

PROPOSED SEGMENTAL RETAINING WALL

LAKE CITY HOTEL

LAKE CITY, FLORIDA

MATERIAL NOTES

- Concrete Retaining Wall Units: "Anchor Diamond Pro Retaining Wall Units" as manufactured by Oldcastle Coastal under license from Anchor Wall Systems.
- Geosynthetic Reinforcement: Miragrid 3XT, as shown on the Drawings.
- Leveling Pad Base
 - Aggregate Base: Crushed stone or granular fill meeting the following gradation as determined in accordance with ASTM D448:

Sieve Size	Percent Passing
1 Inch	100
No. 4	35 to 70
No. 40	10 to 35
No. 200	3 to 10
 - Base Thickness: 6 inches (minimum compacted thickness).
- Drainage Aggregate: Clean crushed stone or granular fill meeting the following gradation as determined in accordance with ASTM D448:

Sieve Size	Percent Passing
1 Inch	100
3/4 Inch	75 to 100
No. 4	0 to 60
No. 40	0 to 50
No. 200	0 to 5
- Reinforced Fill: Soil free of organics and debris and consisting of either GP, GW, SP, SW, or SP-SM type, classified in accordance with ASTM D2487 and the USCS classification system and meeting the following gradation:

Sieve Size	Percent Passing
1 Inch	100
3/4 Inch	70 to 100
No. 4	30 to 100
No. 40	15 to 100
No. 100	0 to 65
No. 200	0 to 12

 - PI<6.
 - Unsuitable soils are organic soils and those soils classified as SM, SC, CL, CH, OH, MH, ML, OL, or PT.
- Impervious Material: Clayey soil (permeability of less than 10^{-6} cm/sec) or other barrier which will prevent percolation into the reinforced soil zone of the retaining wall.
- Drainage Pipe: Perforated or slotted PVC or corrugated HDPE pipe manufactured in accordance with D3034 and/or ASTM F405. The pipe may be covered with a geotextile filter fabric to function as a filter.
- Construction Adhesive: Exterior grade adhesive as recommended by the retaining wall manufacturer.
- Filter Fabric: Mirafi Type 140N or equal.

FOUNDATION SOIL NOTES

- Excavate foundation soil as required for footing or base dimension shown on the Drawings, or as directed by the Project geotechnical engineer.
- The Owner shall retain the services of a geotechnical engineer to examine foundation soil to ensure that the actual foundation soil strength meets or exceeds that indicated on the Drawings. Unsuitable soils are defined as any soil that does not have sufficient bearing capacity or will cause excessive wall settlement. Remove soil not meeting the required strength. Oversize resulting space sufficiently from the front of the block to the back of the reinforcement, and backfill with suitable compacted backfill soils.
- The Owner shall retain the services of a geotechnical engineer to determine if the foundation soils will require special treatment or correction to control total and differential settlement.
- Fill over-excavated areas with suitable compacted backfill, as recommended by the Project geotechnical engineer.

BASE COURSE NOTES

- Place base materials to the depths and widths shown on the Drawings, upon undisturbed soils, or foundation soils prepared as directed by the project geotechnical engineer.
 - Extend the leveling pad laterally at least 6 inches in front and behind the lowermost concrete retaining wall unit.
 - Provide aggregate base compacted to 6 inches thick (minimum).
 - Wrap toe of wall, including leveling pad, with filter fabric.
- Compact aggregate base material to provide a level, hard surface on which to place the first course of units.
- Prepare base materials to ensure complete contact with retaining wall units. Gaps are not allowed.

