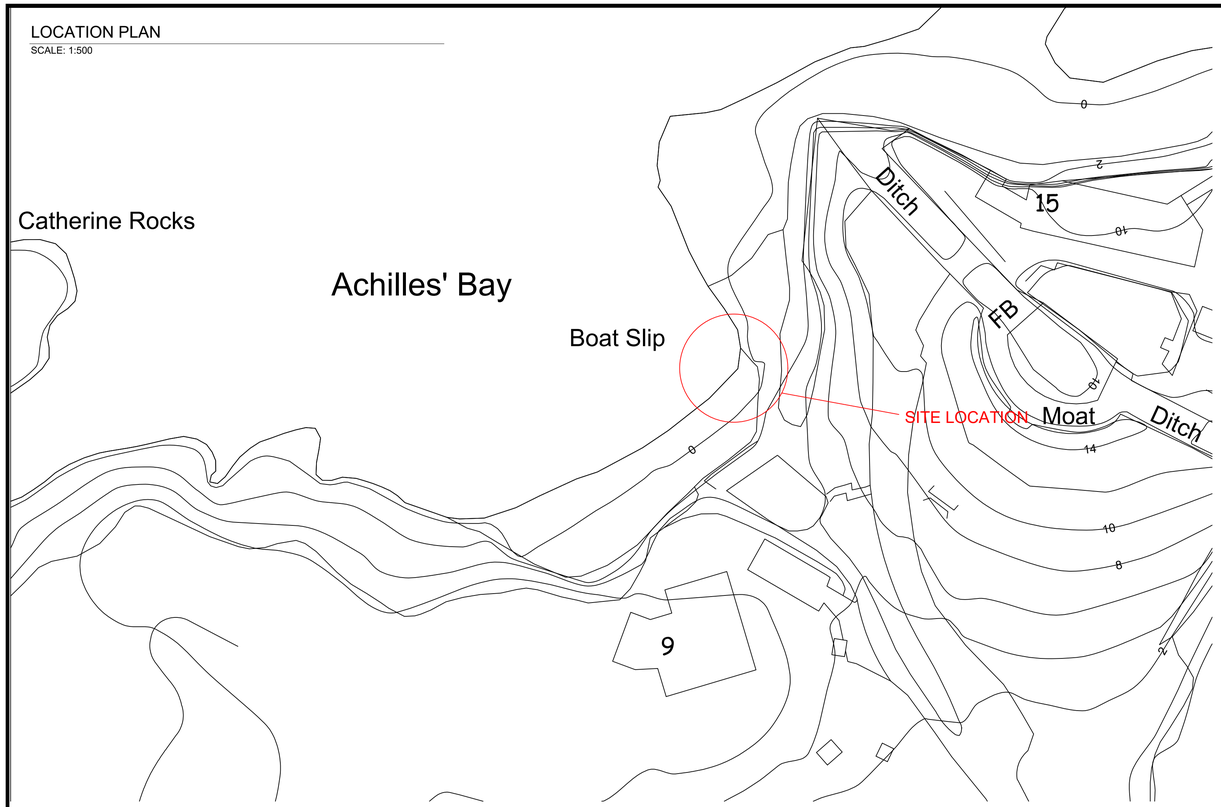
LOCATION PLAN
SCALE: 1:500



DRAWING LIST

SITE PHOTOS

ENGINEERING CONSULTANTS:

IEPC
ENGINEERING SERVICES

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MINISTRY OF
PUBLIC WORKS

REVISIONS

No.	DATE	BY	REVISION
01	2022-06-15	RGW	ISSUED FOR REVIEW

PROJECT DETAILS

BDA GOV - ACHILLES BAY - STAIRCASE REPAIR

TITLE

ACHILLES BAY
LOCATION PLAN

DESIGN BY: RGW
CHECKED BY: RGW

JOB No:

DATE: 15-JUN-2022

REVISION: 0

SHEET No: S-001

NOTES

1.0 GENERAL

1.1 THESE NOTES APPLY TO ALL STRUCTURAL DRAWINGS AND ARE TO BE READ IN CONJUNCTION WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS.

