOVAL AND DISPOSAL.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MATERIALS OFFSITE. (I.E. DESIGNATED VEGETATION, FILTER FABRIC, SILT FENCE, TRASH, DEBRIS, ETC.).

## TIDE DATUM TABLE

- TIDAL DATUM DATA OBTAINED FROM THE WEST TAMPA, HILLSBOROUGH RIVER TIDE STATION, STATION NO. 8726711

DATUM	ELEVATION (FT NAVD88)
MHHW	+0.94
MHW	+0.69
NAVD88	0
MSL	-0.28
MLW	-1.29
MLLW	-1.64



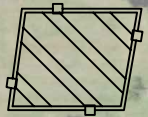
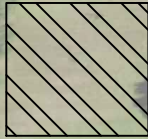
BY	DATE	REVISIONS			
		NO.	DATE	BY	IND.
DESIGNED:	6/13/19				
DRAWN:	6/13/19				
CHECKED:	6/13/19				
APPROVED:	6/13/19				

CITY OF TAMPA  
PARKS & RECREATION

IGNACIO HAYA PARK  
LIVING SHORELINE PROJECT  
CITY OF TAMPA, FL

GENERAL NOTES





LEGEND:

 STAGING AREAS

NOTE: STAGING AREAS TO BE RESTORED TO ORIGINAL (OR BETTER) CONDITION BY THE CONTRACTOR UPON COMPLETION OF THE PROJECT. SEE C-02 GENERAL NOTE #9.



DESIGNED:	BY	DATE	REVISIONS
DRAWN:	BT	DATE	NO.
BDF	BDF	6/13/19	
BDF	BDF	6/13/19	
BDF	BDF	6/13/19	
APPROVED:	RTB	6/13/19	

CITY OF TAMPA  
PARKS & RECREATION

IGNACIO HAYA PARK  
LIVING SHORELINE PROJECT  
CITY OF TAMPA, FL  
**PROJECT OVERVIEW**



LEGEND:

MEAN HIGH WATER LINE

WETLAND LINE

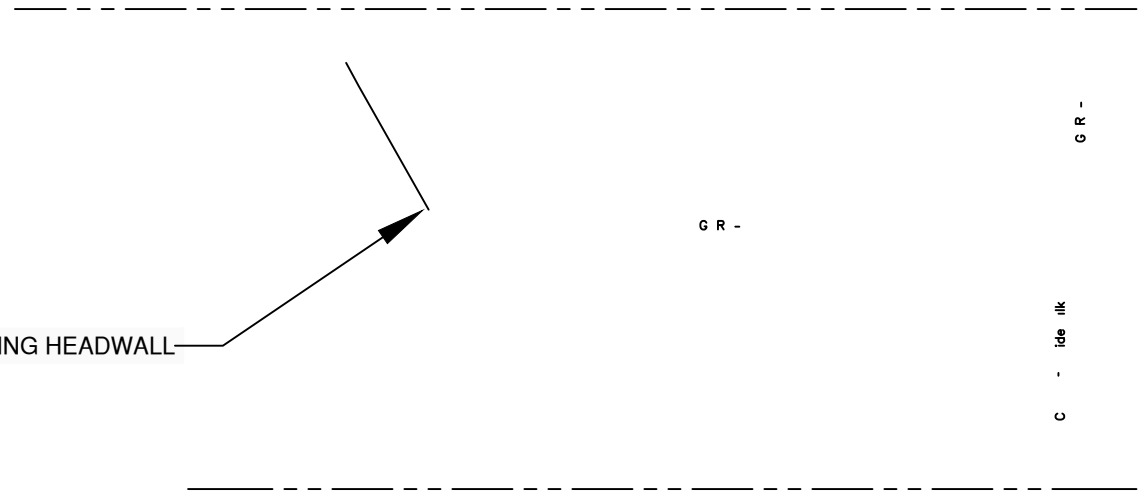
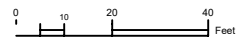
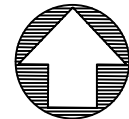
EXISTING LOOSE RIP RAP  
AND CONCRETE RUBBLE

EXISTING HEADWALL

EXISTING 18" CORRUGATED PLASTIC PIPE  
INVERT ELEVATION= -0.6 FT (NAVD 88)

18" CPP

Ignacio Haya Park  
(- phal- avemen-)



river

GRASS



REVISIONS		BY	DATE	BT	ND
DESIGNED:	BDF	6/13/19			
DRAWN:	BDF	6/13/19			
CHECKED:	BDF	6/13/19			
APPROVED:	RTB	6/13/19			

CITY OF TAMPA  
PARKS & RECREATION

IGNACIO HAYA PARK  
LIVING SHORELINE PROJECT  
CITY OF TAMPA, FL  
**EXISTING CONDITIONS**  
**PLAN VIEW CONTOURS**



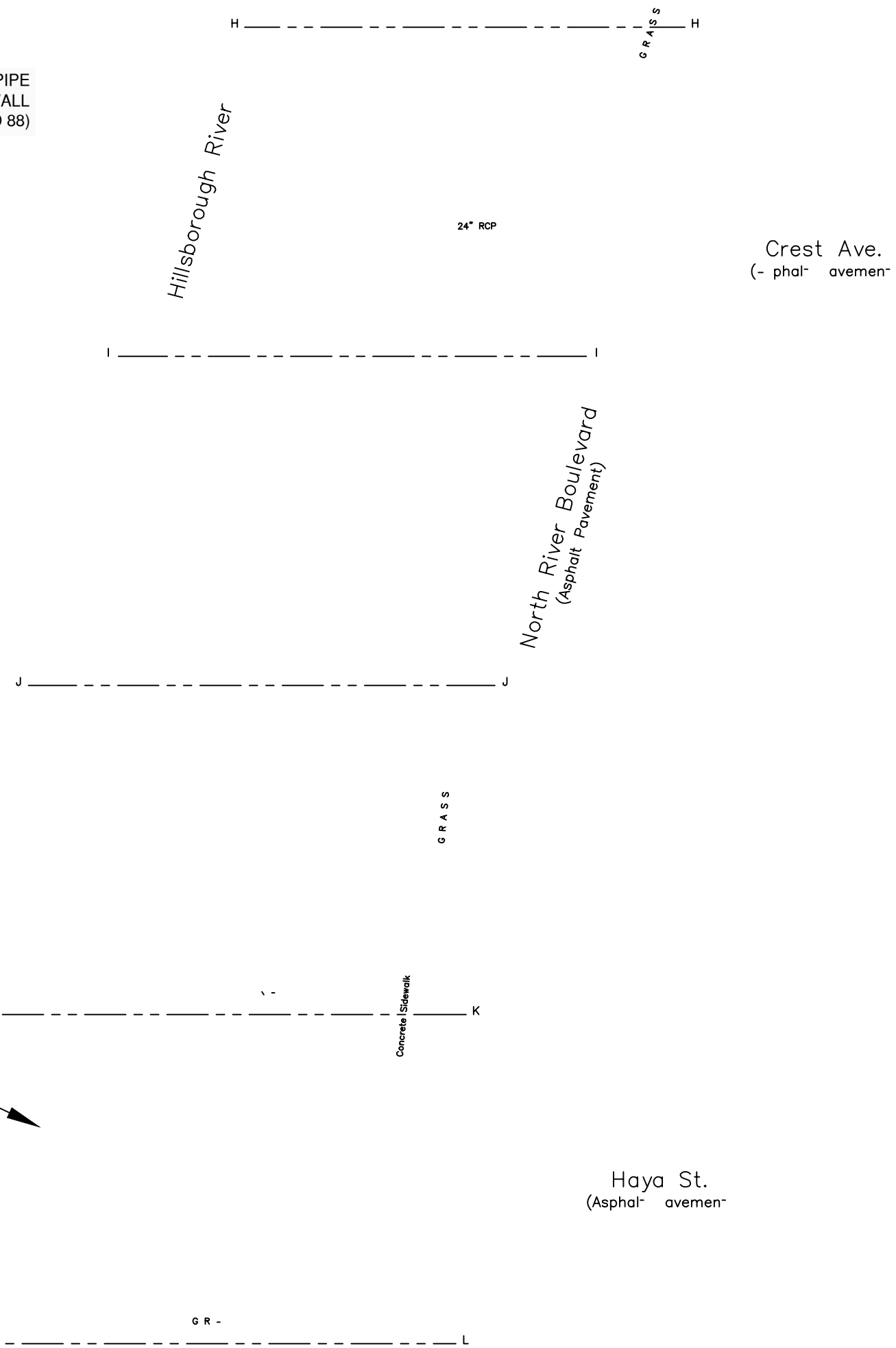
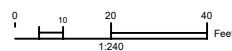
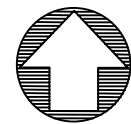
LEGEND:

MEAN HIGH WATER LINE

WETLAND LINE

EXISTING 24" REINFORCED CONCRETE PIPE  
IN CONCRETE HEADWALL  
INVERT ELEVATION = -0.24 FT (NAVD 88)

EXISTING 18" CORRUGATED PLASTIC PIPE  
INVERT ELEVATION = -1.42 FT (NAVD 88)



REVISED	REVISIONS	
	DATE	BY
	6/13/19	BDF
	6/13/19	BDF
	6/13/19	BDF
	6/13/19	RTB

DESIGNED: BDF  
DRAWN: BDF  
CHECKED: BDF  
APPROVED: RTB

CITY OF TAMPA  
PARKS & RECREATION

IGNACIO HAYA PARK  
LIVING SHORELINE PROJECT  
CITY OF TAMPA, FL  
**EXISTING CONDITIONS**  
**PLAN VIEW CONTOURS**

LEGEND:

MEAN HIGH WATER LINE

WETLAND LINE

EXISTING 18" CORRUGATED PLASTIC PIPE  
INVERT ELEVATION= -1.42 FT (NAVD 88)

EXISTING 18" CORRUGATED PLASTIC PIPE  
INVERT ELEVATION= -1.51 FT (NAVD 88)

Hillsborough River

North River Boulevard  
(Asphalt avemen<sup>t</sup>)

Haya St.  
(- phal<sup>-</sup> avemen<sup>t</sup>)

ilder Ave.  
(Asphalt avemen<sup>t</sup>)

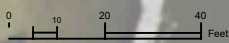


BY	DATE	REVISIONS
DESIGNED: BDF	6/13/19	BT
DRAWN: BDF	6/13/19	DATE
CHECKED: BDF	6/13/19	NO.
APPROVED: RTB	6/13/19	

CITY OF TAMPA  
PARKS & RECREATION

IGNACIO HAYA PARK  
LIVING SHORELINE PROJECT  
CITY OF TAMPA, FL

EXISTING CONDITIONS  
PLAN VIEW CONTOURS



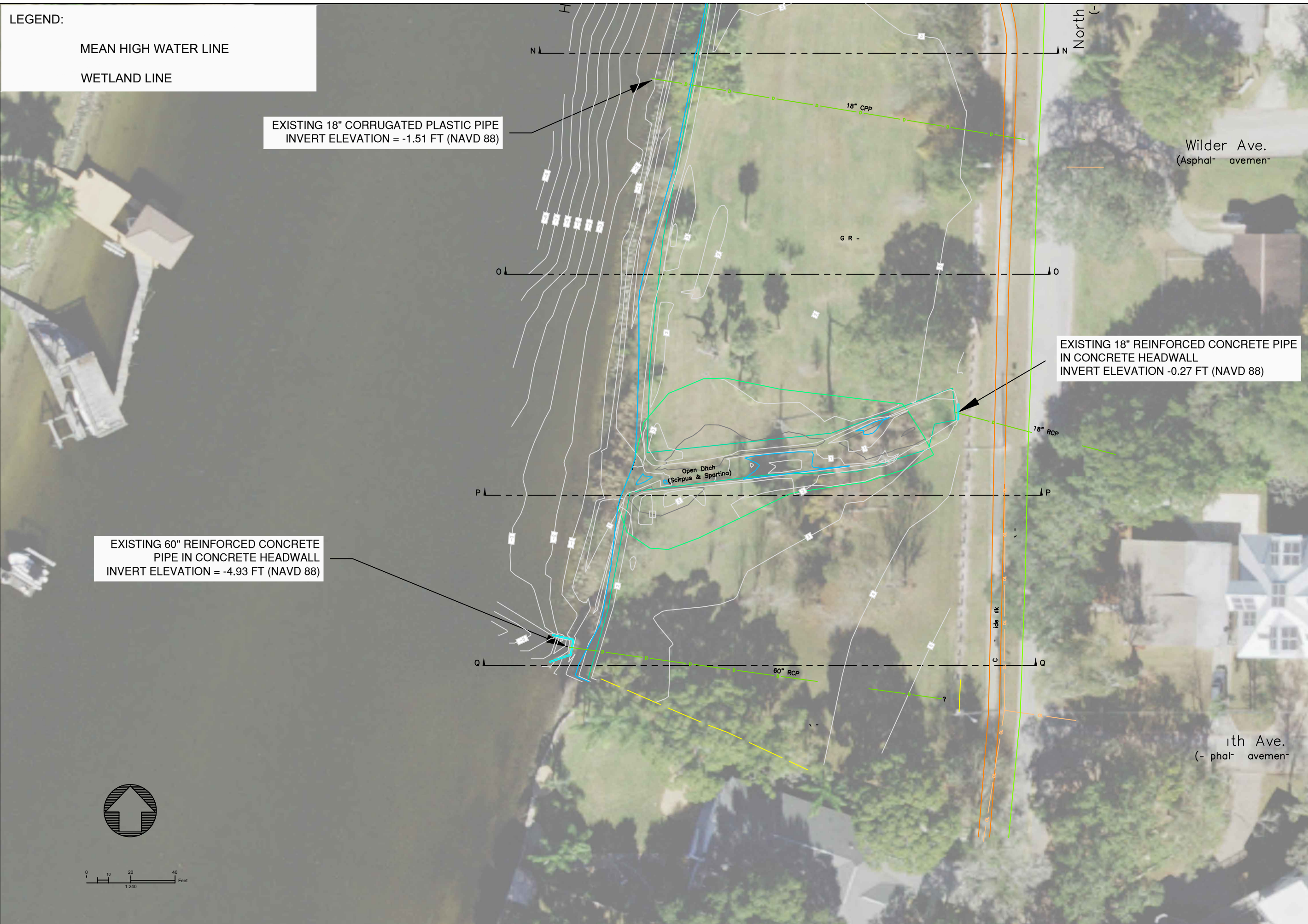


**LEGEND:**  
 MEAN HIGH WATER LINE  
 WETLAND LINE

EXISTING 18" CORRUGATED PLASTIC PIPE  
 INVERT ELEVATION = -1.51 FT (NAVD 88)