ERECTION NOTES

- Excavation support, if required, is the responsibility of the Contractor, including the stability of the excavation and its influence on adjacent properties and structures.
- General: Erect units in accordance with manufacturer's instructions and recommendations, and as specified herein.
- Place first course of concrete wall units on the prepared base material. Check units for level and alignment. Maintain the same elevation at the top of each unit within each section of the base course.
- Ensure that foundation units are in full contact with the leveling pad.
- Place concrete wall units side-by-side by length of wall alignment. Alignment may be done by using a string line measured from the back of the block. Gaps are not allowed between the foundation concrete wall units.
- Place 12 inches (minimum) of drainage aggregate between, and directly behind the concrete wall units. Fill voids in retaining wall units with drainage aggregate. Wrap drainage aggregate with filter fabric. Provide a drainage zone behind the wall units to within 9 inches of the final grade. Cap the reinforced zone and drainage aggregate zone with 12 inches of impervious material.
- Install drainage pipe at the lowest elevation possible, to maintain gravity flow of water to outside of the reinforced zone. Slope the main collection drainage pipe, located just behind the concrete retaining wall units, 1 percent (minimum) to provide gravity flow to the daylighted areas. Daylight the main collection drainage pipe to an appropriate location away from the wall system at each low point or at 50 foot (maximum) intervals along the wall.
- Remove excess fill from top of units and install next course. Ensure drainage aggregate and backfill are compacted before installation of next course.
- Check each course for level and alignment. Adjust units as necessary with reinforcement shims to maintain level, alignment, and setback prior to proceeding with each additional course.
- Install each succeeding course. Backfill as each course is completed. Pull the units forward until the locating surface of the unit contacts the locating surface of the units in the preceding course. Interlock wall segments that meet at corners by overlapping successive courses. Attach concrete retaining wall units at exterior corners with adhesive specified.
- Install geosynthetic reinforcement in accordance with geosynthetic manufacturer's recommendations and the shop drawings.
 - Orient geosynthetic reinforcement with the highest strength axis perpendicular to the wall face.
 - Prior to geosynthetic reinforcement placement, place the backfill and compact to the elevation of the top of the wall units at the elevation of the geosynthetic reinforcement.
 - Place geosynthetic reinforcement at the elevations and to the lengths shown on the Drawings.
 - Lay geosynthetic reinforcement horizontally on top of the concrete retaining wall units and the compacted backfill soils. Place the geosynthetic reinforcement within one inch of the face of the concrete retaining wall units. Place the next course of concrete retaining wall units on top of the geosynthetic reinforcement.
 - The geosynthetic reinforcement shall be in tension and free from wrinkles prior to placement of the backfill soils. Pull geosynthetic reinforcement hand-taut and secure in place with staples, stakes, or by hand-tensioning until the geosynthetic reinforcement is covered by 6 inches of loose fill.
 - The geosynthetic reinforcements shall be continuous throughout their embedment lengths. Splices in the geosynthetic reinforcement strength direction are not allowed.
 - Do not operate tracked construction equipment directly on the geosynthetic reinforcement. At least 6 inches of compacted backfill soil is required prior to operation of tracked vehicles over the geosynthetic reinforcement. Keep turning of tracked construction equipment to a minimum.
 - Rubber-tired equipment may pass over the geosynthetic reinforcement at speeds of less than 5 miles per hour. Turning of rubber-tired equipment is not allowed on geosynthetic reinforcement.

BACKFILL PLACEMENT NOTES

- Place reinforced backfill, spread and compact in a manner that will minimize slack in the reinforcement.
- Place fill within the reinforced zone and compact in lifts not exceeding 6 to 8 inches (loose thickness) where hand-operated compaction equipment is used, and not exceeding 12 inches (loose thickness) where heavy, self propelled compaction equipment is used.
 - Only lightweight hand-operated compaction equipment is allowed within 4 feet of the back of the retaining wall units. If unable to achieve minimum compaction requirements replace the reinforced soil in this zone with drainage aggregate material.
- Minimum Compaction Requirements for Fill Placed in the Reinforced Zone:
 - Compact to 95 percent of the soil's standard Proctor maximum dry density (ASTM D698) for the entire wall height.
 - Compaction requirements for fill placed behind the reinforced soil zone shall be specified by the Project Geotechnical Engineer but at no time should be less than 95% of the standard Proctor density (ASTM D698).
 - Increase compaction requirements for retaining walls with slope heights at the back of the reinforced soil zone greater than 5 feet above the top of wall. Verify compaction requirements with the Project geotechnical engineer.
 - Utility Trench Backfill: Compact utility trench backfill in or below the reinforced soil zone to 98 percent of the soil's standard Proctor maximum dry density (ASTM D698), or as recommended by the Project geotechnical engineer.
 - Moisture Content: Within 2 percentage points of the optimum moisture content for all wall heights.
 - These notes may be changed based on recommendations by the Project geotechnical engineer.
- At the end of each day's operation, slope the last level of compacted backfill away from the interior (concealed) face of the wall to direct surface water runoff away from the wall face.
 - The General Contractor is responsible for ensuring that the finished site drainage is directed away from the retaining wall system.
 - In addition, the General Contractor is responsible for ensuring that surface water runoff from adjacent construction areas is not allowed to enter the retaining wall area of the construction site.

