CITY OF ALBUQUERQUE

Planning Department Alan Varela, Interim Director



Mayor Timothy M. Keller

February 14, 2025

Phillip W. Clark, P.E. Clark Consulting Engineers 19 Ryan Rd. Edgewood, NM 87015 Curtis J. Derichs, P.E. Civil Design Professionals (CDP) 7050 Territory Pass Lakeville, MN 55044

RE: Home 2 Suites Hotel 3021 University Blvd. SE Grading and Drainage Plan Engineer's Stamp Date: 02/11/25 Hydrology File: M15D047

Dear Mr. Clark and Mr. Derichs,

PO Box 1293 Based upon the information provided in your submittal received 02/14/2025, the submitted Grading & Drainage Plan is Approved for a Grading Permit, Foundation Permit and Building Permit. Please attach a copy of this approved plan in the construction sets for Building Permit processing together with a copy of this letter.

Albuquerque

In addition to the stamped Approved Grading & Drainage Plan, attached to this letter for reference are the files: 24-0987 Response Memo and 24-0987 Final Plans, for repairing the retaining walls at the southwest area of the project.

www.cabq.gov

Also, if the project total area of disturbance (including the staging area and any work within the adjacent Rights-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Doug Hughes, PE, jhughes@cabq.gov, 505-924-3420) 14 days prior to any earth disturbance.

If you have any questions, please contact me at 505-924-3362 or richardmartinez@cabq.gov.

Sincerely,

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Richard Martinez, P.E. Senior Engineer, Hydrology Planning Department





Date: February 10, 2025

Client: ABQ Airport Lodging 6004 Riverside Dr Irving, TX 75039

Project: ABQ Home2Suites Retaining Walls Albuquerque, New Mexico Project #: 24-0987

Ritesh Patel:

CDP has received the comments from the City of Albuquerque (attached) in response to our retaining wall repair plans (CDP Project# 24-0987). I will address each of there comments related to CDP below:

- 1. The specification was added (comment number 7)
- 2. Grading was revised beneath the base of wall to align closer to the base of wall while still maintaining a 12" embedment while not exceeding a maximum 2.5H:1V toe slope (comment number 8).
- 3. CDP has incorporated the updated site and grading plan from Clark Consulting Engineers who are the Civil Engineers on the project who are responsible for this plan (comment number 9).
- 4. An additional section was was provided at the existing building showing the revised grading and rip-rapped swale at the base of wall, directing storm water run-off away from the building (comment number 10).

If you have any questions, please feel free to give me a call.

Sincerely

Michael Johnson Civil Design Professionals

ABQ HOME2SUITES ALBUQUERQUE, NEW MEXICO

PROJECT INFORMATION:

- 1. SITE CIVIL ENGINEER: CLARK CONSULTING ENGINEERS
- 2. GEOTECHNICAL INFORMATION: ECS SOUTHWEST, LLP (SEE SPECIFICATION 1.02 AND 1.07 ON SHEET 2.00).
- 3. GENERAL CONTRACTOR: ABQ AIRPORT LODGING
- 4. WALL CONTRACTOR: STRUCTURES, INC.
- 5. GEOTECHNICAL ENGINEER (CONSTRUCTION): TO BE DETERMINED
- 6. UNIT TYPE: KEYSTONE COMPAC
- 7. REINFORCEMENT: MIRAFI 3XT



PROJECT VICINITY MAP

NOT TO SCALE



| SHEET INDEX | | | | | | |
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SECTION 1: GENERAL INFORMATION

1.01 SCOPE OF WORK:

- A. THE SCOPE OF WORK FOR THE PROJECT INCLUDES FURNISHING AND INSTALLING A SEGMENTAL BLOCK RETAINING WALL SYSTEM IN ACCORDANCE WITH CIVIL DESIGN PROFESSIONALS' (CDP) DESIGN PLANS AND SPECIFICATIONS. WORK INCLUDES PREPARING THE FOUNDATION SOIL, FURNISHING AND INSTALLING THE LEVELING PAD, CONCRETE RETAINING WALL BLOCKS, DRAINAGE AGGREGATE, AND BACKFILL 1.05 TESTING REFERENCES IN CONFORMANCE WITH THE LINES, GRADES, AND DIMENSIONS SHOW.
- B. MULTIPLE CONTRACTORS (FENCE, WALL, GRADING, ETC.) MAY BE INVOLVED IN THE COMPLETION OF THE OVERALL PROJECT. CDP'S DESIGN PLANS DO NOT DEFINE SCOPE OF WORK FOR INDIVIDUAL ENTITIES. SEE CONTRACT DOCUMENTS FOR SPECIFIC DETAILS ON THE SCOPE OF WORK THAT WILL BE PROVIDED BY ALL PARTIES.

