

ASBA  **2024**

ASBA TECHNICAL MEETING & TRADE SHOW
DECEMBER 3-6, 2024 | ORLANDO, FLORIDA

City Of Aventura, FL Waterways Park Multi Sport Field Renovation

Contaminated Soil Removal & Infrastructure Improvements

Paul Arcella, CGC #046079 ASBA CFB
CSR Athletic Construction



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DECEMBER 3-6, 2024 | ORLANDO, FLORIDA



Paul Arcella, State of FL CGC, CFB



- President, CSR Athletic Construction
- Deerfield Beach, Florida
- Family-owned and operated business, celebrating 51 years in business (1973-2024). With roots in sitework, CSR is self-performing of all aspects of Athletic Construction with extensive experience in Design/Build of Athletic Fields (both natural and synthetic), running tracks, multi-sport fields and complexes for Municipalities, High School, College and Professional Sports Clients

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Learning Objectives

This session will lead the participants on the steps necessary for the proper handling of contaminated soil material, including excavation, stockpiling, loading, removal and documented disposal of this type of soil and the Construction of the associated project storm drain and infrastructure.

To include...



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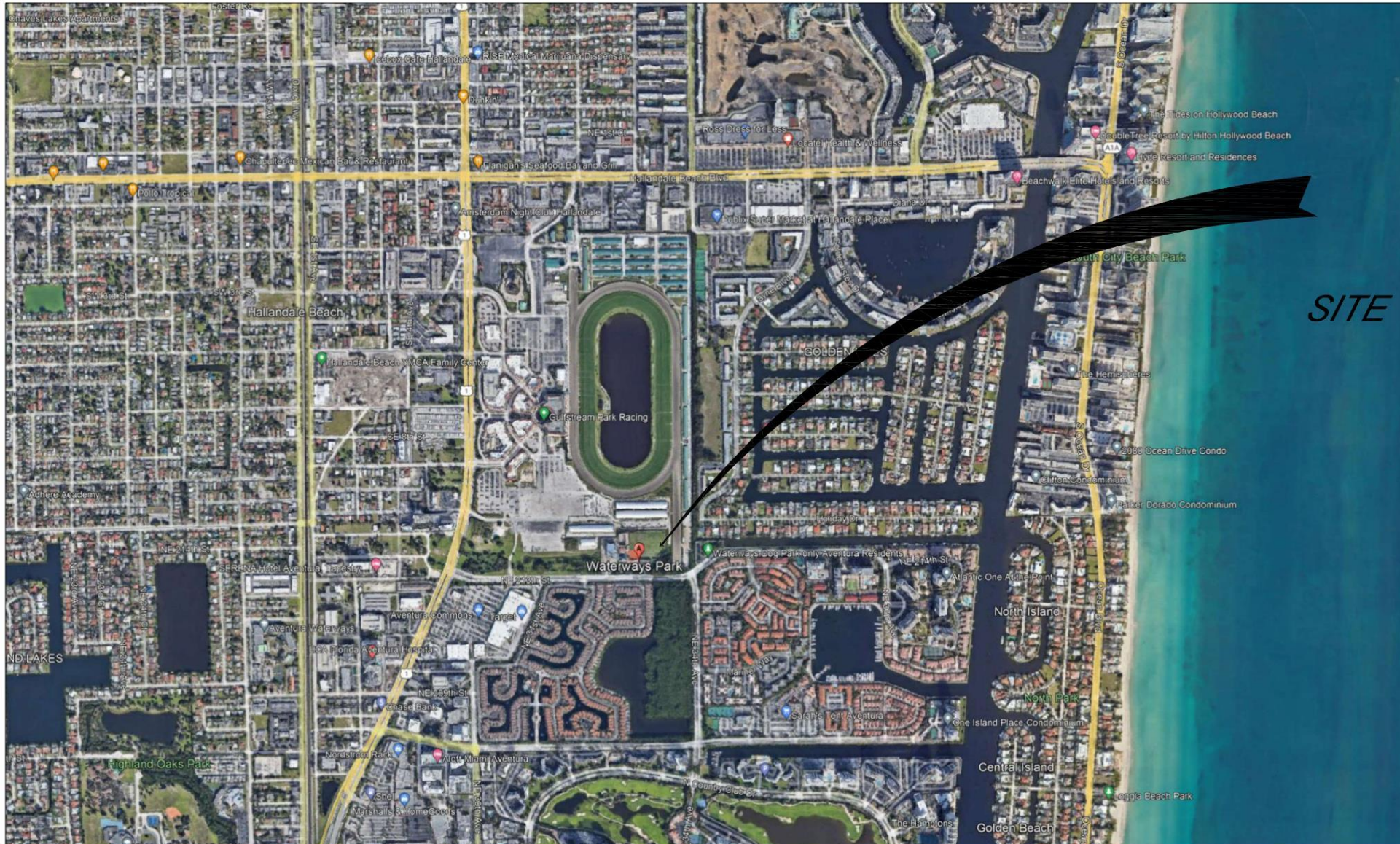
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- Discuss the steps necessary in the proper contaminated material handling.
- The required documentation and “Chain of Custody” load tickets for both State and Local requirements.
- The design techniques implemented to deal with the contaminated soil presence
- Proper replacement material with documented structural soils aggregate
- The design and construction of the subsurface infrastructure and storm drainage systems
- The installation of the finished Synthetic Turf surface.



The Project Location



Existing Conditions





Pre-Construction - Existing Park



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Gulfstream Park Race Track - South FL “Landmark”



Gulfstream Park Race Track - South FL “Landmark”

- Gulfstream Park opened for para-mutual Thoroughbred Racing in 1939
- The track went bankrupt only 4 days after opening.
- In 1944, James Donn, Sr., a creditor in the original opening, reopened Gulfstream Park.
- In 1952, the Florida Derby (Grade 1) race was established and has become an important stepping stone to the Kentucky Derby to this day
- The Track has both a dirt track and natural turf course
- It is now the only thoroughbred racing facility in South Florida. (*Tropical Park, Hialeah Race Track and Calder-all gone*) It also has a 1st Class Casino attached to the track and become Major Entertainment and Top Live Music Shows hub of the community