1.2 DO NOT SCALE THE DRAWINGS. DIMENSIONS ARE TO BE USED AS A GUIDE ONLY.

1.3 DIMENSIONS SHOWN IN THIS DRAWING SET ARE APPROXIMATE. ALL DETAILS AND ARRANGEMENTS OF EXISTING CONDITIONS, DIMENSIONS, ETC. TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION.

1.4 CONTRACTOR TO MAKE GOOD ANY DAMAGES CAUSED ON SITE, REPAIRING TO MATCH EXISTING OR AS APPROVED BY THE OWNER.

1.5 THE CONTRACTOR SHALL SUPPLY ALL NECESSARY MATERIALS, EQUIPMENT AND LABOR TO COMPLETE THE WORK, UNLESS OTHERWISE INDICATED.

1.6 THE CONTRACTOR SHALL PROVIDE COMPETENT SUPERVISORY STAFF AT ALL TIMES DURING THE WORK. TRADESMEN ARE TO BE SKILLED AND QUALIFIED FOR THE TASKS ASSIGNED.CONTRACTOR SHALL SUPPLY ALL NECESSARY MATERIALS, EQUIPMENT AND LABOR TO COMPLETE THE WORK, UNLESS OTHERWISE INDICATED.

1.7 THE CONTRACTOR SHALL PROVIDE ALL SAFETY EQUIPMENT AND GEAR TO CONFORM TO THE NATIONAL HEALTH AND SAFETY REGULATIONS APPLICABLE TO BERMUDA.

1.8 THE CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS AND FAMILIARIZE THEMSELVES WITH THE SCOPE OF WORK.

1.9 ALL CONSTRUCTION OPERATIONS ARE TO COMPLY WITH THE MINIMUM REQUIREMENTS OF THE BERMUDA RESIDENTIAL BUILDING CODE 2014.

2.0 CONCRETE

2.1 STRUCTURAL CONCRETE STRENGTH TO BE A MINIMUM OF 20 MPa (3000 PSI)

2.2 CONCRETE FILL FOR BLOCKWORK MUST BE A MINIMUM OF 2000 PSI STRENGTH AT 28 DAYS.

2.3 LEAN MIX AND RUBBLE CONCRETE TO HAVE A MINIMUM STRENGTH OF 2000 PSI

2.4 REINFORCING CHAIRS TO BE PLASTIC, OR CONCRETE.

2.5 NO ADDITIVES TO BE USED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER. NO WATER SHALL BE ADDED TO THE MIX ON SITE WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.

2.6 THE CONTRACTOR SHALL GIVE A MINIMUM OF 48 HOURS NOTICE TO THE ENGINEER PRIOR TO POURING ANY CONCRETE.

2.7 CONCRETE COVER TO BE 3" FOR CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH (E.G. RETAINING WALLS AND FOUNDATIONS), 2" FOR CONCRETE EXPOSED TO WEATHER AND 1.5" FOR CONCRETE NOT EXPOSED TO WEATHER OR EARTH U.N.O

2.8 CONCRETE IS TO CURE FOR 7 DAYS MINIMUM PRIOR TO LOADING U.N.O.

2.9 EXPERIENCED PERSONNEL SHALL MECHANICALLY VIBRATE ALL STRUCTURAL CONCRETE IN THE APPROVED MANNER. THE CONTRACTOR SHALL HAVE AT LEAST TWO FULLY OPERATIONAL POKER VIBRATORS ON SITE DURING CONCRETE PLACEMENT.