1.02 GENERAL NOTES:

- A. THE OWNER IS RESPONSIBLE FOR OBTAINING A GEOTECHNICAL INVESTIGATION WITH BORINGS DRILLED ALONG THE RETAINING WALL FOLLOWING INDUSTRY STANDARDS. THE MINIMUM REQUIRED SOIL BORINGS WILL BE PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATION AND SATISFACTION.
- A.1. NCMA SECTION 12.1.1 SUBSURFACE EXPLORATION.
- A.2. AASHTO SECTION 10.4.2 SUBSURFACE EXPLORATION.
- B. THE OWNER OR OWNER'S REPRESENTATIVE HAS PROVIDED TESTED SOIL PARAMETERS FOR THE PROPOSED EARTH STRUCTURE. CONSTRUCTION VERIFICATION IS IMPERATIVE TO ENSURE THAT THE SOIL AT THE WALL LOCATIONS IS CONSISTENT WITH THE TESTED SOIL. FAILURE TO VALIDATE CONSISTENCY WITH TESTED PARAMETERS SHALL RENDER THESE PLANS VOID.
- C. OWNER SHALL ENSURE THAT RETAINING WALL CONSTRUCTION PLANS ARE DISTRIBUTED TO GENERAL CONTRACTOR, RETAINING WALL CONTRACTOR, SITE CIVIL ENGINEER, GEOTECHNICAL ENGINEERS, INSPECTORS, AND ANY OTHER PERTINENT PARTIES.
- D. THE SITE CIVIL ENGINEER SHALL REVIEW THE RETAINING WALL CONSTRUCTION PLAN ELEVATIONS, GRADES, AND DRAINAGE PATTERNS FOR COMPLIANCE WITH THE SITE CIVIL DESIGN PLANS.

1.03 CONSTRUCTION NOTES:

- A. THE CONTRACTOR SHALL CALL 811 TO HAVE UTILITIES LOCATED AND ANY OTHER APPLICABLE ENTITY BEFORE BEGINNING WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION AND AVOID IMPACTING THEM.
- B. THE CONTRACTOR SHALL COORDINATE RELOCATION OF ALL EXISTING CONDUITS AND SERVICES WITH THE UTILITY PROVIDER. IF CONFLICTS EXIST, THE SITE CIVIL ENGINEER SHALL BE CONTACTED IMMEDIATELY.
- C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS FOR EXECUTION OF WORK, INCLUDING LOCAL BUILDING INSPECTION AND CURRENT OSHA STANDARDS.
- D. THE WORK SHALL BE PERFORMED IN A GENERAL SEQUENCE DEVELOPED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS AND METHODS 1.07 PROVIDED SOIL PARAMETERS OF CONSTRUCTION AND FOR THE SEQUENCES AND PROCEDURES TO BE USED.
- E. EXCAVATION SUPPORT, IF REQUIRED, IS THE RESPONSIBILITY OF THE CONTRACTOR, INCLUDING THE STABILITY OF THE EXCAVATION AND ITS INFLUENCE ON ADJACENT PROPERTIES AND STRUCTURES.
- F. IF THE CONTRACTOR FINDS A CONFLICT, ERROR, OR DISCREPANCY WITHIN OR BETWEEN THE CONTRACT DOCUMENTS AND DESIGN PLANS, THE CONTRACTOR SHALL IMMEDIATELY REPORT THE ISSUE TO THE RESPECTIVE ENGINEER IN WRITING. THE CONTRACTOR SHALL OBTAIN A WRITTEN INTERPRETATION OR CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION. WORK DONE BEFORE THE ENGINEER RENDERS A DECISION IS AT THE SOLE RISK OF THE CONTRACTOR.
- G. UTILITIES SHALL BE PLACED DURING THE CONSTRUCTION OF THE RETAINING WALL. GEOGRIDS SHALL NOT BE CUT TO INSTALL FUTURE UTILITIES.