EXISTING 60" REINFORCED CONCRETE  
 PIPE IN CONCRETE HEADWALL  
 INVERT ELEVATION = -4.93 FT (NAVD 88)

EXISTING 18" REINFORCED CONCRETE PIPE  
 IN CONCRETE HEADWALL  
 INVERT ELEVATION -0.27 FT (NAVD 88)

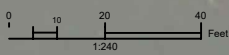


**ESA**  
 400 WEST CYPRESS ST., STE. 450  
 TAMPA, FL 33609  
 OFFICE: 813.207.7200  
 WWW.ESASOC.COM

BY	DATE	REVISIONS	
		BT	NO
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APPROVED: RTB	6/13/19		

CITY OF TAMPA  
 PARKS & RECREATION

IGNACIO HAYA PARK  
 LIVING SHORELINE PROJECT  
 CITY OF TAMPA, FL  
**EXISTING CONDITIONS**  
**PLAN VIEW CONTOURS**





LEGEND:

MEAN HIGH WATER LINE

WETLAND LINE

HERBACEOUS EXOTIC/NUISANCE  
VEGETATION (TO BE TREATED)

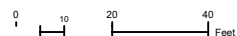
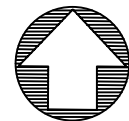
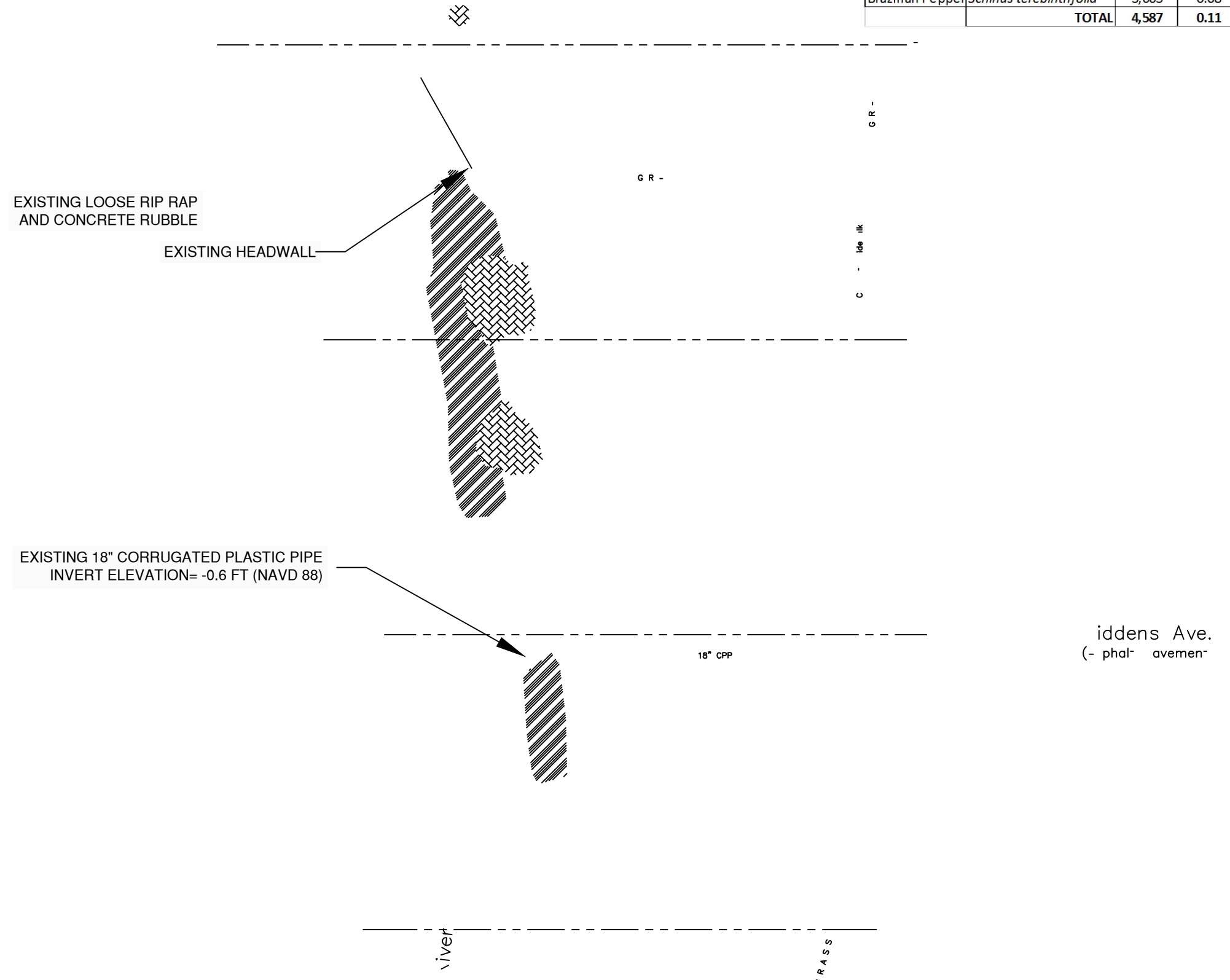
WOODY EXOTIC/NUISANCE  
VEGETATION (CUT & STUMP TREAT)

SEE C-02 ENVIRONMENTAL PROTECTION NOTE  
#12 FOR TREATMENT DETAILS.

Haya Park Exotic/Nuisance Vegetation Removal			
Herbaceous Plants		Entire Project Quantity	
Common Name	Scientific Name	sq ft	Acreage
Cattail	<i>Typha spp</i>	1,777	0.04
Wild Taro	<i>Colocasia esculenta</i>	548	0.01
Creeping Oxeye	<i>Sphagneticola trilobata</i>	1,546	0.04
Paragrass	<i>Urochloa mutica</i>	1,363	0.03
<b>TOTAL</b>		<b>5,234</b>	<b>0.12</b>
Woody Plants			
Common Name	Scientific Name	sq ft	Acreage
Lead Tree	<i>Leucaena leucocephala</i>	924	0.02
Brazilian Pepper	<i>Schinus terebinthfolia</i>	3,663	0.08
<b>TOTAL</b>		<b>4,587</b>	<b>0.11</b>







REVISIONS	NO.	DATE	BY	DATE
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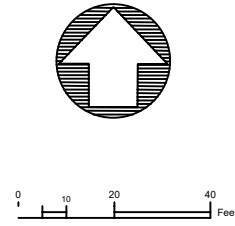
CITY OF TAMPA  
PARKS & RECREATION

IGNACIO HAYA PARK  
LIVING SHORELINE PROJECT  
CITY OF TAMPA, FL  
**EXISTING CONDITIONS**  
**LIMITS OF EXOTIC/NUISANCE VEGETATION**

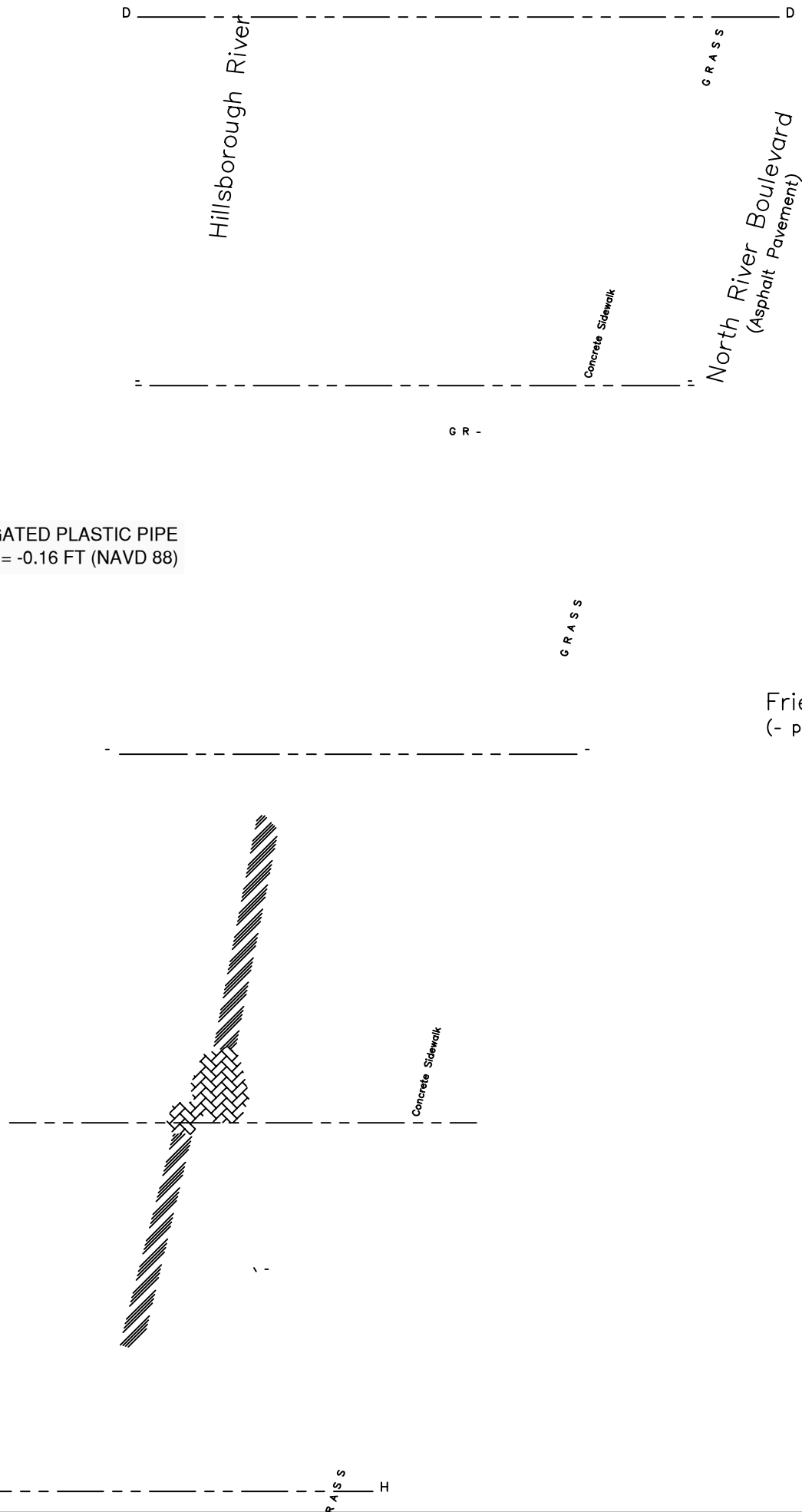
LEGEND:

-  MEAN HIGH WATER LINE
-  WETLAND LINE
-  HERBACEOUS EXOTIC/NUISANCE VEGETATION (TO BE TREATED)
-  WOODY EXOTIC/NUISANCE VEGETATION (CUT & STUMP TREAT)

SEE C-02 ENVIRONMENTAL PROTECTION NOTE #12 FOR TREATMENT DETAILS.