Gulfstream Park Race Track – Circa 1939



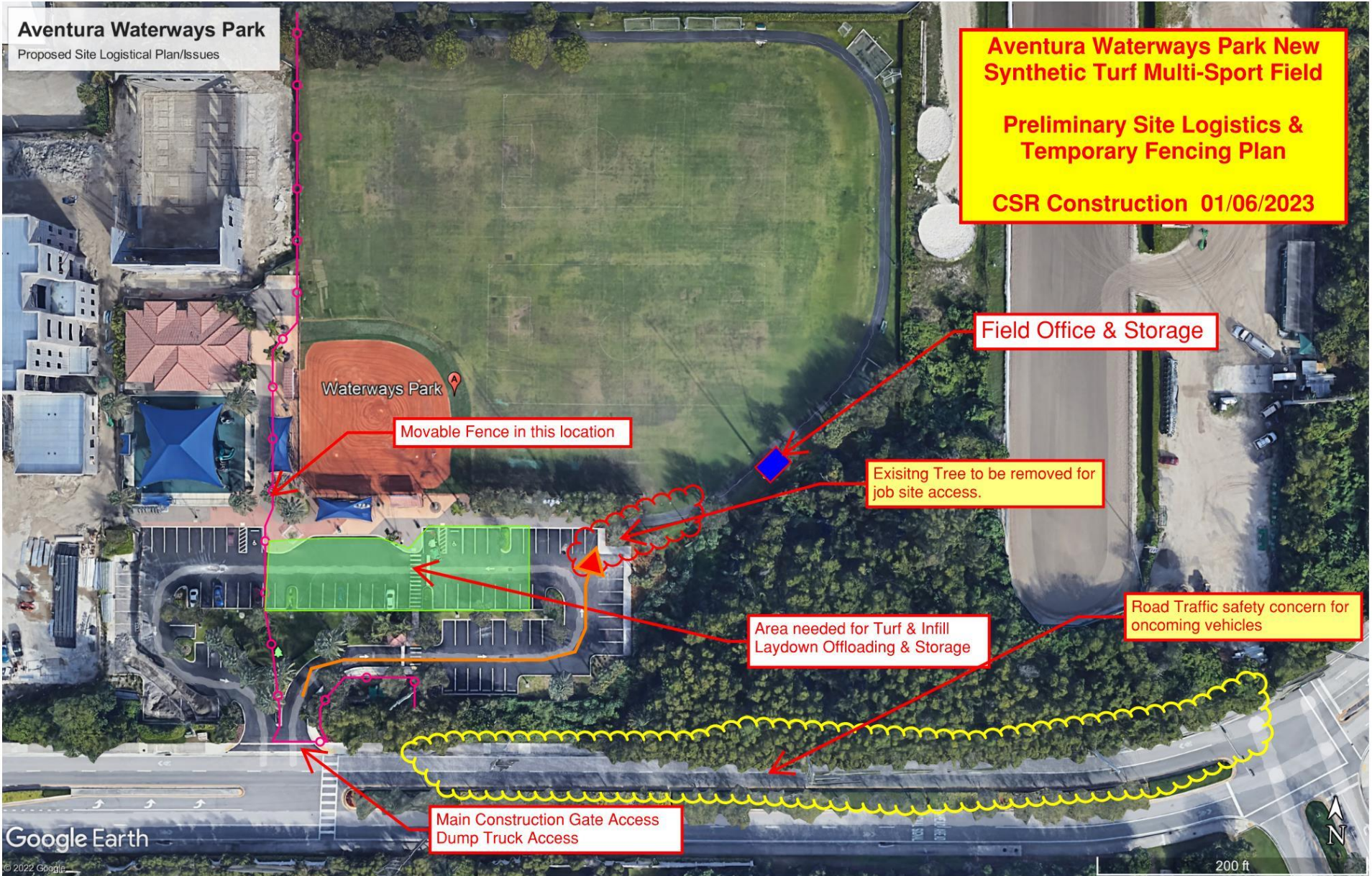
Gulfstream Park Race Track – Through the Years



Gulfstream Park Race Track – Today



Site Logistic Issues



And one more challenge...



Aventura Charter High School



Possible Contamination Source?



Soil Management Plan & Project Design

- The Approved Soil Management Plan (SMP) – Miami-Dade County Department of Environmental Resource Management (DERM)
- Arsenic was detected above acceptable levels during original Park Construction
- The New Construction Design based on the approved SMP
- Implementation of SMP

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Soil Management Plan

2.0 Site History and Contamination Assessment Information

Information on file with DERM included a Preliminary Site Assessment Report (PSAR) for the Proposed Waterways Park dated March 2007. The PSAR identified that Gulfstream Park used this facility and surrounding area for storing and disposing of solid waste generated by their operations since at least 1963.

Reportedly twenty soil borings were performed at the property in January and February 2007 as part of the PSAR. The report identified the site lithology as follows: *“Site lithology consists mostly of reworked, poorly sorted fill dirt with small pieces of rock, wood, steel, brick, and tile from the surface to a depth of 4 feet. A layer of brown organic matter (wood shavings, sawdust) ranging in thickness from 1 to 12 inches was noted at a depth of approximately 3 to 4 feet in some borings. Tan silty to clayey sand with limestone fragments was observed from 4 to 15 feet below grade. Soft limestone was observed from approximately 15 to 22 feet. Based on field observations, the soil from the ground surface to an approximate depth of 4 feet is imported fill, which has been reworked or otherwise disturbed.”* The water table was reportedly encountered at approximately six feet below land surface.

Laboratory analytical results reported arsenic as the contaminant of concern and the report identified that arsenic concentrations in soil were reported between the laboratory method detection limit of <0.003 mg/kg to a maximum concentration of 8.95 mg/kg. Elevated arsenic concentrations were reported in soil samples collected from the 0-2', 2'-4' and 4'-6' interval BLS. Detected SPLP concentrations range from <0.004 mg/L to a maximum concentration of 0.060 mg/L. The report concluded that the arsenic appeared to be randomly distributed horizontally and vertically and that there appeared to be no correlation between total arsenic and leachable arsenic (SPLP) concentrations.

Upon review of the PSAR, DERM correspondence dated May 15, 2007 stated: *“Based on the selected option of No Further Action with Conditions (NFAC), no further groundwater or soil assessment is requirement at this time. However, additional groundwater assessment and methane gas assessment shall be required.”*

No additional soil assessment information was noted in the records reviewed at DERM. However,

Soil Management Plan

Soil Management Plan

Aventura Waterways Park
3301 NE 213th Street
Aventura, Miami-Dade County, FL 33180
DERM Facility ID#: IW5-00634
June 2022

3.0 Soil Management Plan

The objective of the soil management plan is to aid in the management of contaminated soils during proposed construction activities associated with the conversion of the existing athletic field to field turf and provide information regarding the eventual fate (offsite disposal) of contaminated soils.

As part of the proposed park improvements, to facilitate the installation of artificial turf within the area of the athletic field, it is anticipated that approximately 8" of soils are to be removed from the area of the proposed artificial turf installation, with the final finish grade upon completion of the artificial turf installation to be very similar to the existing grade. As such, although the approximately 2' cap will be disturbed as part of the artificial turf installation, it is not anticipated that contaminated soils will be disturbed during these activities and the 2' cap will be restored upon completion of the installation of the field turf.

Additionally, as part of the proposed park improvements, new stormwater management structures and associated piping is to be installed within the project area. These activities consist of the following:

- Removal of approximately 500 linear feet of existing HDPE pipe and associated structures on the eastern portion and southern portion of the athletic field. The depth of the excavation will vary, but maximum depth of excavation will be approximately 6' BLS.
- Installation of approximately 1,300 linear feet of 12" HDPE pipe and associated structures around the perimeter of the athletic field. The depth of the excavation will vary, but maximum depth of excavation will be approximately 6' BLS.

Soil Management Plan

3.6 Dust Control Methods

To minimize dust emissions during construction activities the following is proposed to be implemented by the City of Aventura and/or their Contractors:

- Misting of the contaminated soil excavation areas and areas of stockpiled contaminated soils (when not covered with plastic sheeting) will be performed in an effort to minimize dust generated as part of the activities that involve disturbance/handling of contaminated soils.
- During non-working hours, efforts will be made to leave the contaminated soil excavation areas and areas of stockpiled contaminated soils in a condition that will minimize dust from being generated.
- At the end of each workday, the work area(s) will be inspected and the Contractor will assure that all excavation areas have either been backfilled and covered with clean fill material or that exposed contaminated soil excavations (if any) are wetted down. Additionally, the Contractor will assure that all stockpiled contaminated soils are covered with plastic sheeting.

3.4 Personal Protective Equipment

The Contractor implementing the park improvements will be responsible for the preparation and implementation of a site specific Health and Safety Plan (HASP) in accordance with Occupation Safety Health Administration (OSHA) regulations.

Based on the identified contaminants of concern and contaminant concentrations reported in the Preliminary Site Assessment Report (PSAR) for the Proposed Waterways Park dated March 2007, personal protection equipment (PPE) for onsite activities that involve the disturbance of contaminated soils has been designated to be at a minimum PPE Level D (long pants, long sleeved shirts, steel-toed boots, hard hat, safety glasses and work gloves) and any other measures which shall be described in the HASP prepared by the Contractor implementing the activities at the subject site.