7050 TERRITORY PASS LAKEVILLE, MN 55044

PHONE: (952) 303-5312 | WEBSITE: WWW.CDP-US.COM SITE SOLUTION PROFESSIONALS, INC. D.B.A. CIVIL DESIGN PROFESSIONAL

1.04 TECHNICAL REFERENCES

- A. NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA) DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS - 3RD EDITION (5TH PRINTING - 2012).
- B. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) TECHNICAL MANUAL
- C. UNIFIED SOIL CLASSIFICATION SYSTEM (USCS).

- A. AMERICAN SOCIETY OF TESTING MATERIALS (ASTM) INTERNATIONAL.
- B. AMERICAN CONCRETE INSTITUTE (ACI).
- C. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO).
- D. NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA).

1.06 DESIGN INFORMATION

| ŀ | A. <u>DESIGN METHOD:</u> | NCMA |
|---|--------------------------------|---------------------------|
| E | B. RETAINING WALL INFORMATION: | |
| | UNIT TYPE: | KEYSTONE COMPAC |
| | REINFORCEMENT: | MIRAFI 3XT |
| | PERCENT COVERAGE OF GEOGRID | 100% |
| (| 2. <u>LOADING CONDITIONS:</u> | |
| | LIVE LOAD SURCHARGE | 0 PSF |
| | DEAD LOAD SURCHARGE (BUILDING) | 0 PSF |
| | HYDROSTATIC LOADING | N/A (DRAINAGE PROVIDED) |
| Ι | D. <u>WALL GEOMETRY:</u> | |
| | TOE SLOPE: | VARIES (SEE GRADING PLAN) |
| | BACK SLOPE: | VARIES (SEE GRADING PLAN) |
| | BATTER: | 7.1° |
| E | E. INTERNAL STABILITY: | (MINIMUM FOS) |
| | GEOGRID STRENGTH | 1.5 |
| | GEOGRID PULLOUT | 1.5 |
| | GEOGRID CONNECTION | 1.5 |
| | BLOCK TO BLOCK SLIDING | 1.5 |
| F | E. <u>EXTERNAL STABILITY:</u> | |
| | BASE SLIDING | 1.5 |
| | BEARING | 2.0 |
| | OVERTURNING (GRAVITY) | 1.5 |
| | OVERTURNING (REINFORCED) | 2.0 |
| | GLOBAL STABILITY | 1.3 |
| (| G. <u>SEISMIC:</u> | |
| | SEISMIC CONDITIONS | 75% OF STATIC FOS |
| | PEAK GROUND ACCELERATION (A) | 0.2g |
| | CEICLUC ANTALVOED AND DECICNI | LIAVE DEEN DEDEODICED DI |

SEISMIC ANALYSES AND DESIGN HAVE BEEN PERFORMED IN ORDER TO MITIGATE/REDUCE THE RISK OF CATASTROPHIC FAILURE AND RISK TO LIFE AND LIMB. IN THE EVENT OF A SEISMIC EVENT, AESTHETICS AND/OR MINOR DAMAGE MAY OCCUR.

| | φ | с | γ | SOIL TYPE |
|---------------------|-----|----------|----------|-----------------|
| REINFORCED BACKFILL | 0° | 2000 PSF | 140 PCF | CONCRETE |
| RETAINED BACKFILL | 40° | 0 PSF | 120 PCF | SILTY SAND (SM) |
| FOUNDATION SOIL | 40° | 0 PSF | 120 PCF | SILTY SAND (SM) |
| LEVELING PAD | 40° | 0 PSF | 135 PCF | AGGREGATE |

| Шt | |
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| ╟ | No. 1 | Date 02/10/2025 | Revision REVISED AS PER CITY OF ALBUQUERQUE COMMENTS | By MRJ | Designed By: MRJ | Project: ABQ HOME2SUITES |
|----|----------|--------------------|---|-----------|---------------------|-----------------------------|
| ▐ | 2 | | | | Scale: N.T.S. | ALDOQUERQUE, NEW MEXICO |
| ╠ | 4 | | | | Date: | Title: SPECIFICATIONS: |
| lt | 6 | | | | NOV 25, 2024 | GENERAL INFORMATION |

2.00 GENERAL INFORMATION:

LODGING, LLC).