2.10 ALL FORMWORK, SHORING AND RESHORING SHALL BE DESIGNED BY THE CONTRACTOR'S REGISTERED ENGINEER.

2.11 FOUNDATION WALLS, SLABS, BEAMS AND GIRDERS SHALL NOT HAVE JOINTS IN A HORIZONTAL PLANE UNLESS SHOWN OTHERWISE.

2.12 CONCRETE SLUMP TO BE AS FOLLOWS :
BEAMS/FOOTINGS/COLUMNS AND SLABS = 5" +/- 1"
MASONRY BLOCK FILL = 7" +/- 1"

3.0 REINFORCING STEEL

3.1 REINFORCING STEEL SHALL HAVE A MINIMUM STRENGTH OF 400 MPa (OR APPROVED EQUAL).

3.2 REINFORCING STEEL TO BE GALVANISED IN ACCORDANCE CLASS II STANDARD ASTM A767.

3.3 REBAR AT ENDS OF CONCRETE LINTELS, WALL STIFFENERS, COLUMNS, STAIRS, PAD FOOTINGS, BEAMS AND SLABS ARE TO HAVE STANDARD 90° BENDS WITH THE MINIMUM ANCHORAGE/LAP LENGTHS. ANY REBAR WHICH IS CUT AND BENT ON SITE SHALL HAVE TWO APPLICATIONS OF A `ZINC' RICH PAINT APPLIED TO THE ENDS AND DAMAGED AREAS TO THE APPROVAL OF THE ENGINEER.

3.4 MINIMUM LAP LENGTHS UNO:
T25 - 1500 (60")
T20 - 1000 (40")
T16 - 800 (32")
T12 - 600 (24")
T10 - 500 (20")
MESH - 305 (12")

3.5 MINIMUM ANCHORAGE LENGTHS UNO:
T20 - 850 (34")
T16 - 700 (28")
T12 - 550 (22")
T10 - 300 (12")

4.0 MASONRY

4.1 WALLS TO BE CONSTRUCTED OF RUNNING BOND MASONRY.

4.2 FOR BED AND HEAD JOINTS : UNLESS OTHERWISE REQUIRED OR INDICATED ON THE PROJECT DRAWINGS, HEAD AND BED JOINTS SHALL BE $\frac{3}{8}$"(10mm) THICK, EXCEPT THAT THE THICKNESS OF THE BED JOINT OF THE STARTING COURSE PLACED OVER FOUNDATIONS SHALL NOT BE LESS THAN $\frac{1}{4}$" (7mm) AND NOT MORE THAN $\frac{3}{4}$" (19mm)

4.3 IN EACH WYTHE OF MASONRY LAID IN RUNNING BOND, HEAD JOINTS IN SUCCESSIVE COURSES SHALL BE OFFSET BY NOT LESS THAN ONE-FOURTH THE UNIT LENGTH.

4.4 FOR MASONRY UNIT PLACEMENT, THE MORTAR SHALL BE SUFFICIENTLY PLASTIC AND UNITS SHALL BE PLACED WITH SUFFICIENT PRESSURE TO EXTRUDE MORTAR FROM THE JOINT AND PRODUCE A TIGHT JOINT. DEEP FURROWING OF BED JOINTS THAT PRODUCES VOIDS IS NOT PERMITTED. ANY UNITS DISTURBED TO THE EXTENT THAT THE INITIAL BOND IS BROKEN AFTER INITIAL PLACEMENT SHALL BE REMOVED AND RE-LAID IN FRESH MORTAR. SURFACES TO BE IN CONTACT WITH MORTAR SHALL BE CLEAN AND FREE OF DELETERIOUS MATERIALS.

4.5 MASONRY UNITS SHALL CONFORM TO THE LATEST VERSION OF ASTM C90 (THE MINIMUM AVERAGE COMPRESSIVE STRENGTH OF 3 UNITS SHALL BE 2000 PSI BASED ON THE NET AREA OF THE UNITS.

4.6 MORTAR SHALL CONFORM TO THE LATEST VERSION OF ASTM C-270 AND SHALL BE OF GRADE S OR GREATER.

4.7 ALL CELLS TO BE FILLED ARE TO BE KEPT CLEAR OF OBSTRUCTIONS. ALL CELLS CONTAINING VERTICAL REINFORCING SHALL BE FILLED. CELLS BELOW BEARING BEAMS/LINTELS SHALL BE SOLID FILLED AND SHALL BE REINFORCED WITH MIN 1-T12 BAR. REBAR TO ANCHOR A A MINIMUM OF 2' INTO THE FOOTING. CELLS ARE TO BE SOLID FILLED TO FULL HEIGHT U.N.O.

4.8 FILLED BLOCK WORK MUST BE POURED IN MAXIMUM OF 4' HIGH LIFTS. CONCRETE MUST BE STOPPED 2" FROM THE TOP OF THE BLOCK TO ALLOW THE NEXT LIFT TO KEY TOGETHER.