EXISTING 18" CORRUGATED PLASTIC PIPE  
INVERT ELEVATION= -0.16 FT (NAVD 88)



Haya Park Exotic/Nuisance Vegetation Removal			
Herbaceous Plants		Entire Project Quantity	
Common Name	Scientific Name	sq ft	Acreage
Cattail	<i>Typha spp</i>	1,777	0.04
Wild Taro	<i>Colocasia esculenta</i>	548	0.01
Creeping Oxeye	<i>Sphagneticola trilobata</i>	1,546	0.04
Paragrass	<i>Urochloa mutica</i>	1,363	0.03
	<b>TOTAL</b>	<b>5,234</b>	<b>0.12</b>
Woody Plants			
Common Name	Scientific Name	sq ft	Acreage
Lead Tree	<i>Leucaena leucocephala</i>	924	0.02
Brazilian Pepper	<i>Schinus terebinthfolia</i>	3,663	0.08
	<b>TOTAL</b>	<b>4,587</b>	<b>0.11</b>

CITY OF TAMPA  
PARKS & RECREATION

LIVING SHORELINE PROJECT  
**EXISTING CONDITIONS**  
**LIMITS OF EXOTIC/NUISANCE VEGETATION**



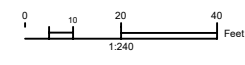
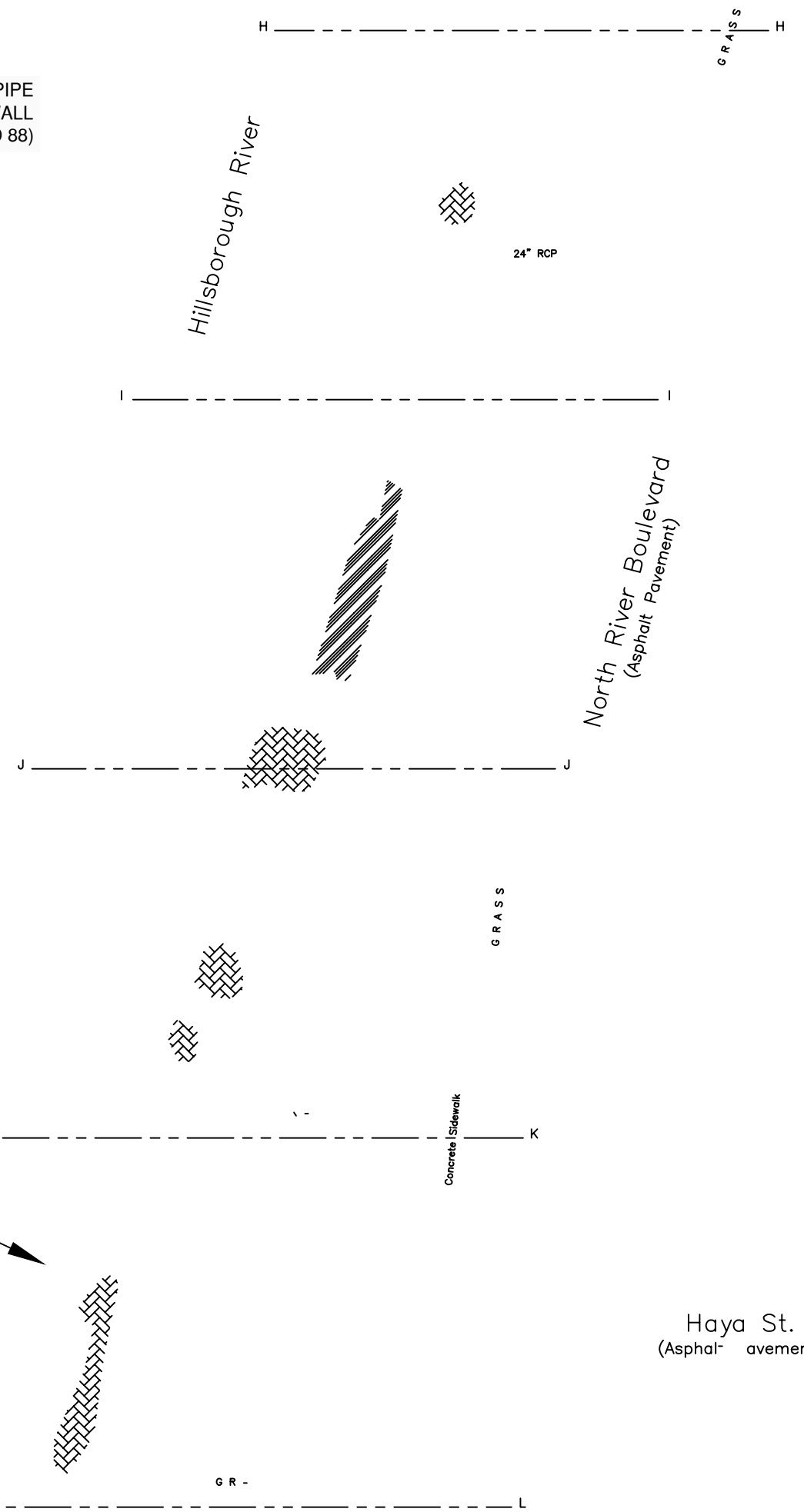
- LEGEND:
- MEAN HIGH WATER LINE
  - WETLAND LINE
  - HERBACEOUS EXOTIC/NUISANCE VEGETATION (TO BE TREATED)
  - WOODY EXOTIC/NUISANCE VEGETATION (CUT & STUMP TREAT)

SEE C-02 ENVIRONMENTAL PROTECTION NOTE #12 FOR TREATMENT DETAILS.

Haya Park Exotic/Nuisance Vegetation Removal			
Herbaceous Plants		Entire Project Quantity	
Common Name	Scientific Name	sq ft	Acreage
Cattail	<i>Typha spp</i>	1,777	0.04
Wild Taro	<i>Colocasia esculenta</i>	548	0.01
Creeping Oxeye	<i>Sphagneticola trilobata</i>	1,546	0.04
Paragrass	<i>Urochloa mutica</i>	1,363	0.03
	<b>TOTAL</b>	<b>5,234</b>	<b>0.12</b>
Woody Plants			
Common Name	Scientific Name	sq ft	Acreage
Lead Tree	<i>Leucaena leucocephala</i>	924	0.02
Brazilian Pepper	<i>Schinus terebinthfolia</i>	3,663	0.08
	<b>TOTAL</b>	<b>4,587</b>	<b>0.11</b>

EXISTING 24" REINFORCED CONCRETE PIPE  
IN CONCRETE HEADWALL  
INVERT ELEVATION = -0.24 FT (NAVD 88)

EXISTING 18" CORRUGATED PLASTIC PIPE  
INVERT ELEVATION = -1.42 FT (NAVD 88)





BY	DATE	REVISIONS	
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CITY OF TAMPA  
PARKS & RECREATION

IGNACIO HAYA PARK  
LIVING SHORELINE PROJECT  
CITY OF TAMPA, FL  
**EXISTING CONDITIONS**  
**LIMITS OF EXOTIC/NUISANCE VEGETATION**

LEGEND:

-  MEAN HIGH WATER LINE
-  WETLAND LINE
-  HERBACEOUS EXOTIC/NUISANCE VEGETATION (TO BE TREATED)
-  WOODY EXOTIC/NUISANCE VEGETATION (CUT & STUMP TREAT)

SEE C-02 ENVIRONMENTAL PROTECTION NOTE #12 FOR TREATMENT DETAILS.

EXISTING 18" CORRUGATED PLASTIC PIPE  
INVERT ELEVATION= -1.42 FT (NAVD 88)

EXISTING 18" CORRUGATED PLASTIC PIPE  
INVERT ELEVATION= -1.51 FT (NAVD 88)

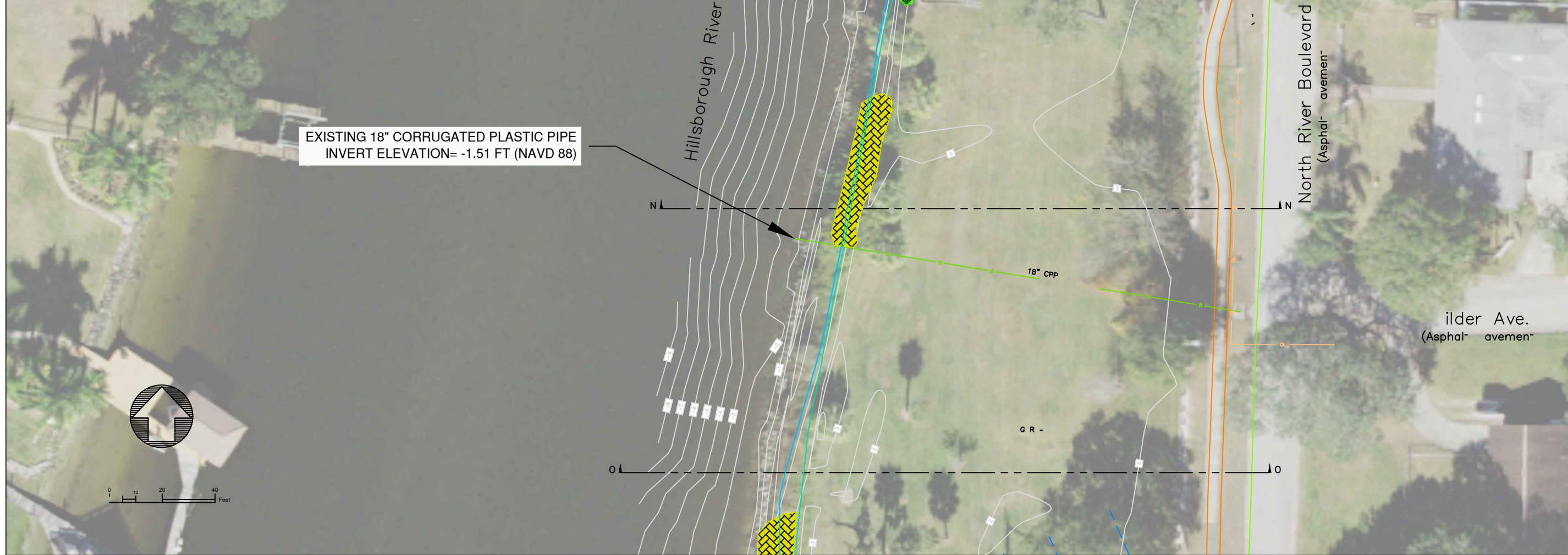
**Haya Park Exotic/Nuisance Vegetation Removal**

**Herbaceous Plants**

Common Name	Scientific Name	sq ft	Acreage
Cattail	<i>Typha spp</i>	1,777	0.04
Wild Taro	<i>Colocasia esculenta</i>	548	0.01
Creeping Oxeye	<i>Sphagneticola trilobata</i>	1,546	0.04
Paragrass	<i>Urochloa mutica</i>	1,363	0.03
<b>TOTAL</b>		<b>5,234</b>	<b>0.12</b>

**Woody Plants**

Common Name	Scientific Name	sq ft	Acreage
Lead Tree	<i>Leucaena leucocephala</i>	924	0.02
Brazilian Pepper	<i>Schinus terebinthfolia</i>	3,663	0.08
<b>TOTAL</b>		<b>4,587</b>	<b>0.11</b>







REVISIONS	NO.	DATE	BY	DATE	BY
DESIGNED:	BDF	6/13/19	BY	DATE	NO.
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CHECKED:	BDF	6/13/19			
APPROVED:	RTB	6/13/19			

CITY OF TAMPA  
PARKS & RECREATION

IGNACIO HAYA PARK  
LIVING SHORELINE PROJECT  
CITY OF TAMPA, FL  
**EXISTING CONDITIONS**  
**LIMITS OF EXOTIC/NUISANCE VEGETATION**



LEGEND:

-  MEAN HIGH WATER LINE
-  WETLAND LINE
-  HERBACEOUS EXOTIC/NUISANCE VEGETATION (TO BE TREATED)
-  WOODY EXOTIC/NUISANCE VEGETATION (CUT & STUMP TREAT)

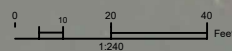
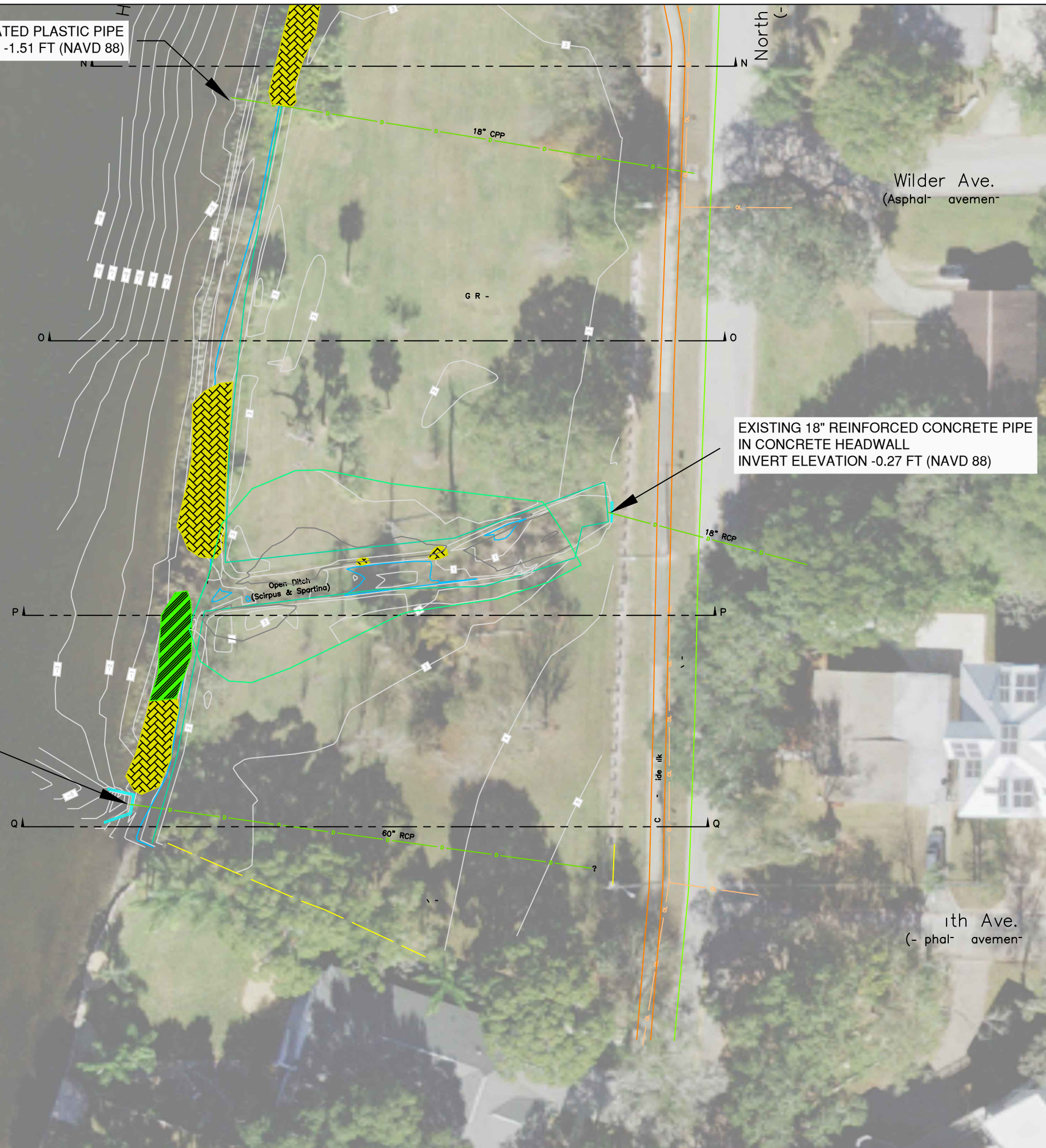
SEE C-02 ENVIRONMENTAL PROTECTION NOTE #12 FOR TREATMENT DETAILS.

