LANDSCAPE PLAN
FOR
POCKET PARKS

MADEIRA BEACH, FLORIDA

PREPARED BY:

halff
1000 N. ASHLEY DRV., SUITE 900
TAMPA, FLORIDA 33602
TEL. (813) 620-4500

Sheet List Table

POCKET PARKS

CITY OF MADEIRA BEACH
MADEIRA BEACH, FL.

halff
309 INVERNESS DR.
BUILDING 2 / SUITE 120
MIDLAND, TEXAS 79705-5471
TEL (432) 253-3255

REVISION NO.	DATE	DESCRIPTION

PRELIMINARY
FOR INTERIM REVIEW ONLY

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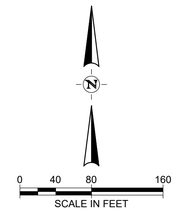
MARTIN STEFFEN, PLA — 6667386
NAME — LICENSE NO.
7/3/2024
DATE
26000636 — FL
FIRM / BUSINESS NO. — STATE

PROJECT NO.: 38545.001
ISSUED: OCTOBER 2023
DRAWN BY: IG
CHECKED BY: LMD
SCALE:
SHEET TITLE

COVER SHEET

L001



GENERAL NOTES:

1. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT SITE CONDITIONS AND DETERMINING REQUIRED QUANTITIES AND AVAILABILITY OF ALL MATERIALS PRIOR TO BIDDING. QUANTITIES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. IF ANY DISCREPANCIES OCCUR BETWEEN QUANTITIES CALLED FOR ON THE PLANT LIST AND THOSE INDICATED ON THE DRAWINGS, THE DRAWINGS SHALL GOVERN.
2. PRIOR TO COMMENCEMENT OF CONSTRUCTION, CONTRACTOR SHALL INSPECT PLANTING AREAS AND VERIFY THAT NO OBJECTIONABLE MATERIALS OR OBSTRUCTIONS ARE PRESENT. PRESENT FINDINGS TO OWNER'S REPRESENTATIVE FOR APPROVAL. ALL EXISTING PLANTING SHALL REMAIN INTACT AND UNDISTURBED UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL EXISTING SITE FURNISHINGS, PAVING, LANDSCAPE, AND OTHER ELEMENTS TO REMAIN SHALL BE PROTECTED FROM ANY DAMAGE UNLESS OTHERWISE NOTED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ADJACENT IMPROVEMENTS FROM DAMAGE AND EROSION INCLUDING BUT NOT LIMITED TO EXISTING PLANT MATERIAL, GRADES, SIDEWALKS, SITE FURNISHINGS, CURBS, AND UTILITIES. ANY ADJACENT IMPROVEMENT DAMAGED DURING CONSTRUCTION SHALL, AT A MINIMUM, BE RESTORED TO A STATE EQUAL TO ITS PRE-CONSTRUCTION STATE AT THE CONTRACTOR'S EXPENSE. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR SODDING ALL AREAS DISTURBED BY OTHER CONTRACTORS OR BY LANDSCAPE INSTALLATION.
4. IN GENERAL, THE WORK SHALL PROCEED AS RAPIDLY AS THE SITE BECOMES AVAILABLE. CONTRACTOR TO COORDINATE PROJECT SCHEDULE WITH OWNER'S REPRESENTATIVE. WORK TO BEGIN WITHIN 5 BUSINESS DAYS OF RECEIPT OF NOTICE TO PROCEED.
5. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS TO COMPLETE WORK, AND SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
6. THE LANDSCAPE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF PLANTING AREAS WITH HARDSCAPE, ELECTRICAL, AND IRRIGATION WORK.
7. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY HOISTING EQUIPMENT NECESSARY FOR THE PLACEMENT OF PLANT MATERIAL.
8. COLLECT SOIL SAMPLES AT A MINIMUM OF (3) PLANTING LOCATIONS THROUGHOUT THE PROJECT. SUBMIT TESTING LOCATIONS TO OWNER'S REPRESENTATIVE PRIOR TO TAKING SAMPLES. SAMPLES SHALL BE SENT TO AN APPROVED AGRONOMIC SOILS TESTING LABORATORY, STATING PROPOSED PLANT MATERIAL AT EACH TEST LOCATION. ANALYSIS SHALL INCLUDE, AT A MINIMUM, PH, NPK, ORGANIC CONTENT, TEXTURE, AND SOLUBLE SALTS. SUBMIT RESULTS/RECOMMENDATIONS AND PROPOSED FERTILIZER ANALYSIS/AMENDMENTS TO OWNER'S REPRESENTATIVE. COSTS OF FERTILIZER AND AMENDMENTS ARE TO BE INCLUDED IN THE COST OF THE PROJECT.
9. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING THE CONDITION OF UNDERGROUND UTILITIES THAT AFFECT PLANTING PROCEDURES. IF ANY CONFLICTS OCCUR BETWEEN PROPOSED LOCATION OF TREES ON THE DRAWINGS AND ANY UNDERGROUND, SUBSURFACE, OR OVERHEAD UTILITIES OR STRUCTURES THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATIONS AND PROTECTION OF ALL EXISTING UTILITIES SHOWN OR NOT SHOWN, AND ALL PROPOSED UTILITIES ON THESE DRAWINGS.
10. IF THE LANDSCAPE CONTRACTOR DAMAGES ANY STAKED OR IN PLACE UTILITIES OR STRUCTURES BY HIS OWN NEGLIGENCE THEY SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
11. THE LANDSCAPE CONTRACTOR SHALL REFER TO THE LANDSCAPE PLANTING DETAILS, NOTES, AND THE LANDSCAPE SCHEDULE FOR COMPLETE LANDSCAPE INSTALLATION INSTRUCTIONS. NOTIFY OWNER'S REPRESENTATIVE OF ANY AND ALL DISCREPANCIES PRIOR TO CONSTRUCTION OR INSTALLATION.
12. THE LANDSCAPE CONTRACTOR SHALL RE-GRADE ALL AREAS DISTURBED BY PLANT REMOVAL, RELOCATION, AND/OR INSTALLATION WORK. ANY DAMAGED PLANT MATERIAL SHALL BE REPLACED WITH PLANTS OF SAME SPECIES (MIN 12' HT, 3" CAL 6' CT) EQUALING THE TOTAL DIAMETER BREAST HEIGHT(DBH) OF THE DAMAGED TREE AND SHALL BE SUBJECT TO ALL REQUIREMENTS HEREIN.
11. ALL UNPAVED DISTURBED AREAS WITHIN PROJECT LIMITS SHALL BE SODDED TO MATCH EXISTING TURF. UNLESS OTHERWISE SPECIFIED, ENSURE EXISTING GRADES ARE RE-ESTABLISHED, TRIM EDGES EVENLY AND BUTT SOD PIECES TOGETHER CLOSELY. PEG SOD IN PLACE WHERE SLIPPAGE MAY OCCUR. ALL OTHER AREAS NOT SPECIFICALLY ADDRESSED ON THE PLANS MUST BE STABILIZED AT THE CONCLUSION OF EARTH DISTURBING ACTIVITIES. CONTRACTOR IS RESPONSIBLE FOR ACHIEVING STABILIZATION FREE OF WASH-OUTS UNTIL FINAL ACCEPTANCE BY OWNER.
12. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING ALL NEWLY INSTALLED PLANT MATERIAL AS NEEDED TO MAINTAIN HEALTH AND VIGOR THROUGHOUT THE 90 DAY MAINTENANCE PERIOD REGARDLESS OF THE STATUS OF EXISTING OR PROPOSED IRRIGATION AND/OR RAINFALL.

DAMAGES AND WARRANTY:

1. ALL PLANT MATERIAL, INCLUDING TRANSPLANTED PLANT MATERIAL, SHALL BE GUARANTEED AT OR ABOVE THE SPECIFIED CONDITIONS THROUGH SUBSTANTIAL COMPLETION AND UNTIL THE END OF THE (1) YEAR WARRANTY PERIOD. MAINTENANCE SHALL BE PROVIDED BY THE LANDSCAPE CONTRACTOR FOR 90 DAYS AFTER SUBSTANTIAL COMPLETION. AFTER WHICH THE LANDSCAPE CONTRACTOR WILL COORDINATE MAINTENANCE WITH OWNER'S REPRESENTATIVE. DECLINE IN CONDITION OF PLANT MATERIAL DURING INSTALLATION AND/OR WARRANTY PERIOD SHALL BE GROUNDS FOR REJECTION AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
2. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR RE-STAKING OF TREES DURING THE WARRANTY PERIOD. IF NECESSARY, MAXIMUM TOLERANCE FROM VERTICAL SHALL BE 3 DEGREES. GUYING / STAKING PRACTICES SHALL NOT PERMIT NAILS, SCREWS, WIRES ETC., TO PENETRATE OUTER SURFACE OF TREES OR PALMS. TREES OR PALMS REJECTED DUE TO THIS PRACTICE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
3. THE OWNER AND/OR THE OWNER'S REPRESENTATIVE HAS THE RIGHT TO REJECT ANY AND ALL WORK WHICH DOES NOT MEET WITH THE REQUIREMENTS OF THE SPECIFICATIONS AT ANY STAGE OF THE PROJECT. CONTRACTOR TO REPLACE REJECTED PLANT MATERIAL WITHIN ONE WEEK (5 BUSINESS DAYS) OF NOTICE.
4. CONTRACTOR TO REQUEST INSPECTION OF PROJECT IN WRITING TO OWNERS REPRESENTATIVE. IF ALL WORK IS SATISFACTORY AND COMPLETE IN ACCORDANCE WITH CONDITIONS OF CONTRACT DOCUMENTS, THEN THE OWNER AND/OR THEIR REPRESENTATIVE SHALL DECLARE THE PROJECT TO BE SUBSTANTIALLY COMPLETE. SUBSTANTIAL COMPLETION CONSTITUTES THE BEGINNING OF THE 1 YEAR WARRANTY PERIOD AND THE 90 DAY MAINTENANCE PERIOD.
5. CONTRACTOR SHALL REMOVE ALL PLANT SAUCERS, GRADE SMOOTH, AND RE-MULCH AS WELL AS REMOVE PLANTING STAKES FROM SITE AFTER THE (1) YEAR WARRANTY PERIOD.

PROJECT SUBMITTALS:

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL FOR ALL PROPOSED MATERIALS INCLUDING BUT NOT LIMITED TO PLANTS, STAKING, SOIL AMENDMENTS, FERTILIZER, MULCH, ETC. PRIOR TO PURCHASING. CONTRACTOR SHALL PROVIDE REPRESENTATIVE SAMPLES OF ALL PLANT MATERIAL ON-SITE FOR REVIEW BY OWNER'S REPRESENTATIVE; NOTIFY OWNER'S REPRESENTATIVE OF INSPECTION A MINIMUM OF 3 BUSINESS DAYS PRIOR TO INSPECTION. IF APPROVED BY OWNER'S REPRESENTATIVE, THEN DATED AND SCALED COLOR PHOTOGRAPHS MAY ALSO BE SUBMITTED.
2. ALL PROJECT SUBMITTALS MUST BE COMPLETED AND COMPILED IN AN EASILY REPRODUCIBLE FORM. SUBMITTAL SHEETS THAT ARE NOT LEGIBLE AND REPRODUCIBLE WILL BE REJECTED. SUBMITTALS SHEETS THAT DO NOT CLEARLY IDENTIFY THE PRODUCTS OR MATERIALS SELECTED WILL BE REJECTED.
3. CONTRACTOR SHALL SUBMIT TO THE OWNERS REPRESENTATIVE THE GROWER'S AND/OR STATE INSPECTION CERTIFICATE FOR PLANT MATERIAL TWO (2) WEEKS PRIOR TO COMMENCEMENT OF WORK.
4. PRODUCTS INSTALLED ON THE PROJECT SITE THAT ARE NOT CONSISTENT WITH THE PROJECT SUBMITTALS WILL BE REMOVED AND REPLACED WITH THE PRODUCTS IDENTIFIED IN THE PROJECT SUBMITTAL PACKAGE AT THE CONTRACTORS EXPENSE.
5. PRIOR TO ISSUING SUBSTANTIAL COMPLETION NOTICE THE CONTRACTOR SHALL SUBMIT TO THE OWNER THREE (3) COPIES OF AS BUILT PLANS/DOCUMENTS AND THREE (3) COPIES OF AN ANNUALIZED MAINTENANCE AND OPERATION MANUAL DETAILING ALL SCHEDULES, NURSERY PRACTICES, WATERING REQUIREMENTS, FERTILIZATION, TRIMMING, ETC., FOR ALL PLANT MATERIALS AND PLANT AREAS OF THE PROJECT.

SITE REQUIREMENTS:

1. CONTRACTOR SHALL AGREE TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN THE CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER.
2. LANDSCAPE HOLDING AREA, INGRESS, EGRESS, AND SITE ACCESS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL NOT DISTURB OR IMPEDE ACCESS TO THE SITE BY OTHERS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DAILY CLEANUP OF PREMISES AND REMOVAL OF DISCARDED OR SURPLUS MATERIALS AND RUBBISH IN A LAWFUL MANNER. ANY OPEN PITS OR TRENCHES SHALL BE COMPLETELY AND THOROUGHLY BARRICADED DURING THE WORKDAY AND COMPLETELY FILLED IN AT THE END OF EACH WORKDAY. ALL MATERIALS, PRODUCTS, AND EQUIPMENT REMAINING ON SITE AT THE END OF THE WORK DAY SHALL BE STORED IN AN ORGANIZED FASHION IN THE AREA DESIGNATED BY THE OWNER'S REPRESENTATIVE.
4. ALL CONTRACTORS AND SUBCONTRACTORS SHALL HAVE A SET OF APPROVED CONSTRUCTION DOCUMENTS ON SITE AT ALL TIMES.
5. DURING CONSTRUCTION, CREWS ARE REQUIRED TO HAVE AT LEASE ONE (1) ENGLISH SPEAKING PERSON ON SITE.

SITE PLAN AND COORDINATE GIOMETRY:

1. MONUMENTS AND OTHER SURVEY CONTROL POINTS SHALL BE PROTECTED FROM DAMAGE AND DISTURBANCE. IF ANY CONTROL POINTS ARE DAMAGED OR DISTURBED, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER AND REPLACE THE CONTROL POINTS TO THEIR ORIGINAL CONDITION AT HIS OWN EXPENSE.
2. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING THIS WORK PRIOR TO CONSTRUCTION.

EXISTING TO REMAIN PLANT CARE:

1. FLAG ALL TREES AND PALMS TO BE SAVED IN PLACE. PROVIDE BARRICADING IN ACCORDANCE WITH LOCAL STANDARDS AROUND TREES AND PALMS TO BE SAVED IN PLACE PRIOR TO SITE DEMOLITION.
2. ALL WORK INVOLVING EXISTING TREES TO REMAIN SHALL BE UNDERTAKEN IN THE PRESENCE OF A REGISTERED ARBORIST. ALL TREES AND PALMS TO BE SAVED SHALL BE EXAMINED FOR DAMAGE, DISEASE AND INSECT INFESTATION. PARTS OF THE TREE SHOWING THESE CONDITIONS SHALL BE TREATED OR PRUNED IN ACCORDANCE WITH THE ARBORISTS RECOMMENDATIONS. REMOVE ALL DEAD LIMBS AND VINES.
3. ROOT PRUNE ALL TREES TO BE SAVED PER DRAWINGS PRIOR TO GRADING AROUND TREES.
4. TREAT ALL CUTS WITH A FUNGICIDAL BARRIER. BACKFILL THE TRENCH. WITHIN 4 HOURS OF DIGGING, WITH A 1:1 MIXTURE OF SITE SOIL AND SAWDUST OR OTHER FINE ORGANIC MATERIAL. DO NOT COMPACT.
5. FERTILIZE THE PLANT AS DIRECTED BY THE CONSULTING ARBORIST.

POCKET PARKS

CITY OF MADEIRA BEACH
MADEIRA BEACH, FL.

halff
300 NORTH A ST.
BUILDING 11, SUITE 120
MIDLAND, TEXAS 79705-5471
TEL (432) 253-3235

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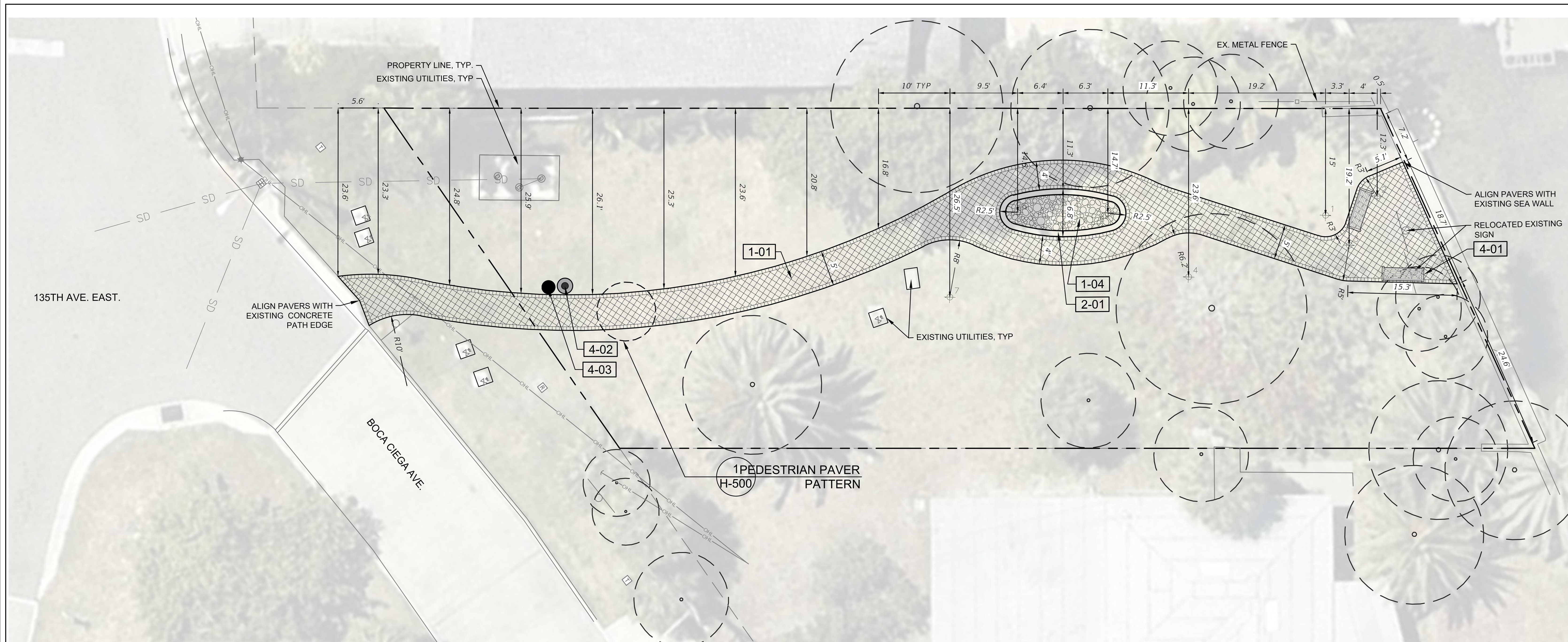
PROJECT NO.:	38545.001
ISSUED:	OCTOBER 2023
DRAWN BY:	IG
CHECKED BY:	LMD
SCALE:	1" = 80'

SHEET TITLE

OVERALL SITE PLAN & GENERAL NOTES

H-100



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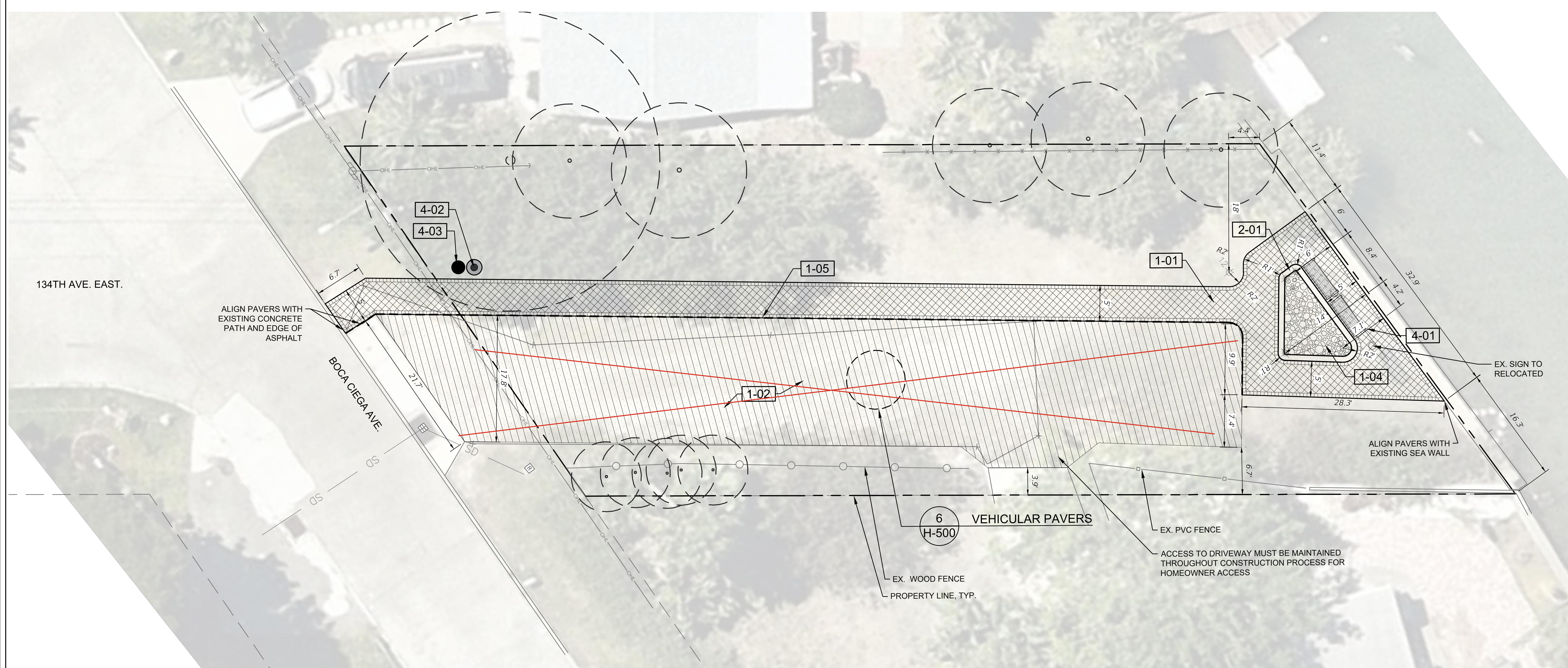

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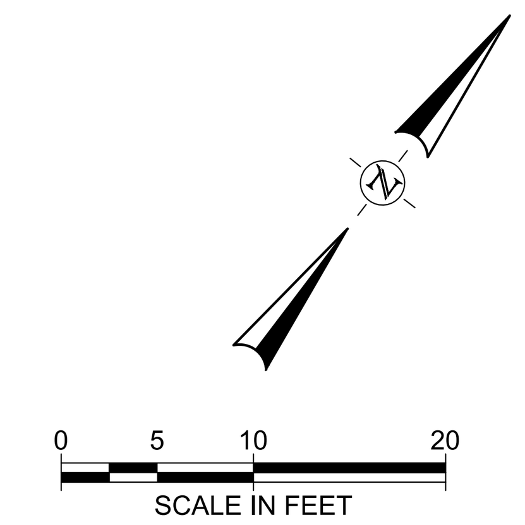

REFERENCE NOTES SCHEDULE

1 PAVEMENTS, CURBS & RAMPS

SYMBOL	DESCRIPTION	DETAIL
1-01	PEDESTRIAN PERMEABLE PAVERS - BELGARD AQUALINE, NAPOLI FINISH	4/H-500
1-02	VEHICULAR PERMEABLE PAVERS - BELGARD AQUALINE, NAPOLI FINISH	6/H-500
1-04	CRUSHED SHELL ROCK. SHELL FINES 1/8" - 1/2" TRIPLE WASHED AND UNIFORMLY SPRED, 3" WETTED DEPTH	
1-05	ISOLATION JOINT	
1-06	CONCRETE MOW CURB	4/H-500

2 STEPS, WALLS & EMBANKMENTS

SYMBOL	DESCRIPTION	DETAIL
2-01	BLOCK WALL WITH CAP - BELGARD CASTLEMANOR, NAPOLI FINISH	5/H-500

4 SITE FURNISHINGS

SYMBOL	DESCRIPTION	DETAIL
4-01	BENCH - POLYWOOD VINEYARD 48" BENCH. PROVIDED BY CITY OF MADEIRA BEACH	6/H-500
4-02	MOUNTING TRASH RECEPTACLE, 32 GALLON, 26.75" DIA. X 28.75" HT, RECYCLED PLASTIC MATERIAL. PROVIDED BY CITY OF MADEIRA BEACH	7/H-500
4-03	PET WASTE STATION - PET WASTE ELIMINATOR, 12" X 18" ALUMINUM SIGN; DISPENSER BOX; 10 GAL. WASTE RECEPTACLE WITH ATTACHED LID; (3) MOUNTING HARDWARE SETS EACH SET INCLUDES: (2) NUTS, BOLTS AND WASHERS. PROVIDED BY CITY OF MADEIRA BEACH	8/H-500

POCKET PARKS

CITY OF MADEIRA BEACH

MADEIRA BEACH, FL.

halff
3300 NORTH A ST.
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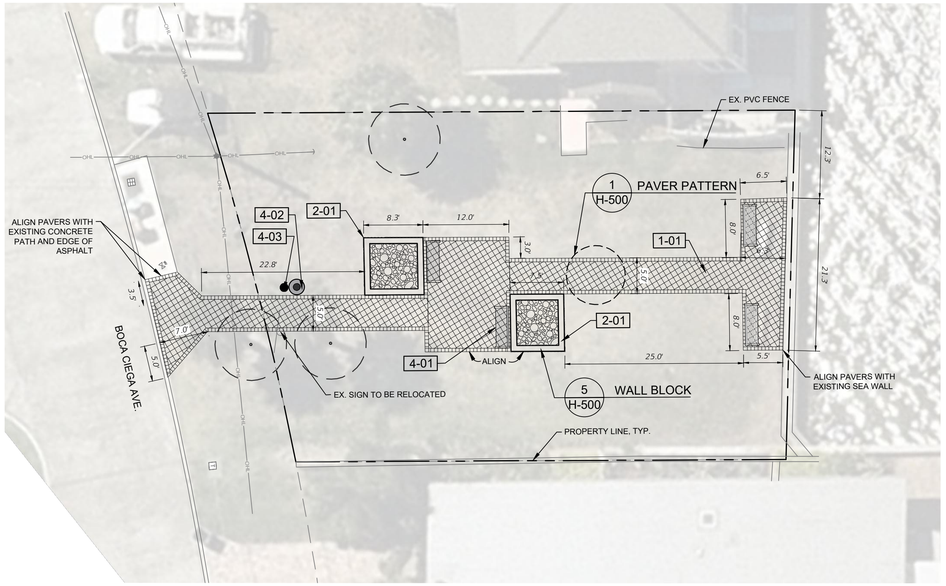
SHEET TITLE

HARDSCAPE PLANS

H-101



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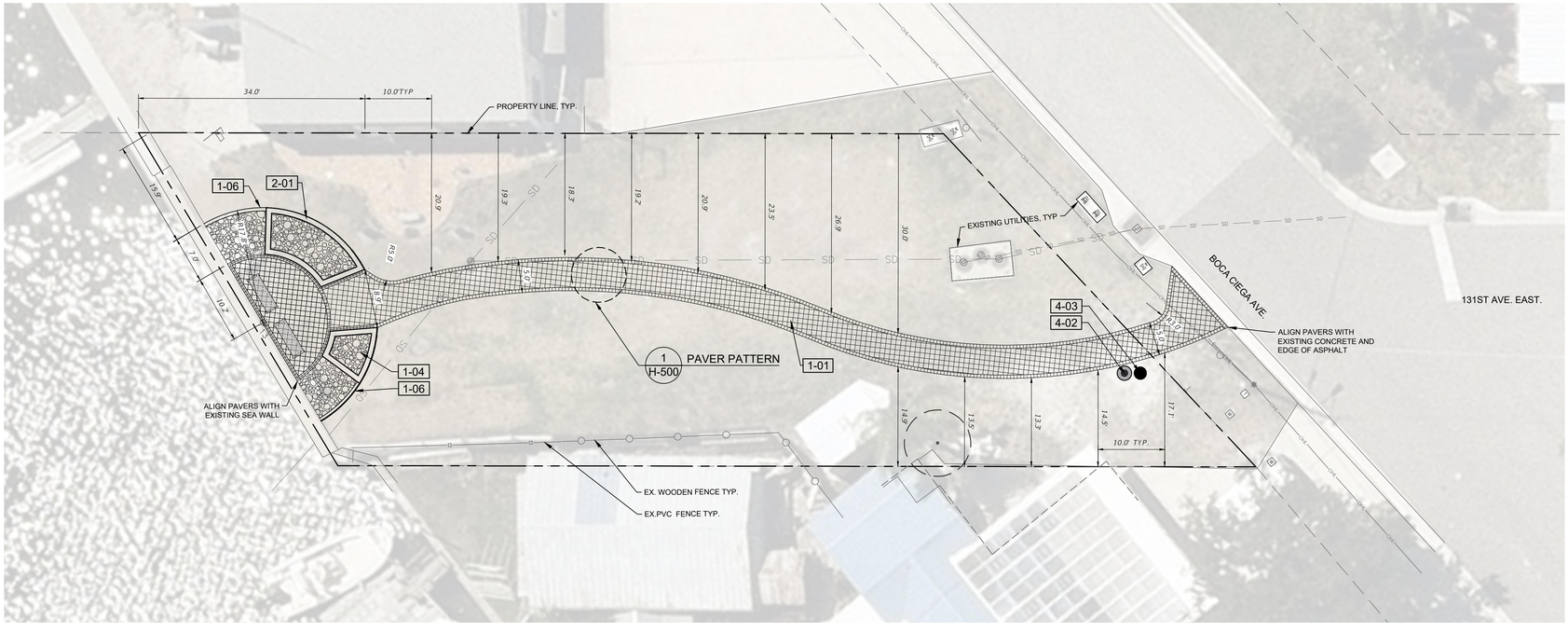