Soil Management Plan

4.1 Air Monitoring Methods and Frequency

The U.S. Environmental Protection Agency (EPA) has developed numerous test methods for a variety of pollutants. Based on the contaminant concentrations in soil identified at the subject site (and associated Correlated Dust Concentrations, as discussed in Section 4.4), it is proposed to use the Total Suspended Particles or TSP Method (40 CFR Part 50, Appendix B) for the collection of time averaged pollutant data.

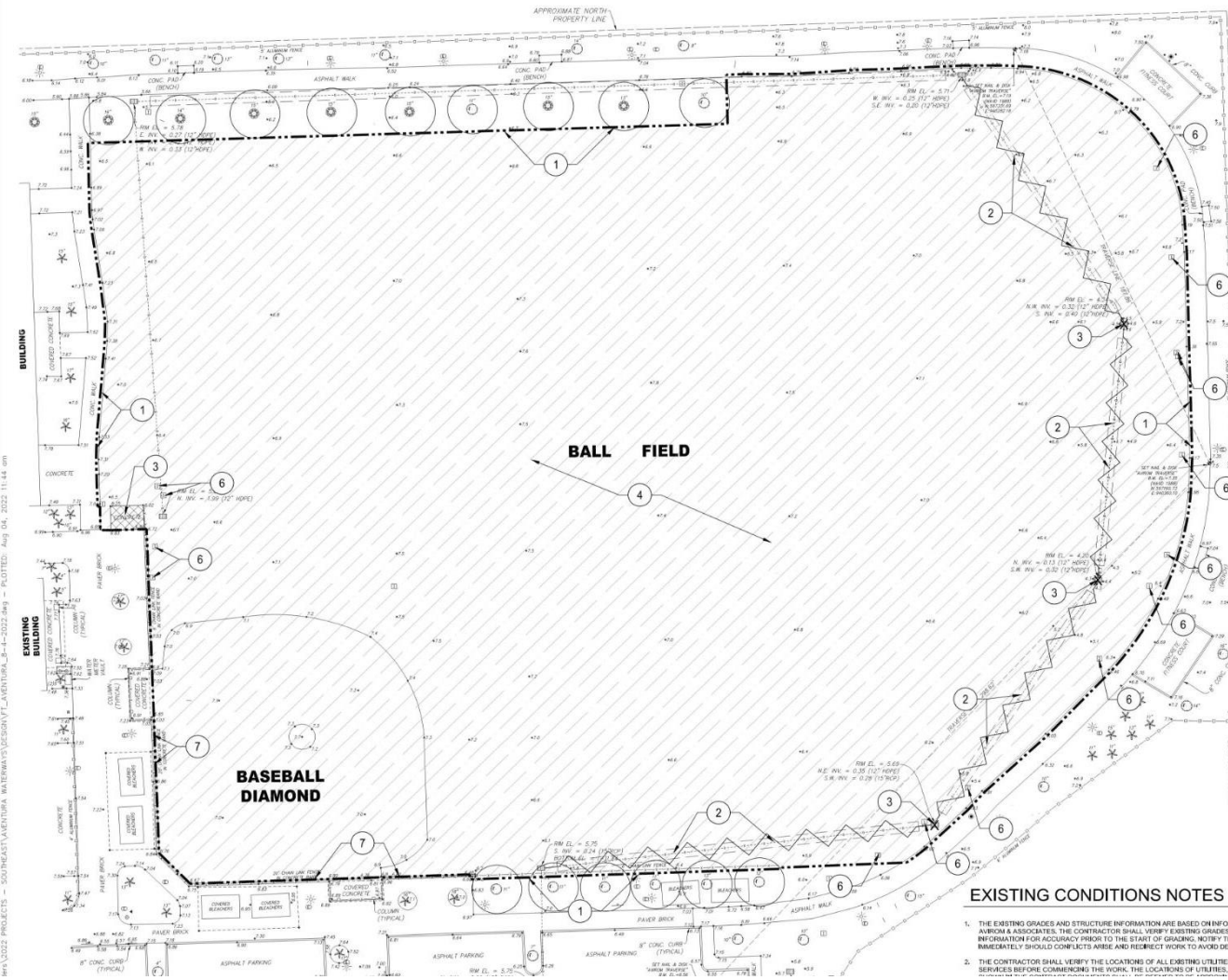
In addition to this method, continuous measurements of Total-Dust will be measured to assess the effectiveness of dust control measures in real-time. This will allow for identification of work practices that have the potential to generate off-site impacts, assess the relative effectiveness of dust control measures, and allow for the application of resources to the areas of greatest need. The following is the proposed sampling frequency for the construction activities associated with the disturbance of contaminated soils at the subject site:

Two days of background sampling will be completed and samples will be collected for real-time Total-Dust. In addition, one (approximate 8 hour) sample will be collected each day during the background sampling for the laboratory analysis of TSP for developing a baseline and comparison of the TSP results to the real-time Total-Dust measurements).

During days of contaminated soils handling activities two DataRAM dust monitors will be placed in the field for the purpose of qualitatively assessing the relative effectiveness of dust control measures. The monitors will be utilized for evaluating the effectiveness of the dust suppression and mitigation methods and to confirm that excavation activities are not creating dust impacts downwind of the subject site.

During the first week of sampling, samples will be collected daily and submitted to the laboratory for laboratory analysis for TSP with rush turnaround-times (TATs) requested. After the first week, samples will be collected once a week (when contaminated soil handling activities are performed). Because of limitations of the analytical methods, the quickest TAT achievable is five to seven business days.

Project Design Site Demo



DEMOLITION PLAN NOTES

- DEMOLITION SHALL NOT COMMENCE UNTIL ALL PERIMETER SEDIMENT CONTROLS ARE IN PLACE. REFER TO APPROVED LAND DISTURBANCE DRAWINGS.
- ALL DEMOLITION DEBRIS SHALL BE PROPERLY AND LEGALLY DEPOSED OFF SITE.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY HAUL ROUTE AND DEMOLITION PERMITS REQUIRED.
- EXISTING STORM PIPING SHALL REMAIN ACTIVE AT ALL TIMES, UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL PERFORM CLEARING, DEMOLITION, REMOVAL OF OBSTRUCTIONS & SITE PREPARATION NECESSARY FOR THE PROPER EXECUTION OF WORK CONTAINED IN THE CONTRACT DOCUMENTS.
- EXISTING ITEMS ARE TO REMAIN UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING, AT CONTRACTOR'S EXPENSE, ANY EXISTING ITEM DAMAGED OR DESTROYED BY CONSTRUCTION OPERATIONS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY & ALL DAMAGES TO ADJACENT PROPERTIES. THE DAMAGED ITEMS SHALL BE RESTORED TO AN AS-BUILT OR BETTER CONDITION OR REPLACED PER THE DISCRETION OF THE OWNERS REPRESENTATIVE.
- PRIOR TO DEMOLITION WORK, CONTRACTOR SHALL PROTECT ALL EXISTING PLANT MATERIAL NOT SCHEDULED FOR REMOVAL.
- CONTRACTOR TO VERIFY THAT ANY SITE IRRIGATION AND LANDSCAPE AFFECTED BY ONSITE CONSTRUCTION WILL REMAIN LIVE AND OPERABLE AT ALL TIMES DURING CONSTRUCTION.
- THERE MAY BE UTILITIES NOT SHOWN ON THE SURVEY. CONTRACTOR SHALL TAKE CAUTION IN CONSTRUCTION AND IF UTILITIES OR OTHER ITEMS OF CONCERN ARE DISCOVERED THE OWNERS REPRESENTATIVE SHALL BE NOTIFIED IMMEDIATELY FOR DIRECTION AND REDIRECT WORK TO AVOID DELAY.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL REMAINING EXISTING AND NEW DRAINAGE AND UTILITY LINES ARE PROTECTED AND UNDAUNGED FROM TREMORING.