Haya Park Exotic/Nuisance Vegetation Removal			
Herbaceous Plants		Entire Project Quantity	
Common Name	Scientific Name	sq ft	Acreage
Cattail	<i>Typha spp</i>	1,777	0.04
Wild Taro	<i>Colocasia esculenta</i>	548	0.01
Creeping Oxeye	<i>Sphagneticola trilobata</i>	1,546	0.04
Paragrass	<i>Urochloa mutica</i>	1,363	0.03
<b>TOTAL</b>		<b>5,234</b>	<b>0.12</b>
Woody Plants			
Common Name	Scientific Name	sq ft	Acreage
Lead Tree	<i>Leucaena leucocephala</i>	924	0.02
Brazilian Pepper	<i>Schinus terebinthfolia</i>	3,663	0.08
<b>TOTAL</b>		<b>4,587</b>	<b>0.11</b>

EXISTING 18" CORRUGATED PLASTIC PIPE  
INVERT ELEVATION = -1.51 FT (NAVD 88)

EXISTING 18" REINFORCED CONCRETE PIPE  
IN CONCRETE HEADWALL  
INVERT ELEVATION -0.27 FT (NAVD 88)

EXISTING 60" REINFORCED CONCRETE  
PIPE IN CONCRETE HEADWALL  
INVERT ELEVATION = -4.93 FT (NAVD 88)




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APPROVED:	RTB	6/13/19	BY	DATE

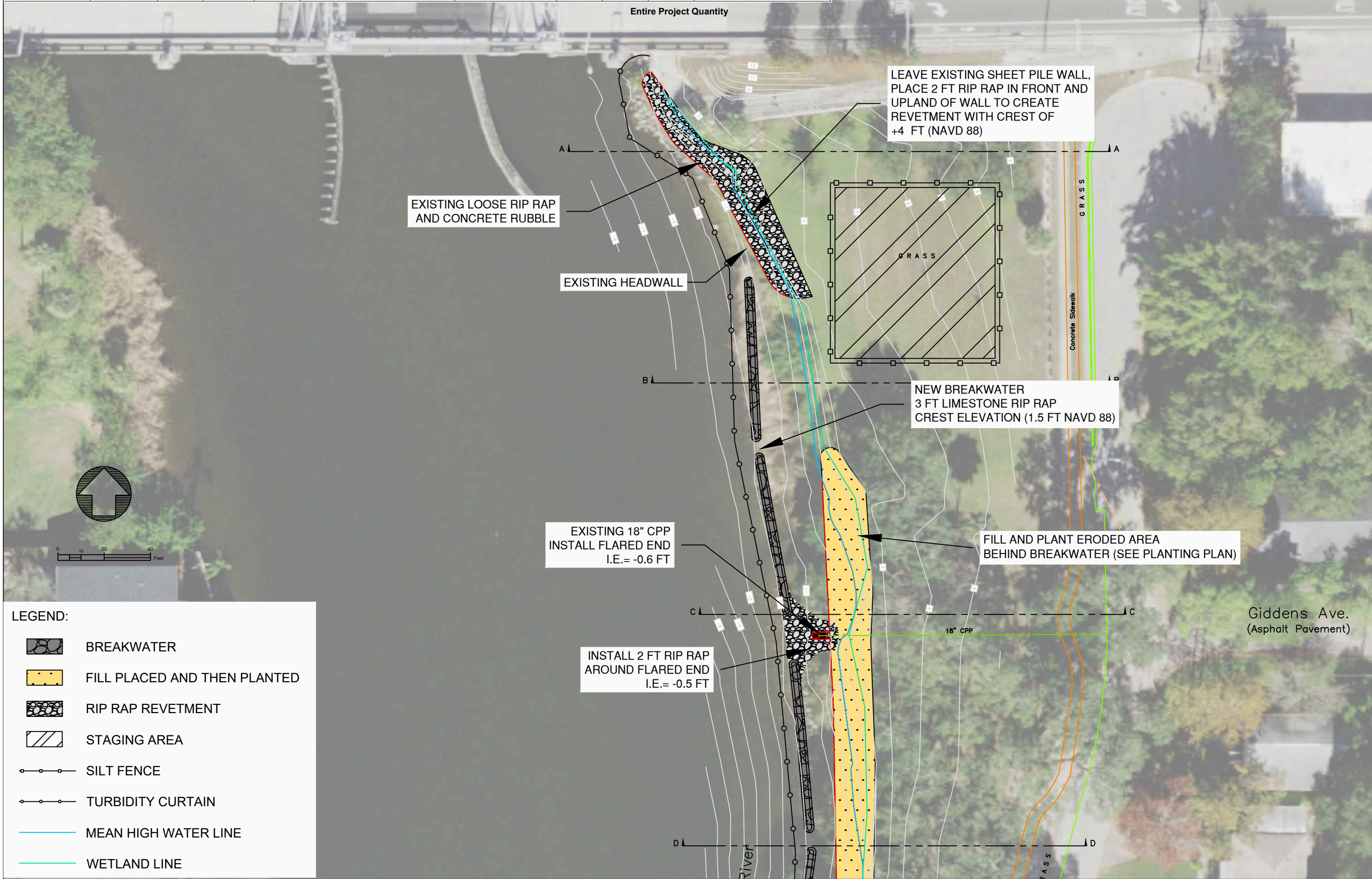
CITY OF TAMPA  
PARKS & RECREATION

IGNACIO HAYA PARK  
LIVING SHORELINE PROJECT  
CITY OF TAMPA, FL  
**EXISTING CONDITIONS**  
**LIMITS OF EXOTIC/NUISANCE VEGETATION**



Restoration Area	Zone	Acres	Elevation	Zone %	Scientific Name	Common Name	Size	Spacing	Quantity	Comment
Shordline		0.084	-1 to +1	60%	<i>Spartina alterniflora</i>	smooth cordgrass	2"	3' o.c.	405	filled shoreline planting
		0.014	+1 to +2	10%	<i>Spartina patens</i>	marsh hay cordgrass	4"	3' o.c.	67	accent plant in clusters
		0.014	+1 to +3	10%	<i>Spartina bakeri</i>	sand cordgrass	4"	3' o.c.	67	
		0.014	+1 to +3	10%	<i>Muhlenbergia capillaris</i>	muhly grass	4"	3' o.c.	67	
		0.014	+1 to +3	10%	<i>Helianthus debilis</i>	dunesunflower	2"	3' o.c.	67	

Entire Project Quantity

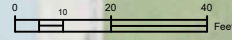


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CITY OF TAMPA  
 PARKS & RECREATION

IGNACIO HAYA PARK  
 LIVING SHORELINE PROJECT  
 CITY OF TAMPA, FL  
**PROPOSED PROJECT - PLAN VIEW**





NEW BREAKWATER  
3 FT LIMESTONE RIP RAP  
CREST ELEVATION (1.5 FT NAVD 88)

FILL AND PLANT ERODED AREA  
BEHIND BREAKWATER  
(SEE PLANTING PLAN)

EXISTING 18" CPP  
INSTALL FLARED END  
I.E.= -0.6 FT

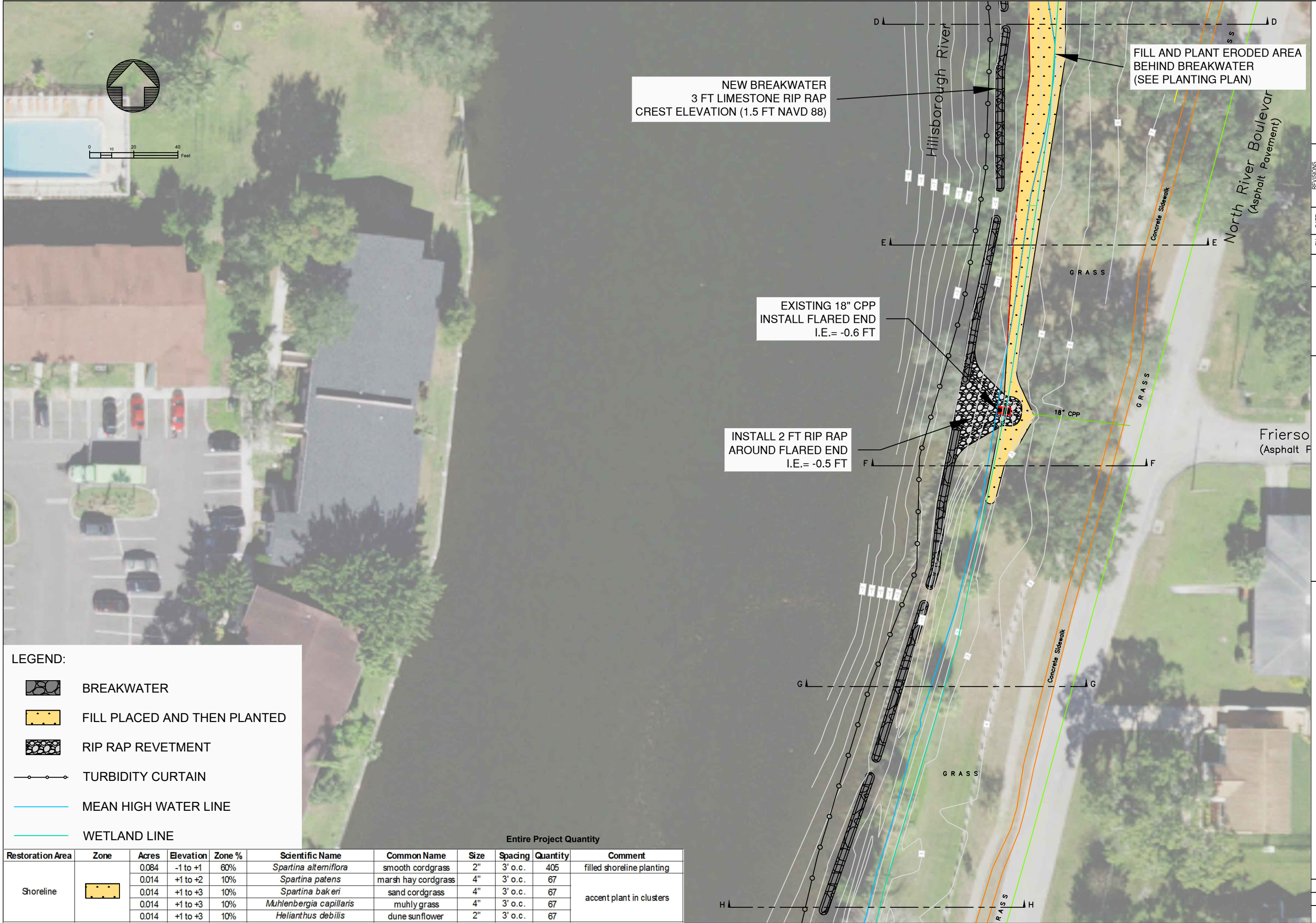
INSTALL 2 FT RIP RAP  
AROUND FLARED END  
I.E.= -0.5 FT

**LEGEND:**

- BREAKWATER
- FILL PLACED AND THEN PLANTED
- RIP RAP REVETMENT
- TURBIDITY CURTAIN
- MEAN HIGH WATER LINE
- WETLAND LINE

Entire Project Quantity

Restoration Area	Zone	Acres	Elevation	Zone %	Scientific Name	Common Name	Size	Spacing	Quantity	Comment
Shoreline		0.084	-1 to +1	60%	<i>Spartina alterniflora</i>	smooth cordgrass	2"	3' o.c.	405	filled shoreline planting
		0.014	+1 to +2	10%	<i>Spartina patens</i>	marsh hay cordgrass	4"	3' o.c.	67	accent plant in clusters
		0.014	+1 to +3	10%	<i>Spartina bakeri</i>	sand cordgrass	4"	3' o.c.	67	
		0.014	+1 to +3	10%	<i>Muhlenbergia capillaris</i>	muhly grass	4"	3' o.c.	67	
		0.014	+1 to +3	10%	<i>Helianthus debilis</i>	dune sunflower	2"	3' o.c.	67	



**ESA**  
400 WEST CYPRESS ST., STE. 450  
TAMPA, FL 33609  
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WWW.ESASSOC.COM