4.9 WHERE NEW WALLS BUTT UP AGAINST EXISTING WALLS, A 4" KEY INTO THE EXISTING WALL IS REQUIRED EVERY 2ND COURSE OF BLOCK.

4.10 CONCRETE BOND BEAMS SHALL BE PROVIDED ON THE TOP OF ALL NEW WALLS. THESE SHALL BE A MINIMUM OF 8" DEEP AND THE SAME WIDTH AS THE WALL ITSELF. THEY SHALL BE REINFORCED WITH A MINIMUM OF 2 T12 BOT CONTINUOUS THROUGHOUT THE BOND BEAM.

5.0 FOUNDATIONS

5.1 ALL FOOTINGS AND FOUNDATIONS TO BEAR ON UNDISTURBED SOUND ROCK OR WELL COMPACTED GRANULAR FILL. BEARING MATERIAL IS TO REMAIN UNDISTURBED AND BE REVIEWED BY THE ENGINEER PRIOR TO PLACING THE CONCRETE FOR FOOTING AND FOUNDATIONS.

5.2 ALL SHORING, SHEETING AND DEWATERING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR

5.3 THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT ALL EXISTING AND SURROUNDING INFRASTRUCTURE.

5.4 MASONRY RETAINING WALLS TO BE FILLED WITH CONCRETE AND CURED FOR A MINIMUM OF 7 DAYS PRIOR TO BACKFILLING.

5.5 BACKFILL MATERIAL SHALL BE FREE FROM ORGANIC MATTER, CONSTRUCTION DEBRIS AND LARGE ROCKS. BACKFILL SHALL BE WELL GRADED AND PLACED IN LAYERS NOT EXCEEDING 6". THE BACKFILL SHALL BE WATERED AND COMPACTED TO THE SAME DENSITY AS THAT OF THE SURROUNDING SOIL.

6.0 INSPECTION AND TESTING

6.1 CONTRACTOR TO PROVIDE 48 HOURS NOTICE TO THE OWNER'S REPRESENTATIVE FOR THE INSPECTION OF ALL REINFORCING, INCLUDING MASONRY REINFORCING PRIOR TO POURING CONCRETE. NO WORK SHALL BE COVERED UP UNTIL SUCH TIME AS THE OWNER'S REPRESENTATIVE HAS APPROVED THE WORK.

7.0 DEMOLITION/EXCAVATIONS

7.1 WHERE NECESSARY, THE CONTRACTOR SHALL DESIGN AND PROVIDE INTERIOR AND EXTERIOR SHORING, BRACING, OR SUPPORT TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF THE STRUCTURE OR ELEMENT TO BE DEMOLISHED, AND ADJACENT FACILITIES OR WORK TO REMAIN.

7.2 IF UNEXPECTED MECHANICAL, ELECTRICAL OR STRUCTURAL ELEMENTS ARE ENCOUNTERED, THE CONTRACTOR SHALL SUBMIT DETAILS OF SUCH TO THE ENGINEER.

7.3 THE CONTRACTOR SHALL LOCATE AND IDENTIFY EXISTING UNDERGROUND UTILITIES WITHIN THE SITE EXTENTS. IF UTILITIES ARE TO REMAIN, THE CONTRACTOR SHALL ENSURE THAT THE UTILITIES ARE SUPPORTED AND PROTECTED THROUGHOUT THE WORKS.

8.0 CONNECTIONS

8.1 ALL NAILS, BOLTS, SCREWS, CLIPS, ANCHORS AND HURRICANE TIES SHALL BE GALVANIZED OR STAINLESS STEEL.

8.2 IF GALVANIZED : ALL NUTS, BOLTS, WASHERS, NAILS, SCREWS, AND OTHER FASTENERS SHOULD BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153. ALL JOIST HANGERS, HURRICANE CLIPS AND OTHER CONNECTIONS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A525 TO A MINIMUM OF G60.

8.3 ANCHOR BOLTS SHALL BE SET IN THE CORRECT LOCATIONS USING TEMPLATES AND NOT FORCE FIT AFTER CONCRETING.

8.4 NAILS AND NAILED CONNECTIONS SHALL COMPLY WITH APPENDIX B : NAIL FASTENING SCHEDULE IN THE BERMUDA RESIDENTIAL BUILDING CODE 2014.