4 131ST AVE. EAST

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REFERENCE NOTES SCHEDULE

1 PAVEMENTS, CURBS & RAMPS

SYMBOL	DESCRIPTION	DETAIL
1-01	PEDESTRIAN PERMEABLE PAVERS - BELGARD AQUALINE, NAPOLI FINISH	4/H-500
1-02	VEHICULAR PERMEABLE PAVERS - BELGARD AQUALINE, NAPOLI FINISH	6/H-500
1-04	CRUSHED SHELL ROCK. SHELL FINES 1/8" - 1/2" TRIPLE WASHED AND UNIFORMLY SPRED, 3" WETTED DEPTH	
1-05	ISOLATION JOINT	
1-06	CONCRETE MOW CURB	4/H-500

2 STEPS, WALLS & EMBANKMENTS

SYMBOL	DESCRIPTION	DETAIL
2-01	BLOCK WALL WITH CAP - BELGARD CASTLEMANOR, NAPOLI FINISH	5/H-500

4 SITE FURNISHINGS

SYMBOL	DESCRIPTION	DETAIL
4-01	BENCH - POLYWOOD VINEYARD 48" BENCH. PROVIDED BY CITY OF MADEIRA BEACH	6/H-500
4-02	MOUNTING TRASH RECEPTACLE, 32 GALLON, 26.75" DIA. X 28.75" HT, RECYCLED PLASTIC MATERIAL. PROVIDED BY CITY OF MADEIRA BEACH	7/H-500
4-03	PET WASTE STATION - PET WASTE ELIMINATOR, 12" X 18" ALUMINUM SIGN; DISPENSER BOX, 10 GAL. WASTE RECEPTACLE WITH ATTACHED LID; (3) MOUNTING HARDWARE SETS EACH SET INCLUDES: (2) NUTS, BOLTS AND WASHERS. PROVIDED BY CITY OF MADEIRA BEACH	8/H-500

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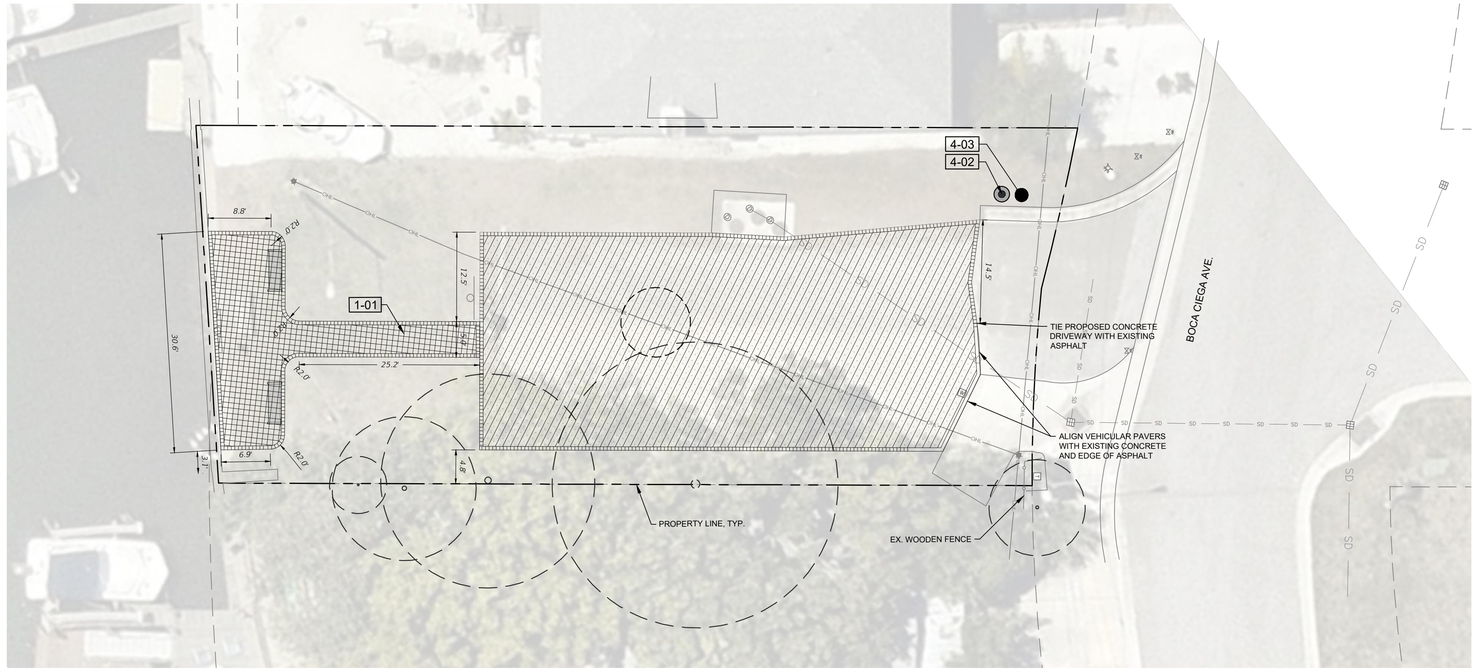
SHEET TITLE
HARDSCAPE PLAN

H-102

FILE NAME: A:\38000s\38545\001\LA\CADD\Sheets\L-BASE-HARD-38454.001.dwg DATE: July 3, 2024, TIME: 1:24 PM, USER: ah4598



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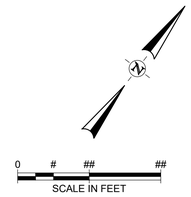

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1-06	CONCRETE MOW CURB	4/H-500

2 STEPS, WALLS & EMBANKMENTS

SYMBOL	DESCRIPTION	DETAIL
2-01	BLOCK WALL WITH CAP - BELGARD CASTLEMANOR, NAPOLI FINISH	5/H-500

4 SITE FURNISHINGS

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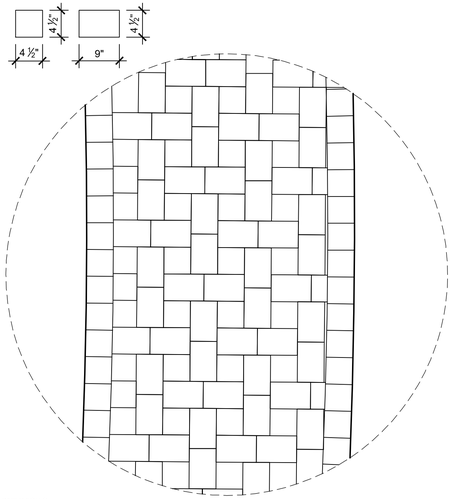
SHEET TITLE

HARDSCAPE PLAN

H-103

PEDESTRIAN PAVERS

(2) PIECE - PATTERN B - BELGARD
40% 4 1/2" x 4 1/2" x 3 1/8"
60% 4 ½" x 9" x 3 1/8"



PAVER NOTES:

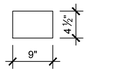
1. CONTRACTOR TO INSTALL ALL PAVERS PER MANUFACTURE'S SPECIFICATIONS
2. ALL AREAS OF PAVERS, AS SHOWN ON THE PLANS SHALL BE SET WITH FLUSH TOP SURFACE AND SHALL MAINTAIN A MINIMUM SLOPE O 0.5%, UNLESS OTHERWISE NOTED ON THE PLANS OR DETAILS.
3. BEDDING SAND SHALL CONFORM TO THE GRADING REQUIREMENTS OF ASTM C33. MASON SAND IS NOT ACCEPTABLE. ALL BEDDING SAND SHALL BE SCREENED TO AN EVEN THICKNESS.
4. ALL AREAS OF PAVERs SHALL COMPLY WITH CURRENT ADA (AMERICANS WITH DISABILITIES ASSOCIATION) REQUIRED FOR ACCESSIBLE ROUTES.
5. ALL PAVERS "CUTS" SHALL BE MADE WITH A SPLITTER OR MASONRY SAW,

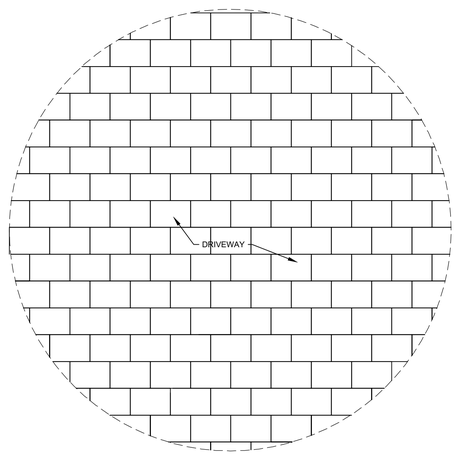
1 PEDESTRIAN PAVER PATTERN

3/4" = 1'-0"

VEHICULAR PAVERS

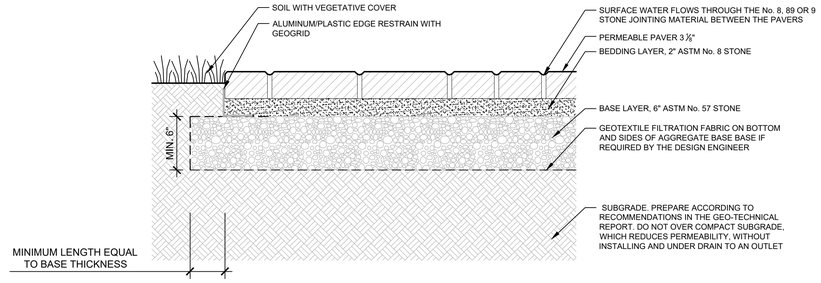
SIZE: 4 ½" x 9" x 3 ⅛"
PATTERN: RUNNING BOND





2 PARKING VEHICULAR PAVER PATTERN

3/4" = 1'-0"

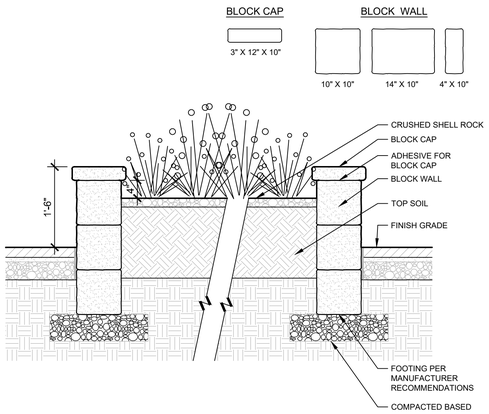


DESIGN NOTES:

1. CROSS SECTION AS SHOWN IS SUITABLE FOR PEDESTRIAN APPLICATIONS AND RESIDENTIAL DRIVEWAYS, PATIOS, AND SIDEWALKS.
2. DEPTH OF AGGREGATE BASE SUBJECT TO SITE SPECIFIC CONDITIONS (SOIL CONDITIONS, GROUNDWATER LEVELS, CLIMATIC CONDITIONS). CONTACT LOCAL BELGARD SALES REPRESENTATIVE.
3. DRAIN PIPES MAY BE REQUIRED WITHIN THE AGGREGATE BASE DEPENDING ON THE PERMEABILITY OF THE SUBGRADE SOILS. VERIFY DRAINAGE NEEDS WITH THE GEOTECHNICAL ENGINEER. ENSURE DRAIN PIPES ARE ABLE TO DAYLIGHT VIA GRAVITY FLOW TO SURFACE, OR CONNECT TO CATCH BASIN.

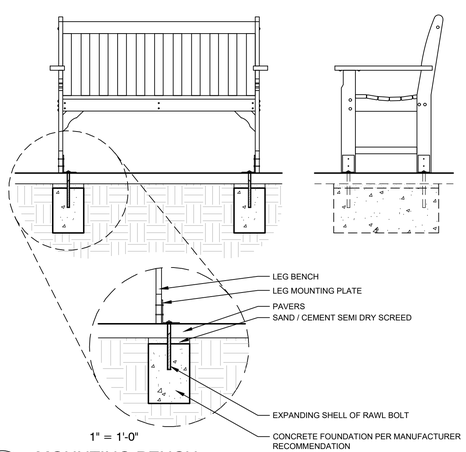
3 VEHICULAR / PEDESTRIAN PERMEABLE PAVERS

1 1/2" = 1'-0"



5 WALL BLOCK

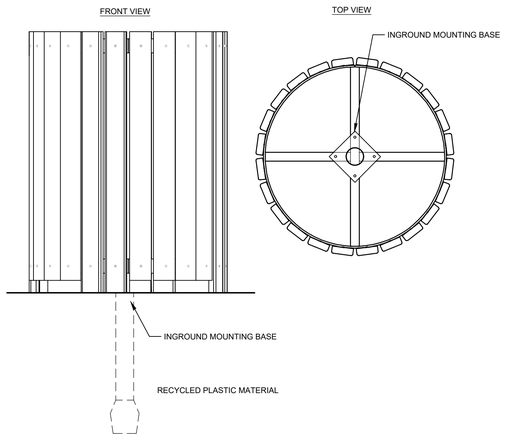
3/4" = 1'-0"



1" = 1'-0"

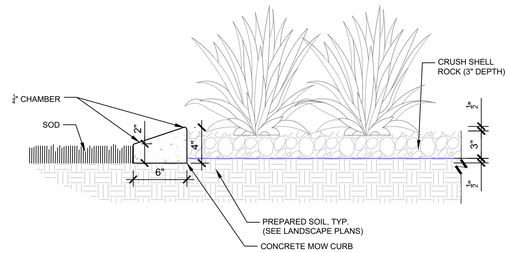
6 MOUNTING BENCH

3/4" = 1'-0"



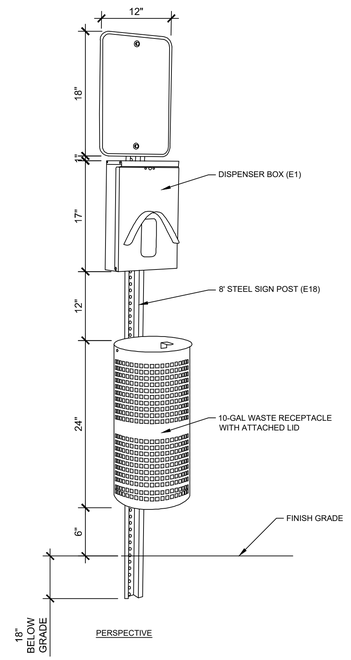
7 TRASH RECEPTACLE

3/4" = 1'-0"



4 CONCRETE MOW CURB

1 1/2" = 1'-0"



SPECIFICATIONS

SUPERIOR KIT INCLUDES:

1. 12" X 18" ALUMINUM SIGN.
2. DISPENSER BOX.
3. 10 GAL WASTE RECEPTACLE WITH ATTACHED LID.
4. 3-MOUNTING HARDWARE SETS EACH SET INCLUDES: 2 NUTS, BOLTS AND WASHERS.
5. 80 PET WASTE BAGS.
6. 50 WASTE RECEPTACLE LINERS.

8 PET WASTE STATION

3/4" = 1'-0"

POCKET PARKS

CITY OF MADEIRA BEACH

MADEIRA BEACH, FLORIDA

halff
1000 N. ASHLEY DRV., SUITE 900
TAMPA, FLORIDA 33602
TEL: (813) 620-4500

REVISION NO.	DATE	DESCRIPTION

PRELIMINARY

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MARTIN STEFFEN, PLA — 6667386
NAME — LICENSE NO.
7/3/2024
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26000636 — FL
FIRM / BUSINESS NO. — STATE

PROJECT NO.:	38545.001
ISSUED:	OCTOBER 2023
DRAWN BY:	IG
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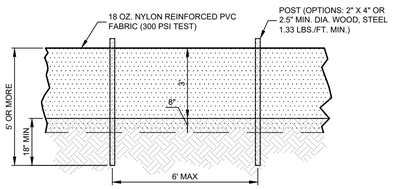
SCALE:	NTS

SHEET TITLE:

HARDSCAPE DETAILS

H-500



EROSION CONTROL & SEDIMENTATION CONTROL DEVICES:

1. REFER TO LATEST EDITION OF FDOT "ROADWAY AND TRAFFIC DESIGN STANDARDS" INDEX NO. 103 FOR ADDITIONAL DETAILS AND SPECIFICATIONS
2. CONTRACTOR SHALL INSTALL EROSION CONTROL DEVICES PRIOR TO ANY OTHER CONSTRUCTION ACTIVITIES. THE DEVICE SHALL BE INSTALLED IN THE LOCATIONS ON THE DRAWINGS AND ANYWHERE ELSE THERE IS A POTENTIAL FOR EROSION AS SEDIMENT TO EXIT THE WORK AREA.
3. CONTRACTOR SHALL INSPECT INSTALLED EROSION CONTROL DEVICE WEEKLY DURING CONSTRUCTION AND AFTER HEAVY RAINS FOR DAMAGE. MAINTENANCE SHALL INCLUDE CLEANING BUILT-UP SEDIMENT BEHIND THE BARRIERS AND/OR REPLACING DAMAGED SECTIONS.
4. THE EROSION CONTROL DEVICE SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL A PERMANENT STAND OF GRASS (OR OTHER PERMANENT STABILIZATION) IS ESTABLISHED.

EROSION / TURBIDITY CONTROL NOTES:

1. THE INSTALLATION OF TEMPORARY EROSION CONTROL BARRIERS SHALL BE COORDINATED WITH THE CONSTRUCTION OF THE PERMANENT EROSION CONTROL FEATURES TO THE EXTENT NECESSARY TO ASSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS CONTROL OF EROSION AND WATER POLLUTION THROUGHOUT THE LIFE OF THE CONSTRUCTION PHASE.
2. THE TYPE OF EROSION CONTROL BARRIERS USED SHALL BE GOVERNED BY THE NATURE OF THE CONSTRUCTION OPERATION AND SOIL TYPE THAT WILL BE EXPOSED. SILTY AND CLAYEY MATERIAL USUALLY REQUIRE SOLID SEDIMENT BARRIERS TO PREVENT TURBID WATER DISCHARGE, WHILE SANDY MATERIAL MAY NEED ONLY SILT SCREENS OR HAY BALES TO PREVENT EROSION. FLOATING TURBIDITY CURTAINS SHALL BE USED IN OPEN WATER SITUATIONS. DIVERSION DITCHES OR SWALES MAY BE REQUIRED TO PREVENT TURBID STORM WATER RUNOFF FROM BEING DISCHARGED TO WETLANDS OR OTHER WATER BODIES. IT MAY BE NECESSARY TO EMPLOY A COMBINATION OF BARRIERS, DITCHES AND OTHER EROSION/TURBIDITY CONTROL MEASURES IF CONDITIONS WARRANT.
3. THE CONTRACTOR SHALL SCHEDULE HIS OPERATIONS SUCH THAT THE AREA OF UNPROTECTED ERODIBLE EARTH EXPOSED AT ANY ONE TIME IS NOT LARGER THAN THE MINIMUM AREA NECESSARY FOR EFFICIENT CONSTRUCTION OPERATIONS, AND THE DURATION OF EXPOSED, UNCOMPLETED CONSTRUCTION TO THE ELEMENTS SHALL BE AS SHORT AS PRACTICABLE. CLEARING AND GRUBBING SHALL BE SO SCHEDULED AND PERFORMED THAT GRADING OPERATIONS CAN FOLLOW IMMEDIATELY THEREAFTER, AND GRADING OPERATIONS SHALL BE SCHEDULED AND PERFORMED THAT PERMANENT EROSION CONTROL FEATURES CAN FOLLOW IMMEDIATELY THEREAFTER IF CONDITIONS ON THE PROJECT PERMIT.
4. THE CONTRACTOR PROVIDE ROUTINE MAINTENANCE OF PERMANENT AND TEMPORARY EROSION CONTROL FEATURES UNTIL THE PROJECT IS COMPLETE AND ALL BARED SOILS ARE STABILIZED.
5. ALL GREEN AND/OR DISTURBED AREAS TO BE SODDED/RESODDED TO MATCH EXISTING TURF SPECIES, UNLESS OTHERWISE NOTED.
6. ANY SOD PLACED ON SLOPES EXCEEDING 3:1 TO BE ANCHORED BY STAKES, NETS, AND/OR OWNER'S REPRESENTATIVE WRITTEN APPROVED METHOD.
7. REQUIRED TREE BARRICADES AND EROSION CONTROL MUST REMAIN INTACT THROUGHOUT CONSTRUCTION. ENCROACHMENT INTO OR FAILURE TO MAINTAIN THESE BARRICADES WILL RESULT IN ENFORCEMENT ACTION WHICH MAY INCLUDE CITATIONS AND/OR PERMIT REVOCATION AS PROVIDED BY LOCAL JURISDICTION
8. ROOT PRUNING SHALL BE CONDUCTED AFTER STAKING FOR, AND PRIOR TO INSTALLATION OF SILT FENCE, A CERTIFIED ARBORIST, INTERNATIONAL SOCIETY OF ARBORICULTURE-CERTIFIED, SHALL CONDUCT OR OVERSEE ROOT PRUNING ACTIVITIES. THE CERTIFIED ARBORIST SHALL DETERMINE SPECIFIC EQUIPMENT AND METHODS TO BE USED. THE CERTIFIED ARBORIST SHALL REVIEW ROOT PRUNING SHOWN ON THE PLANS, AND SHALL VERIFY OR MODIFY AS NEEDED THE LIMITS AND LOCATIONS OF ROOT PRUNING TO MINIMIZE IMPACTS TO AFFECTED TREES. THE CERTIFIED ARBORIST SHALL RECOMMEND ANY ASSOCIATED TREATMENTS SUCH AS FERTILIZERS, FUNGICIDES, PESTICIDES, ETC. TO THE OWNER FOR REVIEW AND APPROVAL

SITE DEMOLITION NOTES:

1. ALL MATERIALS TO BE DEMOLISHED INCLUDING BUT NOT LIMITED TO PLANT MATERIAL, HARDSCAPE BASE MATERIAL, CONCRETE, AND OVERHEAD STRUCTURE SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A LAWFUL MANNER.
2. EXISTING TREES THAT ARE SHOWN TO REMAIN, SHALL MAINTAIN PROTECTIVE BARRIERS AT ALL TIMES. REFER TO DETAIL BELOW.
3. THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES PRIOR TO DEMOLITION AND WILL BE RESPONSIBLE FOR THE DAMAGE OF ANY ON-SITE OR OFF-SITE UTILITIES THAT ARE NOT A PART OF THIS PROJECT OR ARE NOT IDENTIFIED TO BE REMOVED. CONTRACT SHALL REPAIR ANY DAMAGED IRRIGATION LINES, IRRIGATION APPENDICES, UTILITIES, AND STORM PIPES NOT IDENTIFIED TO BE REMOVED TO THEIR PRE-CONSTRUCTION CONDITION.
4. THE CONTRACTOR SHALL BARRICADE THE SITE AND PROPERLY CONTROL TRAFFIC.
5. EXISTING SITE FURNITURE SHALL BE RELOCATED OUTSIDE OF CONSTRUCTION LIMITS SHOWN ON PLANS. THE CONTRACTOR SHALL EXERCISE CAUTION NOT TO DAMAGE AND SHALL PRESERVE ALL EXISTING SITE FURNITURE. DAMAGED SITE FURNITURE SHALL BE REPLACED AT THE CONTRACTOR EXPENSE WITH LIKE FURNISHINGS OR APPROVED EQUAL. EXACT POINT(S) OF RELOCATION AND/OR REPLACEMENT SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE.

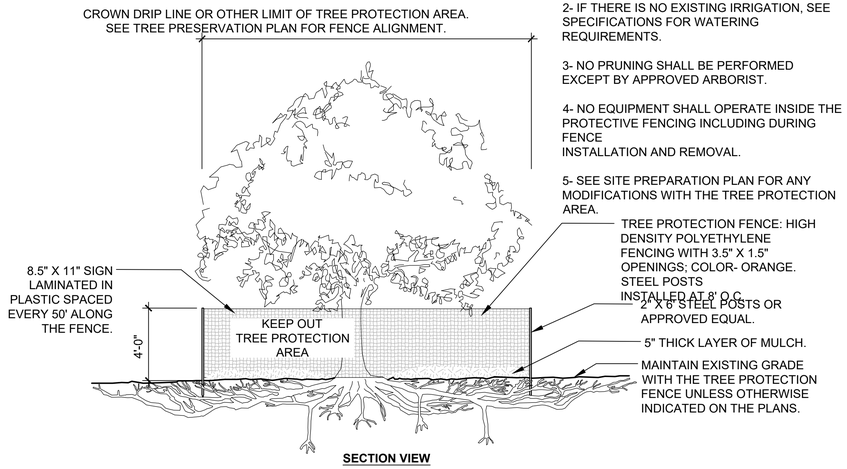
NOTES:
1- SEE SPECIFICATIONS FOR ADDITIONAL TREE PROTECTION REQUIREMENTS.

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.



SECTION VIEW

9 TREE PROTECTION

3/16" = 1'-0"

HDI-MA-05

HARDSCAPE NOTES:

1. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF MADEIRA BEACH REQUIREMENTS.
2. CONTRACTOR SHALL PROTECT EXISTING BLOCK WALL FACE AND CONCRETE DURING CONSTRUCTION TO PREVENT CHIPPING, CONCRETE SPLATTER, CRACKING, TOPPLING, AND ANY OTHER STRUCTURAL OR AESTHETIC DEFECTS.
3. ALL EARTHWORK, PLACEMENT OF FILL AND PAVEMENT PREPARATION TO CONFORM TO THE MORE STRICT OF CITY OF MADEIRA BEACH FOR TECHNICAL SPECIFICATIONS, FDOT STANDARD SPECIFICATIONS, OR THE OWNER'S REPRESENTATIVE'S RECOMMENDATIONS
4. ALL DELETERIOUS SUBSURFACE MATERIAL (I.E. MUCK, PEAT, BURIED DEBRIS) IS TO BE EXCAVATED IN ACCORDANCE WITH THESE PLANS OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. DELETERIOUS MATERIAL IS TO BE REMOVED AND DISCARDED FROM THE SITE IN A LAWFUL MANNER. EXCAVATED AREAS TO BE BACK FILLED WITH APPROVED MATERIALS AND COMPACTED AS DETAILED ON THESE PLANS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXCAVATIONS AGAINST COLLAPSE AND SHALL PROVIDE BRACING, SHEETING OR SHORING AS NECESSARY. DEWATERING METHODS SHALL BE USED AS REQUIRED TO KEEP TRENCHES DRY WHILE PIPE AND APPURTENANCES ARE BEING PLACED.
6. ANY UNDERGROUND UTILITIES INCLUDING CONDUIT FOR ELECTRICAL, IRRIGATION LINES AND SLEEVING, CABLE TV AND TELEPHONE CROSSINGS SHALL BE INSTALLED PRIOR TO PAVEMENT CONSTRUCTION. CONTRACTOR TO COORDINATE INSTALLATION OF ANY ADDITIONAL CONDUIT LOCATIONS WITH OWNER.
7. ALL CURB CUT RAMPS TO BE CONSTRUCTED PER FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS (FDOT INDEX 304) AND BE ADA COMPLIANT INCLUDING USE OF TRUNCATED DOME TACTILE SURFACE. TERMINATION OF CURB SHALL INCLUDE A 3' TRANSITION TO FLUSH UNLESS OTHERWISE NOTED ON THE PLANS.
8. SLOPES, SLOPE DIRECTION, AND HIGH POINTS HAVE BEEN PROVIDED FOR INFORMATIONAL PURPOSES ONLY. FINAL GRADE ELEVATIONS ARE TO BE DETERMINED BY CONTRACTOR. IN GENERAL ALL NEWLY POURED CONCRETE SHALL BE 6" HIGHER THAN DEMOLISHED CONCRETE CREATING A SMOOTH TRANSITION. HIGH POINTS, AND SWALES MAY BE CREATED TO DIVERT WATER IN AN EFFICIENT MANNER. CROSS SLOPES SHALL NOT BE GREATER THAN 1.5% ON HARDSCAPES. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING POSITIVE SLOPES AND DRAINAGE TO PREVENT POOLING OF WATER WITHIN AND ADJACENT TO HARDSCAPE AREAS.
9. CONTRACTOR SHALL RE-ESTABLISH SMOOTH TRANSITION TO SURROUNDING SODDED AREAS. ADDITIONAL GRADING AND SODDING MAY BE REQUIRED TO ESTABLISH TRANSITION. FINISHED GRADE OF SURROUNDING SODDED AREA TO BE 2" BELOW FINISHED HARDSCAPE. CONTRACTOR IS RESPONSIBLE FOR ENSURING STANDING WATER DOES NOT OCCUR WHERE PROPOSED HARDSCAPE EDGE MEETS TURF/SOD OR ANYWHERE ELSE ON SITE NOT INTENDED TO HOLD WATER.
10. CONTRACTOR SHALL COORDINATE WITH AWNING WORKS TO VERIFY LOCATION OF FOOTERS AND OVERHEAD STRUCTURE PRIOR TO INSTALLATION OF ANY PAVING/HARDSCAPE MATERIALS.
11. COMPACTED SUB-GRADE SHALL BE MECHANICALLY MIXED TO THE SPECIFIED DEPTH PRIOR TO GRADING, COMPACTION, AND TESTING.
12. CONTRACTOR SHALL SAW CUT AND PROVIDE CONSTRUCTION JOINT AT LOCATIONS WHERE NEW PAVEMENT MEETS EXISTING PAVEMENT.
13. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING WALL DURING ALL CONCRETE INSTALLATION ACTIVITIES.
14. CONTRACTOR TO UTILIZE SAME PAVEMENT BASE OPTION MATERIAL FOR ALL PAVING WITHIN PROJECT.
15. CONCRETE PAVING TO BE 4" DEPTH AND 3500 PSI WITH FIBER REINFORCEMENT. BASE TO BE 6" COMPACTED SUBGRADE AT 98% COMPACTION (AASHTO T-180).
16. PROVIDE SAMPLES OF CONCRETE MATERIAL AND FINISHING TECHNIQUES TO OWNER'S REPRESENTATIVE PRIOR TO ORDERING. FINAL APPROVAL FROM OWNER'S REPRESENTATIVE IS REQUIRED PRIOR TO INSTALLATION.