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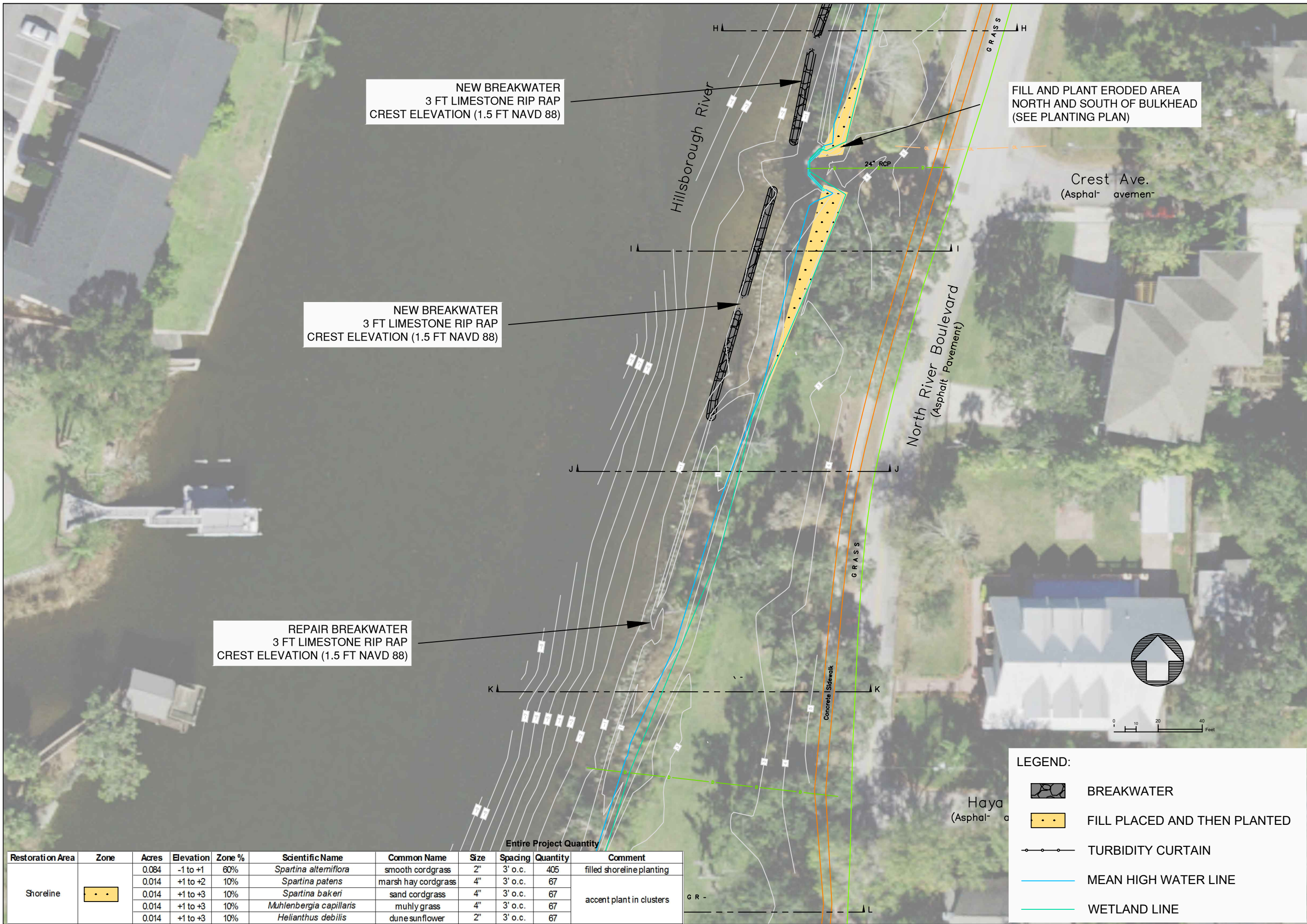
CITY OF TAMPA  
PARKS & RECREATION

IGNACIO HAYA PARK  
LIVING SHORELINE PROJECT  
CITY OF TAMPA, FL

**PROPOSED PROJECT - PLAN VIEW**

6/13/19  
15 OF 25  
**C-15**





NEW BREAKWATER  
3 FT LIMESTONE RIP RAP  
CREST ELEVATION (1.5 FT NAVD 88)

NEW BREAKWATER  
3 FT LIMESTONE RIP RAP  
CREST ELEVATION (1.5 FT NAVD 88)

REPAIR BREAKWATER  
3 FT LIMESTONE RIP RAP  
CREST ELEVATION (1.5 FT NAVD 88)






FILL AND PLANT ERODED AREA  
NORTH AND SOUTH OF BULKHEAD  
(SEE PLANTING PLAN)

Crest Ave.  
(Asphalt Pavement)

North River Boulevard  
(Asphalt Pavement)

Haya  
(Asphalt Pavement)

**LEGEND:**

-  BREAKWATER
-  FILL PLACED AND THEN PLANTED
-  TURBIDITY CURTAIN
-  MEAN HIGH WATER LINE
-  WETLAND LINE

Restoration Area	Zone	Acres	Elevation	Zone %	Scientific Name	Common Name	Size	Spacing	Quantity	Comment
Shoreline		0.084	-1 to +1	60%	<i>Spartina alterniflora</i>	smooth cordgrass	2"	3' o.c.	405	filled shoreline planting
		0.014	+1 to +2	10%	<i>Spartina patens</i>	marsh hay cordgrass	4"	3' o.c.	67	accent plant in clusters
		0.014	+1 to +3	10%	<i>Spartina bakeri</i>	sand cordgrass	4"	3' o.c.	67	
		0.014	+1 to +3	10%	<i>Muhlenbergia capillaris</i>	muhly grass	4"	3' o.c.	67	
		0.014	+1 to +3	10%	<i>Helianthus debilis</i>	dune sunflower	2"	3' o.c.	67	

**ES&S**  
4200 WEST CYPRESS ST., STE. 450  
TAMPA, FL 33609  
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CITY OF TAMPA  
PARKS & RECREATION

IGNACIO HAYA PARK  
LIVING SHORELINE PROJECT  
CITY OF TAMPA, FL

**PROPOSED PROJECT - PLAN VIEW**

6/13/19  
16 OF 25  
**C-16**





0 10 20 40 Feet

LEGEND:

-  STAGING AREA
-  SILT FENCE
-  MEAN HIGH WATER LINE
-  WETLAND LINE



Haya St.  
(Asphalt Pavement)

North River Boulevard  
(Asphalt Pavement)

Wilder Ave.  
(Asphalt Pavement)

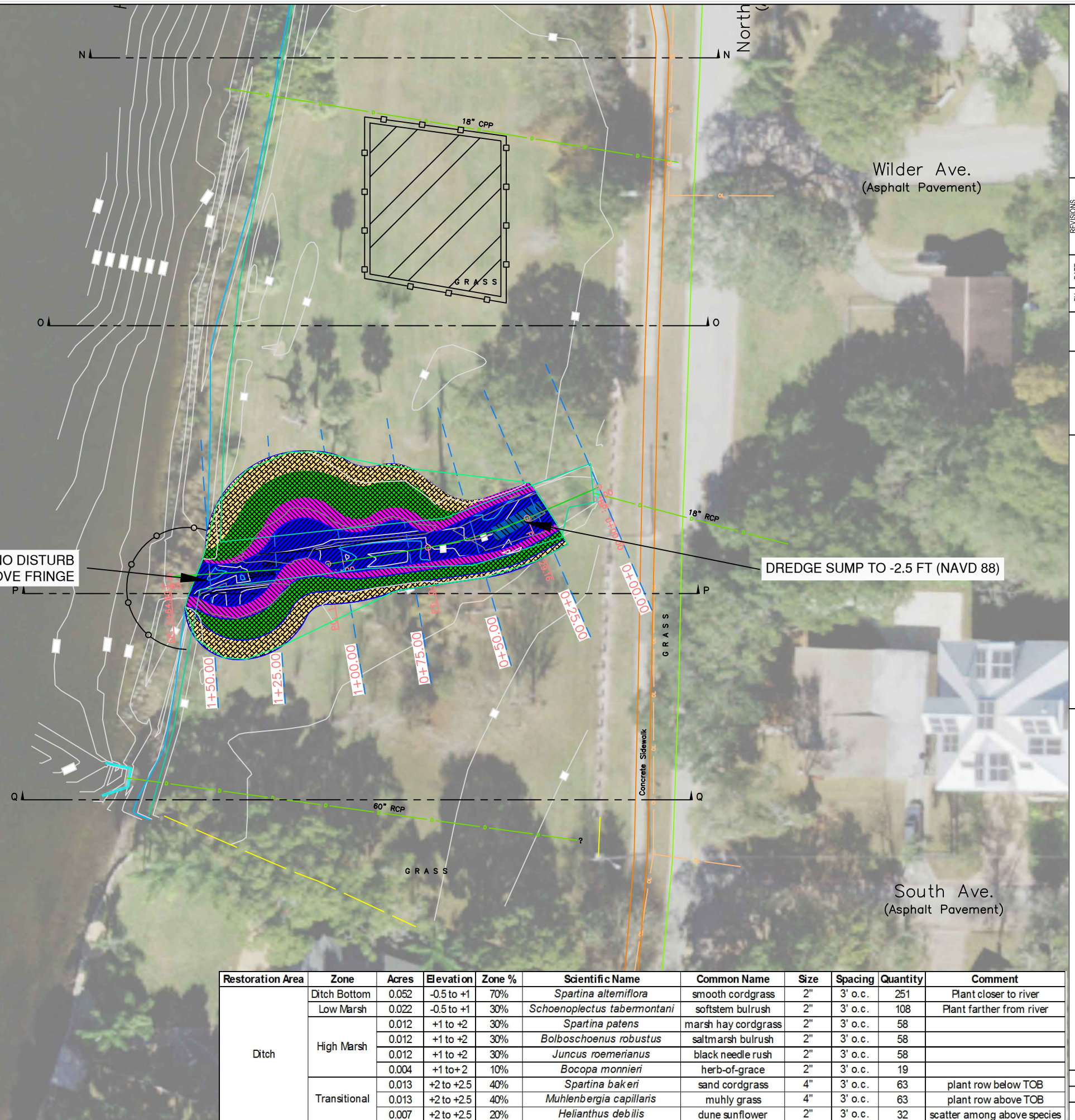
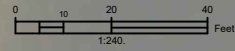


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BDF		6/13/19	
BDF		6/13/19	
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CITY OF TAMPA  
PARKS & RECREATION

IGNACIO HAYA PARK  
LIVING SHORELINE PROJECT  
CITY OF TAMPA, FL  
**PROPOSED PROJECT - PLAN VIEW**





**LEGEND:**

- GRADING - TRANSITIONAL (+2.0 to +2.5 FT)
- GRADING - HIGH MARSH (+1.0 to +2.0 FT)
- GRADING - LOW MARSH (-0.5 to +1.0 FT)
- DITCH BOTTOM CLEANOUT TO -0.5 FT
- DREDGED TO -2.5 FT
- STAGING AREA
- SILT FENCE
- TURBIDITY CURTAIN
- MEAN HIGH WATER LINE
- WETLAND LINE

Restoration Area	Zone	Acres	Elevation	Zone %	Scientific Name	Common Name	Size	Spacing	Quantity	Comment	
Ditch	Ditch Bottom	0.052	-0.5 to +1	70%	<i>Spartina alterniflora</i>	smooth cordgrass	2"	3' o.c.	251	Plant closer to river	
	Low Marsh	0.022	-0.5 to +1	30%	<i>Schoenoplectus tabermontani</i>	softstem bulrush	2"	3' o.c.	108	Plant farther from river	
	High Marsh		0.012	+1 to +2	30%	<i>Spartina patens</i>	marsh hay cordgrass	2"	3' o.c.	58	
			0.012	+1 to +2	30%	<i>Bolboschoenus robustus</i>	saltmarsh bulrush	2"	3' o.c.	58	
			0.012	+1 to +2	30%	<i>Juncus roemerianus</i>	black needle rush	2"	3' o.c.	58	
			0.004	+1 to +2	10%	<i>Bocopa monnieri</i>	herb-of-grace	2"	3' o.c.	19	
	Transitional		0.013	+2 to +2.5	40%	<i>Spartina bakeri</i>	sand cordgrass	4"	3' o.c.	63	plant row below TOB
			0.013	+2 to +2.5	40%	<i>Muhlenbergia capillaris</i>	muhly grass	4"	3' o.c.	63	plant row above TOB
			0.007	+2 to +2.5	20%	<i>Helianthus debilis</i>	dune sunflower	2"	3' o.c.	32	scatter among above species

400 WEST CYPRESS ST., STE. 450  
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CITY OF TAMPA  
PARKS & RECREATION

IGNACIO HAYA PARK  
LIVING SHORELINE PROJECT  
CITY OF TAMPA, FL

6/13/19

18 OF 25

**C-18**

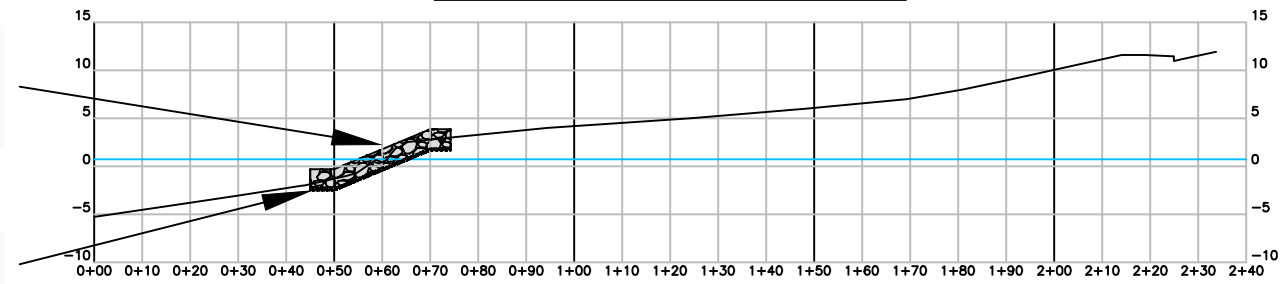
**PROPOSED PROJECT - PLAN VIEW**



RIP RAP REVETMENT, 2 FT DIA STONE  
CREST ELEVATION -4.0 FT (NAVD 88)  
BLEND TOE OF SLOPE  
WITH EXISTING RIP RAP

UNDERLAYMENT, 4"-6" DIA BEDDING  
STONE AND FDOT D-4 GEOTEXTILE

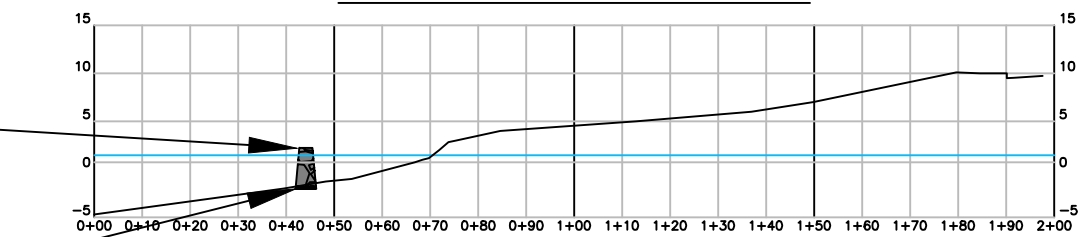
CROSS SECTION "A"