THIS DOCUMENT HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY RYAN S. BRIGHT, P.E. ON 8/4/22 USING AN SHA AUTHENTICATION CODE.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SHA AUTHENTICATION CODE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

All work shall be conducted in accordance with the requirements of the Soil Management Plan dated September 21, 2022 and approved with conditions by DERM on October 17, 2022

DEMOLITION LEGEND/KEY NOTES

- LIMIT OF WORK
- EXISTING PIPE TO BE REMOVED. BACKFILL TO 95% WITH SUITABLE MATERIAL.
- EXISTING CATCH BASIN TO BE REMOVED. BACKFILL TO 95% WITH SUITABLE MATERIAL.
- CLEAR AND GRUB - LIVING TURF FIELD TO BE DEMOLISH AND BE REMOVED AS REQUIRED BASED ON NEW SYNTHETIC TURF BASE ROCK, GRADING AND DRAINAGE INSTALLATION REQUIREMENTS. ALL IRRIGATION LATERAL LINES AND MAINLINES ARE TO BE REMOVED AND REMOVED. MOWING MANNING THAT THESE CURRENT FIELD IRRIGATION TO BE CAPPED AND ABANDONED.
- REMOVE EXISTING INSIDE CONCRETE SLAB AND DISPOSE OF PROPERLY.
- REMOVE EXISTING IRRIGATION EQUIPMENT AND DELIVER TO OWNER.
- EXISTING CONCRETE CURB TO REMAIN. PROTECT DURING CONSTRUCTION.

EXISTING CONDITIONS NOTES

- THE EXISTING GRADES AND STRUCTURE INFORMATION ARE BASED ON INFORMATION PROVIDED BY ANIRCON & ASSOCIATES. THE CONTRACTOR SHALL VERIFY EXISTING GRADES AND STRUCTURE INFORMATION FOR ACCURACY PRIOR TO THE START OF GRADING. NOTIFY THE OWNERS REPRESENTATIVE IMMEDIATELY SHOULD CONFLICTS ARISE AND REDIRECT WORK TO AVOID DELAY.
- THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING THE WORK. THE LOCATIONS OF UTILITIES, STRUCTURES AND SERVICES



Project Design Site Demo



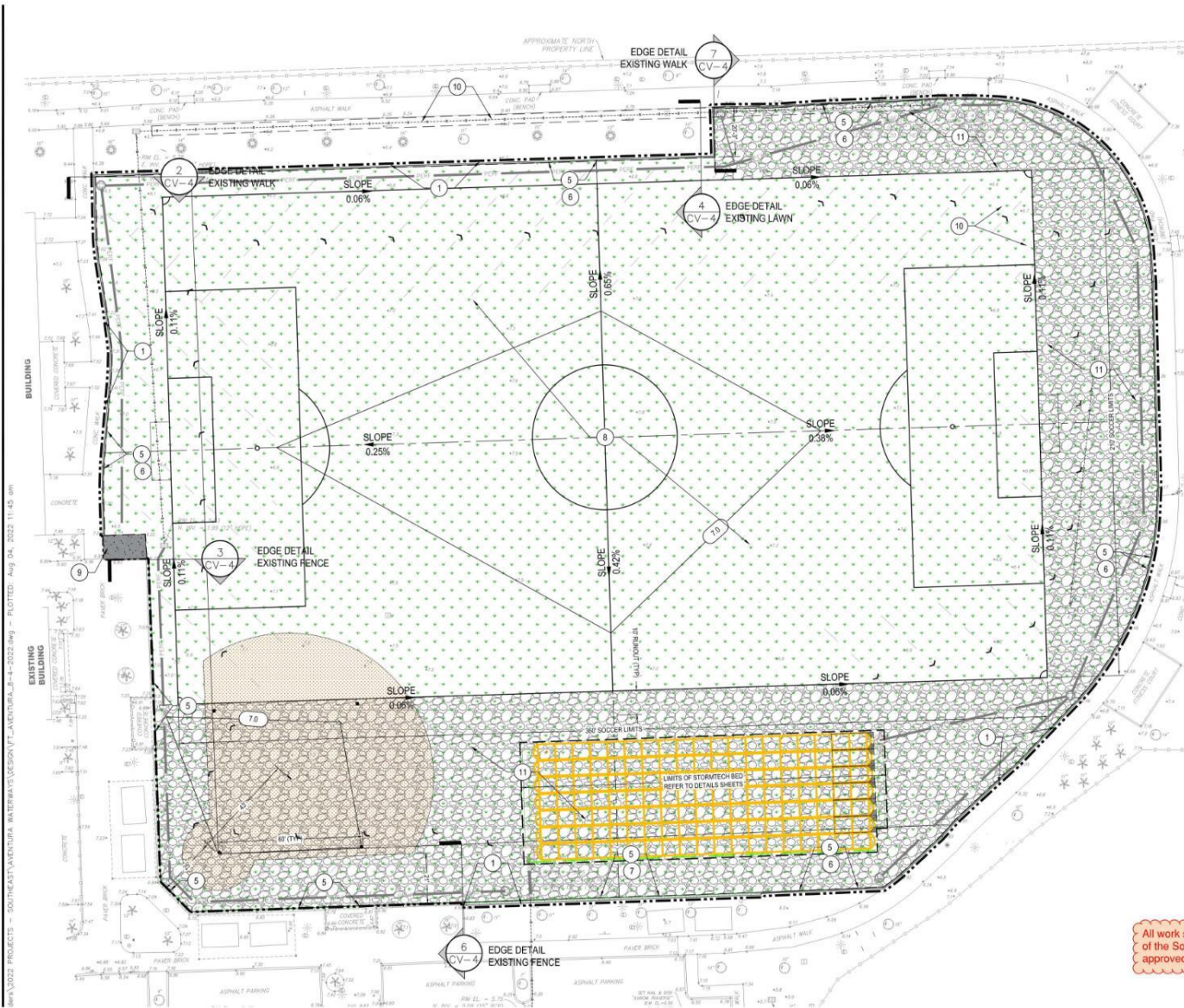
Project Design Site Demo



Project Design Site Demo



Project Design Site Grading 2' Soil Cap



MATERIALS NOTES

1. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ELEMENTS INCLUDING UTILITY LOCATIONS AND REQUIRED SLEEVING PRIOR TO INSTALLATION. VERIFY CRITICAL DIMENSIONS, REFERENCE POINT LOCATIONS AND CONSTRUCTION CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. TEMPORARY BENCHMARKS OR REFERENCE POINTS SHALL BE SET BY THE CONTRACTOR AS NECESSARY. NOTIFY THE OWNERS REPRESENTATIVE IMMEDIATELY SHOULD DISCREPANCY ARISE AND REDIRECT WORK TO AVOID DELAYS.
2. THE INTERFACE OF ALL PROPOSED IMPROVEMENTS TO EXISTING SITE SHALL CONFORM AND BE SMOOTH AND UNIFORM UNLESS NOTED OTHERWISE.
3. ALL REINFORCING AND FORMS SHALL BE SECURED IN PLACE AND ACCEPTED BY OWNERS REPRESENTATIVE PRIOR TO PLACING ANY CONCRETE.
4. ALL DIMENSIONS SHALL BE VERIFIED IN FIELD AND CHALKED, STRING LINED OR FLAGGED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY WORK ADJUSTMENTS MADE TO ACHIEVE OVERALL DESIGN LAYOUT SHALL BE ACCEPTED BY THE OWNERS REPRESENTATIVE PRIOR TO CONSTRUCTION.
5. VERIFY ALL SITE CONDITIONS, ELEVATIONS, AND DIMENSIONS SHOWN ON THE PLANS PRIOR TO COMMENCEMENT OF WORK. NOTIFY OWNER AND ENGINEER OF ANY DISCREPANCIES OR IRREGULAR CONDITIONS.
6. ALL DRES AND FINISHES TO CONFORM TO MHS, NCAI OR OTHER GOVERNING BODY OPTICAL RULES, CURRENT EDITION, AS APPLICABLE.
7. PRIOR TO THE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL LOCATE THE PROPOSED CENTERLINES FOR CONTROL FOR THE NEW FIELD LAYOUT AND MARKING. FIELD CENTERLINE BOTH LONGITUDINALLY AND SIDE TO SIDE SHALL BE APPROVED BY OWNER AND ENGINEER PRIOR TO COMMENCEMENT OF WORK AND PRIOR TO INSTALLATION OF TURF.
8. FOR SPECIFIC FIELD DIMENSIONING PLANS, REFER TO SHOP DRAWINGS PREPARED FOR THE PROJECT BY FIELDTURF USA, INC.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FIELD LAYOUT BENCHMARKS. CONTRACTOR SHALL TAKE THIS TO ALL UTILITY CONNECTIONS AND PROVIDE MARKED-UP RECORD PLANS FOR ALL UTILITIES INSTALLED OR ENCOUNTERED.
10. ALL ANGLES ARE IN DEGREES UNLESS OTHERWISE INDICATED.
11. ALL DIMENSIONS INVOLVING CURVES ARE TAKEN FROM THE FRONT FACE OF THE CURB AT FINISHED GRADE, WHERE THE NEW SYNTHETIC TURF ABUTS A CONCRETE CURB, THE TOP OF THE INHILL SHALL MATCH THE PROPOSED FINISHED GRADE OF THE CURB, UNLESS NOTED OTHERWISE.
12. CONTRACTOR SHALL TAKE EXTREME CARE TO AVOID DAMAGE TO THE EXISTING SURFACES DURING CONSTRUCTION.