PLANTER NOTES:

1. THE CONTRACTOR SHALL MAINTAIN AND PROTECT FROM MUD, DIRT, DEBRIS, ETC. THE STORM DRAINAGE SYSTEM UNTIL FINAL ACCEPTANCE OF THE PROJECT. THE CONTRACTOR MAY BE REQUIRED TO RECLEAN PIPES AND INLETS FOR THESE PURPOSES.
2. CONTRACTOR SHALL FURNISH ALL MATERIALS AND CONSTRUCT BLOCK RETAINING WALLS USING GEOGRID REINFORCEMENT AND MODULAR BLOCKS; PREPARE FOUNDATION SOIL; FURNISH AND INSTALL LEVELING PAD AND DRAINAGE FILL PER MANUFACTURER'S RECOMMENDATIONS.
3. FOR BIDDING PURPOSES ONLY, CONTRACTOR SHALL ASSUME- "BELGARD CASTLEMANOR, NAPOLI FINISH", WALL CAP TO BE 12"X1'0"X3" "BELGARD CASTLEMANOR, NAPOLI FINISH", BLOCK FACE TO BE SINGLE OR STRAIGHT PLANE CONFIGURATION (NO ANGLES), BOND CONFIGURATION SHALL BE RUNNING BONDS MINIMALLY LOCATED AT MIDPOINT VERTICALLY OF ADJACENT UNITS. CONTRACTOR SHALL ENSURE EXPOSED SURFACES BE FREE OF CHIPS, CRACKS AND OTHER VISIBLE IMPERFECTIONS. THE OVERALL ANTICIPATED WALL LENGTH IS SHOWN IN THE PLANS. CONTRACTOR SHALL DETERMINE THE QUANTITIES OF ALL ANCILLARY ITEMS INCLUDING, BUT NOT LIMITED TO, WALL UNITS, GEOGRID, FILTER FABRIC, CRUSHED STONE, SAND, BACKFILL, SURVEY, ENGINEERING, EQUIPMENT AND LABOR AND INCLUDE ALL COSTS ASSOCIATED WITH THE WALL CONSTRUCTION IN THE LUMP SUM COST OF THE PROJECT. CONTRACTOR SHALL COORDINATE FINAL COLOR, WALL CAP, AND FACE FINISH WITH OWNER'S REPRESENTATIVE.
4. SUBMIT COMPLETE WORKING DRAWINGS, CALCULATIONS, AND SPECIFICATIONS FOR THE INSTALLATION OF THE RETAINING/SEAT WALL, INCLUDE THE FOLLOWING, AT A MINIMUM: DETAILS AND DIMENSIONS FOR ALL ELEMENTS, COMPONENTS AND APPURTENANCES.
5. WALL CONSTRUCTION SHALL BE BASED ON NATIONAL CONCRETE MASONRY ASSOCIATION DESIGN GUIDELINES FOR SEGMENTAL RETAINING WALLS. DESIGN MUST ALSO BE IN COMPLIANCE WITH FLORIDA BUILDING CODE (LATEST EDITION) AND THE CITY OF MADEIRA BEACH.
6. ALL BACKFILL SOIL AND SUB-SURFACE SHALL BE PREPARED TO MEET THE REQUIREMENTS OF MANUFACTURER'S RECOMMENDATIONS.
7. ALL FEATURES OF THE SYSTEM FURNISHED, INCLUDING PRECAST ELEMENTS, FASTENERS, CONNECTIONS, SOIL REINFORCEMENTS, GEOGRID REINFORCEMENT, AND OTHER NECESSARY COMPONENTS, SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE.
8. VISIBLE WALL HEIGHT (ABOVE GRADE) SHALL BE EIGHTEEN INCHES. HEIGHTS AND LENGTHS SHALL NOT BE LESS THAN THOSE SHOWN ON THE PLANS.
9. PRIOR TO INSTALLATION, CONTRACTOR SHALL STAKE LOCATIONS AND LIMITS OF WALL TO REFLECT PLANS TO GREATEST EXTENT POSSIBLE. COORDINATE WITH OWNER'S REPRESENTATIVE TO REVIEW STAKING PRIOR TO INSTALLATION. PROVIDE A MINIMUM OF TWO BUSINESS DAYS NOTICE OF PROPOSED STAKING REVIEW. OWNER'S REPRESENTATIVE MAY DIRECT ADJUSTMENTS IN THE FIELD TO ENSURE NO CONFLICT WITH UTILITIES OR OTHER SITE FEATURES. NO CHANGES TO WALL LAYOUT WILL BE MADE WITHOUT THE OWNER'S REPRESENTATIVE'S APPROVAL.
10. ANY SURVEY WORK REQUIRED TO LAY OUT WALLS WILL BE PROVIDED BY THE CONTRACTOR AND WILL BE INCLUDED IN THE LUMP SUM COST OF THE PROJECT.
11. ALL UNSUITABLE MATERIAL SUCH AS ROCK, BRUSH AND ORGANIC SOIL SHALL BE REMOVED FROM BENEATH FOUNDATION. PREPARED SURFACE SHALL MEET OR EXCEED ALLOWABLE BEARING CAPACITY OF 2,000 POUNDS PER SQ. FT. AND VERIFIED BY CONTRACTOR'S ENGINEER PRIOR TO START OF LEVELING PAD CONSTRUCTION. ANY OVER-EXCAVATION OR REQUIRED FILL SHALL COMPLY WITH ASTM (D-1557).
12. BACKFILL MATERIAL AND COMPACTION RATE SHALL BE PER THE MANUFACTURER'S RECOMMENDATION.
13. FILTER FABRIC SHALL BE FDOT TYPE D-3, NON-WOVEN GEOTEXTILE. PROVIDE 12 INCH OVERLAP AT VERTICAL JOINTS AND 2 INCHES TURNING AT EACH LAYER OF GEOGRID.
14. EXISTING SLOPE SHALL BE IMPACTED AS MINIMALLY AS IS FEASIBLE TO COMPLETE THE WORK.
15. INSTALL FOUNDATION MATERIAL IN 2' LIFTS USING A VIBRATORY ROLLER OR PLATE COMPACTOR TO PROVIDE A UNIFORM COMPACTED FOUNDATION. ANY VOID ENCOUNTERED SHALL BE FILLED AND BROUGHT TO GRADE WITH COMPACTED GRANULAR MATERIAL CONFORMING TO THE MANUFACTURER'S SPECIFICATIONS FOR AGGREGATE BASE COURSE. IF APPROVED BY THE OWNER'S REPRESENTATIVE, A CONCRETE BASE COURSE MAY BE USED.
16. USE CLEAN GRAVEL TO FILL OPENINGS IN, BETWEEN, AND BEHIND THE WALL UNITS.
17. ALL SEGMENTAL BLOCK UNITS WITHIN THE LAST 3 FEET OF END OF EACH WALL WILL BE ATTACHED WITH ADHESIVE, IN ADDITION TO ANY OTHER STRUCTURAL MATERIALS RECOMMENDED BY THE MANUFACTURER. THE MINIMUM EMBEDMENT DEPTH MUST BE MAINTAINED AT THE END OF EACH WALL WHERE IT RETURNS AND STEPS UP INTO THE EXISTING EMBANKMENT SLOPE.
18. ADDITIONAL WALL MATERIAL MAY BE REQUIRED TO MEET MANUFACTURER'S WALL END EMBANKMENT RECOMMENDATIONS. ANY ADDITIONAL MATERIAL AND LABOR TO MEET MANUFACTURER'S RECOMMENDATION SHALL BE INCLUDED IN THE BID.
19. CONTRACTOR SHALL INSTALL GEOGRID SOIL REINFORCEMENT PER MANUFACTURER'S RECOMMENDATION.
20. BACKFILL WILL BE PLACED FROM THE WALL REARWARD INTO THE EMBANKMENT TO ENSURE THAT THE GEOGRID REMAINS TAUT.
21. TRACK MOUNTED CONSTRUCTION EQUIPMENT WILL NOT BE OPERATED DIRECTLY ON THE GEOGRID. A MINIMUM BACKFILL THICKNESS OF 6 INCHES IS REQUIRED PRIOR TO OPERATION OF TRACK MOUNTED VEHICLES OVER THE GEOGRID.
22. RUBBER TIRED EQUIPMENT MAY PASS OVER THE GEOGRID AT SLOW SPEED, LESS THAN 10 MPH. SUDDEN BRAKING AND SHARP TURNING SHALL BE AVOIDED.

POCKET PARKS

CITY OF MADEIRA BEACH

MADEIRA BEACH, FLORIDA

halff
1000 N. ASHLEY DRIVE, SUITE 900
TAMPA, FLORIDA 33602
TEL: (813) 620-4500

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MARTIN STEFFEN, PLA — 6667386
NAME — LICENSE NO.

7/3/2024
DATE

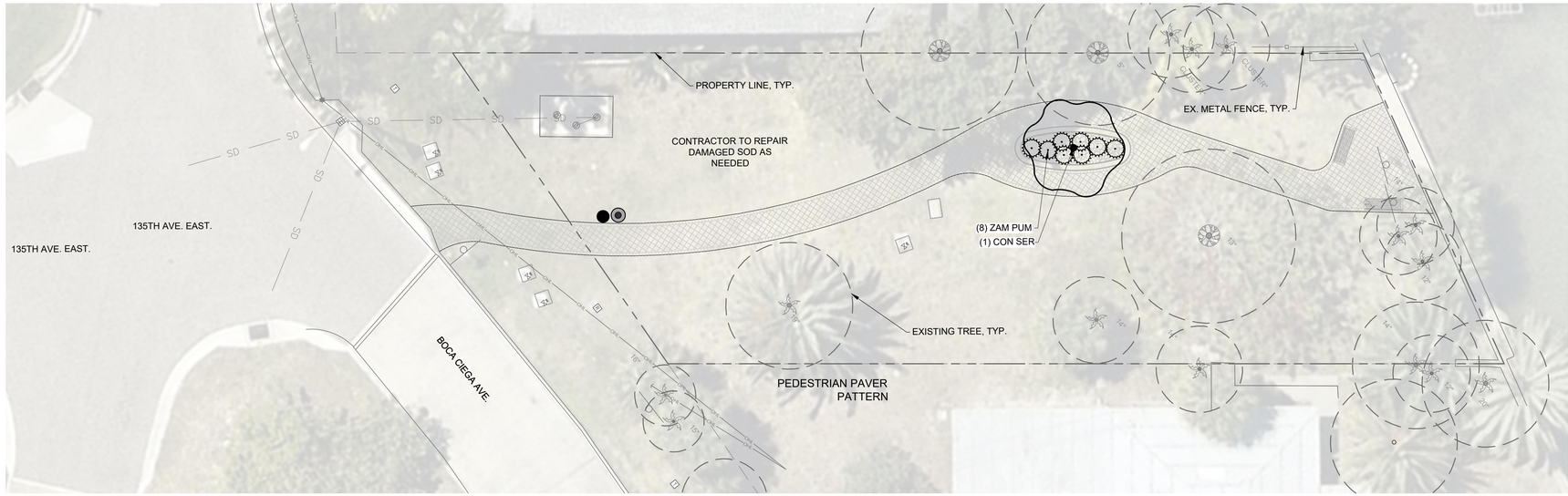
26000636 — FL
FIRM / BUSINESS NO. — STATE

PROJECT NO.:	38545.001
ISSUED:	OCTOBER 2023
DRAWN BY:	IG
CHECKED BY:	LMD
SCALE:	NTS

SHEET TITLE:

HARDSCAPE NOTES

H-501



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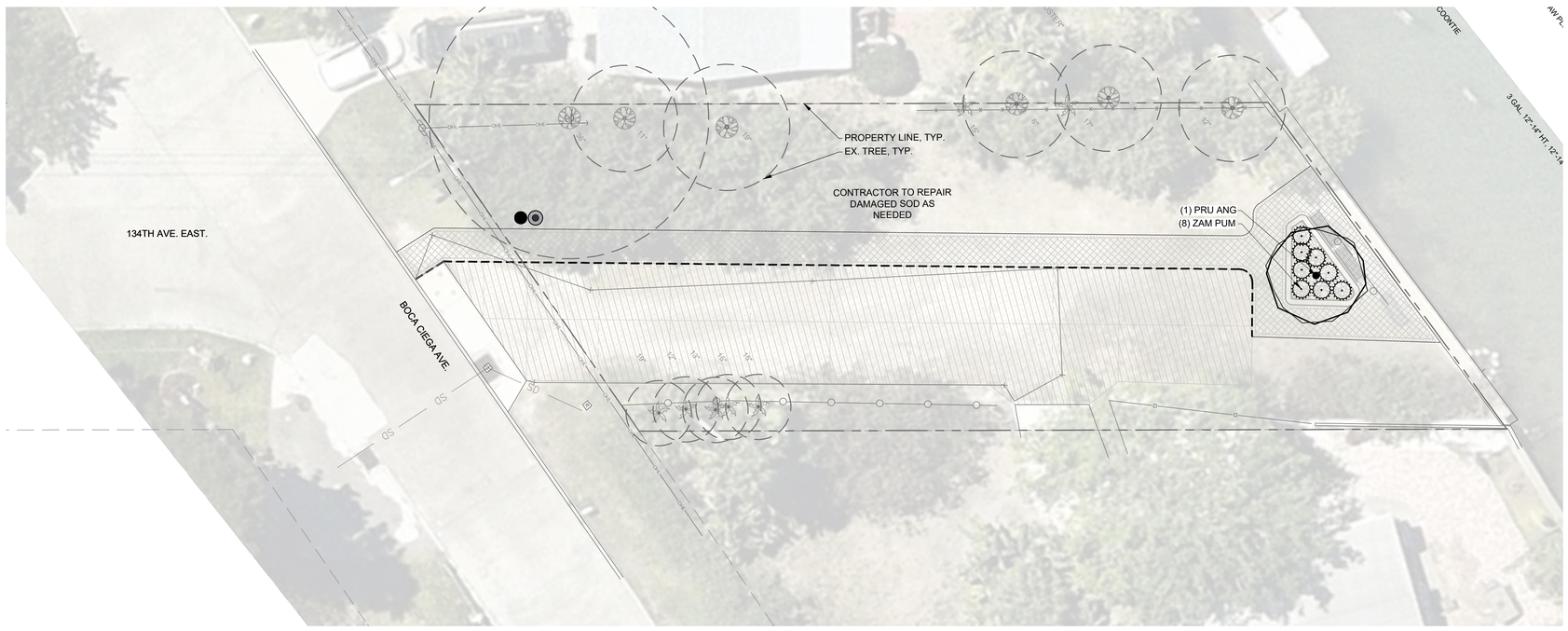

2 134TH AVE. EAST

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SCALE IN FEET

POCKET PARKS

CITY OF MADEIRA BEACH
MADEIRA BEACH, FL.

halff
500 NORTH AKARD
BUILDING 2, SUITE 120
MIDLAND, TEXAS 79705-5471
TEL (432) 259-3255

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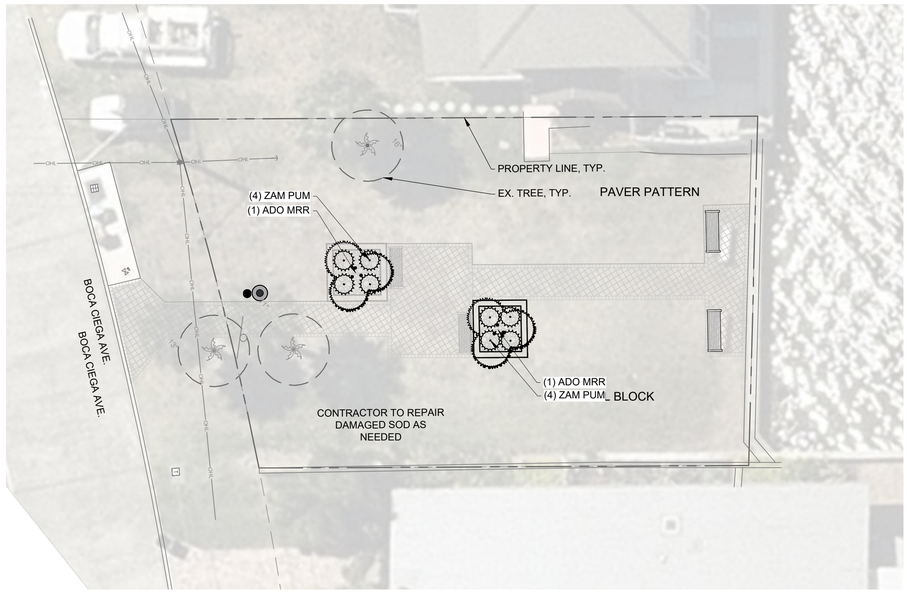
DRAWN BY:	IG
CHECKED BY:	LMD
SCALE:	1" = 10'

SHEET TITLE

PLANTING PLANS

L-101



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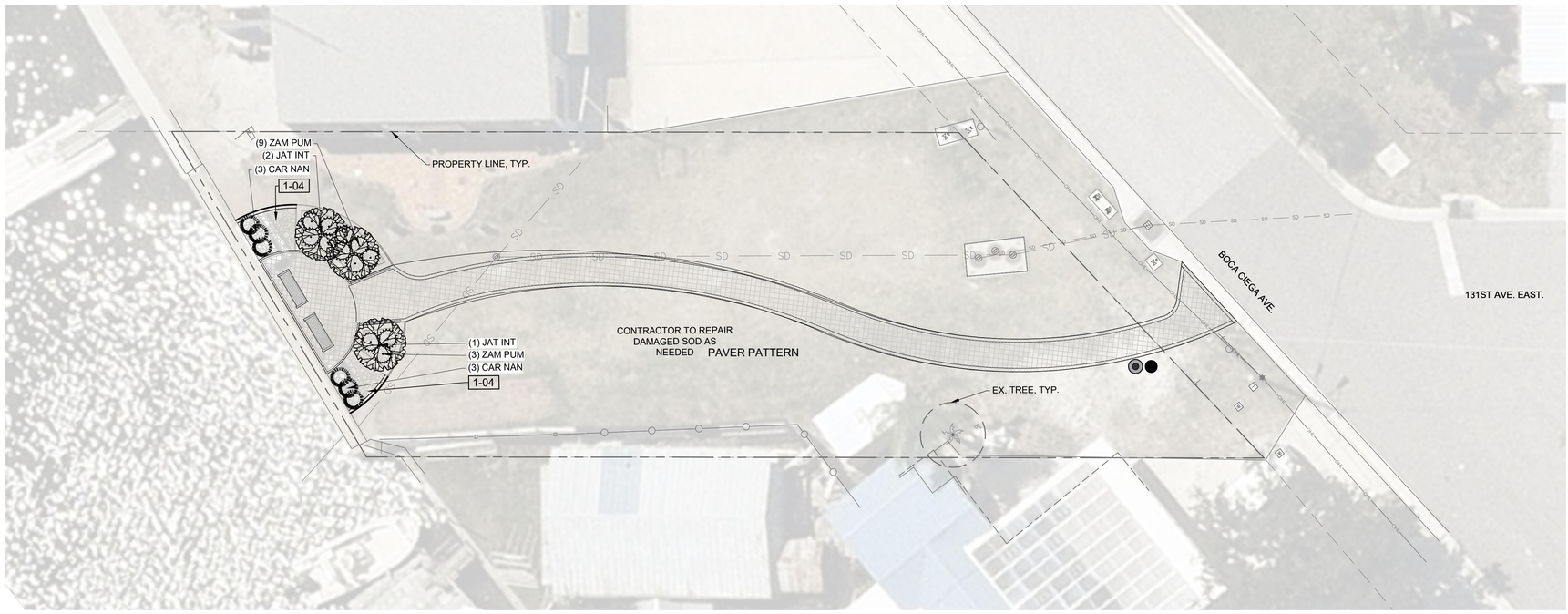

4 131ST AVE. EAST

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SCALE IN FEET

POCKET PARKS

CITY OF MADEIRA BEACH
MADEIRA BEACH, FL.

halff
300 NORTH A ST.
BUILDING 1, SUITE 120
MIDLAND, TEXAS 79705-5471
TEL (432) 253-3255

REVISION

NO.	DATE	DESCRIPTION

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MARTIN STEFFEN, PLA — 6667386
NAME — LICENSE NO.
7/3/2024
DATE
26000636 — FL
FIRM / BUSINESS NO. — STATE

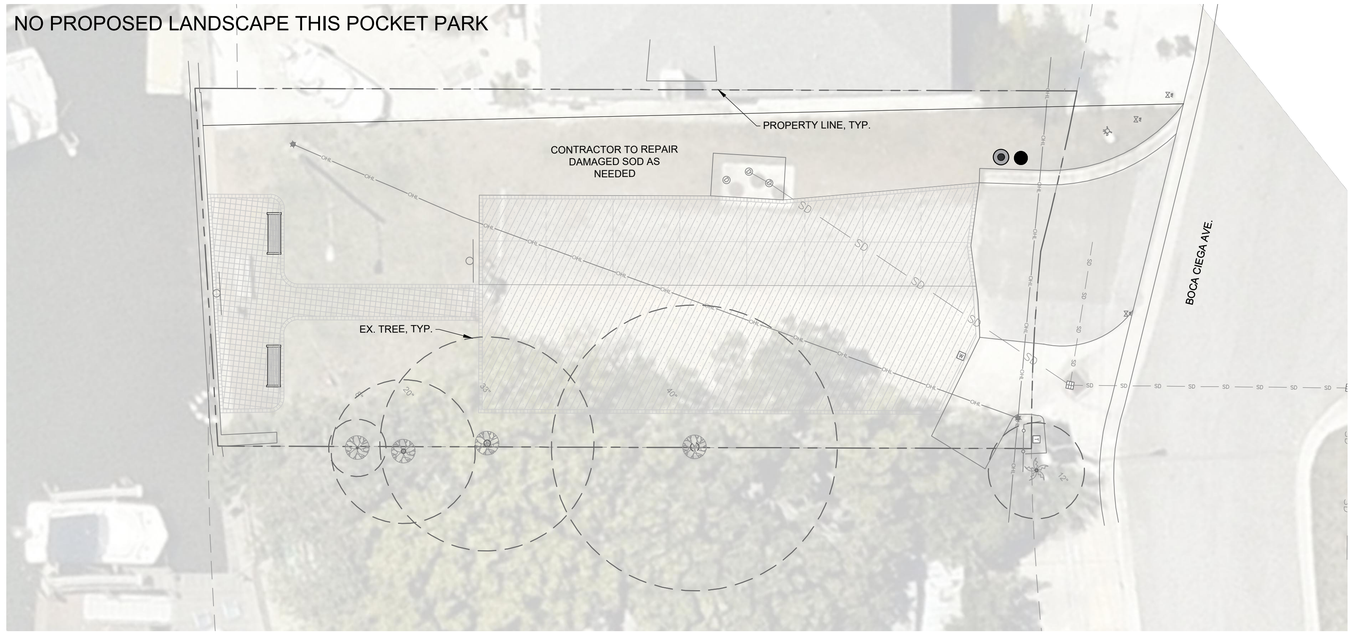
PROJECT NO.:	38545.001
ISSUED:	OCTOBER 2023
DRAWN BY:	IG
CHECKED BY:	LMD
SCALE:	1" = 10'

SHEET TITLE

PLANTING PLAN

L-102

NO PROPOSED LANDSCAPE THIS POCKET PARK



0 # ## ##
SCALE IN FEET

5 132ND AVE. EAST

PLANTING SCHEDULE - CITY TO PROVIDE

SYMBOL	QTY	BOTANICAL / COMMON NAME	CONT	CAL	HT	REMARKS	REMARKS
TREES							
	1	CONOCARPUS ERECTUS F. SERICEUS / BUTTONWOOD	B&B	3" CAL	12'-14' HT	STANDARD TRUNK	
	1	PRUNUS ANGUSTIFOLIA / CHICKASAW PLUM	B&B	2" CAL	8' HT	STANDARD TRUNK	
PALMS							
	2	ADONIDIA MERRILLII / CHRISTMAS PALM	B&B		8' HT		FG, B&B, TRIPLE, 10'-12' HT
SYMBOL	QTY	BOTANICAL / COMMON NAME	CONT	SIZE			REMARKS
SHRUBS							
	6	~~CARISSA MACROCARPA 'NANA' / DWARF NATAL PLUM~~	3 GAL			Agave - Foxtail	3 GAL, 10"-12" HT, 18"-24" SPD, FULL
	3	~~JATROPHA INTEGERRIMA / JATROPHA~~	25 GAL			Agave - False	30 GAL, 5'-6' HT, 3'-4' SPD, STANDARD
	36	~~ZAMIA PUMILA / COONTIE~~	3 GAL			Agave - Ray of Light	3 GAL, 12"-14" HT, 12"-14" SPD, FULL

NOTE:
IF NEEDED, CONTRACTOR MAY PROPOSE ALTERNATIVE PLANTS SPECIES FOR WRITTEN APPROVAL BY THE CITY

POCKET PARKS

CITY OF MADEIRA BEACH
MADEIRA BEACH, FL.

halff
500 NORTH A ST.
BUILDING A, SUITE 120
MIDLAND, TEXAS 79705-5471
TEL (432) 253-3255

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PLANTING PLAN

L-103

GENERAL LANDSCAPE NOTES:

1. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT SITE CONDITIONS AND DETERMINING REQUIRED QUANTITIES AND AVAILABILITY OF ALL MATERIALS PRIOR TO BIDDING. QUANTITIES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. IF ANY DISCREPANCIES OCCUR BETWEEN QUANTITIES CALLED FOR ON THE PLANT LIST AND THOSE INDICATED ON THE DRAWINGS, THE DRAWINGS SHALL GOVERN.
2. PRIOR TO COMMENCEMENT OF CONSTRUCTION, CONTRACTOR SHALL INSPECT PLANTING AREAS AND VERIFY THAT NO OBJECTIONABLE MATERIALS OR OBSTRUCTIONS ARE PRESENT. PRESENT FINDINGS TO OWNER'S REPRESENTATIVE FOR APPROVAL. ALL EXISTING PLANTING SHALL REMAIN INTACT AND UNDISTURBED UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL EXISTING SITE FURNISHINGS, PAVING, LANDSCAPE, AND OTHER ELEMENTS TO REMAIN SHALL BE PROTECTED FROM ANY DAMAGE UNLESS OTHERWISE NOTED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ADJACENT IMPROVEMENTS FROM DAMAGE AND EROSION INCLUDING BUT NOT LIMITED TO EXISTING PLANT MATERIAL, GRADES, SIDEWALKS, SITE FURNISHINGS, CURBS, AND UTILITIES. ANY ADJACENT IMPROVEMENT DAMAGED DURING CONSTRUCTION SHALL, AT A MINIMUM, BE RESTORED TO A STATE EQUAL TO ITS PRE-CONSTRUCTION STATE AT THE CONTRACTOR'S EXPENSE. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR SODDING ALL AREAS DISTURBED BY OTHER CONTRACTORS OR BY LANDSCAPE INSTALLATION.
4. IN GENERAL, THE WORK SHALL PROCEED AS RAPIDLY AS THE SITE BECOMES AVAILABLE. CONTRACTOR TO COORDINATE PROJECT SCHEDULE WITH OWNER'S REPRESENTATIVE. WORK TO BEGIN WITHIN 5 BUSINESS DAYS OF RECEIPT OF NOTICE TO PROCEED.
5. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS TO COMPLETE WORK, AND SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
6. THE LANDSCAPE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF PLANTING AREAS WITH HARDSCAPE, ELECTRICAL, AND IRRIGATION WORK.
7. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY HOISTING EQUIPMENT NECESSARY FOR THE PLACEMENT OF PLANT MATERIAL.
8. COLLECT SOIL SAMPLES AT A MINIMUM OF (3) PLANTING LOCATIONS THROUGHOUT THE PROJECT. SUBMIT TESTING LOCATIONS TO OWNER'S REPRESENTATIVE PRIOR TO TAKING SAMPLES. SAMPLES SHALL BE SENT TO AN APPROVED AGRONOMIC SOILS TESTING LABORATORY, STATING PROPOSED PLANT MATERIAL AT EACH TEST LOCATION. ANALYSIS SHALL INCLUDE, AT A MINIMUM, PH, NPK, ORGANIC CONTENT, TEXTURE, AND SOLUBLE SALTS. SUBMIT RESULTS/RECOMMENDATIONS AND PROPOSED FERTILIZER ANALYSIS/AMENDMENTS TO OWNER'S REPRESENTATIVE. COSTS OF FERTILIZER AND AMENDMENTS ARE TO BE INCLUDED IN THE COST OF THE PROJECT.
9. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING THE CONDITION OF UNDERGROUND UTILITIES THAT AFFECT PLANTING PROCEDURES. IF ANY CONFLICTS OCCUR BETWEEN PROPOSED LOCATION OF TREES ON THE DRAWINGS AND ANY UNDERGROUND, SUBSURFACE, OR OVERHEAD UTILITIES OR STRUCTURES THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATIONS AND PROTECTION OF ALL EXISTING UTILITIES SHOWN OR NOT SHOWN, AND ALL PROPOSED UTILITIES ON THESE DRAWINGS.
10. IF THE LANDSCAPE CONTRACTOR DAMAGES ANY STAKED OR IN PLACE UTILITIES OR STRUCTURES BY HIS OWN NEGLIGENCE THEY SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
11. THE LANDSCAPE CONTRACTOR SHALL REFER TO THE LANDSCAPE PLANTING DETAILS, NOTES, AND THE LANDSCAPE SCHEDULE FOR COMPLETE LANDSCAPE INSTALLATION INSTRUCTIONS. NOTIFY OWNER'S REPRESENTATIVE OF ANY AND ALL DISCREPANCIES PRIOR TO CONSTRUCTION OR INSTALLATION.
12. THE LANDSCAPE CONTRACTOR SHALL RE-GRADE ALL AREAS DISTURBED BY PLANT REMOVAL, RELOCATION, AND/OR INSTALLATION WORK. ANY DAMAGED PLANT MATERIAL SHALL BE REPLACED WITH PLANTS OF SAME SPECIES (MIN 12' HT, 3" CAL, 6' CT) EQUALING THE TOTAL DIAMETER BREAST HEIGHT(DBH) OF THE DAMAGED TREE AND SHALL BE SUBJECT TO ALL REQUIREMENTS HEREIN.
13. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING ALL NEWLY INSTALLED PLANT MATERIAL AS NEEDED TO MAINTAIN HEALTH AND VIGOR THROUGHOUT THE 90 DAY MAINTENANCE PERIOD REGARDLESS OF THE STATUS OF EXISTING OR PROPOSED IRRIGATION AND/OR RAINFALL.