CAP UNIT INSTALLATION NOTES

- Apply adhesive to the top surface of the unit below and place the cap unit into desired position.
- Cut cap units as necessary to obtain the proper fit.
- Backfill and compact to top of cap unit.

WALL CONSTRUCTION TOLERANCE NOTES

- Wall Construction Tolerances:
 - Vertical Alignment: Plus or minus 1-1/4 inches over any 10-foot distance, with a maximum differential of 3 inches over the length of the wall.
 - Horizontal Location Control from Grading Plan:
 - Straight Lines: Plus or minus 1-1/4 inches over any 10-foot distance, with a maximum differential of 3 inches over the length of the wall.
 - Immediate Post Construction Wall Batter: Within 2 degrees of the design batter of the concrete retaining wall units.
 - Maximum Differential Settlement: 1:100.

FIELD QUALITY CONTROL NOTES

- Installer is responsible for quality control of installation of system components. Owner to employ a qualified independent third party to verify the correct installation of system components in accordance with these specifications and the Drawings.
- The Owner, at their expense, will retain a qualified professional to perform quality assurance checks of the installer's work.
- Correct work which does not meet these specifications or the requirements shown on the Drawings at the installer's expense.
- The Owner or Owner's Representative shall retain the services of a geotechnical engineer to perform compaction testing of the reinforced backfill placed and compacted in the reinforced backfill zone.
 - Testing Frequency (or as directed by Project Geotechnical Engineer)
 - One test for every 2 feet (vertical) of fill placed and compacted, for every 50 lineal feet of retaining wall.
 - Vary compaction test locations to cover the entire area of the reinforced soil zone, including the area compacted by the hand-operated compaction equipment.

SITE DRAINAGE NOTE

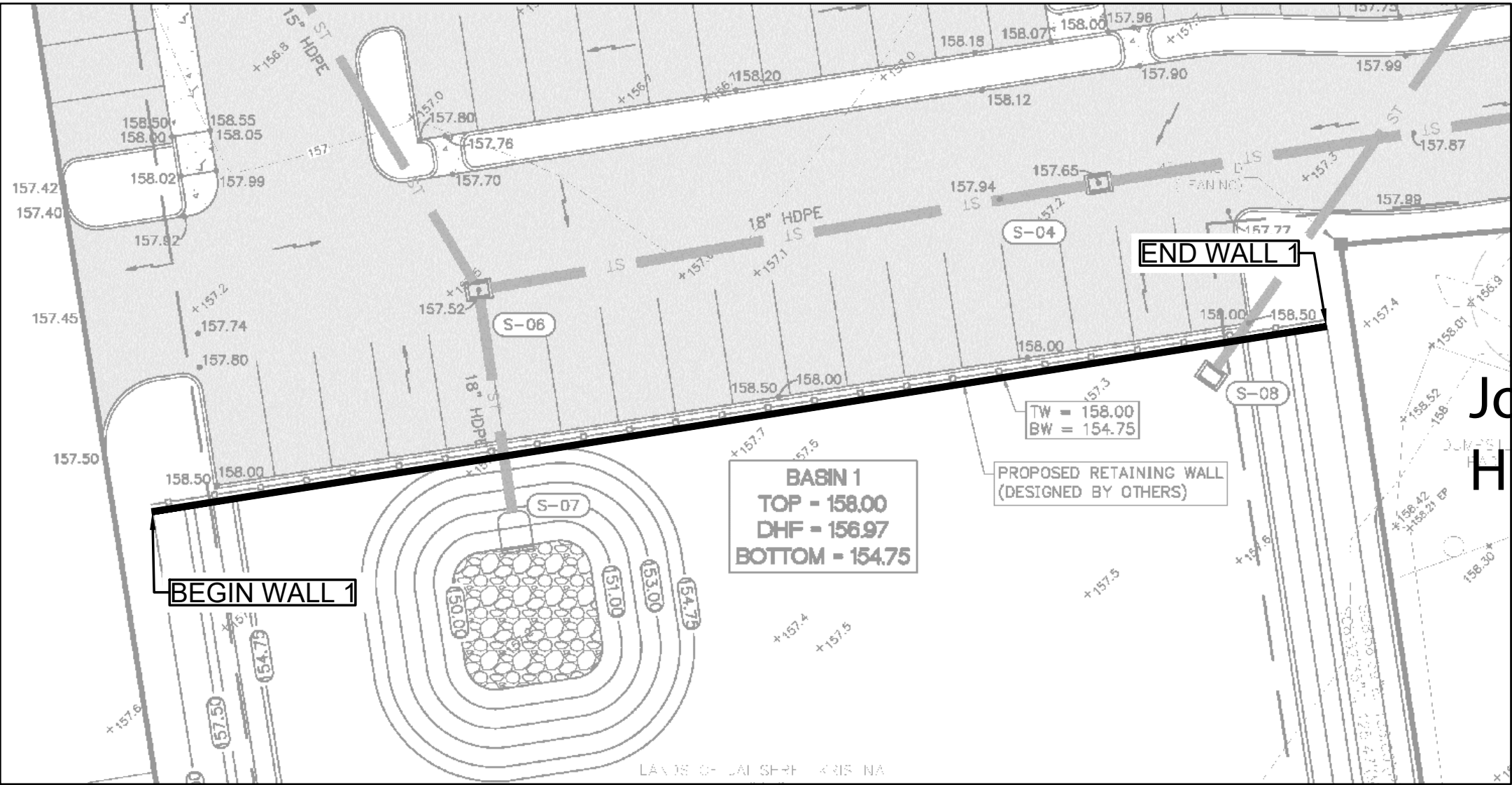
- This design does not account for any hydrostatic forces on the retaining wall system from water entering the reinforced zone from above and behind the wall. It is imperative the finished site grading diverts water away from the block facing and the reinforced soil zone of the retaining wall system. All buildings located above retaining walls must implement gutter systems with downspouts that direct water through solid PVC pipe to the site storm sewer system or to a location below and away from the wall. Building sump pumps should also direct water away from the wall in the same manner. Concentrated discharge of water above the retaining wall and the reinforced soil zone is not allowed.