A. GENERAL INFORMATION: DOCUMENTATION OR REFERENCE TO DOCUMENTATION SHALL BE PROVIDED BY THE PROPERTY OWNER TO THE NORTHWEST OF THIS THIS PROJECT SPECIFICALLY ALLOWING CONSTRUCTION OR REPAIRS TO BE INITIATED AND COMPLETED ON THE PROPERTY TO THE NORTHWEST OF THIS PROJECT (REFERENCE SECOND AMENDMENT TO THE CONSTRUCTION AND MAINTENANCE EASEMENT AGREEMENT BETWEEN LESARDE ENTERPRISES, LLC AND ABO AIRPORT



SECTION 2: MATERIALS:

2.04 GEOGRID

2.01 DEFINITIONS

- A. ADHESIVE: HIGH STRENGTH CONSTRUCTION ADHESIVE FOR BONDING CONCRETE TO CONCRETE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
- B. COLLECTION DRAIN SYSTEM: A SYSTEM FOR COLLECTING AND REMOVING WATER FROM BEHIND THE RETAINING WALL.
- C. DENSE GRADED AGGREGATE: LOW PERMEABLE MATERIAL USED TO HELP FACILITATE 2.05 LEVELING PAD DRAINAGE THROUGH THE FACE OF THE RETAINING WALL.
- D. DRAINAGE AGGREGATE: CLEAN CRUSHED ANGULAR STONE LOCATED WITHIN AND DIRECTLY BEHIND THE RETAINING WALL UNITS TO THE DEPTH SPECIFIED ON THE CROSS SECTION, INCLUDING UNIT CORE FILL (IF APPLICABLE).
- E. EXPANSION MATERIAL: 0.5-INCH FELT EXPANSION BOARD OR POLYSTYRENE FOAM BOARD
- F. FOUNDATION SOIL: SOIL IMMEDIATELY BENEATH THE RETAINING WALL LEVELING PAD AND REINFORCED SOIL.
- G. GEOGRID: A GEOSYNTHETIC MATERIAL MANUFACTURED OF HIGH TENSILE MATERIALS SPECIFICALLY FOR THE PURPOSE OF REINFORCING AND CREATING A STRUCTURAL SOIL MASS
- H. GEOTEXTILE FABRIC: A GEOSYNTHETIC MATERIAL MANUFACTURED FOR THE PURPOSE OF SOIL SEPARATION AND DRAINAGE.
- I. LEVELING PAD: A CONCRETE OR COMPACTED SOIL PAD WHICH SERVES AS A FLAT SURFACE FOR PLACING THE INITIAL COURSE OF UNITS (SEE SPECIFICATION 2.05).
- LOW PERMEABLE SOIL CAP: LOW PERMEABLE SOIL, CONTAINING A MINIMUM OF 40% PASSING THE NO. 200 SIEVE AND A LIQUID LIMIT (LL) AND PLASTICITY INDEX (PI) OF 2.07 DRAINAGE AGGREGATE LESS THAN 30 AND 15 RESPECTIVELY, PLACED OVER THE REINFORCED AND/OR RETAINED BACKFILL.
- K. NO FINES CONCRETE: CONCRETE MATERIAL POURED BEHIND AND WITHIN THE RETAINING WALL UNITS TO CREATE A DEEPER COMPOSITE MASS.
- L. <u>REINFORCED</u> <u>BACKFILL</u>: SOIL EXTENDING FROM THE BACK OF THE DRAINAGE AGGREGATE TO THE ENDS OF THE EMBEDDED GEOGRID.
- M. RETAINED BACKFILL: SOIL DIRECTLY BEHIND THE RETAINING WALL REINFORCED BACKFILL. THE RETAINED ZONE IS DEFINED AS A LINE THAT EXTENDS UPWARD AT A 1H:1V FROM THE BACK BASE OF THE REINFORCED ZONE TO THE TOP OF WALL ELEVATION
- N. RETAINING WALL UNIT (SRW): A DRY CAST CONCRETE SEGMENTAL RETAINING WALL 2.08 FOUNDATION SOIL FACING UNIT SAWN, CUT, SPLIT, OR OTHERWISE FINISHED OR SHAPED.