DAMAGES AND WARRANTY:

1. ALL PLANT MATERIAL, INCLUDING TRANSPLANTED PLANT MATERIAL, SHALL BE GUARANTEED AT OR ABOVE THE SPECIFIED CONDITIONS THROUGH SUBSTANTIAL COMPLETION AND UNTIL THE END OF THE (1) YEAR WARRANTY PERIOD. MAINTENANCE SHALL BE PROVIDED BY THE LANDSCAPE CONTRACTOR FOR 90 DAYS AFTER SUBSTANTIAL COMPLETION. AFTER WHICH THE LANDSCAPE CONTRACTOR WILL COORDINATE MAINTENANCE WITH OWNER'S REPRESENTATIVE. DECLINE IN CONDITION OF PLANT MATERIAL DURING INSTALLATION AND/OR WARRANTY PERIOD SHALL BE GROUNDS FOR REJECTION AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
2. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR RE-STAKING OF TREES DURING THE WARRANTY PERIOD. IF NECESSARY, MAXIMUM TOLERANCE FROM VERTICAL SHALL BE 3 DEGREES. GUYING / STAKING PRACTICES SHALL NOT PERMIT NAILS, SCREWS, WIRES ETC., TO PENETRATE OUTER SURFACE OF TREES OR PALMS. TREES OR PALMS REJECTED DUE TO THIS PRACTICE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
3. THE OWNER AND/OR THE OWNER'S REPRESENTATIVE HAS THE RIGHT TO REJECT ANY AND ALL WORK WHICH DOES NOT MEET WITH THE REQUIREMENTS OF THE SPECIFICATIONS AT ANY STAGE OF THE PROJECT. CONTRACTOR TO REPLACE REJECTED PLANT MATERIAL WITHIN ONE WEEK (5 BUSINESS DAYS) OF NOTICE.
4. CONTRACTOR TO REQUEST INSPECTION OF PROJECT IN WRITING TO OWNERS REPRESENTATIVE. IF ALL WORK IS SATISFACTORY AND COMPLETE IN ACCORDANCE WITH CONDITIONS OF CONTRACT DOCUMENTS, THEN THE OWNER AND/OR THEIR REPRESENTATIVE SHALL DECLARE THE PROJECT TO BE SUBSTANTIALLY COMPLETE. SUBSTANTIAL COMPLETION CONSTITUTES THE BEGINNING OF THE 1 YEAR WARRANTY PERIOD AND THE 90 DAY MAINTENANCE PERIOD.
5. CONTRACTOR SHALL REMOVE ALL PLANT SAUCERS, GRADE SMOOTH, AND RE-MULCH AS WELL AS REMOVE PLANTING STAKES FROM SITE AFTER THE (1) YEAR WARRANTY PERIOD.

PROJECT SUBMITTALS:

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL FOR ALL PROPOSED MATERIALS INCLUDING BUT NOT LIMITED TO PLANTS, STAKING, SOIL AMENDMENTS, FERTILIZER, MULCH, ETC. PRIOR TO PURCHASING. CONTRACTOR SHALL PROVIDE REPRESENTATIVE SAMPLES OF ALL PLANT MATERIAL ON-SITE FOR REVIEW BY OWNER'S REPRESENTATIVE; NOTIFY OWNER'S REPRESENTATIVE OF INSPECTION A MINIMUM OF 3 BUSINESS DAYS PRIOR TO INSPECTION. IF APPROVED BY OWNER'S REPRESENTATIVE, THEN DATED AND SCALED COLOR PHOTOGRAPHS MAY ALSO BE SUBMITTED.
2. ALL PROJECT SUBMITTALS MUST BE COMPLETED AND COMPILED IN AN EASILY REPRODUCIBLE FORM. SUBMITTAL SHEETS THAT ARE NOT LEGIBLE AND REPRODUCIBLE WILL BE REJECTED. SUBMITTALS SHEETS THAT DO NOT CLEARLY IDENTIFY THE PRODUCTS OR MATERIALS SELECTED WILL BE REJECTED.
3. CONTRACTOR SHALL SUBMIT TO THE OWNER'S REPRESENTATIVE THE GROWER'S AND/OR STATE INSPECTION CERTIFICATE FOR PLANT MATERIAL TWO (2) WEEKS PRIOR TO COMMENCEMENT OF WORK.
4. PRODUCTS INSTALLED ON THE PROJECT SITE THAT ARE NOT CONSISTENT WITH THE PROJECT SUBMITTALS WILL BE REMOVED AND REPLACED WITH THE PRODUCTS IDENTIFIED IN THE PROJECT SUBMITTAL PACKAGE AT THE CONTRACTORS EXPENSE.
5. PRIOR TO ISSUING SUBSTANTIAL COMPLETION NOTICE THE CONTRACTOR SHALL SUBMIT TO THE OWNER THREE (3) COPIES OF AS BUILT PLANS/DOCUMENTS AND THREE (3) COPIES OF AN ANNUALIZED MAINTENANCE AND OPERATION MANUAL DETAILING ALL SCHEDULES, NURSERY PRACTICES, WATERING REQUIREMENTS, FERTILIZATION, TRIMMING, ETC., FOR ALL PLANT MATERIALS AND PLANT AREAS OF THE PROJECT.

SITE REQUIREMENTS:

1. CONTRACTOR SHALL AGREE TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN THE CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER.
2. LANDSCAPE HOLDING AREA, INGRESS, EGRESS, AND SITE ACCESS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL NOT DISTURB OR IMPEDE ACCESS TO THE SITE BY OTHERS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DAILY CLEANUP OF PREMISES AND REMOVAL OF DISCARDED OR SURPLUS MATERIALS AND RUBBISH IN A LAWFUL MANNER. ANY OPEN PITS OR TRENCHES SHALL BE COMPLETELY AND THOROUGHLY BARRICADED DURING THE WORKDAY AND COMPLETELY FILLED IN AT THE END OF EACH WORKDAY. ALL MATERIALS, PRODUCTS, AND EQUIPMENT REMAINING ON SITE AT THE END OF THE WORK DAY SHALL BE STORED IN AN ORGANIZED FASHION IN THE AREA DESIGNATED BY THE OWNER'S REPRESENTATIVE.
4. ALL CONTRACTORS AND SUBCONTRACTORS SHALL HAVE A SET OF APPROVED CONSTRUCTION DOCUMENTS ON SITE AT ALL TIMES.
5. DURING CONSTRUCTION, CREWS ARE REQUIRED TO HAVE AT LEASE ONE (1) ENGLISH SPEAKING PERSON ON SITE.

PLANT MATERIAL NOTES:

1. ALL PLANT MATERIAL SHALL BE FLORIDA GRADE NO. 1 OR BETTER AS SPECIFIED IN GRADES AND STANDARDS FOR NURSERY PLANTS PARTS I AND II, DIVISION OF PLANT INDUSTRY, FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, LATEST EDITION, AND SHALL CONFORM TO CURRENT AMERICAN ASSOCIATION OF NURSERYMAN STANDARDS FOR NURSERY STOCK.
2. CONTAINER GROWN PLANTS: A MINIMUM OF 80% OF THE CONTAINER ROOTBALL MUST BE BOUND BY THE ROOT SYSTEM. ENCIRCLING OR "RING" ROOTS ARE PROHIBITED AND PLANTS WILL BE REJECTED.
3. ALL SOD SHALL BE WEED AND WEED SEED FREE, WITH A 2" THICKNESS OF ROOTS CAPABLE OF HOLDING SAND. SOD SHALL BE FRESHLY-CUT WITHIN TWENTY-FOUR (24) HOURS OF LAYING AND LAID WITH TIGHTLY-BUTTED JOINTS. HAND RAKING SHALL BE DONE AS NECESSARY TO ENSURE PROPER EVEN GRADES AND CLEAR SURFACES FOR SOD. STAKING OF SOD SHALL BE DONE AS NECESSARY TO PREVENT MOVEMENT OF MATERIAL.
4. ALL PLANT MATERIAL SHALL BE PROTECTED DURING TRANSPORT AND DELIVERY TO JOB SITE WITH SHADE CLOTH OR OTHER ACCEPTABLE MEANS OF WINDBURN PREVENTION.
5. SUBSTITUTION OF PLANT MATERIALS WILL NOT BE PERMITTED UNLESS AUTHORIZED BY THE OWNER'S REPRESENTATIVE; ALL SUBSTITUTIONS MUST MEET MINIMUM SPECIFICATIONS ON THE PLANT LIST.
6. SUBSTITUTION OF FIELD GROWN TREES FOR TREES THAT ARE SPECIFIED AS CONTAINER GROWN WILL NOT BE PERMITTED UNLESS OTHERWISE APPROVED BY THE OWNER'S REPRESENTATIVE. IF SUBSTITUTION IS APPROVED, ALL PLANT SPECIFICATIONS WILL APPLY TO APPROVED BALLED AND BURLAPPED MATERIAL.
7. NEW PLANT MATERIAL TO BE INSTALLED WILL BE FIELD ADJUSTED TO ACCOMMODATE EXISTING PLANT MATERIAL SUCH AS OVERHEAD CANOPY TREES, UNDERSTORY TREES AND SHRUBS OR GROUND COVER. THIS WILL INSURE EXISTING PLANT MATERIAL TO REMAIN IN ITS NATURAL STATE. THEREFORE, NO EXISTING PLANT MATERIAL WILL BE ALTERED BY REMOVING, CUTTING, TRIMMING OR DESTROYING IN ORDER TO INSTALL NEW PLANT MATERIAL.
8. ALL TREES SHALL BE LOCATED AT LEAST SIX FEET AWAY FROM THE CENTERLINE OF SWALES AND FROM PROPOSED STORMWATER INLETS.

PLANTING:

1. TREES GROWN IN GROW BAGS OR GROW BAG TYPE MATERIAL MUST HAVE THE GROW BAG REMOVED ENTIRELY PRIOR TO PLANTING.
2. BALLED AND BURLAPPED OR ANY BASKETED MATERIAL SHALL HAVE THE TOP ONE THIRD (1/3) OF DEGRADABLE BURLAP AND TOP ONE THIRD (1/3) OF WIRE CAGE PULLED BACK AND REMOVED FROM THE BASE OF THE TRUNK. STRAPS MUST BE CUT AND REMOVED ENTIRELY PRIOR TO INSTALLATION.
3. CONTRACTOR SHALL NOTIFY OWNERS REPRESENTATIVE IF ANY CONFLICTS EXIST BETWEEN THE BUILT ENVIRONMENT AND PLANS (I.E. UTILITY CABINETS, UTILITY VALVES, STREET SIGNS, SIDEWALK LOCATIONS)

PLANTING AREA PREPARATION NOTES:

1. THE CONTRACTOR SHALL STAKE LOCATIONS AND LIMITS OF TREES, PLANTING, MULCH, AND SOD AREAS TO REFLECT PLANS TO GREATEST EXTENT POSSIBLE. FOR TREES LOCATED BETWEEN BACK OF CURB AND FRONT OF SIDEWALK, PLACE TREES EQUAL DISTANCE FROM CURB AND SIDEWALK. FOR TREES LOCATED OUTSIDE OF RIGHT-OF-WAY, PLACE TREES A MINIMUM OF 5' FROM BACK OF SIDEWALK, 2.5' FOR PALMS. COORDINATE WITH OWNER'S REPRESENTATIVE TO INSPECT STAKING LOCATIONS AND LIMITS ON SITE. PROVIDE MINIMUM 5 BUSINESS DAYS ADVANCE NOTIFICATION OF PROPOSED INSPECTION. CONTRACTOR SHALL MAKE MODIFICATIONS AS MAY BE REQUESTED.
2. WORK WITHIN 15' OF EXISTING TREES TO REMAIN SHALL BE PERFORMED USING HAND TOOLS. ANY DISTURBED ROOTS SHALL BE SEVERED USING CLEAN AND SHARP TOOLS.
3. HERBICIDE APPLICATION: BEGIN TURF SPRAYING PROCESS A MINIMUM 30 DAYS PRIOR TO PLANTING AS FOLLOWS: SPRAY TURF AREA TO BE KILLED WITH GLYPHOSATE PER MANUFACTURER'S RECOMMENDATIONS. 7 DAYS AFTER SPRAYING, CLOSE MOW TO 1" HEIGHT. 14 DAYS AFTER CLOSE MOWING, RE-SPRAY WITH GLYPHOSATE PER MANUFACTURER'S RECOMMENDATIONS. PROTECT EXISTING PLANTS TO REMAIN FROM OVER-SPRAY OR SPRAY WITHIN ROOT ZONE. CONTRACTOR TO ENSURE TOTAL WEED ERADICATION. 7 DAYS AFTER RE-SPRAYING, PROCEED WITH TURF REMOVAL AND LANDSCAPE INSTALLATION AS DESCRIBED BELOW.
4. FOR PROPOSED INDIVIDUAL TREE PLANTING PITS
   KILLED TURF TO BE REMOVED SHALL BE CLEARED AND GRUBBED TO A MINIMUM DEPTH OF 4". EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER. TURF SHALL BE THOROUGHLY REMOVED PRIOR TO THE PLANTING AND BACKFILL PROCESS. INSTALL TREES AS DETAILED. ESTABLISH FINISHED PRE-MULCHING GRADE WITHIN 4" BELOW TOP OF SURROUNDING TURF OR HARDSCAPE.

   TO ASSURE DRAINAGE/PERCOLATION OF INDIVIDUAL TREE PLANTING PITS PRIOR TO INSTALLATION, CONTRACTOR SHALL FILL SAMPLE TREE PITS (1 IN 5) WITH WATER AND OBSERVE PERCOLATION. HOLES SHALL PERCOLATE IN 30 MINUTES OR LESS. BRING DISCREPANCIES TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.

   INSTALL BACKFILL MIXTURE IN LIFTS AND TAMP LIGHTLY AROUND EACH AND EVERY PLANT. THOROUGHLY FLUSH WITH WATER AT EACH LIFT AND MAKE ADJUSTMENTS TO PROVIDE PROPERLY SET PLANT MATERIAL WITH THE TOP OF ROOTBALL 1"-2" ABOVE FINISHED GRADE.
5. FOR PROPOSED PLANTING AREAS
   KILLED TURF TO BE REMOVED SHALL BE CLEARED AND GRUBBED TO A MINIMUM DEPTH OF 6". EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER. TURF SHALL BE THOROUGHLY REMOVED PRIOR TO THE PLANTING PROCESS. BEFORE INSTALLING TOPSOIL, RAKE SUBSOIL SURFACE CLEAR OF STONES (1 INCH DIAMETER AND LARGER), DEBRIS, RUBBISH, DELETERIOUS MATERIALS. CONTAMINATED SOILS SHALL BE REMOVED AND REPLACED TO THEIR FULL DEPTHS AND EXTENTS. INSTALL TOPSOIL AT 6" DEPTH. TILL TOPSOIL AND EXISTING SUBSOIL TO A DEPTH OF 12". INSTALL PLANTINGS AS DETAILED. ESTABLISH OR RE-ESTABLISH PRE-MULCHING ROUGH GRADES INSURING POSITIVE FLOWS AND AESTHETIC LANDFORM SHAPES SHOWN IN THE GRADING PLANS.
6. FOR PROPOSED MULCH ON GRADE AREAS
   LEAVE KILLED TURF IN PLACE. REMOVE KILLED TURF ONLY AT EDGES OF BED, APPROXIMATELY 12" WIDTH, AS REQUIRED TO ESTABLISH A TAPERED DIFFERENCE IN GRADE SO THAT INSTALLED MULCH (3" DEPTH) SHALL BE FLUSH TO 1" BELOW ADJACENT TURF OR HARDSCAPE.
7. FOR PROPOSED SOD AREAS
   KILLED TURF TO BE REMOVED SHALL BE CLEARED AND GRUBBED TO A MINIMUM DEPTH OF 4". EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER. TURF SHALL BE THOROUGHLY REMOVED PRIOR TO THE PLANTING AND BACKFILL PROCESS. INSTALL TOPSOIL AT 2" DEPTH. TOPSOIL SHALL ESTABLISH FINISHED GRADE AT 2" BELOW EXISTING TURF OR HARDSCAPE. INSTALL SOD AS DETAILED. BUTT SOD PIECES TOGETHER CLOSELY AND ENSURE EDGES ARE TRIMMED EVENLY. ENSURE EXISTING GRADES ARE RE-ESTABLISHED FOR A FLUSH TRANSITION.
8. AN EVEN, WELL DEFINED LINE SHALL SEPARATE PLANTING AND MULCH ON GRADE AREAS FROM ALL SOD OR SEEDED AREAS.
9. BACKFILL MIXTURE FOR TREES AND SHRUBS SHALL CONSIST OF 25% COARSE SAND, 25% "BLENDED SOIL" OR EQUAL, AND 50% EXISTING SOIL.
   DISCARD REMAINING SOIL IN A LAWFUL MANNER. ALL PLANTING BACKFILL MIXTURES ARE SUBJECT TO APPROVAL BY THE OWNER'S REPRESENTATIVE. MIX THOROUGHLY PRIOR TO INSTALLATION ACCORDING TO THE FOLLOWING SCHEDULE:

1 GALLON:	0.003 CY (0.08 CF)	COARSE SAND AND 0.003 CY (0.08 CF) "BLENDED SOIL"
3 GALLON:	0.006 CY (0.16 CF)	COARSE SAND AND 0.006 CY (0.16 CF) "BLENDED SOIL"
7 GALLON:	0.015 CY (0.4 CF)	COARSE SAND AND 0.015 CY (0.4 CF) "BLENDED SOIL"
15 GALLON:	0.03 CY (0.8 CF)	COARSE SAND AND 0.03 CY (0.8 CF) "BLENDED SOIL"
30 GALLON:	0.06 CY (1.6 CF)	COARSE SAND AND 0.06 CY (1.6 CF) "BLENDED SOIL"
45 GALLON:	0.11 CY (2.9 CF)	COARSE SAND AND 0.11 CY (2.9 CF) "BLENDED SOIL"
65 GALLON:	0.17 CY (4.6 CF)	COARSE SAND AND 0.17 CY (4.6 CF) "BLENDED SOIL"
100 GALLON:	0.26 CY (7.1 CF)	COARSE SAND AND 0.26 CY (7.1 CF) "BLENDED SOIL"
200 GALLON:	0.88 CY (23.8 CF)	COARSE SAND AND 0.88 CY (23.8 CF) "BLENDED SOIL"
300 GALLON:	1.37 CY (37 CF)	COARSE SAND AND 1.37 CY (37 CF) "BLENDED SOIL"

   "BLENDED SOIL" SHALL CONSIST OF: 1/3 MUSHROOM COMPOST OR PEAT, 1/3 COMMERCIALLY PROCESSED AND COMPOSTED COW MANURE AND 1/3 COMPOSTED BARK. SUBMIT PRODUCT SAMPLE/DATA SHEET FOR BLENDED SOIL COMPONENTS TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION.
10. TOPSOIL IMPORTED TO THE SITE SHALL BE SIEVED TOPSOIL, FREE OF ROCKS AND DEBRIS. CONTRACTOR SHALL SUBMIT SOIL ANALYSIS RESULTS FROM AN APPROVED AGRONOMIC SOILS TESTING LABORATORY FOR A MINIMUM OF PH, ORGANIC CONTENT, SOLUBLE SALTS, AND TEXTURE WITH A STATEMENT OF SUITABILITY FOR BAHIA (PASPALUM NOTATUM 'ARGENTINE'), ST. AUGUSTINE (STENOTAPHRUM SECUNDATUM 'FLORATAM'), ZOYSIA (ZOYSIA JAPONICA 'EMPIRE') SOD AND SHRUBS/GRASSES. TOPSOIL SHALL BE FREE OF DELETERIOUS MATERIALS THAT WOULD BE HARMFUL TO PLANT GROWTH. SHALL BE FREE OF NEMATODES, SHALL BE OF UNIFORM QUALITY AND SHALL HAVE A PH VALUE BETWEEN 6.5 AND 7.5 (AS DETERMINED IN ACCORDANCE WITH ASTM E70). PEAT SHALL BE STERILIZED TO MAKE FREE OF ALL VIABLE NUT GRASS AND OTHER UNDESIRABLE WEEDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE SUITABILITY FOR GROWTH OF ALL PROPOSED PLANT MATERIAL. SUBMIT PRODUCT SAMPLE/DATA SHEET FOR TOPSOIL TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION.

    LANDSCAPE CONTRACTOR SHALL BEAR FINAL RESPONSIBILITY FOR PROPER SURFACE DRAINAGE OF PLANTED AREAS. FINISH GRADE ALL PREPARED TOPSOIL AREAS TO A SMOOTH, EVEN SURFACE ENSURING A MINIMUM 3% POSITIVE DRAINAGE AWAY FROM STRUCTURES AND ELIMINATE ANY LOW AREAS WHICH MAY COLLECT WATER. ANY DISCREPANCY IN THE DRAWINGS, OBSTRUCTION ON THE SITE, OR PRIOR WORK DONE BY ANOTHER PARTY WHICH THE LANDSCAPE CONTRACTOR FEELS PRECLUDES ESTABLISHING PROPER DRAINAGE SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF OWNER'S REPRESENTATIVE.
11. INSTALL FERTILIZER PER MANUFACTURER RECOMMENDATIONS. CONTRACTOR SHALL CONFIRM FERTILIZER REQUIREMENTS PER LOCAL MUNICIPALITY. AS A MINIMUM FOR BIDDING PURPOSES THE CONTRACTOR SHALL ASSUME THE FOLLOWING CONCERNING FERTILIZER:

    FOR INITIAL INSTALLATION OF TREES AND SHRUBS, FERTILIZER IS ASSUMED TO BE CONTROLLED RELEASE FERTILIZER WITH A 15-9-12 ANALYSIS AND CONTAINING TRACE ELEMENTS MG, S, B, CU, FE, MN, MO, AND ZN. FERTILIZER GRANULES SHALL BE COMPOSED OF DRY NUTRIENTS ENCAPSULATED IN MULTIPLE LAYERS OF POLYMERIC RESIN.

    FOR INSTALLATION OF BAHIA, ST. AUGUSTINE AND ZOYSIA SOD, FERTILIZER IS ASSUMED TO BE CONTROLLED RELEASE FERTILIZER WITH A 16-4-8. SOURCE FOR N SHALL BE RESIN-COATED UREA OR RESIN COATED AMMONIUM SALTS. MN, ZN, AND CU SHALL BE SULFATE FORMS. FE SHALL BE GRANULAR CHELATED IRON.

    APPLICATION RATES ARE PROVIDED AS A RECOMMENDATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE APPROPRIATE FERTILIZER/AMENDMENTS TO ENSURE PROPER ESTABLISHMENT AND VIGOR OF PLANT MATERIAL:

1.0 OZ PER EA 1 GALLON CONTAINER	3.0 OZ PER EA 3 GALLON CONTAINER	
6.0 OZ PER EA 7 GALLON CONTAINER	9.0 OZ PER EA 15 GALLON CONTAINER	16.0 OZ PER EA 30 GALLON CONTAINER
4.0 OZ PER EA 45 GALLON CONTAINER	32.0 OZ PER EA 65 GALLON CONTAINER	48.0 OZ PER EA 100 GALLON CONTAINER
64.0 OZ PER EA 200 GALLON CONTAINER	96.0 OZ PER EA 300 GALLON CONTAINER	

    FOR GRASSING AND SOD AREAS: APPLY 6 LBS/1000SF.
12. BUILD EARTHEN SAUCER TO CONTAIN WATER AROUND EACH INDIVIDUAL TREE PLANTING PIT AND AT THE PERIMETER OF ALL PLANTING AREAS. REMOVE EXCESS EXCAVATED SOIL FROM THE SITE AND DISPOSE OF IN A LAWFUL MANNER.
13. SPREAD MULCH AROUND INDIVIDUAL TREE RINGS, PLANTING AND MULCH AREAS.
    MULCHING FOR INDIVIDUAL TREE RINGS, PLANTING, AND MULCH AREAS SHALL BE PINE STRAW MULCH, FULL LENGTH, DRY, BRIGHT IN COLOR, FRESHLY BALED, AND 3" DEPTH AFTER SETTLING, COMPOSED ONLY OF NEEDLES OF SLASH, LOBLOLLY, OR LONGLEAF PINE. PINE STRAW SHALL NOT BE USED IF IT IS ROTTED OR MOLDY, OR CONTAINS SEED, TUBERS, OR RHIZOMES OF ANY NOXIOUS SPECIES. THE ENTIRE LOT OF PINE BARK NUGGETS BE REJECTED IF THERE IS ANY EVIDENCE THAT THE PINE STRAW LOT WAS HARVESTED FROM A SITE INFESTED WITH LYGODIUM JAPONICUM OR LYGODIUM MICROPHYLLUM (CLIMBING FERN). MULCH SHALL BE UNIFORMLY SPREAD OVER THE FULL DIAMETER OF EACH INDIVIDUAL TREE RING, PLANTING, AND MULCH AREA. MULCH AREAS INCLUDE INITIAL INSTALLATION (3" DEPTH) PLUS RE-MULCHING (1.5" DEPTH MINIMUM) A MINIMUM ONCE PER YEAR DURING THE (1) YEAR WARRANTY PERIOD. MULCH SHALL NOT BE PLACED AGAINST TRUNKS OR STEMS OF PLANTS. SUBMIT PRODUCT SAMPLE/DATA SHEET FOR MULCH TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION.
14. PRE-EMERGENT HERBICIDE SHALL BE APPLIED TO ALL INDIVIDUAL TREE RINGS, PLANTING, AND MULCH AREAS. THE HERBICIDE ACTIVE INGREDIENTS SHALL BE SUITABLE FOR CONTROL OF ANNUAL AND PERENNIAL BROADLEAF WEEDS AND GRASSES. THE HERBICIDE SHALL BE APPLIED BY HAND. MANUFACTURER RECOMMENDATIONS FOR APPLICATION METHOD, TIMING AND APPLICATION RATE SHALL BE STRICTLY ADHERED TO.