UTILITY NOTES

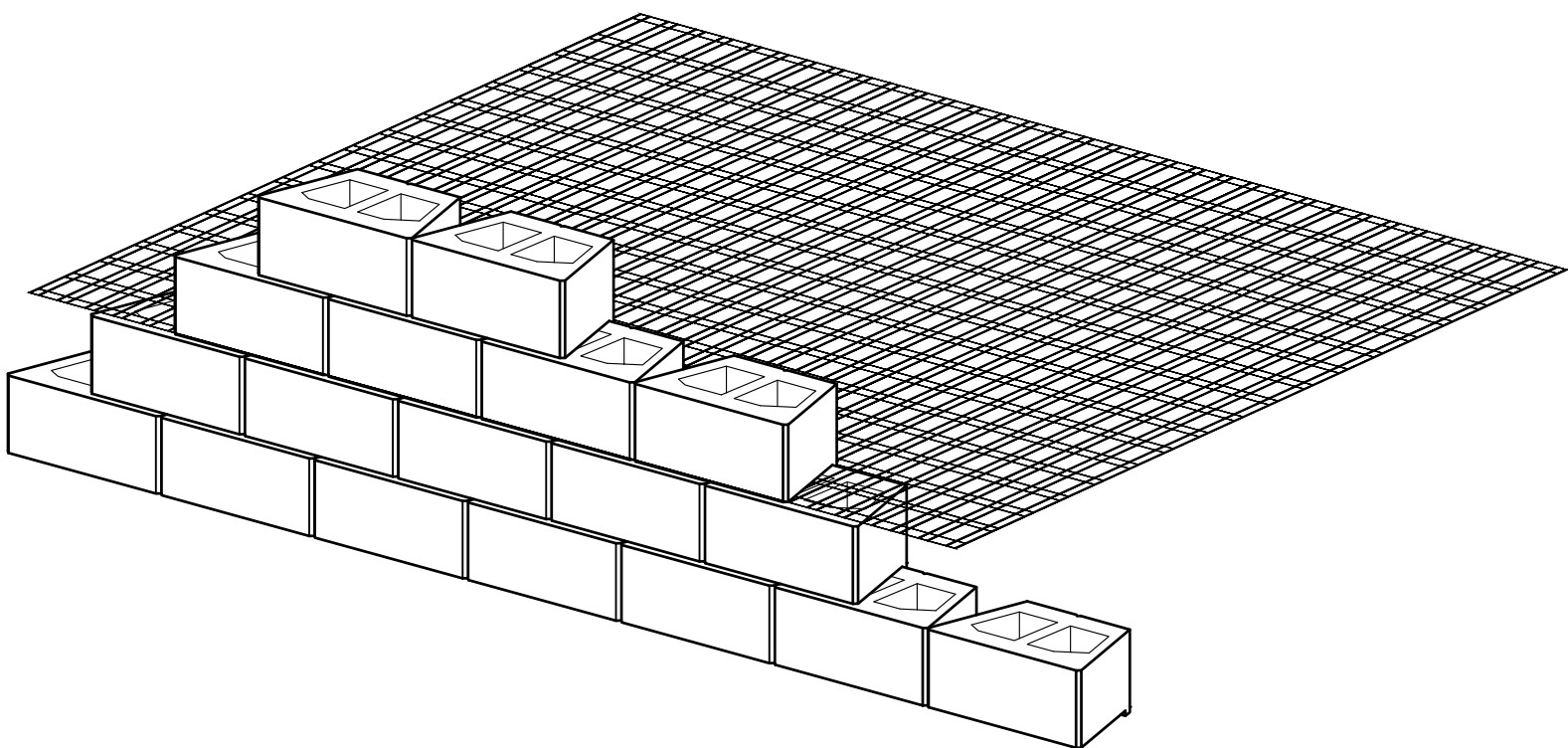
- Partial utility information has been provided to Anchor Wall Engineering for the preparation of these plans.
- Utilities must be properly designed (by others) to withstand all forces from the segmental retaining wall units, reinforced soil mass, and surcharge loads (if any).
- Storm drains are prone to leaking. Therefore, if a joint in a storm drain is located within 100 feet behind the retaining wall the storm water pipe must be water tight. Neoprene O-rings must be installed at all storm pipe joints as a minimum.
- Water lines, including irrigation systems, must be water tight within 100 feet behind the retaining wall. Leakage behind a retaining wall will increase the horizontal pressure against the wall leading to wall failure. For this reason, subsurface waterlines and irrigation systems should not be installed above the reinforced zones of the retaining wall, or within 5 feet of the reinforced zone.
- Utility Contractor and Wall Contractor to coordinate installation of underground utilities and other improvements with wall installation.

GENERAL NOTES

- The owner or owner's representative has not provided foundation or retained soil strength parameters for design of the segmental retaining wall. In preparation of wall design, soil strength parameters for the foundation and retained soils were assumed by Anchor Wall Engineering. It is the responsibility of the owner or owner's representative to verify the assumed soil strength parameters are representative of the soils available for wall construction. If the soil strength parameters are found to be inconsistent with those assumed by Anchor Wall Engineering, this design is no longer valid and it is the responsibility of the owner or owner's representative to notify Anchor Wall Engineering so the retaining wall system can be redesigned. Failure to notify Anchor Wall Engineering may result in failure of the retaining wall.
- Assumed Design Soil Parameters:
 - Reinforced soil: $\phi = 30$ degrees $\gamma = 115$ pcf.
 - Retained soil: $\phi = 30$ degrees $\gamma = 115$ pcf.
 - Foundation soil: $\phi = 30$ degrees $\gamma = 115$ pcf.
- Any excavation below the wall should have proper 1:1 lateral oversizing. Excavation oversizing should be measured from the front of the gravel leveling pad and the back of the lowest reinforcement layer. Refer to detail 7 on sheet W3.