NEW BREAKWATER  
3 FT DIAMETER LIMESTONE  
1.5 FT CREST ELEVATION

UNDERLAYMENT, 4"-6" DIA BEDDING  
STONE AND FDOT D-4 GEOTEXTILE

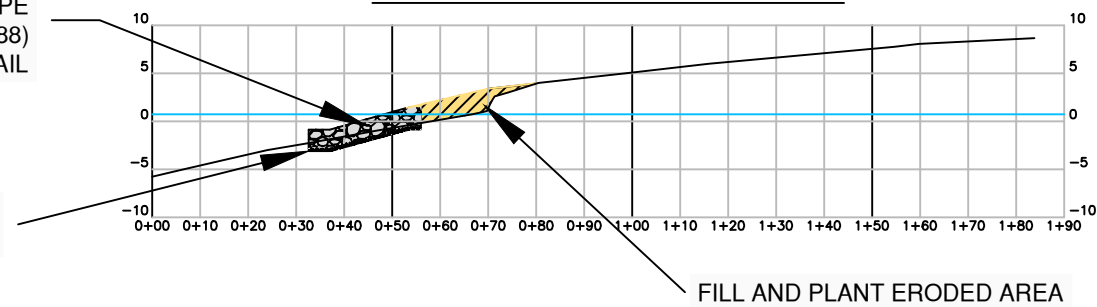
CROSS SECTION "B"



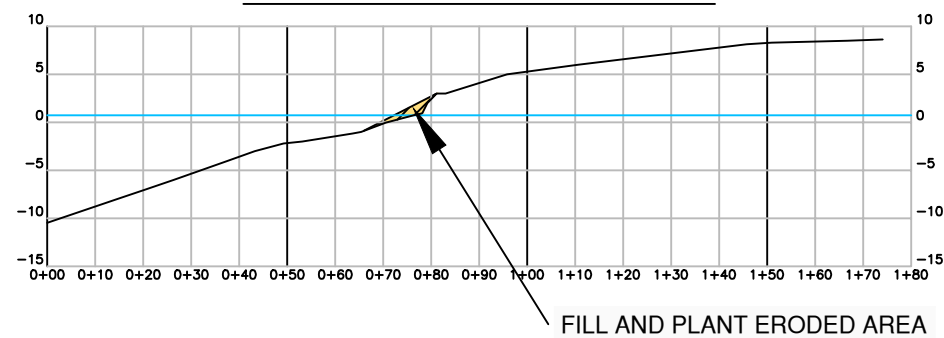
RIP RAP REVETMENT, 2 FT DIA STONE  
AROUND NEW FLARED END SECTION & PIPE  
INVERT ELEVATION -0.6 FT (NAVD 88)  
SEE SHEET C-23 FOR FLARED END SECTION DETAIL

UNDERLAYMENT, 4"-6" DIA BEDDING  
STONE AND FDOT D-4 GEOTEXTILE

CROSS SECTION "C"



CROSS SECTION "D"

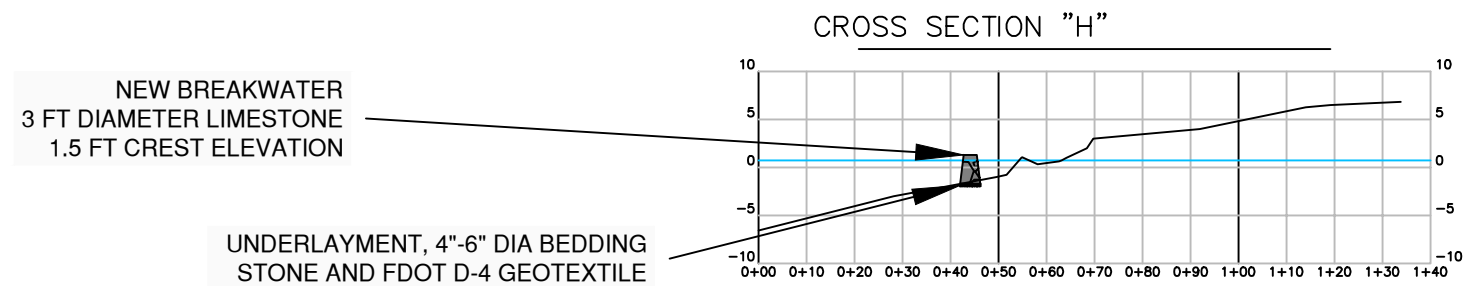
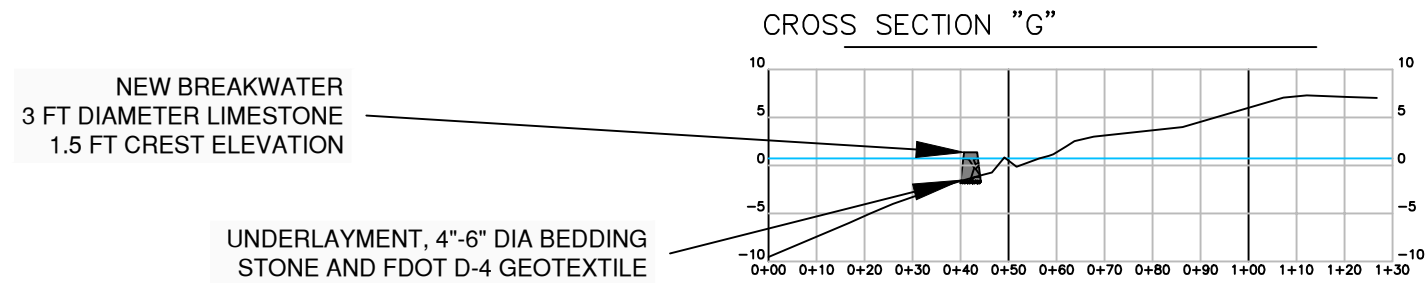
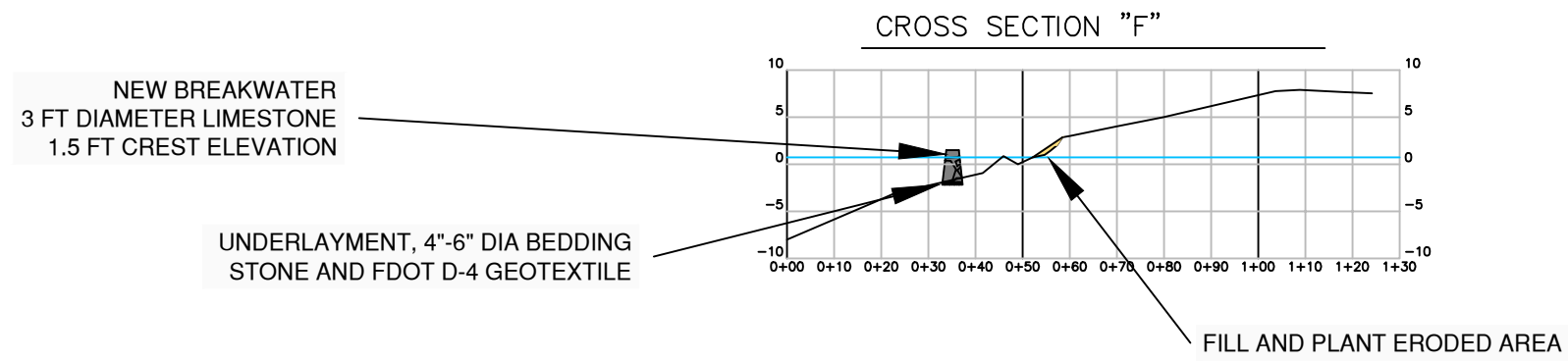
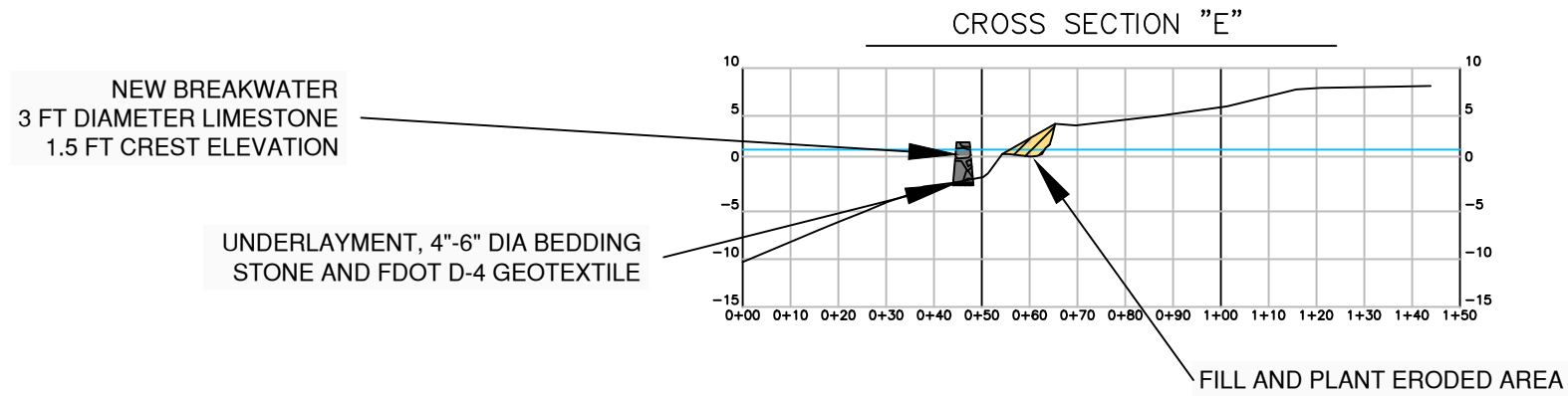


VERTICAL SCALE: 1" = 20'  
HORIZONTAL SCALE: 1" = 40'

————— EXISTING GRADE

————— MEAN HIGH WATER LINE = 0.69 FT (NAVD 88)

REVISIONS	NO.	DATE	BY	DATE	BY
		6/13/19	BDF	6/13/19	BDF
		6/13/19	BDF	6/13/19	BDF
		6/13/19	BDF	6/13/19	BDF
		6/13/19	RTB	6/13/19	RTB

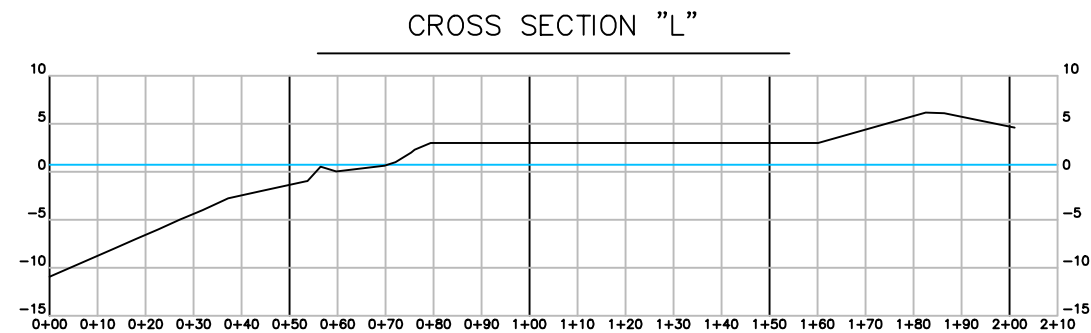
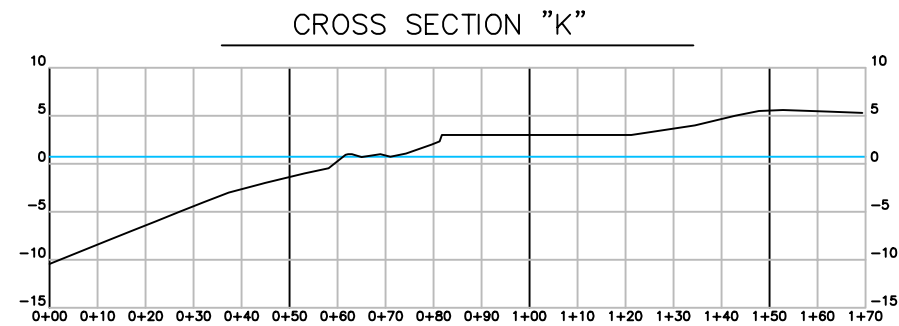
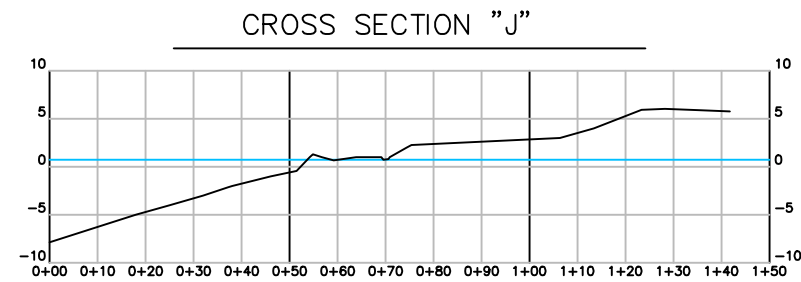
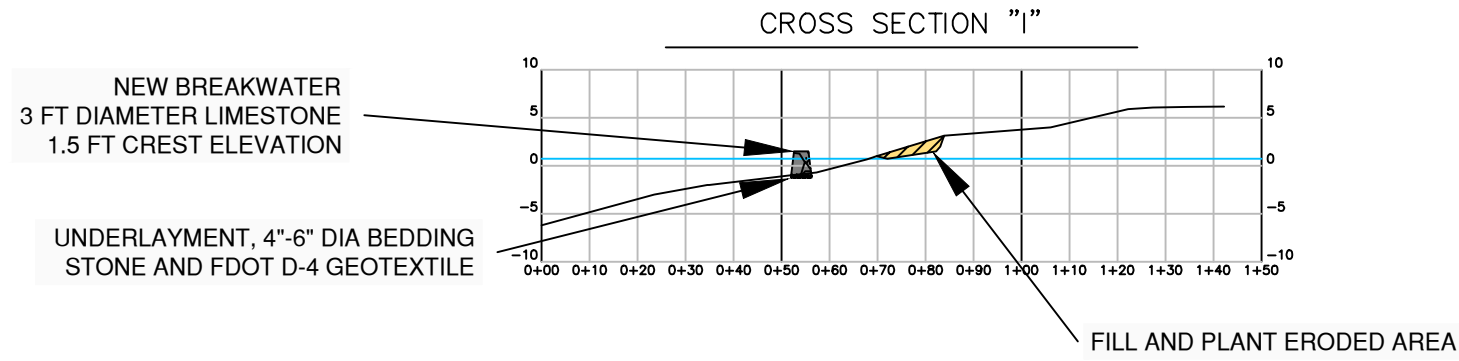