POCKET PARKS

CITY OF MADEIRA BEACH

MADEIRA BEACH, FL.

halff
3300 NORTH A ST.
BUILDING 2, SUITE 120
MIDLAND, TEXAS 79705-5471
TEL (432) 253-3255

NO.	DATE	REVISION DESCRIPTION

PRELIMINARY

FOR INTERIM REVIEW ONLY

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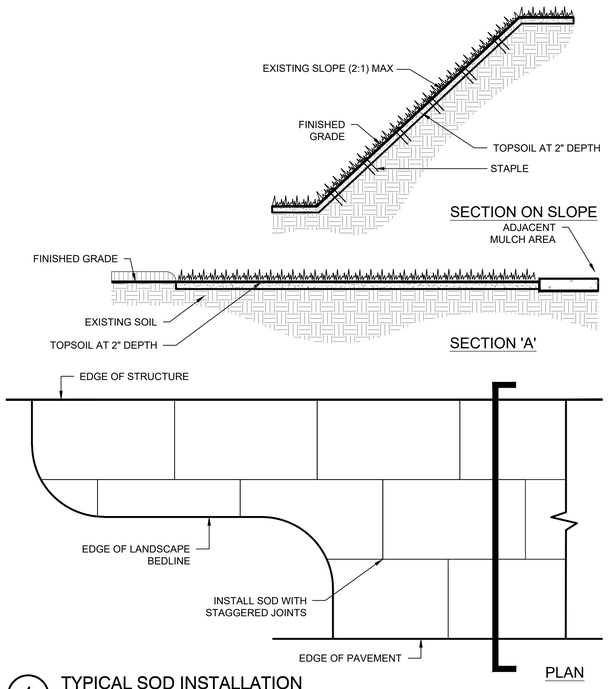
MARTIN STEFFEN, PLA — 6667386
NAME — LICENSE NO.
7/3/2024
DATE
26000636 — FL
FIRM / BUSINESS NO. — STATE

PROJECT NO.:	38545.001
ISSUED:	OCTOBER 2023
DRAWN BY:	IG
CHECKED BY:	LMD
SCALE:	NTS

SHEET TITLE

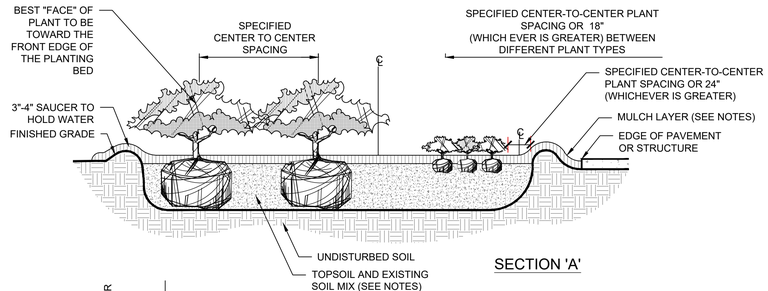
PLANTING NOTES

L-500



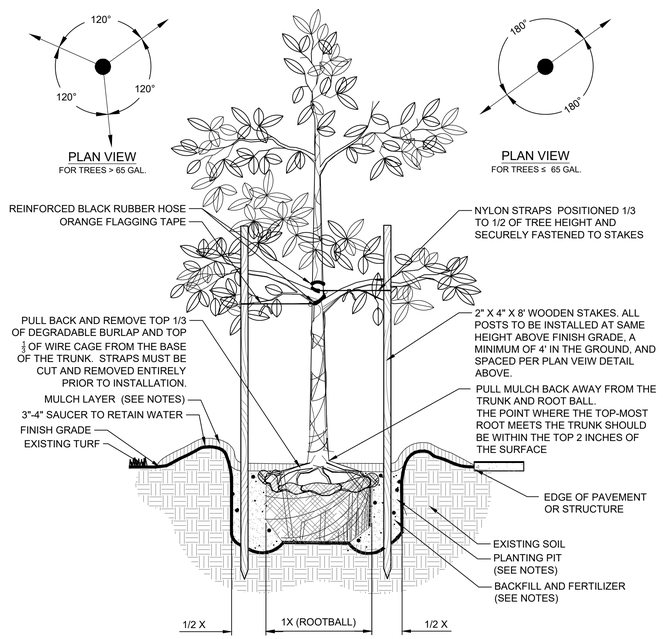
1 TYPICAL SOD INSTALLATION

NTS



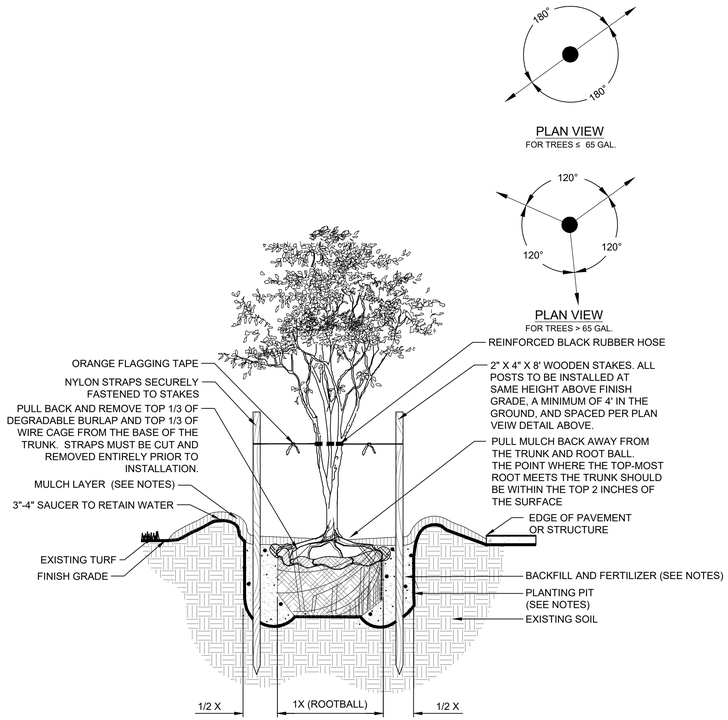
5 TYPICAL SHRUB AND GROUNDCOVER INSTALLATION

NTS



2 TYPICAL TREE INSTALLATION

NTS



6 TYPICAL MULTI-TRUNK TREE INSTALLATION

NTS

POCKET PARKS

CITY OF MADEIRA BEACH

MADEIRA BEACH, FLORIDA

halff
1000 N. ASHLEY DRIVE, SUITE 900
TAMPA, FLORIDA 33602
TEL: (813) 620-4500

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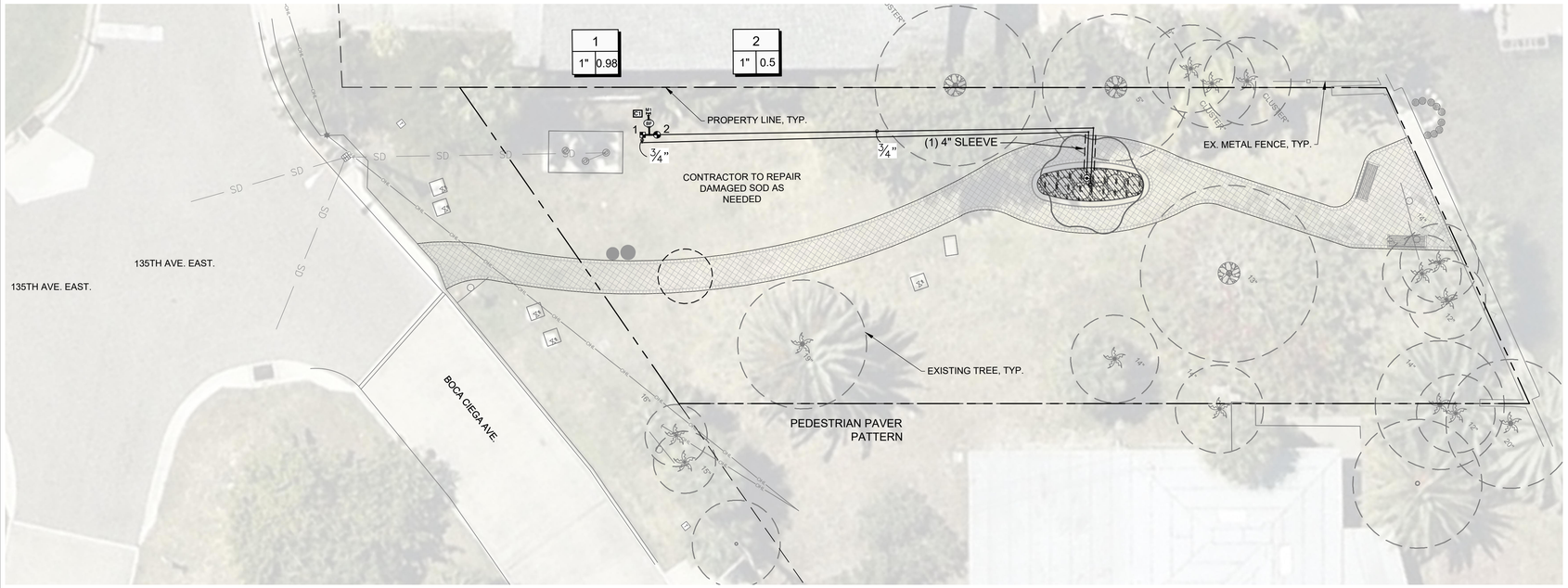
SCALE:	NTS

SHEET TITLE:

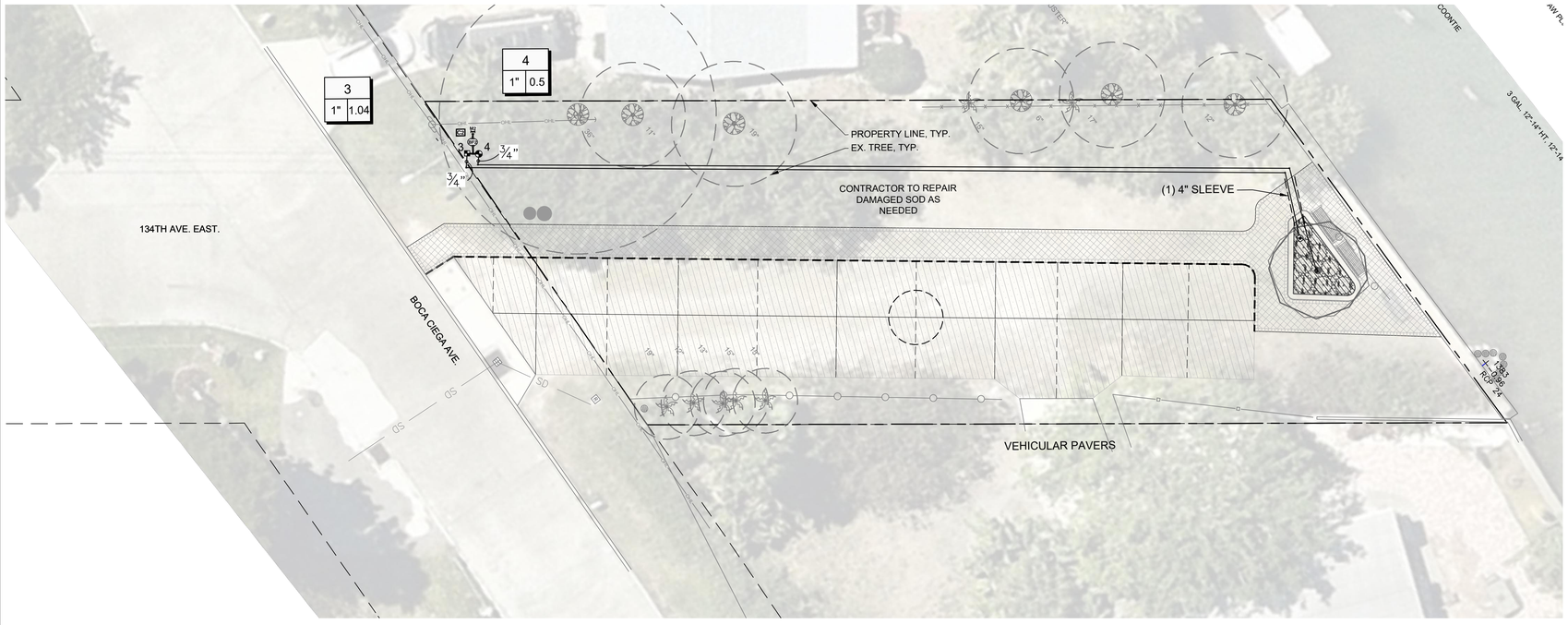
PLANTING DETAILS

L-501

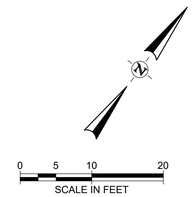
FILE NAME: A:\38000s\38545\001\LA\CADD\Sheets\L-DTLS-LAND-38454.001.dwg DATE: July 3, 2024, TIME: 1:25 PM, USER: ah4598 AVO: 38545.001



1 135TH AVE. EAST

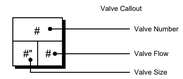


2 134TH AVE. EAST



IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
25 50 10 20	HUNTER PCB FLOOD BUBBLER, 1/2IN. FIPT.
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER ICZ-101-25 1" DRIP CONTROL ZONE KIT. 1IN. ICV GLOBE VALVE WITH 1IN. HY100 FILTER SYSTEM. PRESSURE REGULATION: 25PSI. FLOW RANGE: 2 GPM TO 20 GPM. 150 MESH STAINLESS STEEL SCREEN.
	PIPE TRANSITION POINT IN DRIP BOX PIPE TRANSITION POINT FROM PVC LATERAL TO DRIP TUBING WITH RISER IN 6IN. DRIP BOX.
	AREA TO RECEIVE DRIPLINE HUNTER HDL-09-12-CV HDL-09-12-CV: HUNTER DRIPLINE W/ 0.9 GPH EMITTERS AT 12" O.C. CHECK VALVE, DARK BROWN TUBING W/ BLACK STRIPING. DRIPLINE LATERALS SPACED AT 12" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. INSTALL WITH HUNTER PLD BARBED OR PLD-LOC FITTINGS.
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER ICV-G 1" 1", 1-1/2", 2", AND 3" PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.
BF	FEBCO 825Y 2" REDUCED PRESSURE BACKFLOW PREVENTER
C#	HUNTER P2C-400 LIGHT COMMERCIAL & RESIDENTIAL CONTROLLER, 4-STATION BASE MODULE CONTROLLER, 120 VAC, OUTDOOR/INDOOR MODEL
M#	WATER METER 1-1/2"
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21 3/4"
	IRRIGATION MAINLINE: PVC CLASS 200 SDR 21
	PIPE SLEEVE: PVC SCHEDULE 40



POCKET PARKS

CITY OF MADEIRA BEACH
MADEIRA BEACH, FL.

halff
3001 NORTH A ST.
BUILDING A, SUITE 120
MIDLAND, TEXAS 79705-5471
TEL (432) 253-3235

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7/3/2024
DATE

29000636 — FL
FIRM / BUSINESS NO. — STATE

PROJECT NO.:	38545.001
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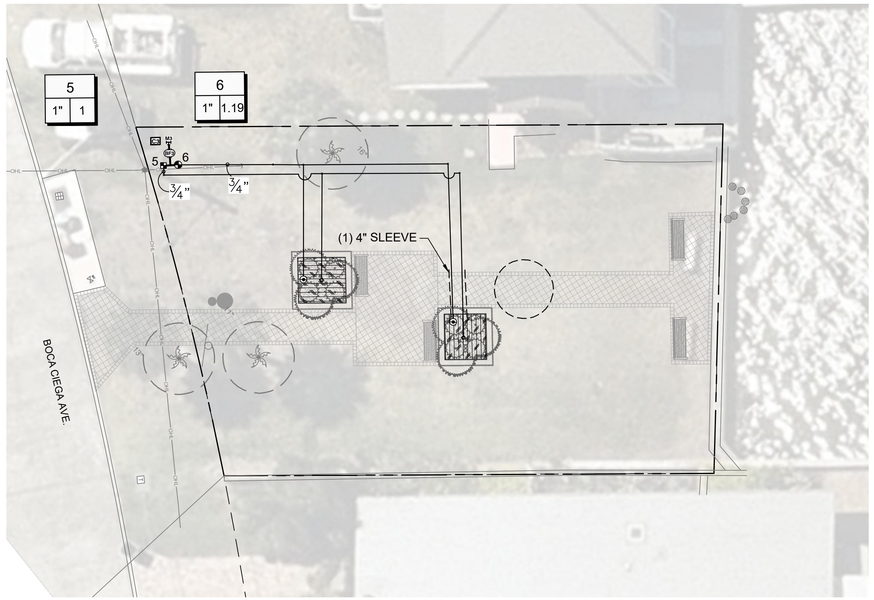
DRAWN BY:	IG
CHECKED BY:	LMD
SCALE:	1" = 10'

SHEET TITLE

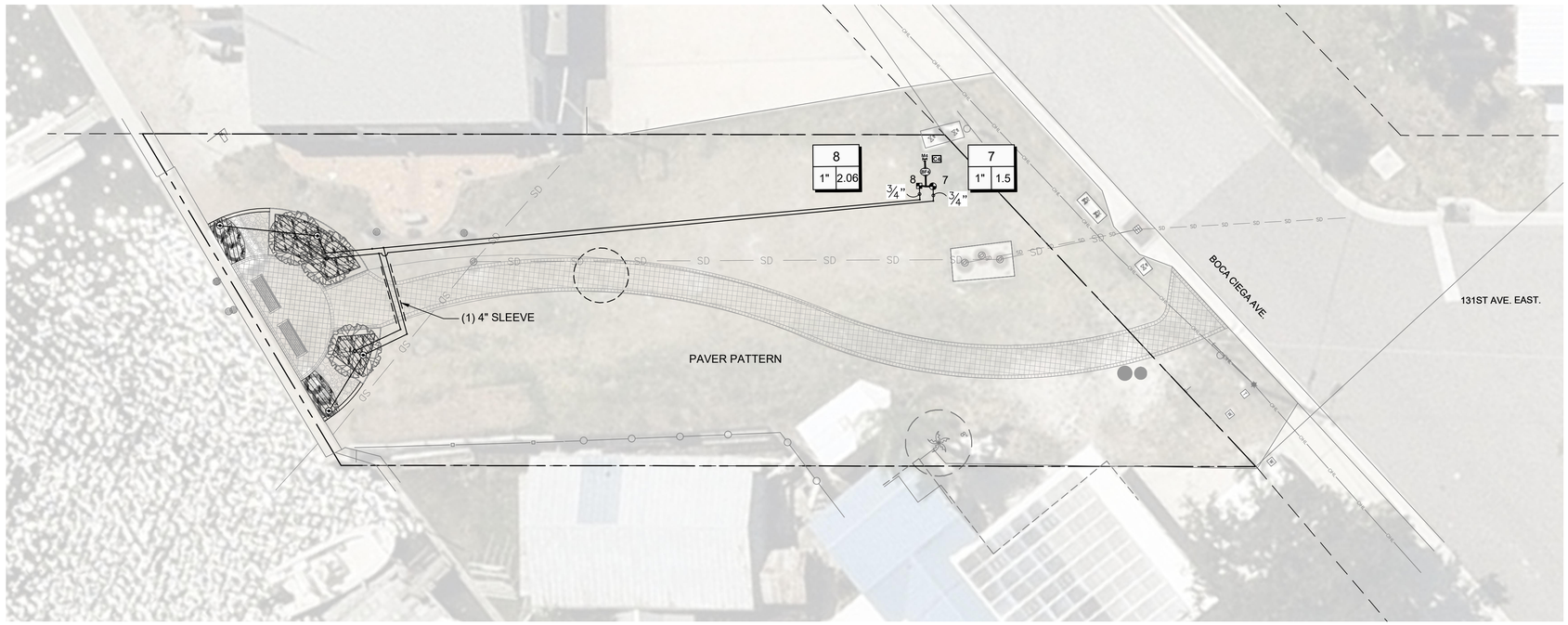
IRRIGATION PLAN

IR-101

FILE NAME: A:\38000s\38545\001\LA\CADD\Sheets\L-BASE-IRRI-38454.001.dwg DATE: July 3, 2024, TIME: 1:26 PM, USER: ah4598



3 132ND AVE. EAST



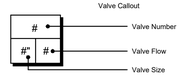
4 131ST AVE. EAST

0 5 10 20
SCALE IN FEET

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
△ 25 ⊠ 50 △ 10 □ 20	HUNTER PCB FLOOD BUBBLER, 1/2IN. FIPT.
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER ICZ-101-25 1" DRIP CONTROL ZONE KIT. 1IN. ICV GLOBE VALVE WITH 1IN. HY100 FILTER SYSTEM. PRESSURE REGULATION: 25PSI. FLOW RANGE: 2 GPM TO 20 GPM. 150 MESH STAINLESS STEEL SCREEN.
	PIPE TRANSITION POINT IN DRIP BOX PIPE TRANSITION POINT FROM PVC LATERAL TO DRIP TUBING WITH RISER IN 6IN. DRIP BOX.
	AREA TO RECEIVE DRIPLINE HUNTER HDL-09-12-CV HDL-09-12-CV: HUNTER DRIPLINE W/ 0.9 GPH EMITTERS AT 12" O.C. CHECK VALVE, DARK BROWN TUBING W/ BLACK STRIPING. DRIPLINE LATERALS SPACED AT 12" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. INSTALL WITH HUNTER PLD BARBED OR PLD-LOC FITTINGS.
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER ICV-G 1" 1", 1-1/2", 2", AND 3" PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.
BF	FEBCO 825Y 2" REDUCED PRESSURE BACKFLOW PREVENTER
C#	HUNTER P2C-400 LIGHT COMMERCIAL & RESIDENTIAL CONTROLLER, 4-STATION BASE MODULE CONTROLLER, 120 VAC, OUTDOOR/INDOOR MODEL
M#	WATER METER 1-1/2"
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21 3/4"
	IRRIGATION MAINLINE: PVC CLASS 200 SDR 21
	PIPE SLEEVE: PVC SCHEDULE 40

Valve Callout



POCKET PARKS

CITY OF MADEIRA BEACH
MADEIRA BEACH, FL.

halff
300 NORTH A ST.
BUILDING A, SUITE 120
MIDLAND, TEXAS 79705-5471
TEL (432) 253-3235

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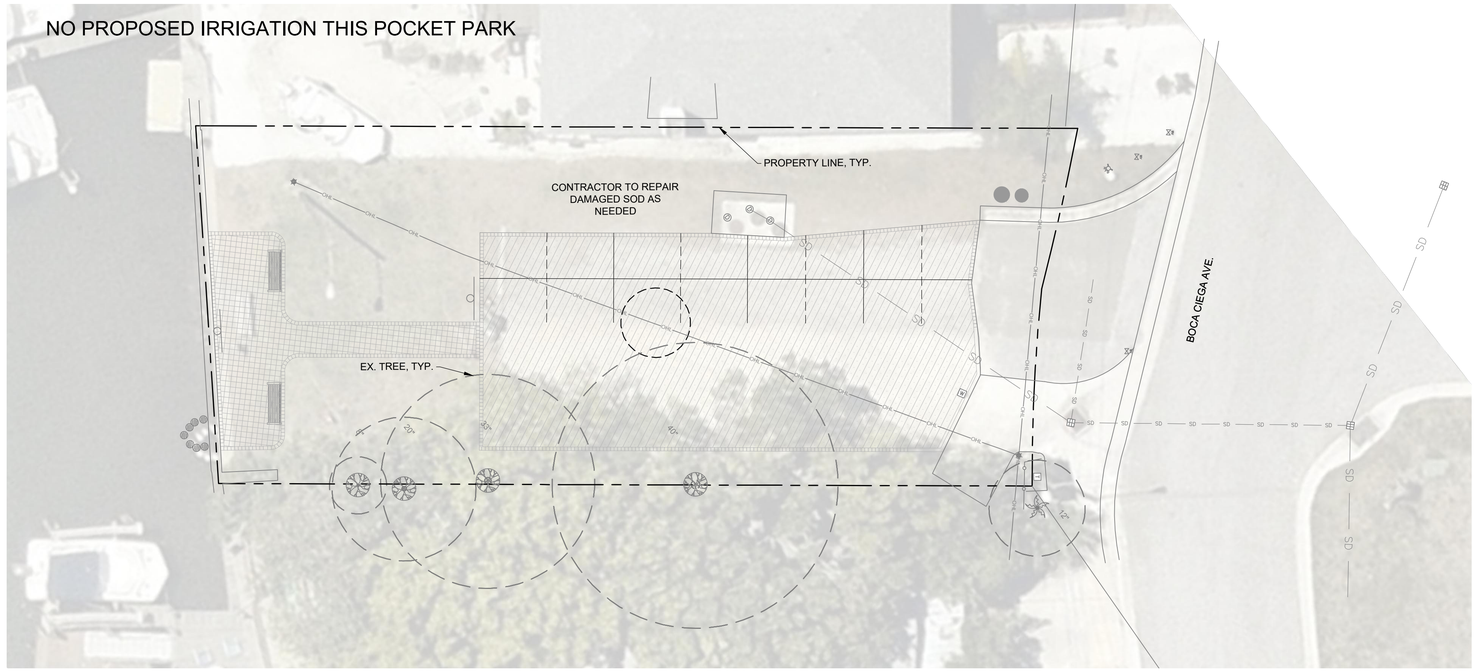
CHECKED BY:	LMD
SCALE:	1" = 10'

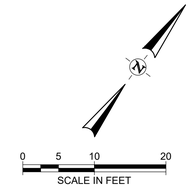
SHEET TITLE

IRRIGATION PLAN

IR-102



5 132ND AVE. EAST



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CITY OF MADEIRA BEACH
MADEIRA BEACH, FL.

halff
500 NORTH A ST.
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MIDLAND, TEXAS 79705-5471
TEL (432) 253-3255

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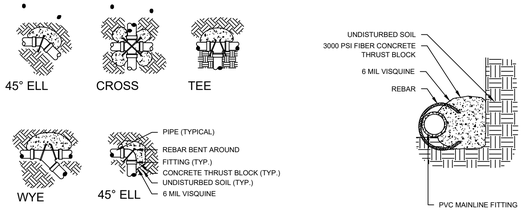
SCALE:	1" = 10'

SHEET TITLE

IRRIGATION PLAN

IR-103



NOTES:

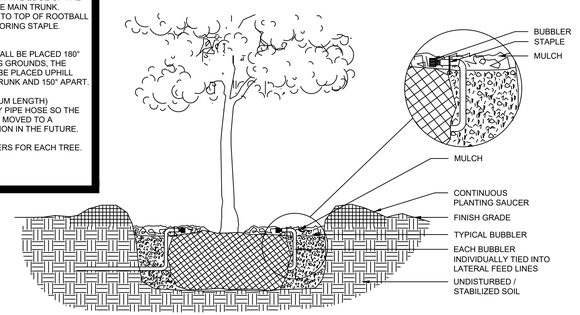
1. SUPPLY LINES 2.0 INCHES IN DIAMETER AND LARGER SHALL RECEIVE CONCRETE THRUST BLOCKS AS SPECIFIED HEREIN & AS APPLICABLE.
2. ALL CONCRETE TO BE 2800 PSI OR STRONGER.
3. ALL REBAR SHALL BE RUST-FREE.
4. FITTINGS TO BE WRAPPED IN VISQUEEN BEFORE POURING THE THRUST BLOCK.
5. CONCRETE IS NOT TO INCASE THE IRRIGATION MAINLINE

1 TYPICAL THRUST BLOCKING DETAILS

NTS

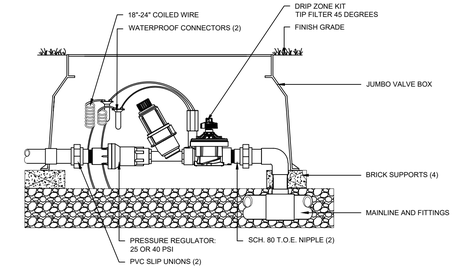
NOTES:

1. BUBBLERS ARE TO PLACED AT THE MIDPOINT BETWEEN THE EDGE OF THE ROOTBALL AND THE MAIN TRUNK. SECURE BUBBLER TO TOP OF ROOTBALL WITH A SOIL ANCHORING STAPLE.
2. THE BUBBLERS SHALL BE PLACED 180° APART, IN SLOPING GROUNDS, THE BUBBLERS SHALL BE PLACED UPHILL FROM THE TREE TRUNK AND 150° APART.
3. PROVIDE (5' MINIMUM LENGTH) SUFFICIENT FUNNY PIPE HOSE SO THE BUBBLERS CAN BE MOVED TO A DIFFERENT LOCATION IN THE FUTURE.
4. PROVIDE 2 BUBBLERS FOR EACH TREE.



2 TYPICAL BUBBLER DETAIL

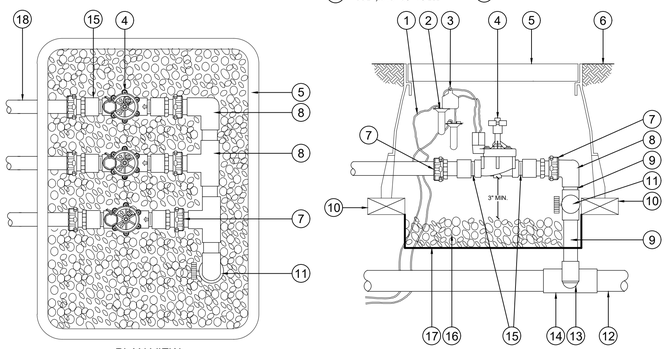
NTS



3 TYPICAL VALVE (DRIP)

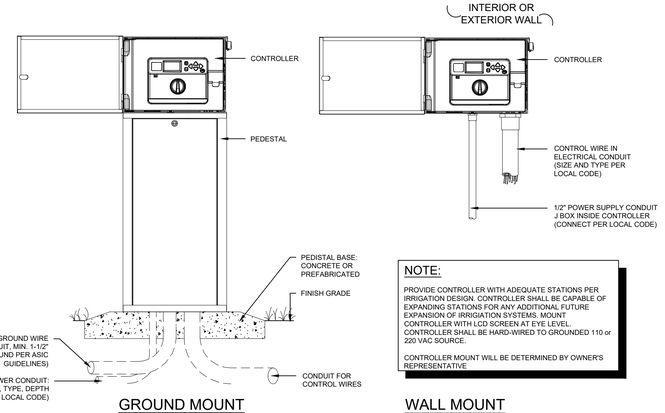
NTS

1. 6-FEET LINEAR LENGTH OF WIRE, COILED
2. WATERPROOF CONNECTION
3. ZONE ID TAG
4. CONTROL VALVE:
5. VALVE BOX
6. FINISH GRADE/TOP OF MULCH
7. PVC UNION
8. PVC SCH 40 ELL OR TEE
9. PVC SCH 80 NIPPLE
10. BRICK (1 OF 4)
11. PVC BALL VALVE
12. PVC MAINLINE PIPE
13. SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND SCH 40 ELL
14. PVC SCH 40 OR MEGALUG TEE OR ELL AS REQUIRED
15. PVC SCH 40 MALE ADAPTER
16. 3.0-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
17. MIRAFI 140NC GEOTEXTILE FABRIC
18. PVC LATERAL PIPE



4 TYPICAL VALVE MANIFOLD (BUBBLERS)

NTS



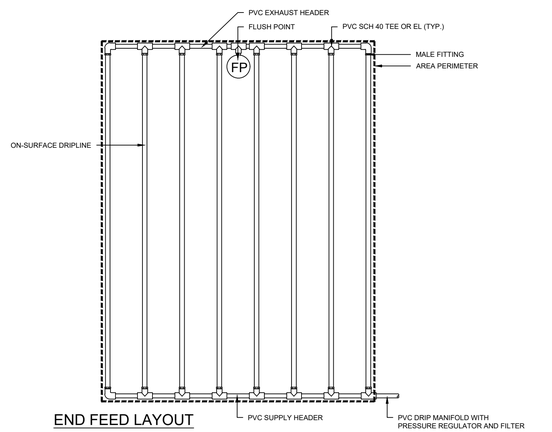
NOTE:

PROVIDE CONTROLLER WITH ADEQUATE STATIONS PER IRRIGATION DESIGN. CONTROLLER SHALL BE CAPABLE OF EXPANDING STATIONS FOR ANY ADDITIONAL FUTURE EXPANSION OF IRRIGATION SYSTEMS. MOUNT CONTROLLER WITH LCD SCREEN AT EYE LEVEL. CONTROLLER SHALL BE HARD-WIRED TO GROUNDED 110 or 220 VAC SOURCE.