- Wall stationing shown on sheet W2 is not related to any other stationing shown on the grading plans. Station 0+00 is on the left end of the wall as seen from the front of the wall.
- This set of segmental retaining wall plans are based on the grading plan prepared by JBPro, dated February, 2023. If other plans are produced that contain different information than that referenced, this plan may need to be revised and/or the wall may need to be redesigned.
- This set of segmental retaining wall plans are based specifically on the wall being constructed with Anchor Diamond Pro block and Miragrid 3XT reinforcement products. Absolutely no substitutions allowed.
- Location of the segmental retaining wall in relation to property lines, utility easements, watershed easements, or any other type of easements are the responsibility of the owner or the site civil engineer. Anchor Wall Engineering assumes no liability for the location of the segmental retaining wall, or if construction of the proposed segmental retaining wall encroaches any property lines or easements.
- It is imperative that the site surveying of the segmental retaining wall be done by the site civil engineer or surveyor and must be based on computer generated site/grading plans and not profile plans done by Anchor Wall Engineering. Surveying of the segmental retaining wall must take into account the design batter indicated on the enclosed plans and details. Failure to take into account wall batter for segmental retaining wall surveying will produce incorrect locations of all top of walls and shall be corrected at no cost to Anchor Wall Engineering or the segmental retaining wall contractor.
- Wall geometry, locations, slopes and surcharge loads for the segmental retaining wall were measured from the plans referenced above, and partially reproduced to the right. If conditions vary in the field from those shown on these plans, Anchor Wall Engineering must be notified prior to construction of the segmental retaining wall to review the design and/or plans. Modifications to the design and/or plans may be required after the review, and may take up to ten business days to complete.
- This segmental retaining wall has been designed in general accordance with the 2020 Florida Building Code, 7th Edition.
- If there are discrepancies between any information on these plans and information in the project specifications, the more restrictive information takes precedence.