THIS DOCUMENT HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY RYAN S. WRIGHT, P.E. ON 8/4/22 USING AN SHA AUTHENTICATION CODE.
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MATERIALS LEGEND/KEY NOTES

1	LIMIT OF WORK - 127,583 SF (2.93 AC)
2	PERFORATED HDPE PIPING - ADS N-12 OR EQUAL
3	SOLID HDPE PIPING - ADS N-12 OR EQUAL
4	1" X 12" PANEL DRAIN - ADS ADVANEDGE, MULTIFLOW OR EQUAL
5	2" X 4" PT NAILER - GROUND CONTACT GRADE OR BETTER (s1.412 LF)
6	6" X 12" CONCRETE CURBING (s1.125 LF)
7	12" X 8" CONCRETE CURBING (s1.123 LF)
8	RELEDTURF SURFACING (s125,838 SF)
9	CONCRETE SURFACING (s42 SF)
10	EXISTING STORM DRAIN - REFER TO EXISTING CONDITIONS & CONSTRUCTION PLAN
11	LIMITS OF THICKENED STONE DEPTH (s43,396 SF)

All work shall be conducted in accordance with the requirements of the Soil Management Plan dated September 21, 2022 and approved with conditions by DERM on October 17, 2022



Project Design Site Grading 2' Soil Cap



Project Design Site Grading 2' Soil Cap



Project Design –Soil Contamination Removal



Project Design –Soil Contamination Removal



Project Design –Soil Contamination Removal



Project Design – Soil Contamination Removal



Project Design –Soil Contamination Removal



Project Design –Soil Contamination Removal



Project Design –Soil Contamination Removal



Project Design –Soil Contamination Removal



Project Design –Soil Contamination Removal



Contaminated Soil Removal- Chain of Custody Load End

CleanEarth™

Manifest # 2729552

GLOBAL JOB NUMBER: 1012540

FACILITY APPROVAL NUMBER: 233170006

Please Check One:

- Clean Earth of Carteret
24 Middlesex Avenue
Carteret, NJ 07008
Ph: 732-541-8909
- Clean Earth of Maryland
1469 Oak Ridge Place
Hagerstown, MD 21740
Ph: 301-791-6220
- Clean Earth of New Castle
94 Pyles Lane
New Castle, DE 19720
Ph: 302-427-6633
- Clean Earth of Greater Washington
6250 Dower House Road
Upper Marlboro, MD 20772
Ph: 301-599-0939
- Clean Earth of Philadelphia
3201 S. 61st Street
Philadelphia, PA 19153
Ph: 215-724-6520
- Clean Earth of North Jersey
115 Jacobus Avenue
Kearny, NJ 07032
Ph: 973-344-4004
- Clean Earth of Southeast Pennsylvania
7 Steel Road East
Morrisville, PA 19067
Ph: 215-428-1700
- Other
JED Solid Waste
1501 Omni Way
St. Cloud, FL 34773

Non-Hazardous Material Manifest

(Type or Print Clearly)

GENERATOR'S NAME & SITE ADDRESS: City of Aventura - Aventura Waterways Park 3301 NE 213th Street Aventura, FL 33180	GENERATOR'S PHONE: 770-431-7600	GROSS WEIGHT: <input type="checkbox"/> Tons <input type="checkbox"/> Yards	TARE WEIGHT: <input type="checkbox"/> Tons <input type="checkbox"/> Yards
DESCRIPTION OF MATERIAL/SAMPLE ID AND LOCATION Arsenic contaminated soil Approval # JD 23-31		NET WEIGHT: <input type="checkbox"/> Tons <input type="checkbox"/> Yards	

GENERATOR'S CERTIFICATION - Incomplete and/or unsigned manifests will cause the load to be delayed and/or rejected.

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, is not a DOT hazardous substance as defined by 49 CFR Part 172 or any applicable state law, has been fully and accurately described above, classified, packaged and is in proper condition for transportation according to all applicable state and federal regulations.

Name: Wesley Bennett COA Title: PM
Signature: [Signature] Date and Time: 3/8/23 10:05

TRANSPORTER Soil Tech

Company: _____ Phone Number: _____
Address: _____ Truck # and License Plate: 386 78 10919
Driver: Reinaldo Ferrada SW Haulers Permit #: _____
(Type or Print Clearly) (applicable state permit#)

I hereby certify that the above named material was picked up at the site listed above.

Driver Signature: [Signature] Date and Time: 3/8/23

DESTINATION

I hereby certify that the above named material was delivered without incident to the facility noted above.

Driver Signature: [Signature] Date and Time: 3/8/23

I hereby certify that the above named material has been accepted at the above referenced facility.

Authorized Signature: _____ Date and Time: _____

Contaminated Soil Removal-Chain of Custody Truck Ticket Dump End

CleanEarth™

Manifest # 2729552

GLOBAL JOB NUMBER: 1012540

FACILITY APPROVAL NUMBER: 233170006

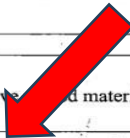
Please Check One:

- Clean Earth of Carteret
24 Middlesex Avenue
Carteret, NJ 07008
Ph: 732-541-8909
- Clean Earth of Maryland
1469 Oak Ridge Place
Hagerstown, MD 21740
Ph: 301-791-6220
- Clean Earth of New Castle
94 Pyles Lane
New Castle, DE 19720
Ph: 302-427-6633
- Clean Earth of Greater Washington
6250 Dower House Road
Upper Marlboro, MD 20772
Ph: 301-599-0939
- Clean Earth of Philadelphia
3201 S. 61st Street
Philadelphia, PA 19153
Ph: 215-724-5520
- Clean Earth of North Jersey
115 Jacobus Avenue
Kearny, NJ 07032
Ph: 973-344-4004
- Clean Earth of Southeast Pennsylvania
7 Steel Road East
Morrisville, PA 19067
Ph: 215-428-1700
- Other
JED SOIL WASTE
1501 Emerald Way
St. Cloud, FL 34773

Non-Hazardous Material Manifest

(Type or Print Clearly)