CONTROLLER MOUNT WILL BE DETERMINED BY OWNER'S REPRESENTATIVE

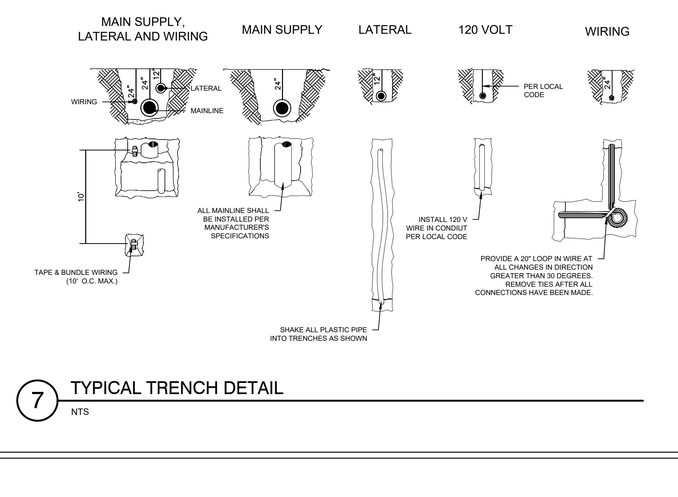
5 TYPICAL CONTROLLER

NTS



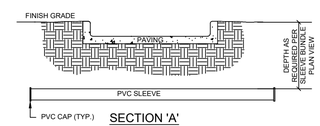
6 TYPICAL DRIPLINE LAYOUT

NTS



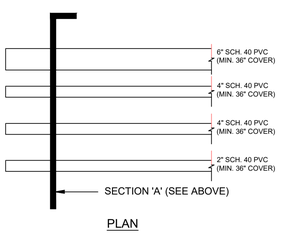
7 TYPICAL TRENCH DETAIL

NTS



NOTES:

1. TO FACILITATE FUTURE CABLE INSTALLATION, CONDUITS ARE PLACED AS STRAIGHT AS POSSIBLE WITHIN THE TRENCH.
2. WHERE CONDUIT BREAKS ARE ANTICIPATED (I.E. AT ROAD CROSSINGS WITH MEDIAN ACCESS) THE ENTIRE LENGTH SHALL BE INSTALLED AS ONE UNIT AND THEN THE BREAK SHALL BE CUT AND REMOVED.
3. SLEEVING SHALL EXTEND A MINIMUM OF 24" BEYOND EDGE OF PAVEMENT.
4. THE LOCATION OF SLEEVE ENDS SHALL BE RECORDED USING TWO PERMANENT REFERENCE POINTS AND THE APPROXIMATE DEPTH BELOW FINISH GRADE.
5. CONDUITS SHALL BE INSTALLED WITH CLEAN (BARB FREE) ENDS AND FREE OF CRACKING AND OTHER DAMAGE.
6. CONTRACTOR TO REFER TO IRRIGATION PLANS FOR SLEEVE SIZE, QUANTITY AND LOCATION



*REQUIRED CONDUIT SIZES FOR NON STANDARD SLEEVE BUNDLES.

8 SLEEVE BUNDLE

NTS

PIPE SIZE TABLE

IRRIGATION ZONE DEMAND GALLONS PER MINUTE (GPM)	MINIMUM PIPE SIZE
5-10	3/4"
11-15	1"
16-25	1-1/4"
26-32	1-1/2"
33-52	2"
53-75	2-1/2"
76-110	3"

REFER TO EACH IRRIGATION ZONE ON PLAN DRAWINGS FOR ZONE GPM

ALL PIPE SHALL BE SIZED SO AS NOT TO EXCEED 5 FPS

8 PIPE SIZE TABLE

NTS

POCKET PARKS

CITY OF MADEIRA BEACH
MADEIRA BEACH, FL.

halff
300 NORTH A ST.
BUILDING A, SUITE 120
MIDLAND, TEXAS 79705-5471
TEL (432) 253-3255

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SHEET TITLE

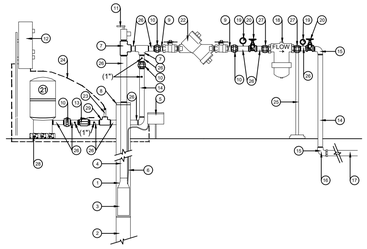
IRRIGATION DETAILS

IR-501

NOTE:

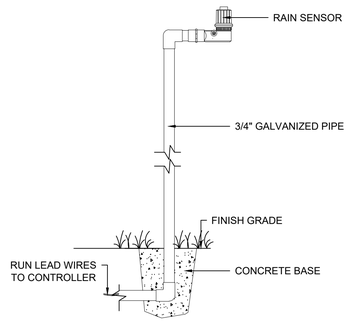
ALL SIZES AND CAPACITIES SHOWN FOR INFORMATIONAL PURPOSES ONLY.

* ALL PIPING SHALL BE SIZED TO MATCH IRRIGATION MAINLINE UNLESS OTHERWISE NOTED. ABOVE GROUND PIPE SHALL BE GALVANIZED, BELOW GROUND PIPE SHALL BE CLASS 200 PVC.

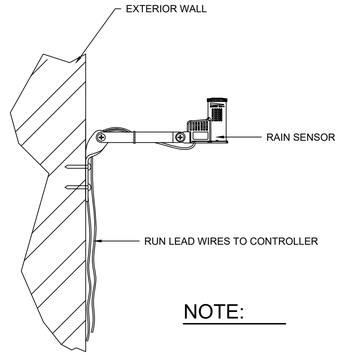


LEGEND

1. 4" OR 5" WELL CASING
2. OPEN HOLE (DEPTH TBD)
3. SUBMERSIBLE PUMP WITH THREE PHASE MOTOR (CONTRACT SHALL DETERMINE APPROPRIATE PUMP CAPABILITIES)
4. DROP PIPE (GALV. SCH 40)
5. JUNCTION BOX
6. SUBMERSIBLE CABLE
7. GALVANIZED TEE
8. WELL SEAL
9. 2" DIELECTRIC NIPPLE
10. GALVANIZED UNION
11. CLA-VAL #55F PRESSURE RELIEF VALVE (3/4")
12. CONTROL PANEL
13. (1") BRASS BALL VALVE
14. GALVANIZED PIPE
15. GALVANIZED ELBOW
16. PVC ADAPTER
17. IRRIGATION MAINLINE (SIZE AS PER PLANS)
18. 2" AMIAD SUPER T 100 MESH FILTER
19. 280 PSI PRESSURE GAUGE (LIQUID FILLED)
20. GATE VALVE
21. 20-GALLON PRESSURE TANK (ABOVE GROUND)
22. BACKFLOW DEVICE PER LOCAL CODE
23. PRESSURE TRANSDUCER (INCLUDED IN SPD PACKAGE)
24. TRANSDUCER CABLE (INCLUDED WITH TRANSDUCER)
25. PIPE SUPPORTS, (2) REQUIRED FOR LARGE PIPE AND (1) FOR 2" PIPE
26. GALVANIZED NIPPLE
27. SCHEDULE 80 PVC UNION
28. THREE PHASE POWER FROM VFD TO MOTOR
29. 1" X 1/2" GALVANIZED TEE



GROUND MOUNT



WALL MOUNT

NOTE:

1 TYPICAL IRRIGATION WELL AND VFD PUMP STATION

NTS

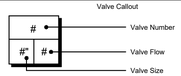
2 TYPICAL RAIN SENSOR

NTS

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
△ 25 ⊠ 50 △ 10 □ 20	HUNTER PCB FLOOD BUBBLER, 1/2IN. FIPT.	7	20
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	
	HUNTER ICZ-101-25 1" DRIP CONTROL ZONE KIT. 1IN. ICV GLOBE VALVE WITH 1IN. HY100 FILTER SYSTEM. PRESSURE REGULATION: 25PSI. FLOW RANGE: 2 GPM TO 20 GPM. 150 MESH STAINLESS STEEL SCREEN.	5	
	PIPE TRANSITION POINT IN DRIP BOX PIPE TRANSITION POINT FROM PVC LATERAL TO DRIP TUBING WITH RISER IN 6IN. DRIP BOX.	9	
	AREA TO RECEIVE DRIPLINE HUNTER HDL-09-12-CV HDL-09-12-CV: HUNTER DRIPLINE W/ 0.9 GPH EMITTERS AT 12" O.C. CHECK VALVE, DARK BROWN TUBING W/ BLACK STRIPING. DRIPLINE LATERALS SPACED AT 12" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. INSTALL WITH HUNTER PLD BARBED OR PLD-LOC FITTINGS.	416.1 S.F.	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	
	HUNTER ICV-G 1" 1", 1-1/2", 2", AND 3" PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.	4	
BF	FEBCO 825Y 2" REDUCED PRESSURE BACKFLOW PREVENTER	5	
C#	HUNTER P2C-400 LIGHT COMMERCIAL & RESIDENTIAL CONTROLLER, 4-STATION BASE MODULE CONTROLLER, 120 VAC, OUTDOOR/INDOOR MODEL	5	
M#	WATER METER 1-1/2"	1	
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21 3/4"	857.7 L.F.	
	IRRIGATION MAINLINE: PVC CLASS 200 SDR 21	25.3 L.F.	
	PIPE SLEEVE: PVC SCHEDULE 40	28.0 L.F.	

Valve Callout



VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	WIRE	PSI	PSI @ POC	PRECIP
1	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	0.98		18.1		1.44 in/h
2	HUNTER ICV-G	1"	BUBBLER	0.5		22.0		1.7 in/h
3	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	1.04		18.1		1.44 in/h
4	HUNTER ICV-G	1"	BUBBLER	0.5		22.0		1.7 in/h
5	HUNTER ICZ-101-25	1"	BUBBLER	1		23.0		1.7 in/h
6	HUNTER ICV-G	1"	AREA FOR DRIPLINE	1.19		17.1		1.44 in/h
7	HUNTER ICV-G	1"	BUBBLER	1.5		22.2		1.71 in/h
8	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	2.06		18.3		1.45 in/h
9	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	1.11		18.0		1.44 in/h
	Common Wire				25.3			

CRITICAL ANALYSIS

Water Source Information:

FLOW AVAILABLE
Point of Connection Size: 3"
Flow Available 181.94 GPM

PRESSURE AVAILABLE
Static Pressure at POC: 65 PSI
Pressure Available: 65 PSI

DESIGN ANALYSIS
Maximum Station Flow: 100 GPM
Flow Available at POC: 181.94 GPM
Residual Flow Available: 81.94 GPM

Pressure Req. at Critical Station: 0 PSI
Loss for Fittings: 0 PSI
Loss for Main Line: 0 PSI
Loss for POC to Valve Elevation: 0 PSI
Loss for Backflow: 0 PSI
Critical Station Pressure at POC: 0 PSI
Pressure Available: 65 PSI
Residual Pressure Available: 65 PSI

GENERAL IRRIGATION NOTES:

1. SCOPE OF WORK: THE WORK CONSISTS OF THE PREPARATION OF DESIGN DOCUMENTS AND INSTALLING A COMPLETE UNDERGROUND IRRIGATION SYSTEM, INCLUDING THE FURNISHING OF ALL LABOR, EQUIPMENT, PERMITS, MATERIALS, AND THE PERFORMANCE OF ALL OPERATIONS IN CONNECTION WITH THE CONSTRUCTION OF THE IRRIGATION SYSTEM. IT SHALL INCLUDE FURNISHING AND INSTALLING ALL PLASTIC AND GALVANIZED STEEL PIPE AND FITTINGS, AUTOMATIC CONTROL VALVES, RAIN / MOISTURE SENSING DEVICES, PRESSURE RELIEF VALVES, CHECK VALVES, VALVE ACCESS BOXES, SPRINKLER HEADS, ELECTRIC CONTROLLERS, FLOAT SWITCHES, ELECTRIC WIRE, PUMPS, PUMP INTAKE AND SUCTION SYSTEM, NECESSARY MOTOR STARTERS, RELAYS, ETC., AS CALLED FOR IN THESE SPECIFICATIONS, OR AS MAY BE REQUIRED FOR PROPER OPERATION OF THE SYSTEM.
2. POINT OF CONNECTION SHALL BE A PUMP AND WELL, SPECIFIC LOCATION TO BE IDENTIFIED BY OWNER'S REPRESENTATIVE
3. LIMITS OF IRRIGATION: PROVIDE 100% COVERAGE OF ALL PREPARED PLANTING BEDS AS SHOWN ON THE DRAWINGS WITH TREES, SHRUBS, AND GROUNDCOVERS. TREES ISOLATED IN LAWN AREAS SHALL BE PROVIDED WITH A BUBBLER AND ZONED INDEPENDENTLY. SOD AND/OR SEEDED AREAS AS IDENTIFIED IN PLANTING PLANS ARE INTENDED TO BE PROVIDED WITH 100% IRRIGATION COVERAGE.
4. IRRIGATION TO MEET CITY OF NEW PORT RICHEY IRRIGATION STANDARDS AS WELL AS ANY OTHER APPLICABLE MUNICIPAL AND STATE LAWS AND RULES AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK. THESE LAWS, RULES, AND REGULATIONS ARE HEREBY INCORPORATED INTO, AND MADE A PART OF THESE SPECIFICATIONS, AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE IRRIGATION SUBCONTRACTOR. ANYTHING CONTAINED IN THESE SPECIFICATIONS SHALL NOT BE CONSTRUED TO CONFLICT WITH ANY OF THE ABOVEMENTIONED RULES, REGULATIONS OR REQUIREMENTS, AND SHOULD A CONFLICT OCCUR, THE RULES OR REQUIREMENTS OF THE GOVERNING CODE SHALL BE ADHERED TO. HOWEVER, WHEN THESE SPECIFICATIONS CALL FOR OR DESCRIBE MATERIALS, WORKMANSHIP, OR CONSTRUCTION OF A BETTER QUALITY, HIGHER STANDARD OR LARGER SIZE, THESE SPECIFICATIONS AND/OR APPROVED DRAWINGS SHALL TAKE PRECEDENCE OVER THE REQUIREMENTS OF SAID RULES, REGULATIONS OR CODES.
5. ANY PERMITS FOR THE INSTALLATION OR CONSTRUCTION OF ANY OF THE WORK INCLUDED UNDER THIS CONTRACT, WHICH ARE REQUIRED BY ANY OF THE LEGALLY CONSTITUTED AUTHORITIES HAVING JURISDICTION, SHALL BE OBTAINED AND PAID FOR BY THE IRRIGATION SUBCONTRACTOR. PRIOR TO COMMENCEMENT OF HIS OPERATIONS ON SITE. COPIES OF PERMIT SHALL BE SENT TO OWNER'S REPRESENTATIVE.
6. DESIGN PLANS: THE LANDSCAPE IRRIGATION SUBCONTRACTOR SHALL SUBMIT DESIGN DRAWINGS FOR REVIEW AND APPROVAL 35 DAYS PRIOR TO INSTALLATION TO THE RLA. DRAWINGS SHALL BE LEGIBLE AND PREPARED AT A SCALE SUITABLE FOR CONSTRUCTION. PLANS SHALL INCLUDE LEGEND, WATER SOURCE, POINT(S) OF CONNECTION, DESIGN OPERATING PRESSURE, AND FLOW RATE PER ZONE, AVERAGE APPLICATION RATE PER ZONE IN GALLONS PER MINUTE, WATERING SCHEDULE, LOCATIONS OF PIPE AND SLEEVES WITH SIZES INDICATED, CONTROLLERS, VALVES, SPRINKLERS, BACKFLOW PREVENTION DEVICE, ELECTRICAL SUPPLY, ROADWAYS, SIDEWALKS, STRUCTURES AND OTHER RELEVANT SITE CONDITIONS.
7. PRIOR TO PURCHASING, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL PROPOSED MATERIALS INCLUDING BUT NOT LIMITED TO PUMP, WELL, BACKFLOW PREVENTER, CONTROLLER, PIPE, FITTINGS, SLEEVES, VALVES, ETC.
8. HEAD PLACEMENT SHOULD ALWAYS BE DONE WHILE TAKING INTO CONSIDERATION.
   a. WHAT IS THE BEST FOR THE GROWTH AND MAINTENANCE OF THE PLANT MATERIAL.
   b. MAINTAINING A CONSTANT AND EVEN DISTRIBUTION AND PRECIPITATION RATE.
   c. THE SPACING BETWEEN HEADS SHALL NOT EXCEED 50% OF THE DIAMETER FOR HEADS SPACED ON A SQUARE PATTERN OR 60% OF THE DIAMETER FOR HEADS SPACED ON A TRIANGULAR PATTERN.
9. AUTOMATIC CONTROL TIMER, PUMP/WELL ASSEMBLY, BACKFLOW PREVENTER, AND RAIN SENSOR LOCATIONS TO BE VERIFIED WITH OWNER'S REPRESENTATIVE.
10. FIELD ALTERATIONS MADE IN THE IRRIGATION CONTRACT DRAWING MUST BE IN THE BEST INTEREST OF THE PLANT MATERIAL AND LANDSCAPE IRRIGATION SYSTEM. CHANGES MADE BY THE IRRIGATION CONTRACTOR WHICH ARE DEEMED, BY THE OWNER AND/OR OWNER'S REPRESENTATIVE, NOT TO BE IN CONFORMITY WITH THIS CRITERIA WILL BE REMOVED AND REPLACED AT THE IRRIGATION CONTRACTOR'S EXPENSE. IF A QUESTION SHOULD ARISE AS TO THE BEST WAY TO COMPLETE A FIELD ALTERATION, CONTACT OWNER'S REPRESENTATIVE FOR APPROVAL.
11. THE CONTRACTOR SHALL STAKE OUT THE LOCATION OF EACH RUN OF PIPE, DRIP IRRIGATION ARRAYS AND VALVES PRIOR TO TRENCHING. TRENCHES FOR PIPE SHALL BE CUT TO REQUIRED GRADE LINES, AND COMPACTED TO PROVIDE ACCURATE GRADE AND UNIFORM BEARING FOR THE FULL LENGTH OF THE LINE. THE BOTTOM OF TRENCHES SHALL BE FREE OF ROCK OR OTHER SHARP EDGED OBJECTS. MINIMUM COVER SHALL BE AS FOLLOWS: PRESSURE MAINLINE 24" AT TOP OF THE PIPE TO FINISH GRADE. LATERAL PIPING 12" AT TOP OF PIPE FROM FINISH GRADE. SLEEVING UNDER ROADWAY 36" AT TOP OF PIPE FROM FINISH GRADE.
12. THE IRRIGATION AND LANDSCAPE CONTRACTORS SHALL COORDINATE THE PLACEMENT OF THE IRRIGATION EQUIPMENT AND LANDSCAPE MATERIAL WITHIN THE PLANTED AREA. THE IRRIGATION CONTRACTOR SHALL INSTALL HIS MATERIAL AT THE EDGE OF THE PLANTED AREAS AVOIDING PLANTS, ROOT BALLS, LIGHTS, BOLLARDS, FENCES, ETC.
13. OPEN CUTS IN ASPHALT AND WALKS ARE NOT PERMITTED. TRENCHES MUST BE PROTECTED FROM VEHICLE AND PEDESTRIAN TRAFFIC AT ALL TIMES. IT WILL BE THE IRRIGATION CONTRACTOR'S RESPONSIBILITY TO BARRICADE AND DIVERT TRAFFIC. ALL TRENCHES SHALL BE CLOSED AT THE END OF EACH WORKDAY.
14. SLEEVES UNDER ROADWAYS AND SIDEWALKS ARE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR AND SHALL BE INSTALLED, IF POSSIBLE, PRIOR TO ANY PAVING. SLEEVING DEPTH TO BE A MINIMUM OF 36" FROM TOP OF PIPE TO FINISHED GRADE BELOW ALL ROADWAYS. SLEEVING BENEATH SIDEWALKS SHALL BE LOCATED AND PROVIDED BY THE IRRIGATION CONTRACTOR. SLEEVING SIZES TO BE INSTALLED PER PLANS OR TWO TIMES LARGER THAN THE PIPE TO BE PLACED INSIDE THE SLEEVE, WHICHEVER IS GREATER. SLEEVING MATERIAL TO BE SCHEDULE 40 PVC. SLEEVE ALL WIRE CROSSINGS EITHER IN CONDUIT OR IN SCHEDULE 40 PVC PIPE (IF CONTROL WIRE IS DIRECT BURIAL).
15. ALL TRENCHES WITHIN FIFTEEN FEET (15') OF EXISTING TREES TO BE HAND EXCAVATED TO AVOID CONFLICTS WITH TREES.
16. NO ROOTS SHALL BE CUT WITHIN A FIFTEEN FOOT (15') RADIUS OF ALL EXISTING TREES. IRRIGATION PIPES AND CONDUIT SHOULD BE DIRECTIONAL BORED WITHIN THIS AREA.
17. CONTRACTOR SHALL COORDINATE ELECTRICAL AND WATER REQUIREMENTS AND POINT OF CONNECT WITH OWNER'S REPRESENTATIVE.
18. ALL PIPE SHALL BE SIZED SO AS NOT TO EXCEED 5 FPS.
19. INITIAL BACKFILL ON PVC LINE SHALL BE PULVERIZED NATIVE SOIL, FREE OF FOREIGN MATTER. SOIL OR SAND WITHIN 4" OF UNDERGROUND PIPING SHALL BE CLEAN. PLANT LOCATIONS SHALL TAKE PRECEDENCE OVER SPRINKLER AND PIPE LOCATIONS. THE CONTRACTOR SHALL COORDINATE THE PLACING OF THE SPECIMEN TREES AND SHRUBS WITH THE ROUTING OF LINES AND FINAL HEAD LOCATIONS.
20. RECORD DRAWINGS: AFTER FINAL ACCEPTANCE OF THE COMPLETED INSTALLATION, THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION OF COMPLETE, REPRODUCIBLE, RECORD DRAWINGS FOR SUBMITTAL TO THE OWNER. PLANS SHALL INCLUDE ANY FIELD CHANGES OR DEVIATIONS FROM THE ORIGINAL, APPROVED DESIGN DOCUMENTS WITH TWO SCALED POINTS OF REFERENCE FOR EACH ITEM.
21. CONTRACTOR SHALL SUPPLY ZONE MAP, PRECIPITATION RATES, ANY KEYS, OPERATING MANUALS, WARRANTIES, COPY OF THE CONTROLLER SCHEDULE, AND EXACT EQUIPMENT PARTS BREAKOUTS WITH MODEL NUMBERS, ETC IN A 3-RING BINDER TO OWNER'S REPRESENTATIVE UPON COMPLETION OF THE PROJECT.
22. THE DRAWINGS ARE TO BE CONSIDERED DIAGRAMMATIC. THE LOCATIONS OF THE EQUIPMENT SHALL BE COORDINATED IN THE FIELD, AND ADJUSTED AS NECESSARY TO AVOID CONFLICTS, AND TO REACT TO FIELD VARIABLES. DUE TO SMALL SCALE OF DRAWINGS, IT IS OFTEN NECESSARY TO SHOW PIPING OR OTHER ELEMENTS OUTSIDE RIGHTS-OF-WAY OR IN PAVEMENT AREAS. THE INSTALLATION OF ALL PIPING AND OTHER EQUIPMENT SHALL BE IN PERVIOUS AREAS AND WITHIN RIGHTS-OF-WAY UNLESS IT IS SPECIFICALLY NOTED TO THE CONTRARY.

ELECTRICAL SUPPORT FOR LANDSCAPE IRRIGATION SYSTEM:

1. FURNISH ALL LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS REQUIRED AND INSTALL, PLACE IN OPERATION AND FIELD TEST ALL OPERATIONS IN CONNECTION WITH THE INSTALLATION OF THE ELECTRICAL FACILITIES REQUIRED FOR CONTROL WIRING FOR THE UNDERGROUND ELECTROMECHANICALLY CONTROLLED IRRIGATION SYSTEM, COMPLETE, AND IN STRICT ACCORDANCE WITH THIS SECTION OF THE SPECIFICATIONS, THE APPLICABLE DRAWINGS, AND SUBJECT TO THE TERMS AND CONDITIONS OF THE CONTRACT.
2. THE CONTROLLERS FOR THE IRRIGATION VALVES SHALL BE INSTALLED AND WIRED, COMPLETE UNDER THIS SECTION. THE ELECTRICAL CONTRACTOR SHALL BRING WIRING AND CONNECTIONS TO A LOCATION APPROVED BY THE OWNER'S REPRESENTATIVE FOR THE CONTROL PANEL(S), AND SHALL PROVIDE 110 VOLT CONNECTION FROM THE POWER SOURCE TO THE CONTROLLERS. (THE LOW VOLTAGE CONTROL WIRING SHALL BE RUN UNDERGROUND TO THE RESPECTIVE REMOTE VALVES BY THE IRRIGATION CONTRACTOR).
3. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CONNECTING AND VERIFYING THE IRRIGATION CONTROLLERS TO BE OPERATIONAL. THE IRRIGATION CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR PROVIDING A FULLY OPERATIONAL SYSTEM.
4. THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH THE IRRIGATION CONTRACTOR, GENERAL CONTRACTOR AND OTHER SUB-CONTRACTORS.
5. QUALITY ASSURANCE: ALL WORK SHALL BE PERFORMED BY AN ELECTRICIAN LICENSED IN THE STATE OF FLORIDA AND ALL WORK SHALL COMPLY WITH APPLICABLE NFPA REQUIREMENTS.
6. MATERIALS: ALL MATERIALS FURNISHED UNDER THIS CONTRACT SHALL BE NEW AND SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
   a. UNDERGROUND CONDUIT: SHALL BE RIGID SCHEDULE 80 PVC, EQUAL TO TYPE 80 HEAVY WALL RIGID PVC-CONDUIT SIZED TO PROVIDE EASY WIRE PULL WITH A MIN. 1 INCH INSIDE DIAMETER. ALL JOINTS SHALL BE SOLVENT WELDED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER. CONDUIT FITTINGS, ELBOWS, SWEEPS AND CEMENT SHALL BE PRODUCED BY THE SAME MANUFACTURER.
      1. CONDUIT FOR 120 AND 277 VOLT CIRCUITS SHALL BE SCHEDULE 80 ELECTRICAL CONDUIT.
      2. RIGID METAL CONDUIT: EXPOSED CONDUIT SHALL BE GALVANIZED RIGID METAL CONDUIT INSTALLED WITH CAST METAL FITTINGS.
   b. CONDUCTORS FOR LOW VOLTAGE CONTROL CIRCUITS (BELOW 24V): ALL WIRING USED FOR INTERCONNECTING THE AUTOMATIC REMOTE CONTROL VALVES FOR IRRIGATION WITH THE AUTOMATIC CONTROLLERS SHALL BE SINGLE STRANDED OR SOLID COPPER CONDUCTORS WITH TYPE UF, 600 VOLT INSULATION WHICH SHALL BEAR THE UL APPROVAL FOR DIRECT UNDERGROUND BURIAL FEEDER CABLE.
   c. INSULATION SHALL BE 4/64 INCH THICK MINIMUM COVERING OF AN APPROVED THERMOPLASTIC COMPOUND FOR POSITIVE WATERPROOF PROTECTION OF SIZE 12 THROUGH AND INCLUDING SIZE 10 AWG.
   d. WIRE CONNECTORS: CONNECTIONS TO REMOTE CONTROL IRRIGATION VALVES AND ALL SPLICES IN THE WIRING FOR SUCH VALVES SHALL BE MADE WITH WATERPROOF CONNECTORS AND SEALING CEMENT EQUAL TO RAIN BIRD SNAP-TITE CONNECTORS, MODEL ST-03.
   e. ALL VALVE CONTROL WIRES SHALL BE MINIMUM NO. 14 GAUGE UF, AND ALL COMMON GROUND WIRES SHALL BE MINIMUM NO. 14 GAUGE UF, COLOR CODED USING WHITE. ALL CONTROL WIRING SHALL BE COLOR CODED USING WHITE FOR THE COMMON WIRE AND SELECTED COLORS FOR THE CONTROL WIRES. GREEN COLOR WIRE SHALL NOT BE USED. ALL SPLICE CONNECTIONS SHALL BE MADE IN A JUNCTION BOX AND PULL BOX MARKED ON SHOP DRAWINGS FOR ACCESSIBILITY. ALL AREAS OF 90 DEGREE TURNS SHALL BE MADE WITH ELECTRICAL SWEEP ELBOWS.
   f. MISCELLANEOUS DEVICES: MISCELLANEOUS FITTINGS AND DEVICES NOT COVERED IN THE ABOVE SPECIFICATIONS SHALL BE AS REQUIRED FOR A COMPLETE INSTALLATION.