2.02 KEYSTONE RETAINING WALL UNITS

- A. RETAINING WALL SHALL BE COMPRISED OF KEYSTONE UNITS MANUFACTURED BY A LICENSED PRODUCER.
- B. KEYSTONE WALL UNITS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH 2.09 REINFORCED BACKFILL OF 3,000 PSI. WEIGHT OF CONCRETE SHALL BE 125 PCF. MAXIMUM ABSORPTION OF 13 PCF
- C. BLOCKS SHALL BE FREE OF CRACKS OR OTHER DEFECTS THAT WOULD INTERFERE WITH THE PROPER PLACING OF THE UNIT OR SIGNIFICANTLY IMPAIR THE STRENGTH OR PERFORMANCE OF THE CONSTRUCTION. MINOR CRACKS 2.10 RETAINED BACKFILL INCIDENTAL TO THE STANDARD METHOD OF MANUFACTURING OR MINOR CHIPPING RESULTING FROM CUSTOMARY METHODS OF HANDLING IN SHIPMENT AND DELIVERY, ARE NOT GROUNDS FOR REJECTION.
- D. FIVE PERCENT OF A SHIPMENT CONTAINING CHIPS NOT LARGER THAN 1-INCH IN ANY DIMENSION, OR CRACKS NOT WIDER THAN 0.02-INCHES AND NOT LONGER THAN 25% OF THE NOMINAL HEIGHT OF THE UNITS IS PERMITTED.
- E. THE FACE OF UNITS EXPOSED IN WALL CONSTRUCTION SHALL NOT SHOW CHIPS OR CRACKS, NOT OTHERWISE PERMITTED, OR OTHER IMPERFECTIONS WHEN VIEWED FROM A DISTANCE OF NOT LESS THAN 20-FEET UNDER DIFFUSED LIGHTING.
- F. IF PINS OR CLIPS ARE USED BY THE RETAINING WALL SUPPLIER TO INTERCONNECT SRW UNITS, THEY SHALL CONSIST OF NON-DEGRADING POLYMER OR GALVANIZED STEEL AND BE MADE FOR THE EXPRESS USE WITH THE SRW UNITS SUPPLIED.

2.03 GEOTEXTILE FABRIC

- A. GEOTEXTILE FABRIC, IF REQUIRED, SHALL BE MIRAFI 180N OR APPROVED EQUAL (80Z MINIMUM) AND SHALL MEET THE PROPERTIES SPECIFIED BY THE MANUFACTURER.
- B. ALL GEOTEXTILE SEAMS SHALL BE OVERLAPPED BY A MINIMUM OF 12-INCHES.

- A. GEOGRID SHALL BE THE TYPE AND STRENGTH SPECIFIED IN THE CONSTRUCTION DRAWINGS AND SHALL MEET THE PROPERTIES SPECIFIED BY THE MANUFACTURER. ANY SUBSTITUTION REQUIRES WRITTEN APPROVAL BY CDP PRIOR TO WALL CONSTRUCTION
- B. GEOGRID SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- A. SOIL LEVELING PAD SHALL CONSIST OF COMPACTED SAND, GRAVEL, CRUSHED STONE, OR ANY COMBINATION THEREOF (USE SOIL TYPE GP, GW, SP, OR SW PER USCS)
- B. CONCRETE LEVELING PAD MAY BE UNREINFORCED AND SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2,500 PSI. CONCRETE MUST CURE A MINIMUM OF 12-HOURS PRIOR TO PLACING ANY KEYSTONE UNITS.