GENERATOR'S NAME & SITE ADDRESS: City of Aventura - Aventura Waterways Park	GROSS WEIGHT: <input type="checkbox"/> Tons <input type="checkbox"/> Yards
3301 NE 213th Street Aventura, FL 33180	TARE WEIGHT: <input type="checkbox"/> Tons <input type="checkbox"/> Yards
GENERATOR'S PHONE: 770-431-7600	NET WEIGHT: <input type="checkbox"/> Tons <input type="checkbox"/> Yards
DESCRIPTION OF MATERIAL/SAMPLE ID AND LOCATION Arsenic contaminated soil Approval # JD 23-31	
GENERATOR'S CERTIFICATION - Incomplete and/or unsigned manifests will cause the load to be delayed and/or rejected. I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, is not a DOT hazardous substance as defined by 49 CFR Part 172 or any applicable state law, has been fully and accurately described above, classified, packaged and is in proper condition for transportation according to all applicable state and federal regulations.	
Name: <u>Wesley Bourton COA</u>	Title: <u>PM</u>
Signature: <u>[Signature]</u>	Date and Time: <u>3/18/23</u>
TRANSPORTER Soil Tech	
Company: _____	Phone Number: _____
Address: _____	Truck # and License Plate: <u>386 TR 10919</u>
Driver: <u>Demanda Fernando</u>	SW Haulers Permit #: _____ (applicable state permit#)
I hereby certify that the above named material was picked up at the site listed above.	
Driver Signature: <u>[Signature]</u>	Date and Time: <u>3/18/23</u>
DESTINATION	
I hereby certify that the above named material was delivered without incident to the facility noted above.	
Driver Signature: <u>[Signature]</u>	Date and Time: <u>3/18/23</u>
I hereby certify that the above named material has been accepted at the above referenced facility.	
Authorized Signature: <u>[Signature]</u>	Date and Time: <u>3-18-23</u>



Contaminated Soil Removal-Chain of Custody Landfill Weigh Ticket



JED Landfill
A Waste Connections Company
1501 Omni Way
St Cloud, FL 34773

2543
CLEAN EARTH OF SOUTHERN FLORIDA
1240 FOXMOOR STREET
MOORE HAVEN, FL 33471

** Electronic Ticket **

SITE	TICKET	GRID	WEIGHMASTER		
01	308702	→	KGUNTON		
DATE IN	DATE OUT	TIME IN	TIME OUT	VEHICLE	ROLL OFF
03/08/23	03/08/23	11:54	11:54	786-10919D	
REFERENCE		ORIGIN			
23-31		DADE			

Scale Gross Wt. 83480
Stored Tare Wt. 30680
Net Weight 52800

Charge Ticket

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	FEE	TOTAL
→ 26.40	TON	Contaminated Soil				

Operating hours:

BILL TO: CITY OF AVENTURA
MANIFEST#: 786-2729552
PO#: AVENTURA WATERWAYS PARK
PROFILE#: 23-31

SIGNATURE: _____

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

Contaminated Soil Removal Summary

- This process was duplicated for documentation of all 2890 Tons/82 Truckloads of Arsenic Contaminated Soil that was removed
- The Total amount of contaminated soil removed was summarized on a Master Spreadsheet, broken down by date, with copies of the Chain of Custody tickets and certified dump site weigh tickets for each day hauling took place
- A before and after Topo As-built was also done at the end of the project, to confirm the finished elevations were within the guidelines and requirements of SMP.
- That documentation was submitted to Maim-Dade County DERM for approval and Final sign-off release at the end of the project.

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Imported Replacement Material Documentation

- All material imported to the site also needed to be documented and certified, per the SMP.
- The material had to be sourced from approved aggregate/fill certified mine. (DOT) Local material (excess material from a current site) was not permitted.
- Per the design drawings, all of the import material ended up being aggregate base material. The excess material from the 2' soil cap was utilized as needed, to meet new subgrade elevations.
- All of the imported material used (#57 Washed Stone Aggregate/Topstone Blend), came from a DOT certified mine.
- The imported material had to be documented in the same way the exported contaminated material as described in the prior slides.

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Certified Import Material-Pit Weigh Ticket



CEMEX Weighed At: FEC Quarry **1035529401**
 12155 NW 136 ST
 MIAMI, FL 33178 → **FDOT #87-090**
 Location: 1328

Order: 41320443 Dispatch: 1103 Date: 05/04/2023
 Ship To: 50352781 - CSR HEAVY CONSTRUCTION INC, AVENTURA WA
 AGG: P, 1328, AVENTURA WATERW
 3301 NE 213 ST, AVENTURA MIAMI, FL 33178
 Instruct: AGG: P, 1328, AVENTURA WATERW

Job #: 23008 ← PO: 23113
 Product: 1036892 - ASTM #57
 Carrier: 704310 - AUSTINTUP Vehicle: **2289941 - 42-1758, AUS**



Qty: 22.48 ton -- DRIVER ON AT TARE & GROSS --

	lb	ton	tne
Weighmaster: CEMEX	Gross: 69,480	34.74	31.52
Deputy Weighmaster: APEX SERVICE ACCOUNT	Tare: 24,300	12.26	11.12
	Net: 44,960	22.48	20.39

Scale: 7
 In: 5:40 am
 Out: 5:48 am




Today Loads: 1

CEMEX'S STANDARD TERMS AND CONDITIONS INCORPORATED HEREIN.
 SEE REVERSE SIDE FOR PRODUCT LABEL INFORMATION

Signature of Receiving Agent _____ Driver: _____
 METRIC CONVERSION FORMULA: POUNDS DIVIDED BY 2204.623, ROUNDED TO 2 DECIMALS






CEMEX Weighed At: FEC Quarry **1035529607**
 12155 NW 136 ST
 MIAMI, FL 33178 → **FDOT #87-090**
 Location: 1328

Order: 41320443 Dispatch: 1103 Date: 05/04/2023
 Ship To: 50352781 - CSR HEAVY CONSTRUCTION INC, AVENTURA WA
 AGG: P, 1328, AVENTURA WATERW
 3301 NE 213 ST, AVENTURA MIAMI, FL 33178
 Instruct: AGG: P, 1328, AVENTURA WATERW


Job #: 23008 ← PO: 23113
 Product: 1036892 - ASTM #57
 Carrier: 704310 - AUSTINTUP Vehicle: **2233207 - 42-1389, AUS**



Qty: 22.21 ton -- DRIVER ON AT TARE & GROSS --

	lb	ton	tne
Weighmaster: CEMEX	Gross: 68,120	34.06	30.90
Deputy Weighmaster: APEX SERVICE ACCOUNT	Tare: 23,700	11.85	10.75
	Net: 44,420	22.21	20.15


Scale: 7
 In: 8:26 am
 Out: 8:32 am



Today Loads: 2

CEMEX'S STANDARD TERMS AND CONDITIONS INCORPORATED HEREIN.
 SEE REVERSE SIDE FOR PRODUCT LABEL INFORMATION

Signature of Receiving Agent _____ Driver: _____
 METRIC CONVERSION FORMULA: POUNDS DIVIDED BY 2204.623, ROUNDED TO 2 DECIMALS



Certified Import Material-Pit Weigh Ticket



CEMEX Weighed At: FEC Quarry **1035530280**
 12155 NW 136 ST
 MIAMI, FL 33178 **FDOT #87-090**
Location: 1328

Order: 41320443 Dispatch: 1101 Date: 05/05/2023
 Ship To: 50352781 - CSR HEAVY CONSTRUCTION INC, AVENTURA WA
 AGG: P, 1328, AVENTURA WATERW
 3301 NE 213 ST, AVENTURA MIAMI, FL 33178
 Instruct: AGG: P, 1328, AVENTURA WATERW

Job #: 23008 PO: 23113
 Product: 1560224 - TOP STONE
 Carrier: 704310 - AUSTINTUP Vehicle: **2284307 - 42-1754, AUS**



Qty: 21.18 ton -- DRIVER ON AT TARE & GROSS --
 Weighmaster: CEMEX
 Deputy Weighmaster: Archie Ramirez
 Scale: 7
 In: 7:12 am
 Out: 7:19 am
 Today Loads: 2

	lb	ton	tne
Gross:	68,560	34.28	31.10
Tare:	26,200	13.10	11.88
Net:	42,360	21.18	19.21