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SUNSHINE STATE ONE CALL OF FLORIDA, INC.

POCKET PARKS

CITY OF MADEIRA BEACH
MADEIRA BEACH, FL.

halff
300 NORTH A ST.
BUILDING A, SUITE 120
MIDLAND, TEXAS 79705-5471
TEL (432) 253-3235

REVISION NO.	DATE	DESCRIPTION

PRELIMINARY
FOR INTERIM REVIEW ONLY

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT INTENDED FOR REGULATORY APPROVAL, PERMIT, BIDDING OR CONSTRUCTION PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:

MARTIN STEFFEN, PLA — 6667386
NAME — LICENSE NO.
7/3/2024
DATE
26000636 — FL
FIRM / BUSINESS NO. — STATE

PROJECT NO.:	38545.001
ISSUED:	OCTOBER 2023
DRAWN BY:	IG
CHECKED BY:	LMD
SCALE:	1" = 10'

SHEET TITLE
IRRIGATION DETAILS AND NOTES

IR-502

FILE NAME: A:\38000s\38545\00\1\LA\CADD\Sheets\L-DTLS-IRRI-38454.001.dwg DATE: July 3, 2024, TIME: 1:26 PM, USER: ah4598

BOUNDARY/TOPOGRAPHIC SURVEY

THE MAP AND REPORT ARE NOT FULL AND COMPLETE WITHOUT THE OTHER.

SURVEYOR'S REPORT

ACCURACY:

1. ALL MEASUREMENTS, DISTANCES, ELEVATIONS (IF SHOWN) AND FEATURES WERE PERFORMED IN STRICT ACCORDANCE WITH THE MINIMUM STANDARDS OF PRACTICE SET FORTH IN CHAPTER 5J-17 FLORIDA ADMINISTRATIVE CODE (5J-17FAC).
2. METHODS FOR ALL CONTROL MEASUREMENTS WERE MADE WITH A TRANSIT AND STEEL TAPE, OR DEVICES WITH EQUIVALENT OR HIGHER DEGREES OF ACCURACY.
3. THE ACCURACY STANDARD USED FOR THIS SURVEY, AS CLASSIFIED IN THE MINIMUM STANDARDS OF PRACTICE (5J-17 FAC), IS "COMMERCIAL/HIGH RISK". THE MINIMUM RELATIVE DISTANCE ACCURACY FOR THIS TYPE OF SURVEY IS 1 FOOT IN 10,000 FEET. THE ACCURACY OBTAINED BY MEASUREMENT AND CALCULATION OF A CLOSED GEOMETRIC FIGURE MET THIS REQUIREMENT.

DATA SOURCES:

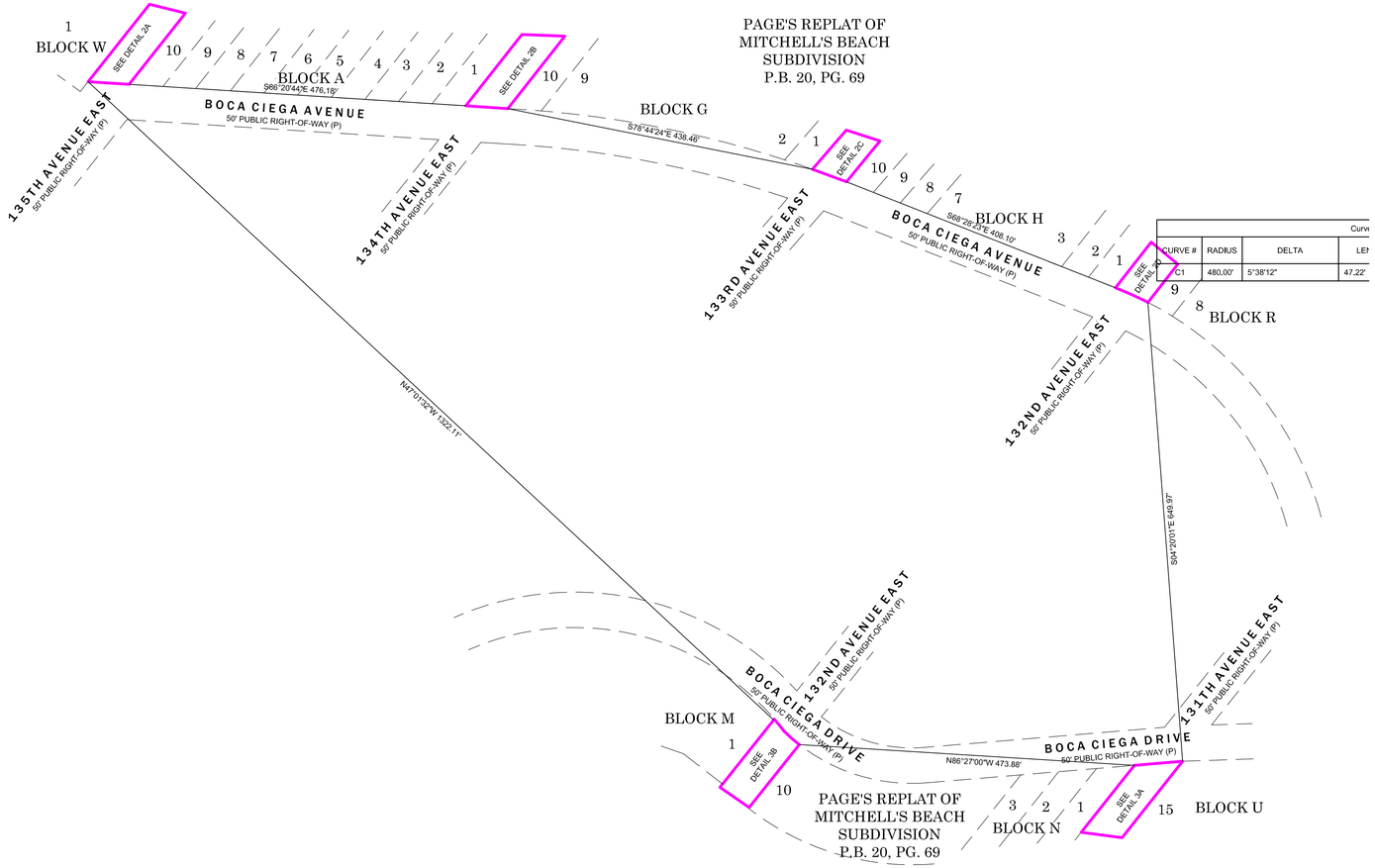
1. BASIS OF BEARINGS IS THE FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM, 1983 ADJUSTMENT.
2. PLAT OF PAGE'S REPLAT OF MITCHELL'S BEACH SUBDIVISION, RECORDED IN PLAT BOOK 69, PAGE 20, OF THE PUBLIC RECORDS OF PINELLAS COUNTY, FLORIDA.

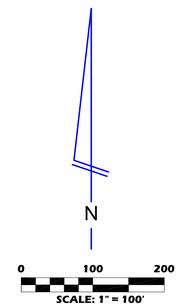
LIMITATIONS:

1. PURPOSE OF SURVEY:
2. USE OF THIS SURVEY BY ANYONE OTHER THAN THOSE PREPARED FOR / CERTIFIED TO, WILL BE THE RE-USERS SOLE RISK WITHOUT LIABILITY TO THE SURVEYOR.
3. ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.
4. THERE MAY BE ITEMS DRAWN OUT OF SCALE AND / OR MOVED ON THE MAP OF SURVEY TO GRAPHICALLY SHOW THEIR LOCATION. PRINTED DIMENSIONS SHOWN ON THE SURVEY SUPERSEDE SCALED DIMENSIONS.
5. UNDERGROUND FOUNDATIONS AND THEIR LOCATIONS HAVE NOT BEEN DETERMINED.
6. IRRIGATION EQUIPMENT AND / OR THEIR APPURTENANCES HAVE NOT BEEN MAPPED.
7. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A COMMITMENT FOR TITLE INSURANCE, THERE MAY EXIST ADDITIONAL EASEMENTS AND/OR RESTRICTIONS THAT CAN BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY.
8. ONLY THE UNDERGROUND UTILITIES AND / OR THEIR APPURTENANCES WHICH WERE READILY APPARENT FROM GROUND LEVEL TO THE SURVEYOR ON THE ACTUAL DAY OF THE FIELD SURVEY WERE LOCATED, NO EXCAVATIONS OR SUBSURFACE WORK EFFORTS OF ANY KIND WERE PERFORMED BY THE SURVEYOR TO VERIFY THE EXISTENCE OF ANY UNDERGROUND UTILITIES AND / OR THEIR APPURTENANCES, THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES AND / OR THEIR APPURTENANCES SHOWN, COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED.
9. THERE MAY BE ADDITIONAL UTILITY STRUCTURES (DRAINAGE, SANITARY, ELECTRIC, COMMUNICATIONS, ETC.) THAT WERE NOT READILY APPARENT AT THE TIME OF THE SURVEY.

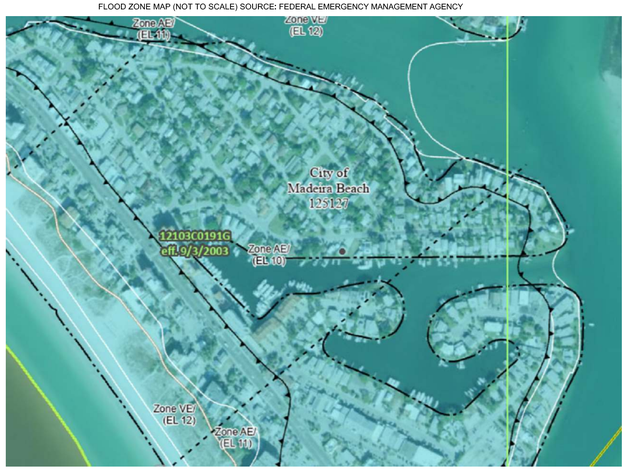
BOUNDARY INCONSISTENCIES:

1. ANY ANGULAR AND/OR DIMENSIONAL DISCREPANCIES BETWEEN THE DESCRIPTION AND THE FIELD LOCATED OCCUPATION BOUNDARY CORNERS, AND BOUNDARY CORNERS WITH MULTIPLE BOUNDARY MONUMENTS ALONG WITH THEIR CORRESPONDING QUADRANT DIRECTIONAL MISSES, ARE SHOWN ON THE MAP OF SURVEY. ALL PERIMETER BEARINGS AND DISTANCES ARE BY FIELD MEASURED UNLESS SO NOTED.





FLOOD ZONE MAP (NOT TO SCALE) SOURCE: FEDERAL EMERGENCY MANAGEMENT AGENCY



REVISIONS

#	DATE	DETAILS
1		

BULLSEYE SURVEYING, INC.

LB 7818
4590 ULMERTON RD,
SUITE 115
CLEARWATER, FL 33762
PHONE: 727-475-8088
FAX: 727-264-0457

PARCEL INFORMATION:
SECTION 15, TOWNSHIP 31 SOUTH, RANGE 15 EAST
HILLSBOROUGH COUNTY, FLORIDA

ABBREVIATIONS

DENOTES

FIR=FOUND IRON REBAR (SIZE AS NOTED)
FDH=FOUND DRILL HOLE
FN=FOUND NAIL
FN&D=FOUND NAIL & DISK
FOP=FOUND OPEN PIPE
LB=LICENSED BUSINESS
OR=OFFICIAL RECORDS BOOK
PB=PLAT BOOK
PG=PAGE
PLS=PROFESSIONAL LICENSED SURVEYOR
PLS=PROFESSIONAL LICENSED SURVEYOR
PSM=PROFESSIONAL SURVEYOR AND MAPPER
PVC=POLYVINYL CHLORIDE
RCP=REINFORCED CONCRETE PIPE
RLS=REGISTERED LICENSED SURVEYOR
SIR=SET 1/2" REBAR AND CAP BULLSEYE CONTROL POINT
SND=SET NAIL AND DISK LB 7818
TBM=TEMPORARY BENCHMARK

SYMBOL LEGEND

DENOTES

BOLLARD
DRAINAGE MANHOLE
ELECTRIC EQUIPMENT
FIRE HYDRANT
FLAG POLE
GRATE INLET
GUY ANCHOR
LIGHT POLE(WOOD)
MAIL BOX
RECLAIMED WATER METER
SANITARY VALVE
SIGN
TREE(OTHER)
TREE(PALM)
TELEPHONE EQUIPMENT
WATER METER
WATER VALVE
WOOD UTILITY POLE

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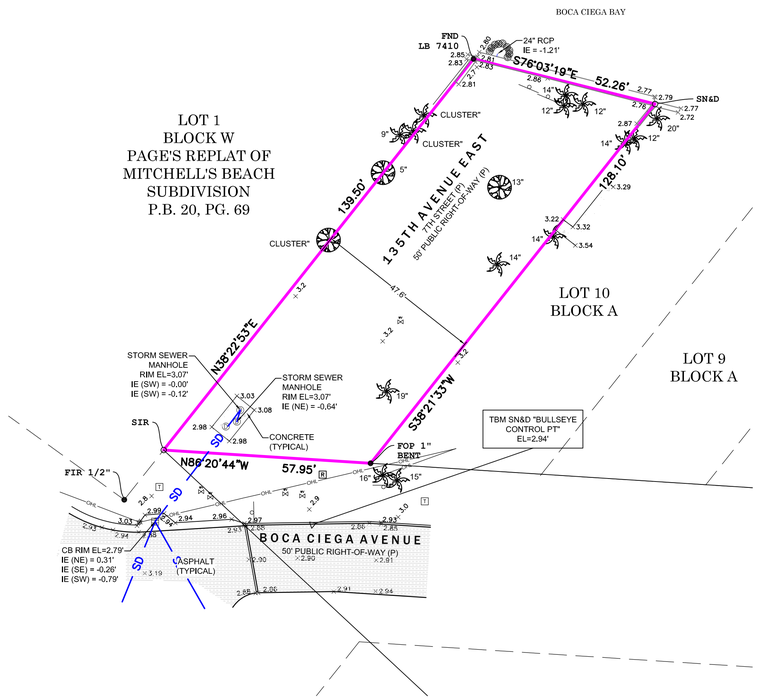
•

GEORGE R. MARTIN
PROFESSIONAL SURVEYOR & MAPPER
LICENSE NUMBER LS 6019
STATE OF FLORIDA

FIELD BOOK / PAGE	SCALE	SHEET NUMBER
32/10-17	1" = 100'	1 of 3
DRAFTED BY	SURVEY FIELD DATE	
VPL	07/03/2023	
PROJECT NUMBER	FILE NAME	
23-033	23-033-1.dwg	

BOUNDARY/TOPOGRAPHIC SURVEY
THE MAP AND REPORT ARE NOT FULL AND COMPLETE WITHOUT THE OTHER.

DETAIL 2A



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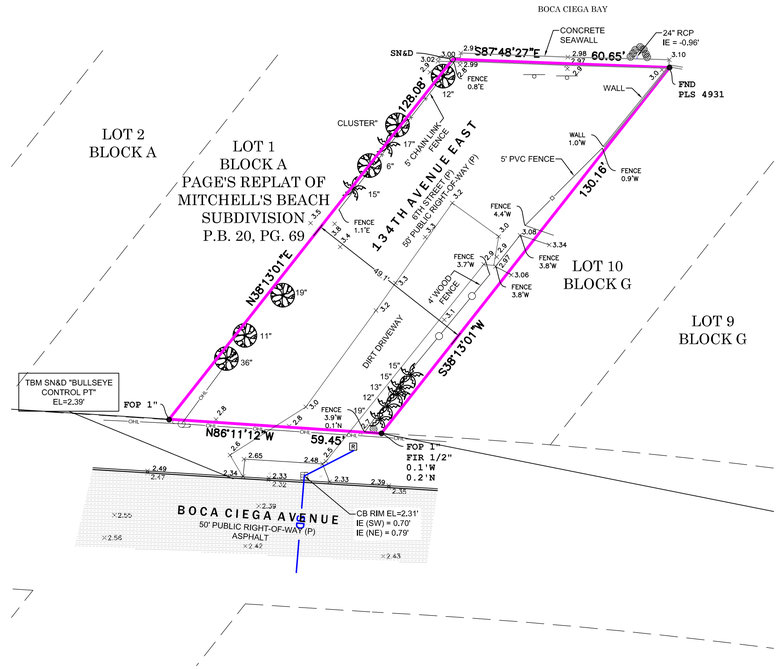

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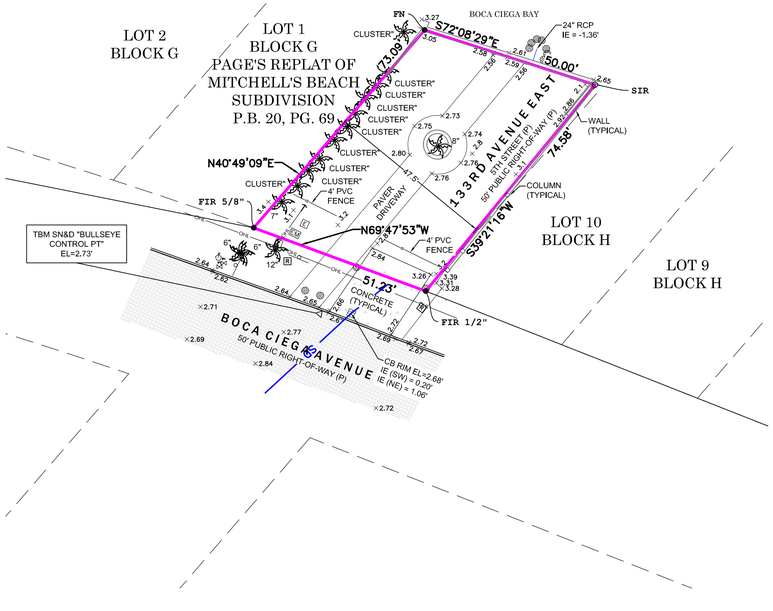

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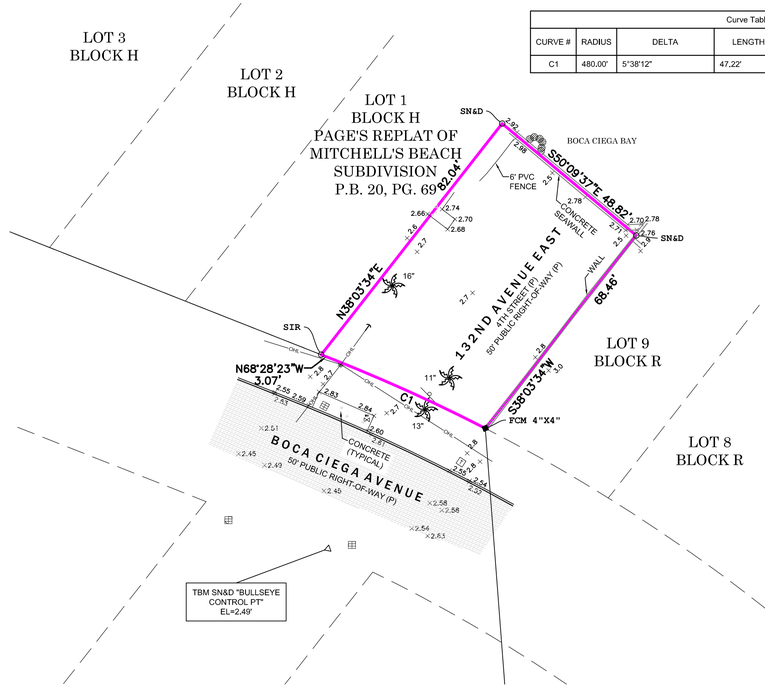

Curve Table					
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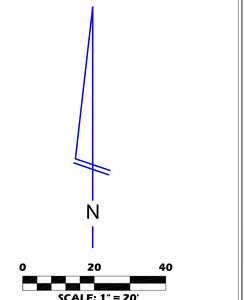


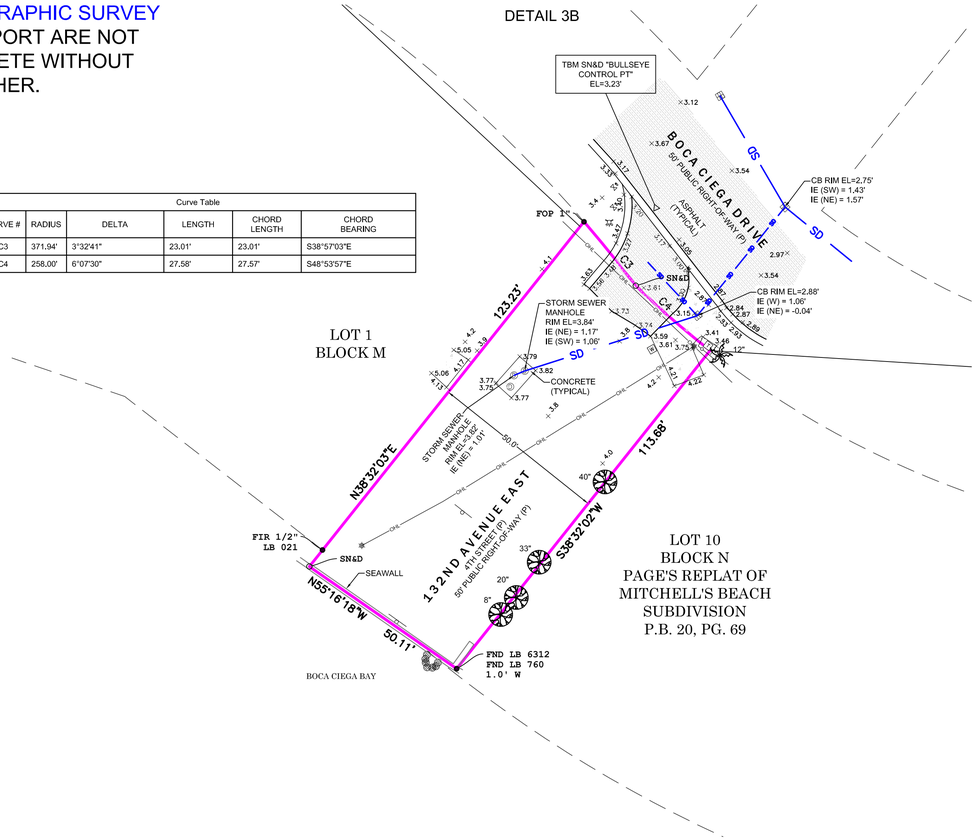
BULLSEYE SURVEYING, INC.
LB 7818
4590 ULMERTON RD,
SUITE 115
CLEARWATER, FL 33762
PHONE: 727-475-8088
FAX: 727-264-0457

REVISIONS		
#	DATE	DETAILS
1		

FIELD BOOK / PAGE	SCALE	SHEET NUMBER
32/10-17	1" = 20'	2 of 3
DRAFTED BY	SURVEY FIELD DATE	
VPL	07/03/2023	
PROJECT NUMBER	FILE NAME	
23-033	23-033-1.dwg	

BOUNDARY/TOPOGRAPHIC SURVEY
THE MAP AND REPORT ARE NOT FULL AND COMPLETE WITHOUT THE OTHER.

DETAIL 3B



Curve Table					
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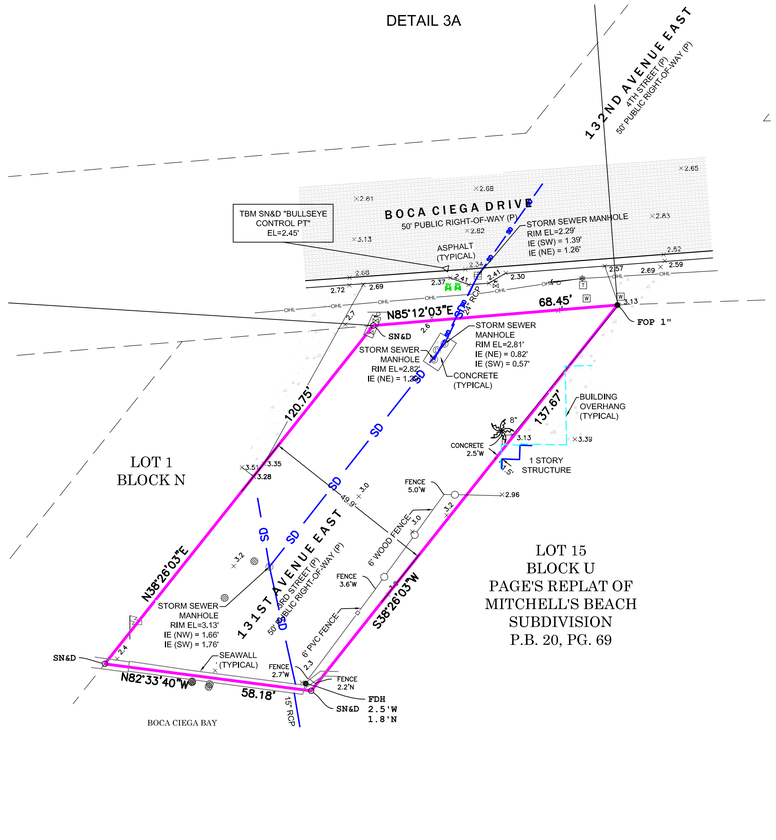
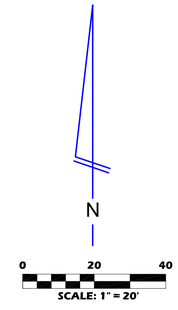
C3	371.94'	3°32'41"	23.01'	23.01'	S38°57'03"E
C4	258.00'	6°07'30"	27.58'	27.57'	S48°53'57"E

DETAIL 3A





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4590 ULMERTON RD,
SUITE 115
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REVISIONS		
#	DATE	DETAILS
1		

FIELD BOOK / PAGE	SCALE	SHEET NUMBER
32/10-17	1" = 20'	3 of 3
DRAFTED BY	SURVEY FIELD DATE	
VPL	07/03/2023	
PROJECT NUMBER	FILE NAME	
23-033	23-033-1.dwg	

AREHNA | Engineering, Inc.

REPORT OF GEOTECHNICAL EXPLORATION

MADEIRA BEACH PARKING IMPROVEMENTS
MADEIRA BEACH, FLORIDA 33708

AREHNA PROJECT NO. B-23-071

AUGUST 25, 2023

Prepared For:
Halff Associates
1000 N. Ashley Drive, Suite 900
Tampa, FL 33602

Prepared By:
AREHNA Engineering, Inc.
5012 West Lemon Street
Tampa, Florida 33609

AREHNA | Engineering, Inc.

5012 West Lemon Street
Tampa, Florida 33609
Ph 813.944.3464 | Fax 813.944.4959

August 25, 2023

Mr. Martin Steffen, PLA
Halff Associates
1000 N. Ashley Drive, Suite 900
Tampa, FL 33602

Subject: **Report of Geotechnical Exploration**
Madeira Beach Parking Improvements
Madeira Beach, Florida 33708
AREHNA Project B-23-071

AREHNA Engineering, Inc. (AREHNA) is pleased to submit this report of our geotechnical exploration for the proposed project. Services were conducted in general accordance with AREHNA Revised Proposal B.Prop-23-134.REV, submitted June 7, 2023. The purpose of our geotechnical study was to obtain information on the general subsurface conditions for the project site. The project consists of conversion from gravel/grass to pavers for the parking area.

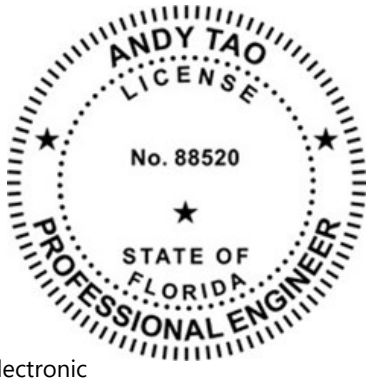
This report presents our understanding of the project, outlines our exploratory procedures, documents the field data obtained and includes our recommendations for the proposed constructions.

AREHNA appreciates the opportunity to have assisted you on this project. Should you have any questions with regards to this report, or if we can be of any further assistance, please contact this office.

Best Regards,
AREHNA ENGINEERING, INC.
FLORIDA BOARD OF PROFESSIONAL ENGINEERS CERTIFICATE OF AUTHORIZATION NO. 28410

This item has been digitally signed and sealed by:

Andrew Sway, PhD, P.G., E.I
Project Manager
Florida Registration PG-2508



Andy Tao, P.E.
Geotechnical Engineer
Florida Registration 88520
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

Distribution: 1 – Addressee - Electronic
1 – File

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LIST OF APPENDICES

1.0 PROJECT INFORMATION AND SCOPE OF WORK

1.1 SITE DESCRIPTION AND PROJECT CHARACTERISTICS

The project sites are located south of the intersection of 132nd Avenue East and Boca Ciega Drive and north of the intersection of 134th Avenue East and Boca Ciega Drive in Madeira Beach Florida. The project consists of new paved parking areas. The parking areas will consist of new pavers. Some subgrade improvements may be required beneath the pavers prior to installation, but no significant grade changes are anticipated.

1.2 SCOPE OF WORK

The purpose of our geotechnical study was to obtain information on the general subsurface conditions at the proposed project site. The subsurface materials encountered were evaluated with respect to the available project characteristics. In this regard, engineering assessments for the following items were formulated:

- Identification of the existing groundwater levels and estimated normal seasonal high groundwater fluctuations.
- General location and description of potentially deleterious materials encountered in the borings which may have an impact on the proposed construction.
- General geotechnical recommendations for the proposed construction and pavement design.