VERTICAL SCALE: 1" = 20'  
HORIZONTAL SCALE: 1" = 40'

————— EXISTING GRADE  
————— MEAN HIGH WATER LINE = 0.69 FT (NAVD 88)

REVISED	DATE		BY	DESIGNED	DRAWN	CHECKED	APPROVED
	NO.	BT					
	6/13/19		BDF				
	6/13/19		BDF				
	6/13/19		BDF				
	6/13/19		RTB				





VERTICAL SCALE: 1" = 20'  
HORIZONTAL SCALE: 1" = 40'

————— EXISTING GRADE  
————— MEAN HIGH WATER LINE = 0.69 FT (NAVD 88)

BY	DATE	REVISIONS	
		BT	NO.
DESIGNED: BDF	6/13/19		
DRAWN: BDF	6/13/19		
CHECKED: BDF	6/13/19		
APPROVED: RTB	6/13/19		

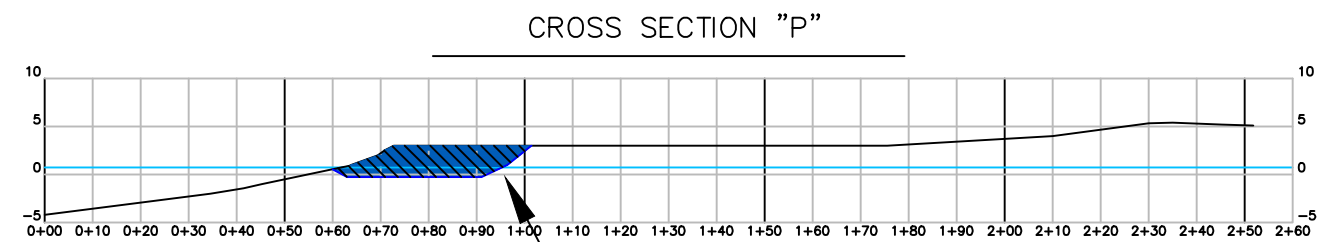
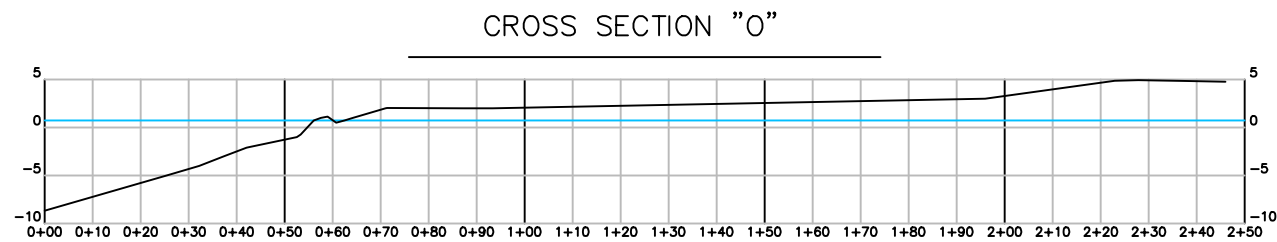
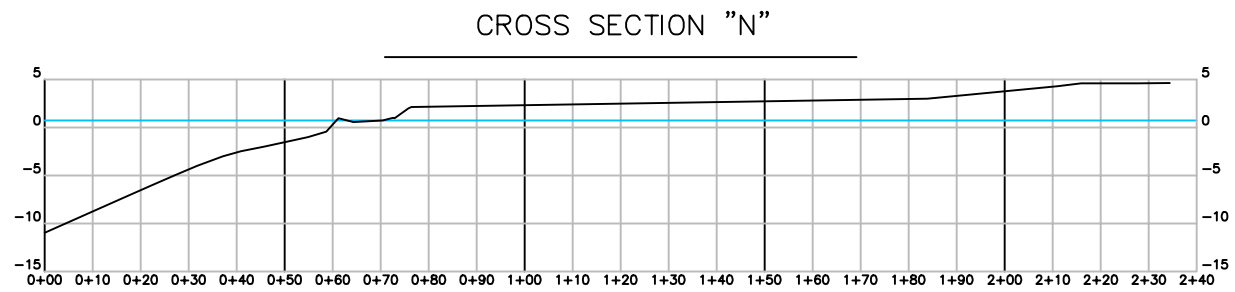
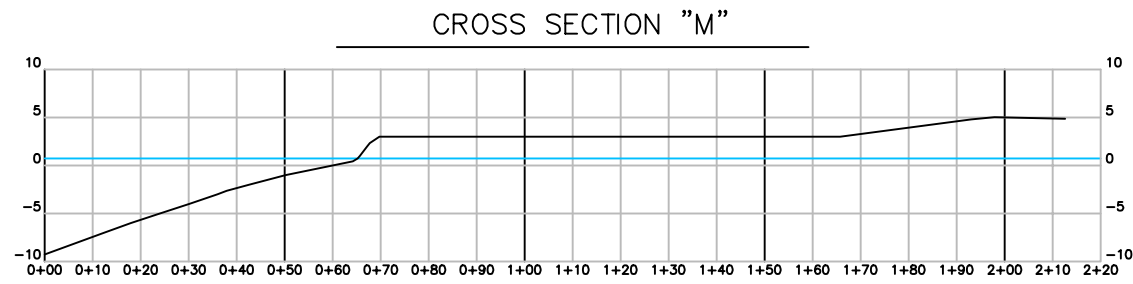
CITY OF TAMPA  
PARKS & RECREATION

IGNACIO HAYA PARK  
LIVING SHORELINE PROJECT  
CITY OF TAMPA, FL  
**PROPOSED PROJECT - TYPICAL SECTIONS**

6/13/19

21 OF 25

**C-21**



SEE SHEET C-24 FOR DITCH DETAILS

VERTICAL SCALE: 1" = 20'  
 HORIZONTAL SCALE: 1" = 40'

————— EXISTING GRADE  
 ————— MEAN HIGH WATER LINE = 0.69 FT (NAVD 88)



BY	DATE	REVISIONS	
		NO.	DESCRIPTION
DESIGNED: BDF	6/13/19		
DRAWN: BDF	6/13/19		
CHECKED: BDF	6/13/19		
APPROVED: RTB	6/13/19		

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IGNACIO HAYA PARK  
 LIVING SHORELINE PROJECT  
 CITY OF TAMPA, FL  
**PROPOSED PROJECT - TYPICAL SECTIONS**



REVISED	DATE	BY	IND.

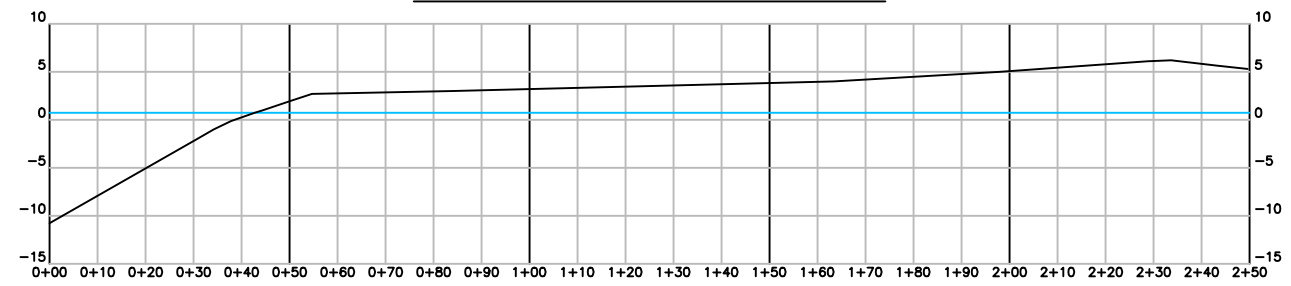
DESIGNED	DATE	BY
BDF	6/13/19	BDF
BDF	6/13/19	BDF
BDF	6/13/19	BDF
RTB	6/13/19	RTB

CITY OF TAMPA  
 PARKS & RECREATION

IGNACIO HAYA PARK  
 LIVING SHORELINE PROJECT  
 CITY OF TAMPA, FL

**PROPOSED PROJECT - TYPICAL SECTIONS**

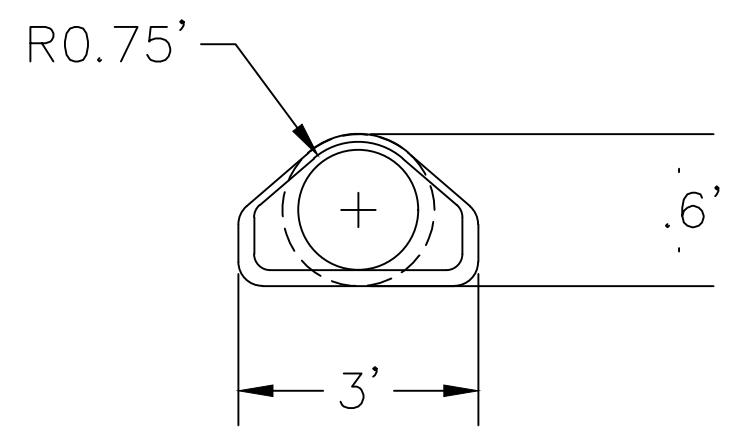
CROSS SECTION "Q"



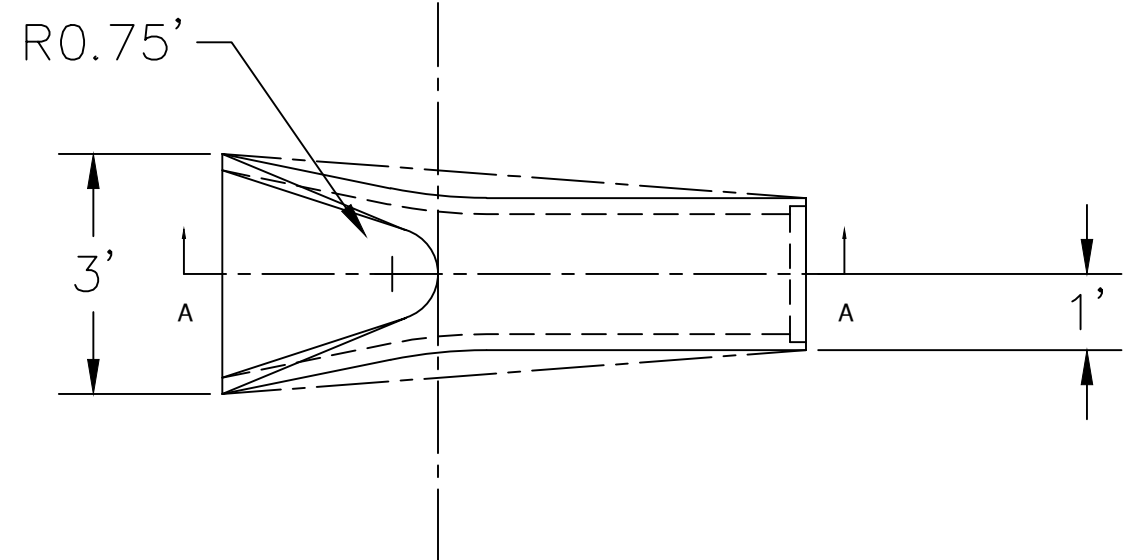
VERTICAL SCALE: 1" = 20'  
 HORIZONTAL SCALE: 1" = 40'

————— EXISTING GRADE  
 ————— MEAN HIGH WATER LINE = 0.69 FT (NAVD 88)