KEY PLAN
(N.T.S.)



SHEET INDEX

PAGE	DESCRIPTION
W1	TITLE PAGE/KEY PLAN
W2	WALL ELEVATIONS AND CROSS SECTION
W3	TYPICAL DETAILS

ANCHOR WALL ENGINEERING, LLC

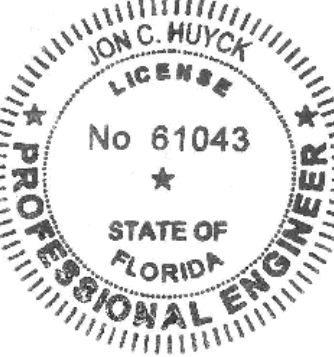
5909 BAKER ROAD, SUITE 550
MINNETONKA, MN 55345-5996
PHONE: (952) 933-8855

CERTIFICATE OF AUTHORIZATION: 27077

This item has been digitally signed and sealed by Jon Huyck, PE on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

DESIGN ENGINEER: JON C. HUYCK
FLORIDA REGISTRATION: 61043

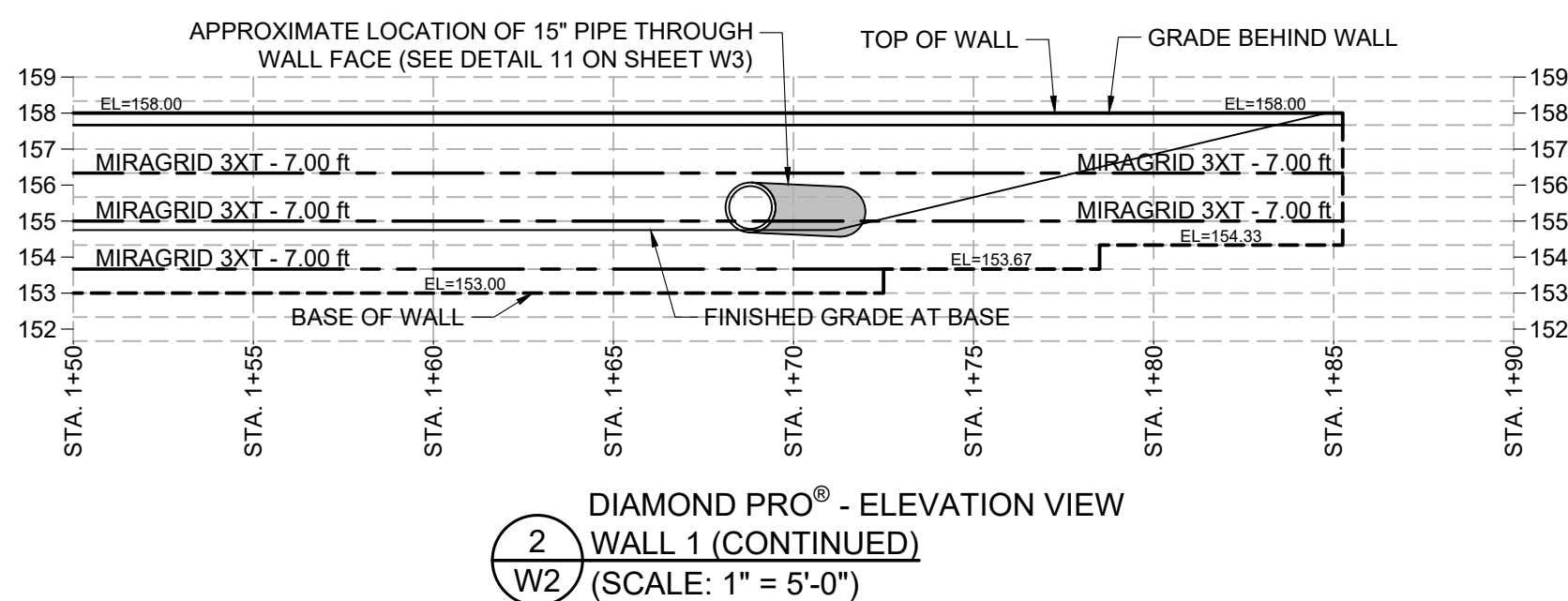
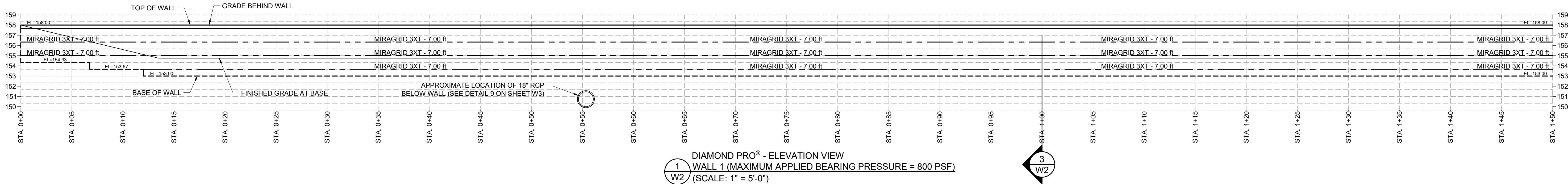


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Date: 2023.03.15 12:47:10 -0500

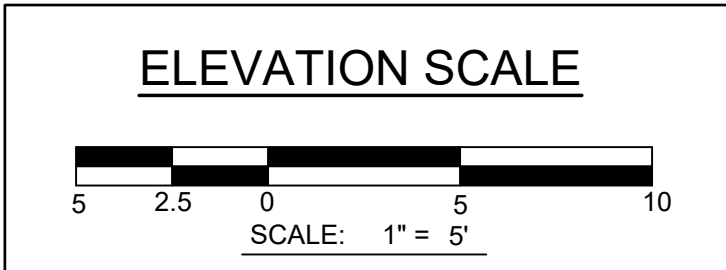
NO SCALE
INTENDED

VERIFY THAT THE BAR ABOVE IS 1" IF NOT ADJUST THE SCALE ACCORDINGLY

PROPOSED SEGMENTAL RETAINING WALL LAKE CITY HOTEL LAKE CITY, FLORIDA	TAMPA, FL
OLDCASTLE COASTAL	MAH
Drawn By: MAH	Date:
Reviewed By: JCH	Rev. No.:
Proj. No.: AF 23-072	Date: 3/15/23
SHEET W1	3
TITLE PAGE/KEY PLAN	