The following services were performed to achieve the above-outlined objectives:

- Performed site reconnaissance and stake boring locations.
- Requested utility location services from Sunshine811.
- Performed four (4) Standard Penetration Test (SPT) boring at the project site to a depth of 10 feet (2 at each project site). Locations were provided by the client. Samples were collected, and Standard Penetration Test resistances measured continuously for the top ten feet.
- Visually classified, lab tested and stratified soil samples in the laboratory using the Unified Soil Classification System (USCS).
- Reported the results of the field exploration and engineering analysis. The results of the subsurface exploration are presented in this report, signed and sealed by a professional engineer specializing in geotechnical engineering.

2.0 FIELD EXPLORATION AND LABORATORY TESTING

2.1 FIELD EXPLORATION

Four SPT borings (SPT-01 through SPT-04), extending to a depth of 10 feet, were completed at the project locations. Borings SPT-01 and SPT-02 were performed at the proposed parking area south of the intersection of 132nd Avenue East and Boca Ciega Drive, and borings SPT-03 and SPT-04 were perform at the proposed parking area north of the intersection of 134th Avenue East and Boca Ciega Drive. The borings were located in the field using hand-held Global Positioning System (GPS) equipment. The **Boring Location Plan** (**Sheet 2A** and **2B** in **Appendix A)** provides a site plan showing the approximate relationship of existing features to the test locations.

The SPT boring was performed with the use of a Power Drill Rig using Bentonite "Mud" drilling procedures. Samples were collected and Standard Penetration Test resistances were measured continuously to depths of ten feet. The soil sampling was performed in general accordance with ASTM Test Designation D-1586, entitled "Penetration Test and Split-Barrel Sampling of Soils."

Representative portions of the samples collected were sealed in glass jars, labeled, and transferred for appropriate classification. Please note that samples will be retained for 90 days after the date of this report and then disposed, unless other arrangements have been made.

2.2 LABORATORY TESTING

Laboratory testing, consisting of natural moisture content, percent organic test, and single sieve (#200) gradation testing, was performed on a representative soil sample. The results of the laboratory testing are presented on the **Soil Boring Profile Sheets (Sheet 3** in **Appendix A)** and are summarized on **Table 2** in **Appendix B**.

3.0 SUBSURFACE CONDITIONS

3.1 USGS TOPOGRAPHIC DATA

Digital Raster Graphic (scanned topographic map) projection of the Seminole Quadrangle, Florida, provided by the USGS was reviewed to collect topographic information in the vicinity of the project site. The approximate location of this site has been superimposed on a USGS topographic map of the local area and is shown on **Sheet 1** in **Appendix A**. Based on this review, the natural ground surface elevations at the project site are approximately between +0 to +5 feet NGVD29 (National Geodetic Vertical Datum of 1929). Elevations referenced in this report should be considered approximate only. No surveying was performed.

3.2 USDA NATURAL RESOURCES CONSERVATION SERVICE DATA

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey for the site area (current online NRCS Web Soil Survey) indicates that the soil at the boring locations consists of *Matlacha and Augustine soils and Urban Land (Map Unit 16)*. The soil survey for the site area is shown on **Sheet 1** in **Appendix A**. The Soil Survey indicated that the depth to the seasonal high water table is about 1.5 feet below the natural ground surface. A summary of this USDA soil type is provided on **Table 1** in **Appendix B.**

3.3 SUBSURFACE CONDITIONS

A pictorial representation of the subsurface conditions encountered in the boring is shown on the **Soil Boring Profile** on **Sheet 3** in **Appendix A**. This profile and the following soil conditions highlight the general subsurface stratification. When reviewing the boring record and the subsurface soil profile, it should be understood that soil conditions may vary between, and away from, boring location. The following is a brief description of the soils for the boring based on the proposed feature in this area:

SPT borings generally encounter very loose to medium dense fine sand to silty sand (SP, SP-SM, SM) to termination depth of 10 feet below ground surface (bgs). Note that decayed wood fragments were encountered at depth ranging from approximately 3.5 to 6 feet below existing ground surface. These materials are partially decayed small pieces of wood mixed in a sand layer. The soil layer is mostly sand or slightly silty sand containing these fragments.

Borings SPT-03 and SPT-04 also encountered a very silty (to occasionally clayey) sand layer between about 2 and 3 feet depth in SPT-03 and from about 2 to 4 feet depth in SPT-04.

3.4 GROUNDWATER CONDITIONS

Conditions revealed in the SPT boring indicate that the phreatic surface of the surficial aquifer could be inferred between 2.6 feet and 3.8 feet below the ground surface. Due to the proximity to bay the groundwater will be tidally influenced. In extreme weather events, such as tropical storms, storm surge effects may cause the water table to rise above the ground surface Fluctuation in groundwater levels should be expected due to tidal changes, seasonal climatic changes, construction activity, rainfall variations, surface water runoff, and other site-specific factors.

3.5 ESTIMATED SEASONAL HIGH GROUNDWATER TABLE

The groundwater table at the boring locations were found to be between 2.6 feet and 3.8 feet below the existing grade. Based on the information reported by the USDA, historical indicators of a seasonal high water table noted in the soils obtained from the site, and our experience in the area, we estimate that the seasonal high water level is at an approximate depth of approximately 2.0±0.5 feet below the existing ground surface at this site. It should be noted that the site may become flooded during tropical storm events due to storm surge.

4.0 GENERAL PAVEMENT RECOMMENDATIONS

4.1 PAVEMENTS

We recommend that, after grading to final grade, the exposed surface should be compacted in accordance with **Section 5.3** prior to installation of the pavers. If any areas of yielding soil during proofrolling are observed, those areas should be excavated to a depth of at least 1-foot (areas of SPT-01 and SPT-02) or to the bottom of the clayey silty sand layer (SPT-03 and SPT-04 area) and replaced with compacted fill in lifts not exceeding 12 inches each. If soil is excavated due to yielding, the base of the excavation should be compacted in accordance with **Section 5.3** prior to adding fill. If no yielding areas are observed, excavations are not required.

Structural fill soils should consist of reasonably clean fine sands (inorganic, non-plastic sands containing less than 12 percent material passing the No. 200 mesh sieve). We recommend that any fill be compacted to at least 98 percent of the Modified Proctor maximum dry density (ASTM D-1557).

5.0 GENERAL SITE PREPARATION

5.1 GENERAL

The following recommendations are based upon our understanding of the project information and the data gathered during this subsurface exploration. If revised project information is developed, we should be notified so that our recommendations can be reviewed. The stratification and consistency of the subsurface materials encountered may vary within even short lateral distances; therefore, any subsurface condition encountered during construction or any additional exploration that deviates from that documented in this exploration should be reported to us so that our recommendations can be reviewed.

5.2 ON-SITE SOIL SUITABILITY

The borings indicate that surficial sandy soils classified as SP and SP-SM are present and are suitable for use as backfill material. Soil classified as clayey to silty sand (SM, SC, SC-SM) are not suitable for reuse. Decaying wood fragments were encountered at depths ranging from 3.5 to 6 feet below existing ground surface with an organic content of approximately 3%. Based on the low organic content and depth of this material it may remain in place and does not represent a significant settlement concern.

Soil excavated from below the groundwater level will be above the optimum moisture content required for compaction and will need to be dried before placement. Suitable structural fill materials should consist of fine to medium sand with less than 12 percent passing the No. 200 sieve and be free of rubble, organics, clay, debris and other unsuitable material. Any off-site materials used as fill should be approved by AREHNA prior to acquisition.

5.3 EXCAVATION AND BACKFILL

Excavations should be constructed in accordance with the current OSHA guidelines. The contractor is solely responsible for designing and constructing stable excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor's responsible person, as defined in 29 CFR, Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in all local, state, and federal safety-regulations.

The soils encountered are consistent with OSHA Class C soils and will not stand vertically in an open excavation below the groundwater level or for more than very short periods above the groundwater level. Soil should not be stockpiled adjacent to excavations unless the stockpile has been included in the analyses of the excavation stability. Excavations may require dewatering.

Any and all excavations should be backfilled with acceptable compacted fill or re-use soils. Fill or re-use soils should generally consist of dry fine sand with less than 12 percent passing the No. 200 sieve and be free of rubble, organics, clay, debris and other unsuitable material. Imported fill should be anticipated and should be tested and approved prior to acquisition. Backfill or existing exposed soils should be compacted in lifts not exceeding 12 inches in thickness and should be compacted to a minimum of 98 percent of the Modified Proctor maximum dry density (ASTM D-1557). If compaction cannot be obtained with 12-inch lifts, thinner lifts may be required. Prior to beginning compaction, soil moisture contents should be adjusted in order to facilitate proper compaction. A moisture content within 2 percentage points of the optimum indicated by the Modified Proctor Test (ASTM D-1557) is recommended prior to compaction of the fill.

5.4 DEWATERING

The groundwater was encountered at boring locations, generally between about 2.6 and 3.8 feet bgs. Dewatering will not likely be required, but surface water runoff into excavations may also require dewatering. Dewatering, if needed for any excavations, can be accomplished using a sanded wellpoint system supplemented by a gravel bottom layer and pumping from a sump. Actual dewatering means and methods should be the responsibility of the contractor.

Groundwater fluctuations will likely occur due to seasonal variations, runoff and clay/silt materials, and other factors and should be considered when planning excavation and dewatering activities. The impact of runoff from adjacent properties, nearby water bodies, and other site-specific conditions which may affect groundwater recharge are beyond the scope of this exploration and should be considered when planning and designing a dewatering system.

5.5 GENERAL CONSTRUCTION MONITORING AND TESTING GUIDELINES

Prior to initiating compaction operations, we recommend that representative samples of the structural fill material to be used and acceptable exposed in-place soils be collected and tested to determine their compaction and classification characteristics. The maximum dry density, optimum moisture content, gradation and plasticity characteristics should be determined. These tests are needed for compaction quality control of the structural fill and existing soils and to determine if the fill material is acceptable.

A representative number of in-place field density tests should be performed in the compacted existing soils and in each lift of structural fill or backfill to confirm that the required degree of compaction has been obtained. We recommend that at least one density test be performed for every lift of backfill and similar testing for exposed soil surfaces that are compacted. There are no compaction requirements for No. 57 stone, if used. Testing should be consistent with Pinellas County requirements.

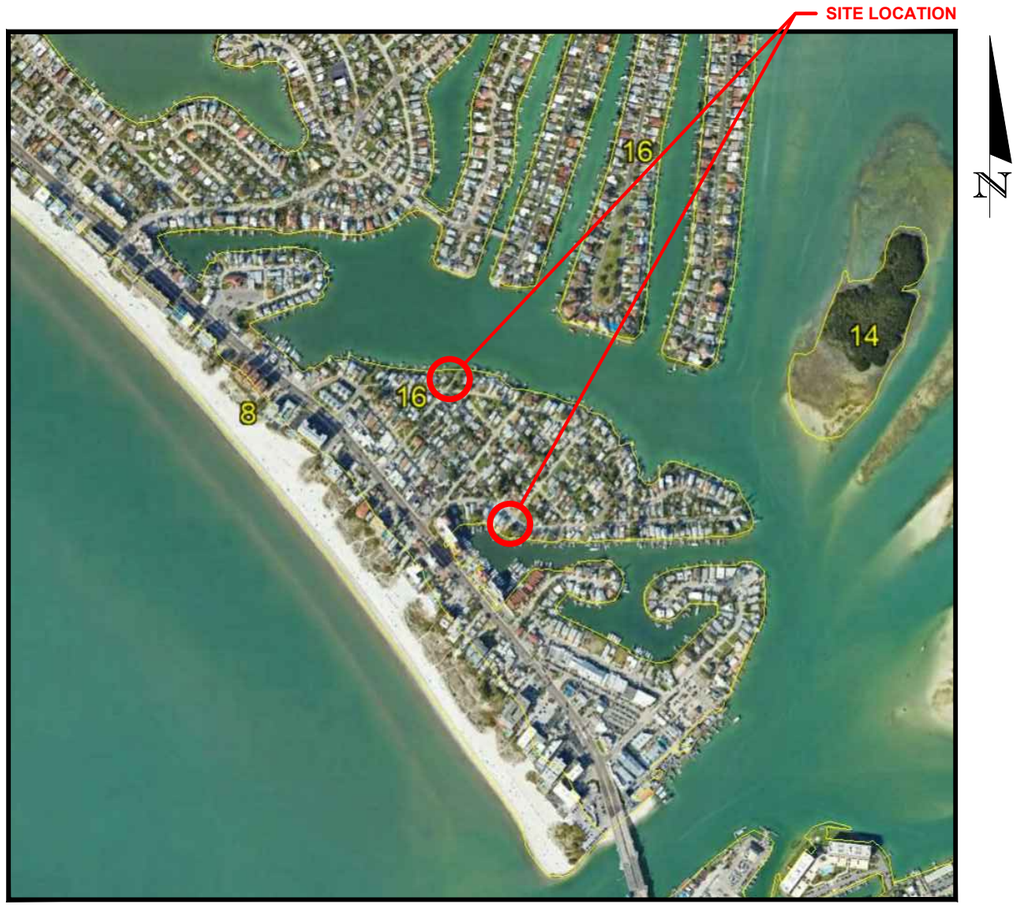
6.0 BASIS FOR RECOMMENDATIONS

The analysis and recommendations submitted in this report are based upon the data obtained from the soil boring performed at the location indicated. Regardless of the thoroughness of a geotechnical exploration, there is always a possibility that conditions at other locations will be different from those at the specific boring locations and that conditions will not be as anticipated by the designers or contractors. In addition, the construction process itself may alter soil conditions. AREHNA is not responsible for the conclusions, opinions or recommendations made by others based on the data presented in this report.

APPENDIX A

USDA & USGS Vicinity Maps – Sheet 1
Boring Location Plan – Sheet 2A and 2B
Soil Boring Profiles – Sheet 3

USDA SOIL SURVEY MAP

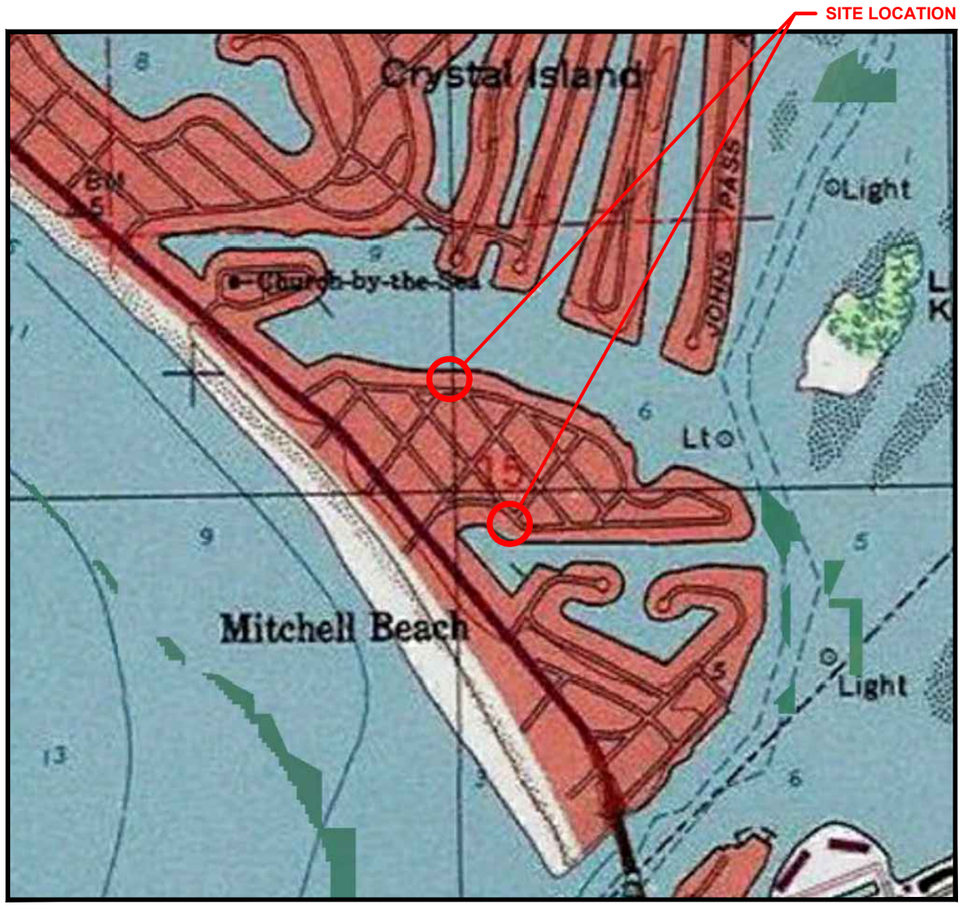


REFERENCE: USDA SOIL SURVEY OF PINELLAS COUNTY, FLORIDA

0 250 1000
Feet

TOWNSHIP: 31 S
RANGE: 15 E
SECTION: 15

USGS TOPOGRAPHIC MAP



REFERENCE: "SEMINOLE, FLORIDA" USGS QUADRANGLE MAP

0 250 1000
Feet

TOWNSHIP: 31 S
RANGE: 15 E
SECTION: 15

REVISIONS			
NO.	DATE	DESCRIPTIONS	APPROVED

PREPARED BY:
AREHNA | Engineering, Inc.
5012 West Lemon Street, Tampa, FL 33609
Phone 813.944.3464 | Fax 813.944.4959
Certificate of Authorization No. 28410

USDA & USGS VICINITY MAPS

	NAME	DATE
DESIGNED BY:	AS	8/2023
DRAWN BY:	DG	8/2023
CHECKED BY:	AT	8/2023
SUPERVISED BY:	Andy Tao, P.E.	

PROJECT NAME	PROJECT NO.	SHEET NO.
MADEIRA BEACH PARKING MADEIRA BEACH, FLORIDA	B-23-071	1

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N

0 20
Feet

LEGEND

APPROXIMATE LOCATION OF SPT BORING

REVISIONS			
NO.	DATE	DESCRIPTIONS	APPROVED

PREPARED BY:
AREHNA | Engineering, Inc.
5012 West Lemon Street, Tampa, FL 33609
Phone 813.944.3464 | Fax 813.944.4959
Certificate of Authorization No. 28410

BORING LOCATION PLAN

	NAME	DATE
DESIGNED BY:	AS	8/2023
DRAWN BY:	DG	8/2023
CHECKED BY:	AT	8/2023
SUPERVISED BY:	Andy Tao, P.E.	

PROJECT NAME	PROJECT NO.	SHEET NO.
MADEIRA BEACH PARKING MADEIRA BEACH, FLORIDA	B-23-071	2A

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N

0 20

Feet

LEGEND

APPROXIMATE LOCATION OF SPT BORING

REVISIONS			
NO.	DATE	DESCRIPTIONS	APPROVED

PREPARED BY:
AREHNA | Engineering, Inc.
5012 West Lemon Street, Tampa, FL 33609
Phone 813.944.3464 | Fax 813.944.4959
Certificate of Authorization No. 28410

BORING LOCATION PLAN

	NAME	DATE
DESIGNED BY:	AS	8/2023
DRAWN BY:	DG	8/2023
CHECKED BY:	AT	8/2023
SUPERVISED BY:	Andy Tao, P.E.	

PROJECT NAME	PROJECT NO.	SHEET NO.
MADEIRA BEACH PARKING MADEIRA BEACH, FLORIDA	B-23-071	2B

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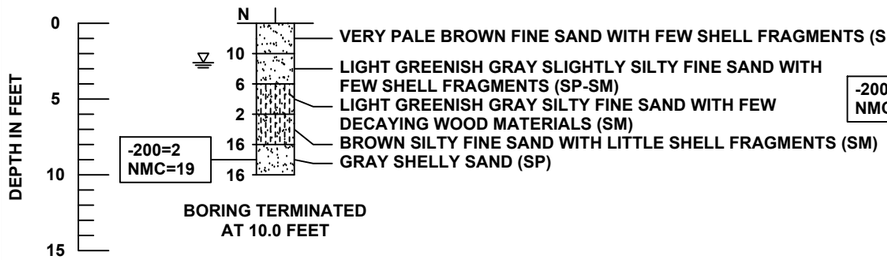
SPT-01

8/8/23



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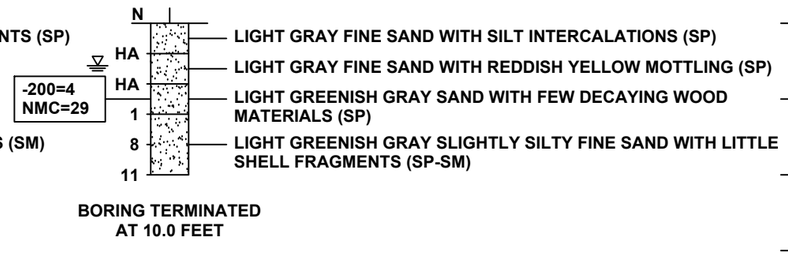
LONGITUDE: W 82.785064

SPT-02

8/8/23



BORING TERMINATED AT 10.0 FEET

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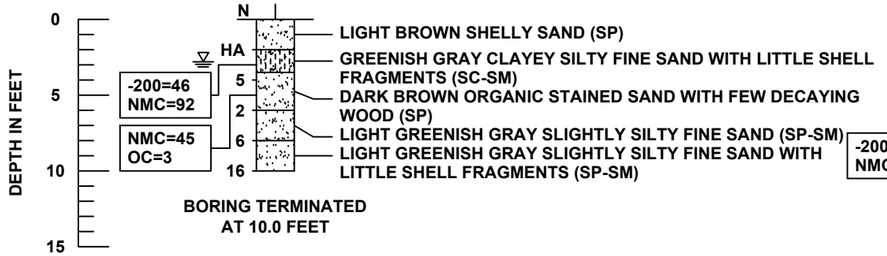
LONGITUDE: W 82.78518

SPT-03

8/8/23



BORING TERMINATED AT 10.0 FEET

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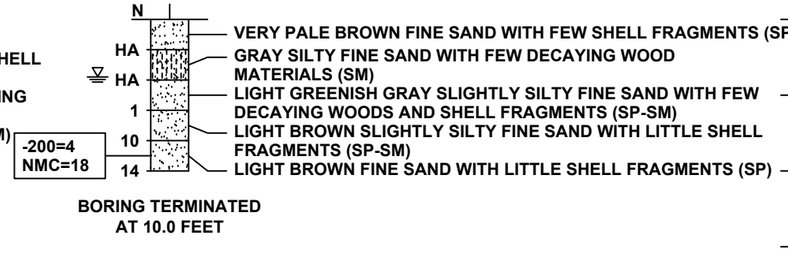
LONGITUDE: W 82.7863251

SPT-04

8/8/23



BORING TERMINATED AT 10.0 FEET

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LONGITUDE: W 82.7862431

LEGEND

FINE SAND (SP/SP-SM)

SILTY SAND (SM/SC-SM)

SP UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2488) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND/OR LABORATORY TESTING

GROUNDWATER TABLE AT THE TIME OF DRILLING

N SPT N-VALUE IN BLOWS/FOOT FOR 12 INCHES OF PENETRATION

HA HAND AUGER

-200 FINES PASSING THE #200 STANDARD SIEVE (%)

NMC NATURAL MOISTURE CONTENT (%)

OC ORGANIC CONTENT (%)

	SAFETY HAMMER	AUTOMATIC HAMMER
GRANULAR MATERIALS-RELATIVE DENSITY	SPT (BLOWS/FT)	SPT (BLOWS/FT)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 to 10	3 to 8
MEDIUM	10 to 30	8 to 24
DENSE	30 to 50	24 to 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SPT (BLOWS/FT)	SPT (BLOWS/FT)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 to 4	1 to 3
FIRM	4 to 8	3 to 6
STIFF	8 to 15	6 to 12
VERY STIFF	15 to 30	12 to 24
HARD	GREATER THAN 30	GREATER THAN 24

Soil Profile Notes:

1. The profiles depicted are of a generalized nature to highlight the major subsurface stratification features and material characteristics. The soil profiles include soil description, stratifications and penetration resistances. The stratifications shown on the boring profiles represent the conditions only at the actual boring location. Variations may occur and should be expected between boring locations. The stratifications represent the approximate boundary between subsurface materials and the actual transition may be gradual.
2. Groundwater levels generally fluctuate during periods of prolonged drought and extended rainfall and may be affected by man-made influences. In addition, a seasonal effect will also occur in which higher groundwater levels or temporary perched conditions are normally recorded in rainy seasons.
3. The boring locations presented are approximate and based on hand held GPS with an accuracy of +/- 10 feet.
4. SPT borings were performed using an automatic hammer.

REVISIONS			
NO.	DATE	DESCRIPTIONS	APPROVED

PREPARED BY:
AREHNA | Engineering, Inc.
5012 West Lemon Street, Tampa, FL 33609
Phone 813.944.3464 | Fax 813.944.4959
Certificate of Authorization No. 28410

SOIL BORING PROFILES

	NAME	DATE
DESIGNED BY:	AS	8/2023
DRAWN BY:	DG	8/2023
CHECKED BY:	AT	8/2023
SUPERVISED BY:	Andy Tao, P.E.	

PROJECT NAME	PROJECT NO.	SHEET NO.
MADEIRA BEACH PARKING MADEIRA BEACH, FLORIDA	B-23-071	3

APPENDIX B

Summary of USDA Soil Survey – Table 1
Summary of Laboratory Test Results – Table 2
Summary of Seasonal High Groundwater Table Estimate – Table 3
Field and Laboratory Procedures

TABLE 1
SUMMARY OF USDA SOIL SURVEY
MADEIRA BEACH PARKING IMPROVEMENTS
MADEIRA BEACH, FLORIDA
AREHNA Project No. B-23-071

USDA Soil Type	Depth (inches)	USDA Soil Description	AASHTO	USCS	Permeability (ft/day)	Seasonal High Groundwater			Risk of Corrosion	
						Depth (feet)	Duration (months)	Kind	Steel	Concrete
Matlacha and St. Augustine soils and Urban Land*						(16)				
Matlacha	0 - 42	Sand	A-3	SP-SM, SP	4 - 12	2.0	Jun - Oct	Apparent	High	Low
	42 - 80	Sand, fine sand	A-3	SP-SM, SP	12 - 40					
St. augustine	0 - 8	Sand	A-3	SP-SM, SP	12 - 40	1.5	Jun -Oct	Apparent	High	Low
	8 - 33	Loamy fine sand	A-2-4	SP-SM	4 - 12					
	33 - 48	Fine sand, sand	A-3	'SP-SM, SP	12 - 40					
	48 - 63	Sand, fine sand, loamy fine sand, sandy loam	A-2-4	SP-SM, SM	4 - 12					
	63 - 80	Sand	A-3	SP-SM, SP	12 - 40					

* Urban Land consists of areas where most of the soil surface is covered with impervious materials such as highways, parking lots and industrial areas.

TABLE 2
SUMMARY OF LABORATORY TEST RESULTS
MADEIRA BEACH PARKING IMPROVEMENTS
MADEIRA BEACH, FLORIDA
AREHNA Project No. B-23-071

Boring No.	Sample Depth (feet)	Sieve Analysis (% Passing)	Natural Moisture Content (%)	Organic Content (%)	USCS Group
		#200			
SPT - 01	8.0 - 10.0	2	19	-	SP
SPT - 02	4.0 - 6.0	4	29	-	SP
SPT - 03	2.0 - 4.0	46	92	-	SC-SM
SPT - 03	4.0 - 6.0	-	45	3	SP
SPT - 04	8.0 - 10.0	4	18	-	SP

TABLE 3
SUMMARY OF SEASONAL HIGH GROUNDWATER TABLE ESTIMATE
MADEIRA BEACH PARKING IMPROVEMENTS
MADEIRA BEACH, FLORIDA
AREHNA Project No. B-23-071

Boring No.	Boring Location		Boring Depth	Measured Groundwater Table		USDA Soil Survey		Estimated Seasonal High Water Depth (Feet)
	Latitude	Longitude	(feet)	Date Recorded	Depth[(1)] (feet)	Map Symbol	Estimated SHGWT Depth[(2)] (feet)	
SPT-01	27.7893	-82.7851	10	8/8/2023	2.6	16	1.5	2 ±0.5
SPT-02	27.7892	-82.7852	10	8/8/2023	2.8	16	1.5	2 ±0.5
SPT-03	27.7919	-82.7863	10	8/8/2023	2.8	16	1.5	2 ±0.5
SPT-04	27.7920	-82.7862	10	8/8/2023	3.8	16	1.5	2 ±0.5

(1) Depth below existing grade at time of field work.

(2) Seasonal high water table depth per Pinellas County, Florida USDA Soil Survey information.

FIELD PROCEDURES

Standard Penetration Test (SPT) Borings

The SPT borings are performed in general accordance with ASTM D-1586, "Penetration Test and Split-Barrel Sampling of Soils." A rotary drilling process is used and bentonite drilling fluid is circulated in the boreholes to stabilize the sides and flush the cuttings. At regular intervals, the drilling tools are removed and soil samples are obtained with a standard 2-feet long, 2-inch diameter split-tube sampler. The sampler is first seated 6 inches and then driven an additional foot with blows of a 140-pound hammer falling under its own weight a distance of 30 inches. The number of hammer blows required to drive the sampler the final foot is designated the "Penetration Resistance." The penetration resistance, when properly interpreted, is an index to the soil strength and density.

LABORATORY PROCEDURES

Water Content

The water content is the ratio, expressed as a percentage, of the weight of water in a given mass of soil to the weight of the solid particles. This test is conducted in general accordance with ASTM D-2974.

Percent Organics (Organic Loss on Ignition)

The amount of organic material in a sample is determined in this test. The sample is first dried and weighed, then ignited and reweighed. The amount of organic material is expressed as a percentage of the total dry weight of the sample prior to ignition. This test is conducted in general accordance with FM 1-T267.

Fines Content

In this test, the sample is dried and then washed over a No. 200 mesh sieve. The percentage of soil by weight passing the sieve is the percentage of fines or portion of the sample in the silt and clay size range. This test is conducted in general accordance with ASTM D-1140.