ELEVATION

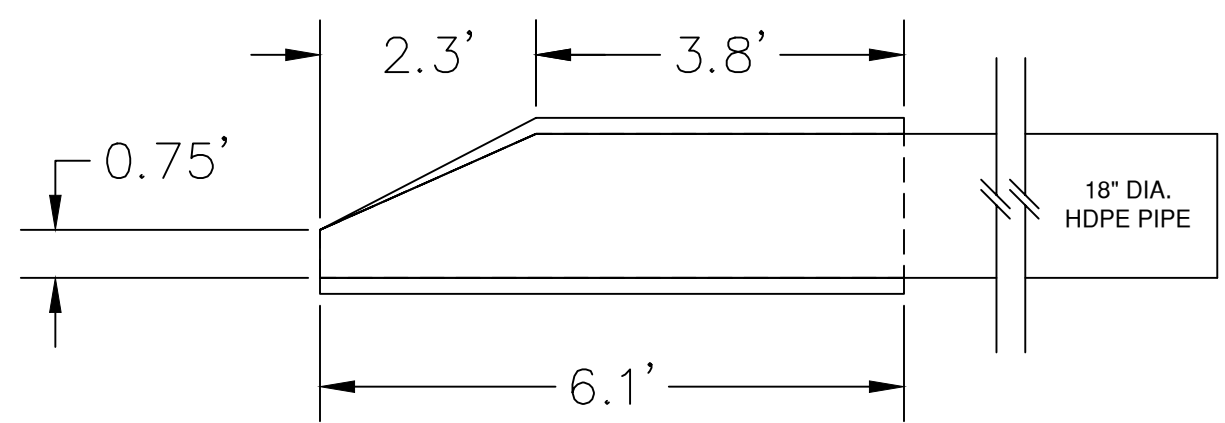


PLAN

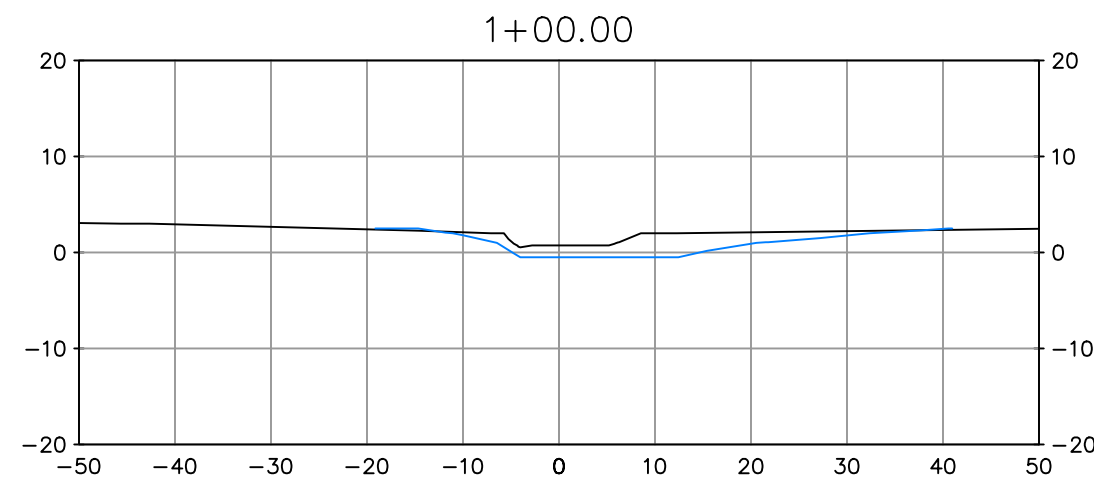
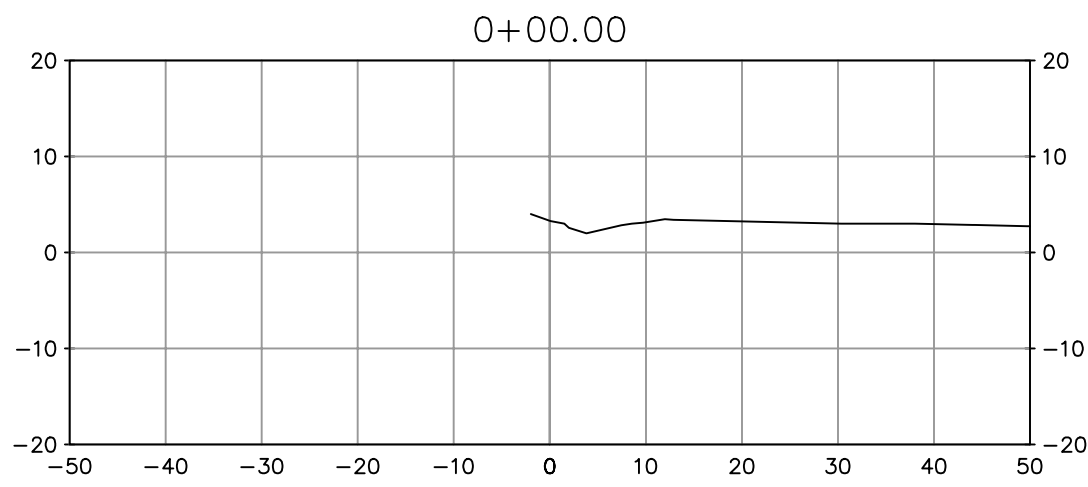
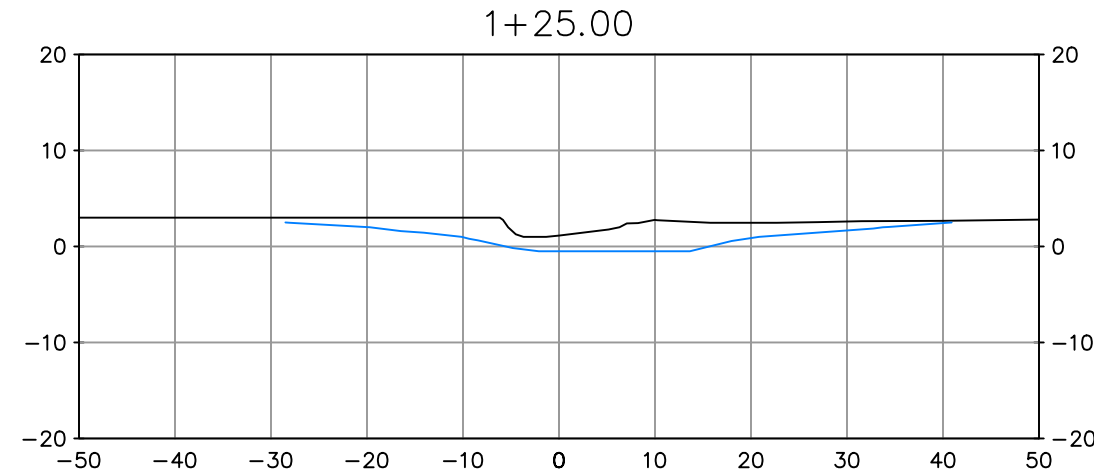
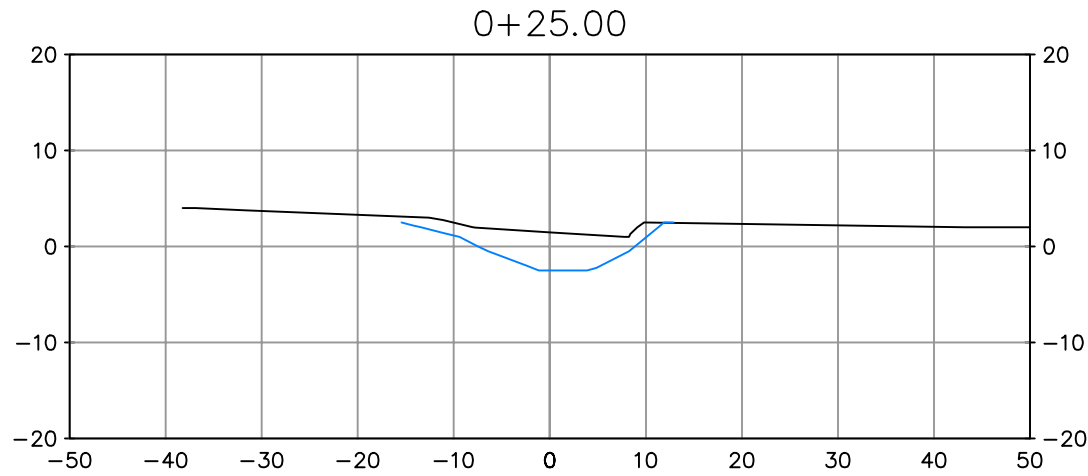
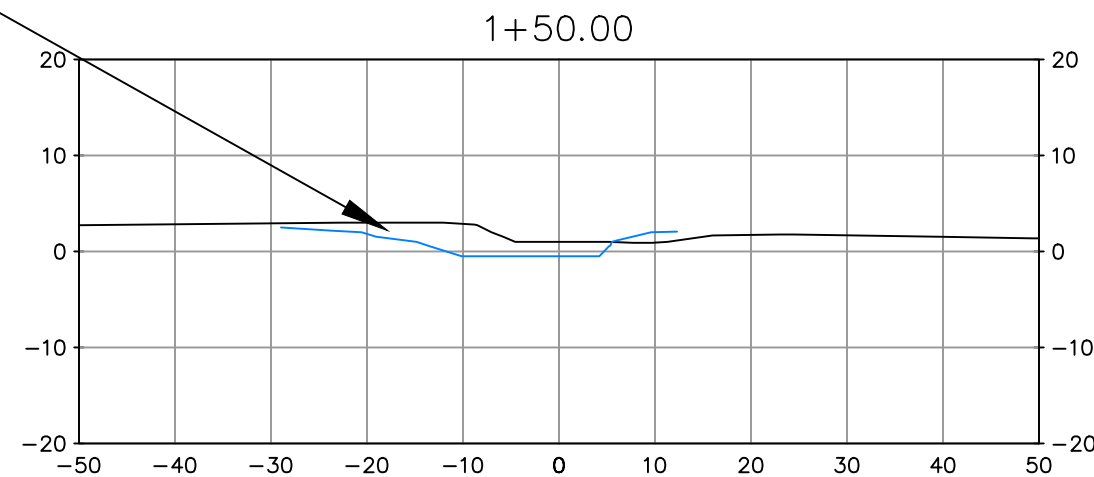
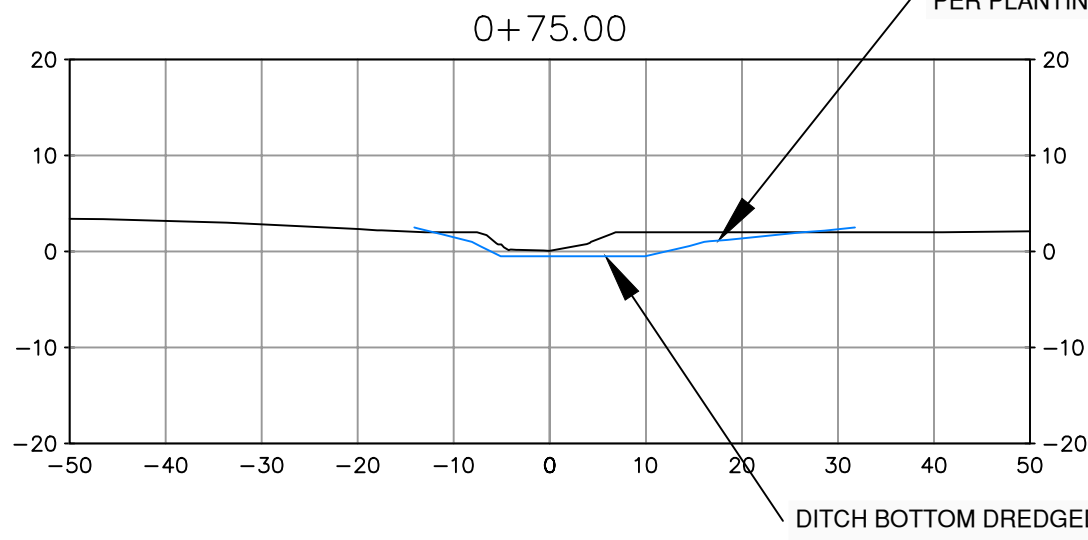


SECTION A-A

FLARED-END SECTION DETAIL



18" DIA.  
 HDPE PIPE



VERTICAL SCALE: 1" = 20'  
 HORIZONTAL SCALE: 1" = 20'

— EXISTING GRADE  
 — PROPOSED IMPROVEMENT



REVISIONS	NO.	DATE	BY	IND.
DESIGNED:	BDF	6/13/19		
DRAWN:	BDF	6/13/19		
CHECKED:	BDF	6/13/19		
APPROVED:	RTB	6/13/19		

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**PROPOSED PROJECT - DITCH SECTIONS**



Crown drip line or other limit of Tree Protection area. See tree preservation plan for fence alignment.

**Notes:**

- 1- See specifications for additional tree protection requirements.
- 2- If there is no existing irrigation, see specifications for watering requirements.
- 3- No pruning shall be performed except by approved arborist.
- 4- No equipment shall operate inside the protective fencing including during fence installation and removal.
- 5- See site preparation plan for any modifications with the Tree Protection area.

8.5" x 11" sign laminated in plastic spaced every 50' along the fence.

4'-0"

KEEP OUT TREE PROTECTION AREA

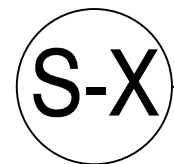
- Tree Protection fence: High density polyethylene fencing with 3.5" x 1.5" openings; Color-orange. Steel posts installed at 8' o.c.
- 2" x 6' steel posts or approved equal.
- 5" thick layer of mulch.
- Maintain existing grade with the tree protection fence unless otherwise indicated on the plans.

**SECTION VIEW**

BY	DATE	REVISIONS	
		BT	NO
DESIGNED: BDF	6/13/19		
DRAWN: BDF	6/13/19		
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APPROVED: RTB	6/13/19		

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 CITY OF TAMPA, FL  
**TREE PROTECTION DETAILS**



**TREE PROTECTION**

N.T.S.