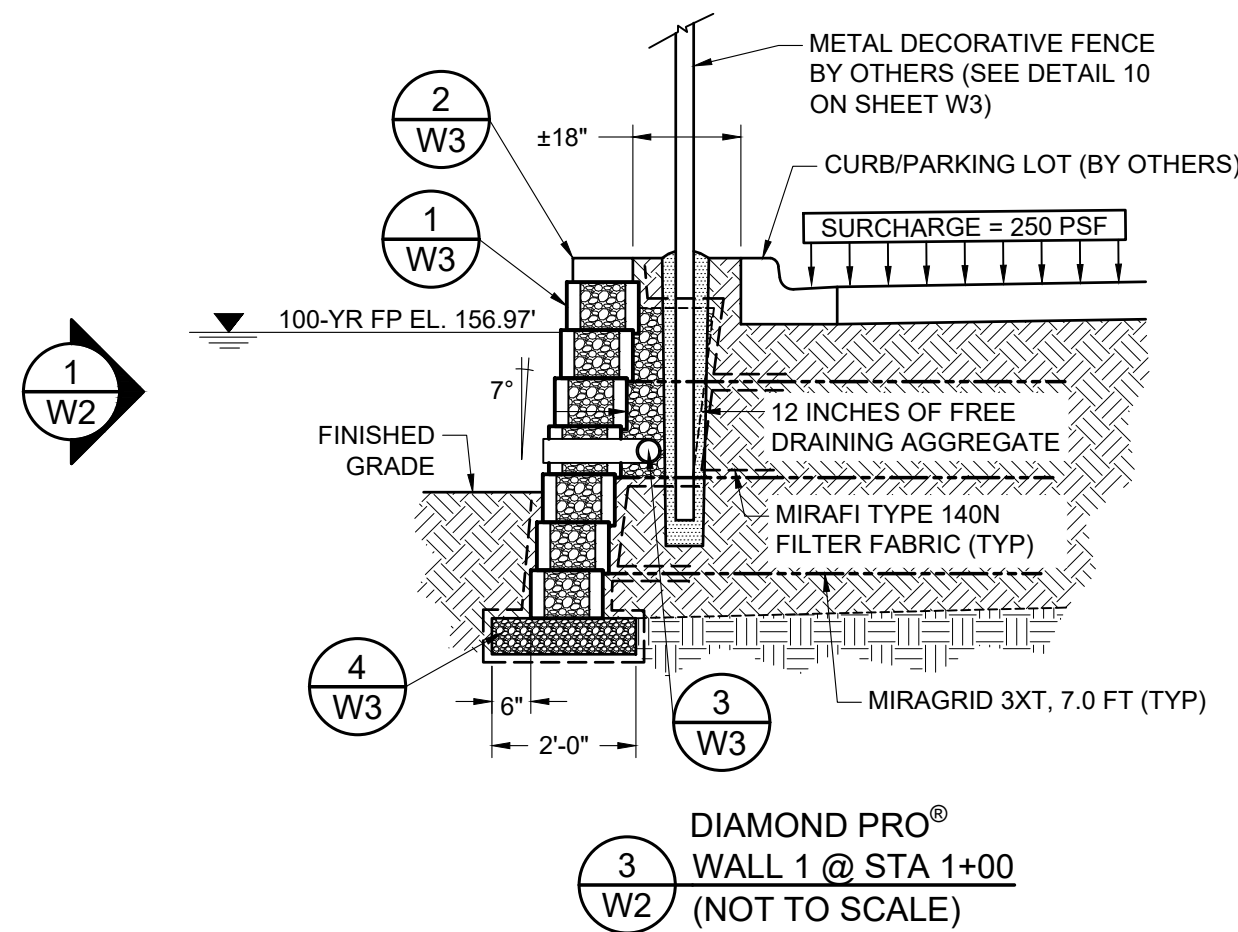


NOTE:
1) LOCATIONS OF UTILITIES SHOWN ARE APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION OF THE SEGMENTAL RETAINING WALL.



LEGEND

- (X WX) - DETAIL NUMBER
- (X WX) - SHEET NUMBER
- (X WX) - INDICATES LOCATION OF SECTION CUT

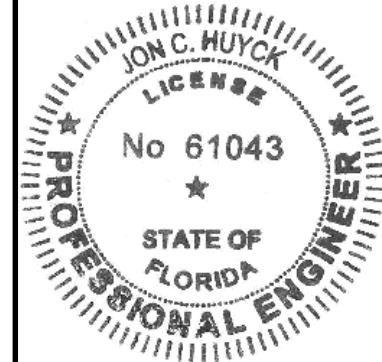


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VERIFY THAT THE BAR ABOVE IS 1" IF NOT, ADJUST THE SCALE ACCORDINGLY

AS SHOWN

PROPOSED SEGMENTAL RETAINING WALL
LAKE CITY HOTEL
LAKE CITY, FLORIDA

OLDCASTLE COASTAL	MAH	Rev. No.	Date	Description
Drawn By:	DJA			
Reviewed By:	AF 23-072			
Proj. No.:	3/15/23			
Date:				

SHEET
W2
WALL ELEVATIONS AND CROSS SECTION

OR
3