8.5 BOLT HOLES SHALL BE NO LARGER THAN $\frac{1}{16}$" GREATER THAN THE BOLT SHANK DIAMETER. ALL BOLTED JOINTS SHALL HAVE WASHERS FITTED UNDER THE HEAD OF THE BOLT AND UNDER THE NUT. THE SIZE OF WASHERS FOR $\frac{1}{2}$" BOLTS AND UNDER SHALL BE A MINIMUM OF 2" DIAMETER X $\frac{1}{8}$" THICK AND FOR $\frac{5}{8}$" BOLTS A MINIMUM OF 2 $\frac{1}{2}$" DIAMETER AND $\frac{3}{16}$" THICK.

8.6 BOLT STRENGTH TO BE A MINIMUM OF CLASS 4.6 OR EQUIVALENT.

8.7 ANCHOR ROD/BOLT/CONNECTION INSTALLATIONS MUST FOLLOW THE INSTRUCTIONS FOR USE (IFU) DOCUMENTATION PROVIDED WITH THE PRODUCT.

ENGINEERING CONSULTANTS:
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MINISTRY OF PUBLIC WORKS

REVISIONS

No.	DATE	BY	REVISION
01	2022-06-15	RGW	ISSUED FOR REVIEW

PROJECT DETAILS

BDA GOV - ACHILLES BAY - STAIRCASE REPAIR

TITLE

ACHILLES BAY
NOTES

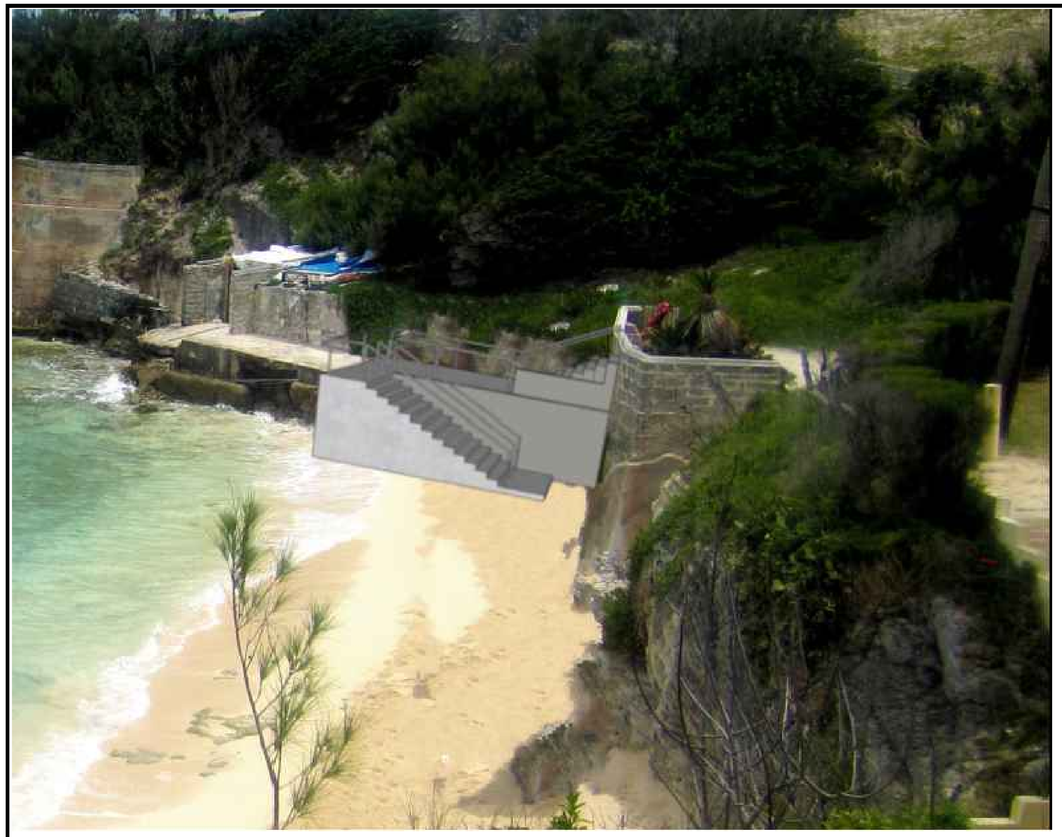
DESIGN BY: RGW
CHECKED BY: RGW

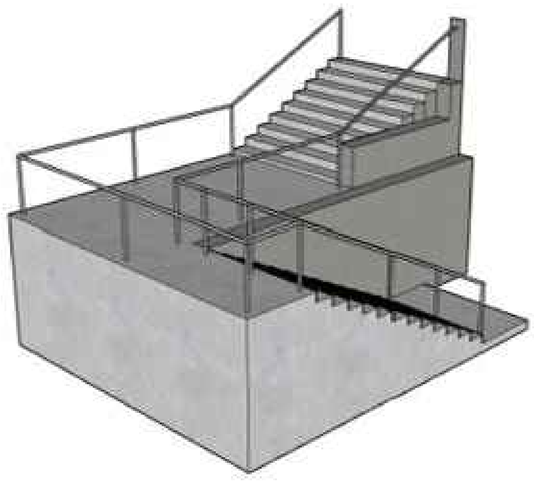
JOB No:

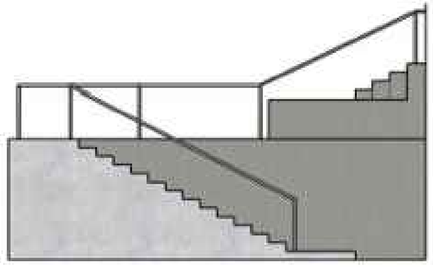
DATE: 15-JUN-2022

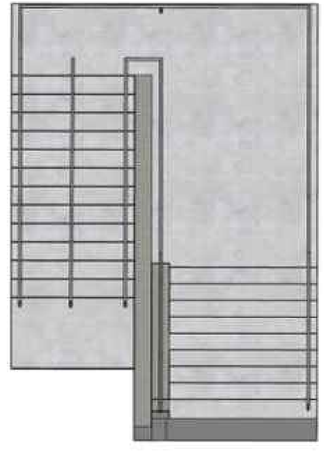
REVISION: 0

SHEET No: S-002









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PROJECT DETAILS

BDA GOV - ACHILLES BAY - STAIRCASE REPAIR

TITLE

ACHILLES BAY
3D RENDERING

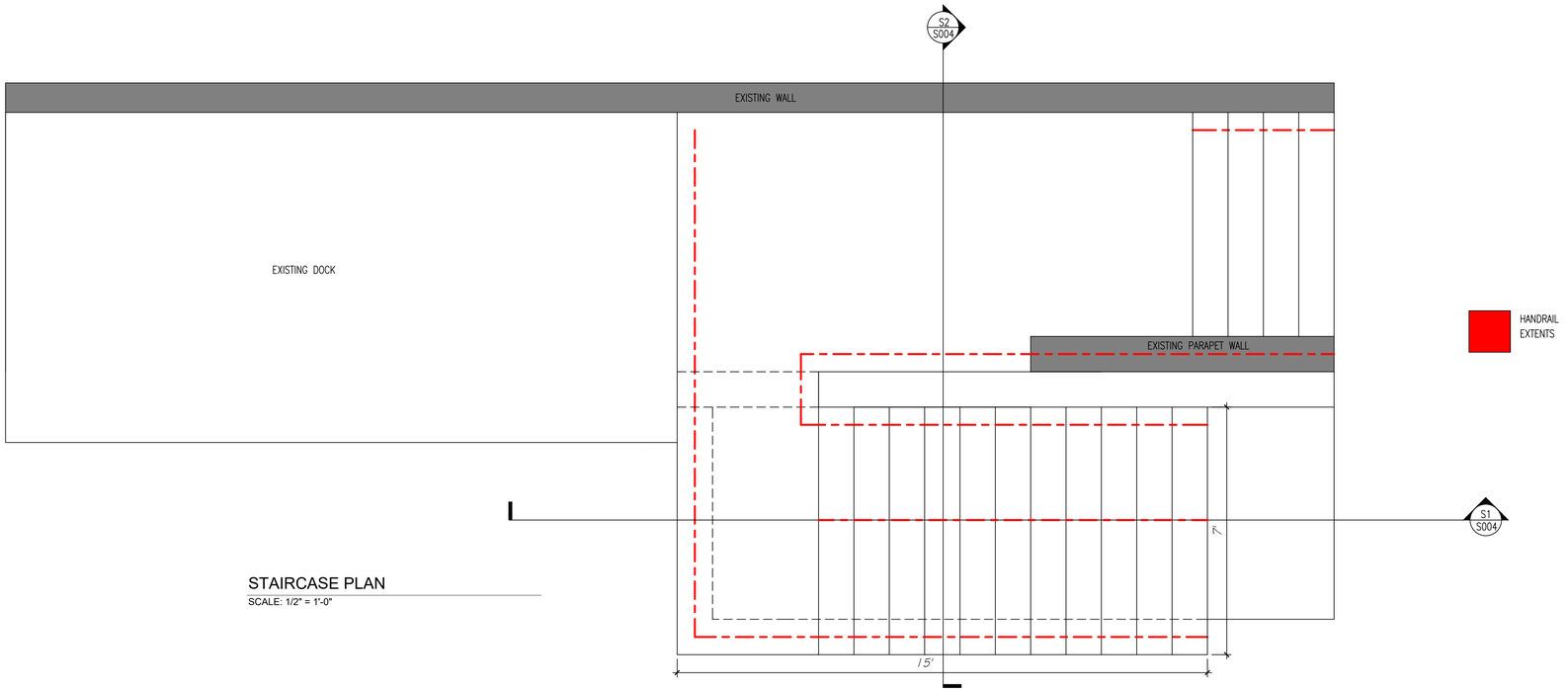
DESIGN BY: JLS
CHECKED BY: RGW

JOB No:

DATE: 15-JUN-2022

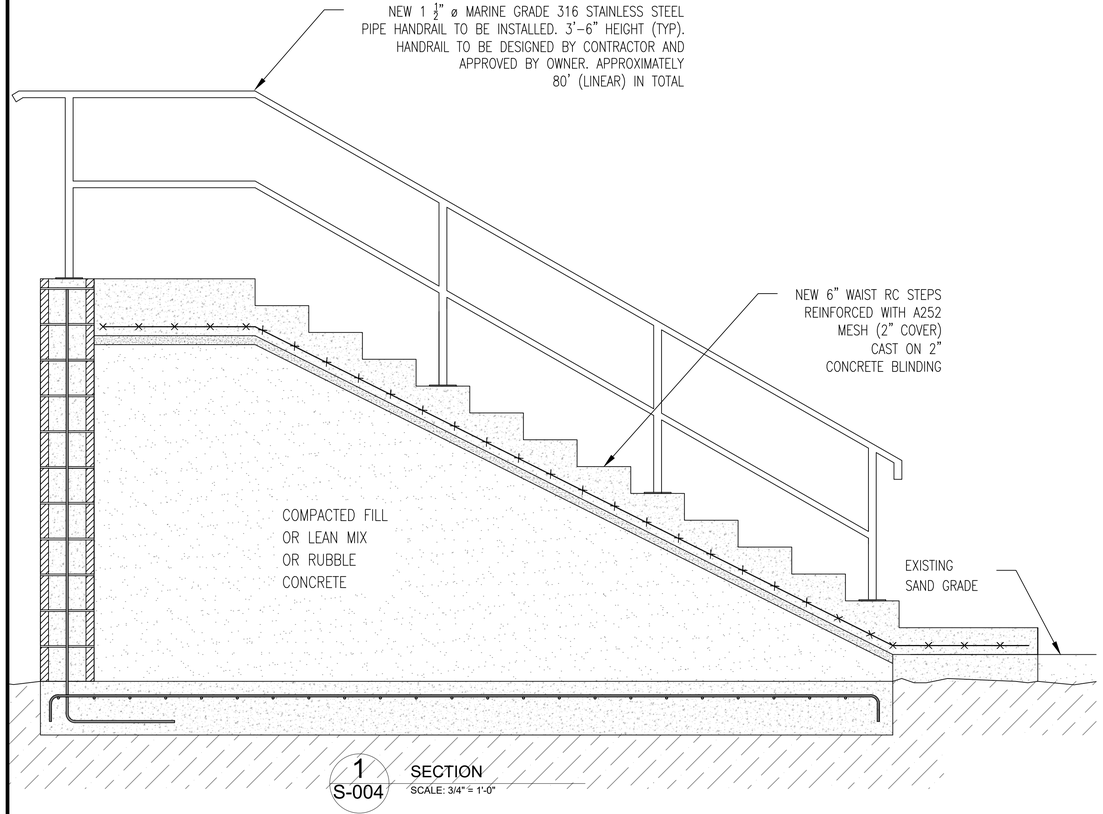
REVISION: 0

SHEET No: S-003



STAIRCASE PLAN

SCALE: 1/2" = 1'-0"



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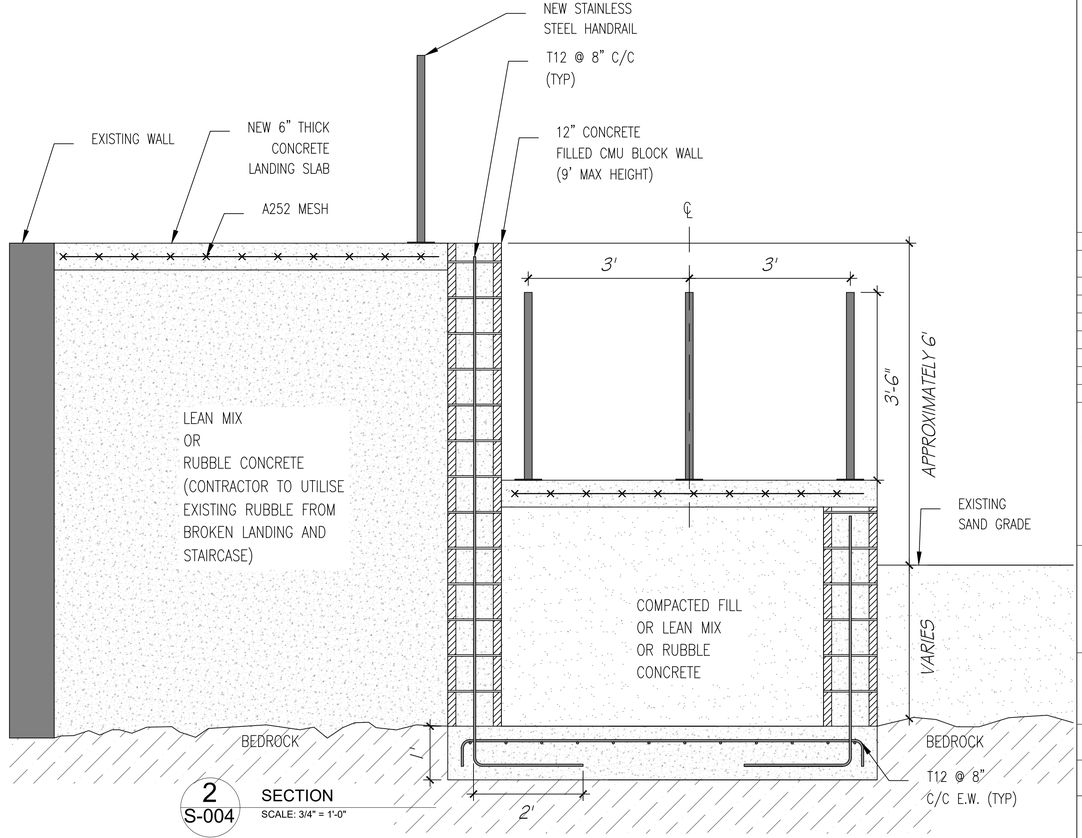

2 S-004 SECTION

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PROJECT DETAILS

BDA GOV - ACHILLES BAY - STAIRCASE REPAIR

TITLE

ACHILLES BAY
STRUCTURAL DETAILS

DESIGN BY: RGW/JLS
CHECKED BY: RGW

JOB No:

DATE: 15-JUN-2022

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SHEET No: S-004