CEMEX'S STANDARD TERMS AND CONDITIONS INCORPORATED HEREIN.
 SEE REVERSE SIDE FOR PRODUCT LABEL INFORMATION

Signature of Receiving Agent _____ Driver: _____
 METRIC CONVERSION FORMULA: POUNDS DIVIDED BY 2204.623, ROUNDED TO 2 DECIMALS





CEMEX Weighed At: FEC Quarry **1035530194**
 12155 NW 136 ST
 MIAMI, FL 33178 **FDOT #87-090**
Location: 1328

Order: 41320443 Dispatch: 1101 Date: 05/05/2023
 Ship To: 50352781 - CSR HEAVY CONSTRUCTION INC, AVENTURA WA
 AGG: P, 1328, AVENTURA WATERW
 3301 NE 213 ST, AVENTURA MIAMI, FL 33178
 Instruct: AGG: P, 1328, AVENTURA WATERW

Job #: 23008 PO: 23113
 Product: 1560224 - TOP STONE
 Carrier: - Vehicle: **2402056 - 4117-23, MON**



Qty: 21.51 ton -- DRIVER ON AT TARE & GROSS --
 Weighmaster: CEMEX
 Deputy Weighmaster: Archie Ramirez
 Scale: 6
 In: 5:56 am
 Out: 6:05 am
 Today Loads: 1

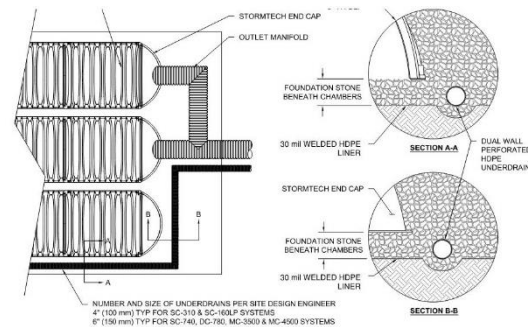
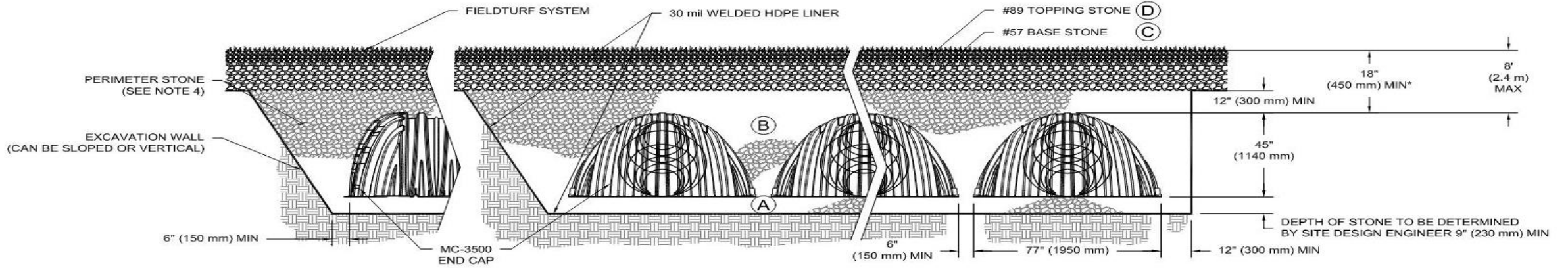
	lb	ton	tne
Gross:	67,660	33.83	30.69
Tare:	24,640	12.32	11.18
Net:	43,020	21.51	19.51

CEMEX'S STANDARD TERMS AND CONDITIONS INCORPORATED HEREIN.
 SEE REVERSE SIDE FOR PRODUCT LABEL INFORMATION

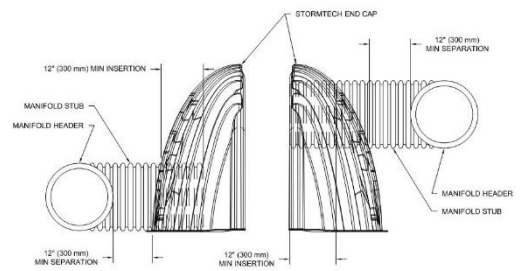
Signature of Receiving Agent _____ Driver: _____
 METRIC CONVERSION FORMULA: POUNDS DIVIDED BY 2204.623, ROUNDED TO 2 DECIMALS



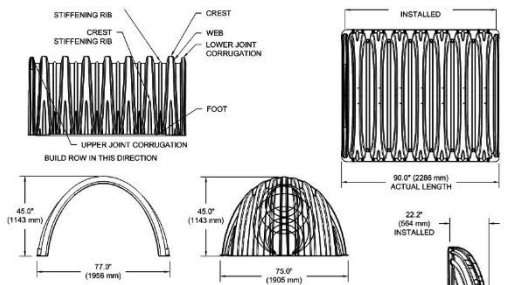
Project Design – Storm Drainage System Chamber System



MC-SERIES END CAP INSERTION DETAIL



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL



NOMINAL CHAMBER SPECIFICATIONS
 SIZE (W X H X INSTALLED LENGTH)
 CHAMBER STORAGE
 MINIMUM INSTALLED STORAGE*
 WEIGHT

77.0" X 45.0" X 98.0"	(1956 mm X 1143 mm X 2184 mm)	108.9 CUBIC FEET (3.11 m ³)	134 LBS (60.5 kg)
77.0" X 45.0" X 22.2"	(1956 mm X 1143 mm X 564 mm)	14.9 CUBIC FEET (0.42 m ³)	49 LBS (22.2 kg)

NOMINAL END CAP SPECIFICATIONS
 SIZE (W X H X INSTALLED LENGTH)
 END CAP STORAGE
 MINIMUM INSTALLED STORAGE*
 WEIGHT

77.0" X 45.0" X 98.0"	(1956 mm X 1143 mm X 2184 mm)	108.9 CUBIC FEET (3.11 m ³)	134 LBS (60.5 kg)
77.0" X 45.0" X 22.2"	(1956 mm X 1143 mm X 564 mm)	14.9 CUBIC FEET (0.42 m ³)	49 LBS (22.2 kg)

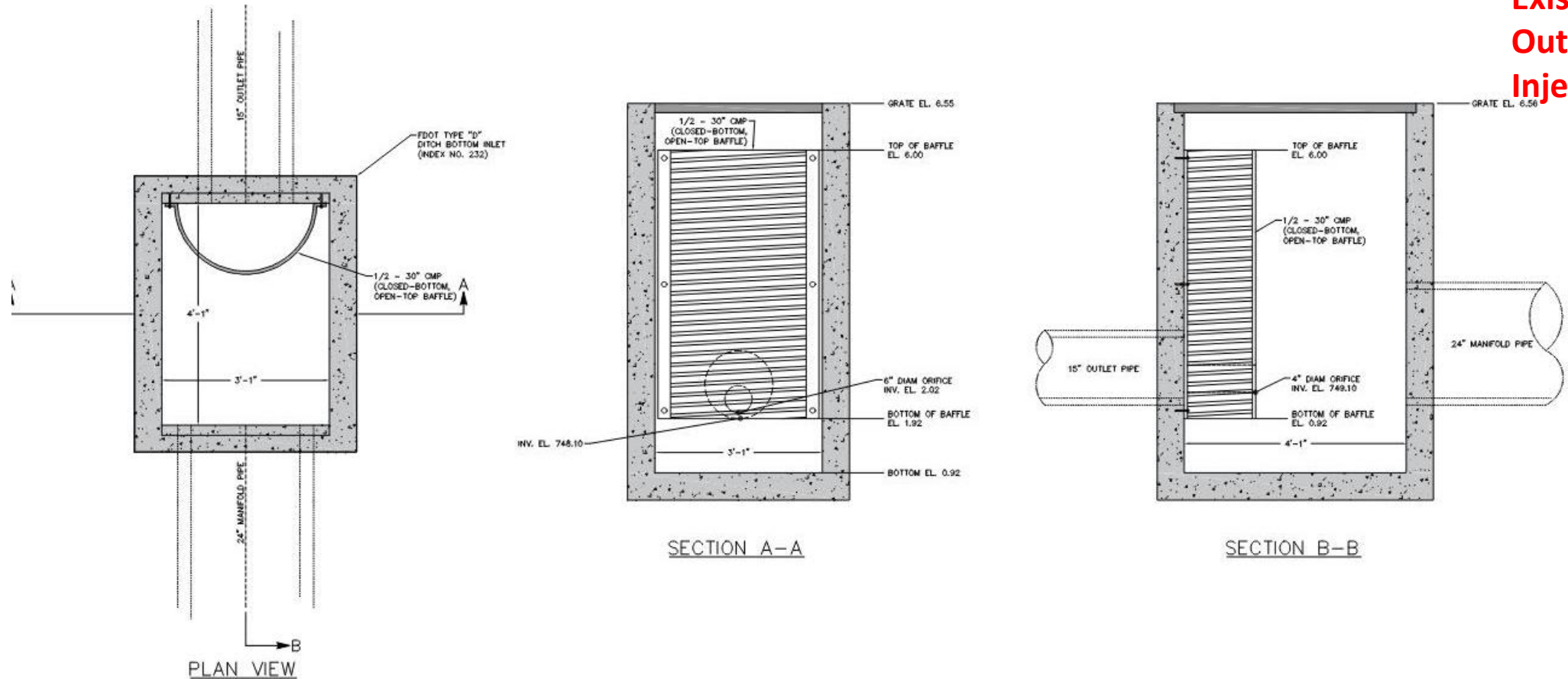
*ASSUMES 12" (305 mm) STONE ABOVE, 6" (29 mm) STONE FOUNDATION, 6" SPACING BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
 STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
 END CAPS WITH A WELDED CROWN PLATE END WITH "C"
 END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC3500EP06T	6" (150 mm)	33.27" (844 mm)	—
MC3500EP06B	6" (150 mm)	—	0.56" (17 mm)
MC3500EP10T	8" (200 mm)	31.16" (791 mm)	—
MC3500EP10B	8" (200 mm)	—	0.51" (21 mm)
MC3500EP10T	10" (250 mm)	29.04" (738 mm)	—
MC3500EP10B	10" (250 mm)	—	0.97" (24 mm)
MC3500EP12T	12" (300 mm)	28.56" (727 mm)	—
MC3500EP12B	12" (300 mm)	—	1.30" (34 mm)
MC3500EP15T	15" (375 mm)	23.20" (584 mm)	—
MC3500EP15B	15" (375 mm)	—	1.50" (38 mm)
MC3500EP18T	18" (450 mm)	20.85" (529 mm)	—
MC3500EP18B	18" (450 mm)	—	1.77" (45 mm)
MC3500EP24T	24" (600 mm)	14.48" (368 mm)	—
MC3500EP24B	24" (600 mm)	—	2.06" (52 mm)
MC3500EP28B	30" (750 mm)	—	2.75" (70 mm)

CUSTOM PRECURED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 15-24" (380-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

Project Design – Storm Drainage System Chamber System



Existing Positive
Out fall-To Deep
Injection Well



CONTROL STRUCTURES DETAILS SCALE: NTS









And then....A Record Rainfall Event

A historic flash flood event occurred in Fort Lauderdale, Florida, and the surrounding areas on April 12, 2023. The Fort Lauderdale area reported **25.6 inches (650 mm) of rain within approximately 12 hours.**

w https://en.wikipedia.org/wiki/2023_Fort_Lauderdale_floods

2023 Fort Lauderdale floods -



And then....A Record Rainfall Event



Then...A Sprint to the Finish Line!



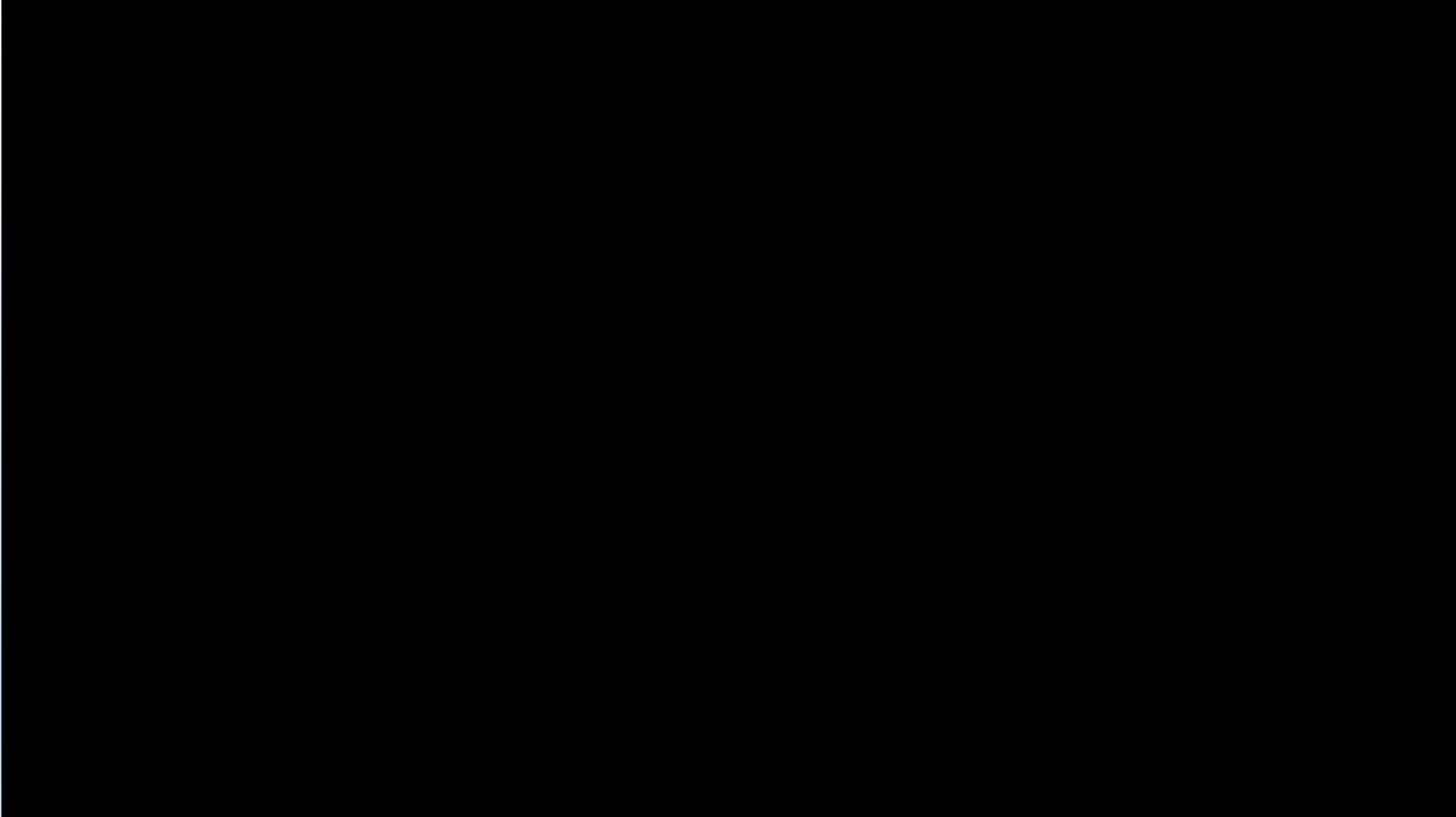








The Ultimate Goal-Happy Owners!



Questions ?



Thank you!