2.06 COLLECTION DRAIN SYSTEM

- A. SUBSURFACE DRAINAGE SYSTEM CONSTRUCTED OF 4" PERFORATED HDPE OR PVC PIPE MANUFACTURED IN ACCORDANCE WITH AASHTO M252 OR ASTM D3034 RESPECTIVELY. IF THE PIPE IS NOT PLACED WITHIN CLEAN CRUSHED STONE IT SHALL BE WRAPPED IN A GEOTEXTILE FABRIC.
- B. USE NON-PERFORATED PIPE TO OUTLET THROUGH FACE OF WALL, BENEATH WALL, AND WHEN CONNECTING TO DRAINAGE STRUCTURES.
- C. PIPE FITTINGS SHALL BE PER MANUFACTURER'S RECOMMENDATION.

A. MATERIAL SHALL BE DURABLE CLEAN CRUSHED STONE HAVING AT LEAST TWO FRACTURED FACES AND COMPLY WITH THE FOLLOWING GRADATION:

| SIEVE SIZE | % PASSING |
|------------|-----------|
| 1-INCH | 100 |
| 3/4 - INCH | 75 - 10 |
| NO. 4 | 0 - 10 |
| NO. 50 | 0 - 5 |

B. ROUNDED AGGREGATE (E.G. RIVER ROCK AND PEA GRAVEL) IS NOT ACCEPTABLE DRAINAGE AGGREGATE MATERIAL.

- A. THE FOUNDATION SOIL IS ASSUMED TO BE SILTY SAND (SM) EXHIBITING A MINIMUM EFFECTIVE INTERNAL FRICTION ANGLE OF 40° AND A COHESION OF 0 PSF.
- B. THE FOUNDATION SOIL SHALL BE FREE OF DEBRIS, HIGH PLASTIC CLAY, FROST, ICE, ORGANIC MATTER (<1%), AND OTHER DELETERIOUS MATERIALS.

A. MATERIAL SHALL BE CONCRETE EXHIBITING A MINIMUM EFFECTIVE INTERNAL FRICTION ANGLE OF 0° AND A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2,000PSI AND A MINIMUM UNIT WEIGHT OF 140 PCF.

A. MATERIAL SHALL BE SILTY SAND (SM) EXHIBITING A MINIMUM EFFECTIVE INTERNAL FRICTION ANGLE OF 40°. A COHESION OF 0 PSF, AND COMPLY WITH THE FOLLOWING **GRADATION**

| SIEVE SIZE | % PASSING |
|------------|-----------|
| 2-INCH | 100 |
| 3/4-INCH | 100 - 75 |
| NO. 4 | 20 - 100 |
| NO. 40 | 0 - 60 |
| NO. 200 | 0 - 25 |
| FX (PI)<10 | |

PLASTICITY INDEX (PI)<10 4.5 < PH < 9

- B. MATERIAL SHALL BE FREE OF DEBRIS, HIGH PLASTIC CLAY, ICE, ORGANIC MATTER (<1%), AND OTHER DELETERIOUS MATERIALS.
- C. MATERIAL MAY BE SITE EXCAVATED WHEN THE ABOVE REQUIREMENTS ARE MET.

| TOP | CIVIL DESIGN | No. Date Revision By 1 02/10/2025 REVISED AS PER CITY OF ALBUQUERQUE COMMENTS MR 2 | Designed By: MRJ Scale: N T S | Project: ABQ HOME2SUITES ALBUQUERQUE, NEW MEXICO |
|-----|--|--|--|--|
| | PROFESSIONALS 7050 TERRITORY PASS LAKEVILLE, MN 55044 PHONE: (952) 303-5312 WEBSITE: WWW.CDP.US.COM STE SOLUTION PROFESSIONALS INC. D.B.A. CIVIL DESIGN PROFESSIONALS | 3 4 4 6 | Date: NOV 25, 2024 | Title: SPECIFICATIONS: MATERIALS |

- 2.11 BACK SLOPE FILL MATERIAL
- 2.12 DENSE GRADED AGGREGATE

A. MATERIAL SHALL EXHIBIT A MINIMUM EFFECTIVE INTERNAL FRICTION ANGLE OF 40° AND COMPLY WITH THE FOLLOWING GRADATION: ING

PLASTICITY INDEX LIQUID LIMIT (LL) < 20

A. MATERIAL SHALL BE APPROVED STRUCTURAL FILL PER THE GEOTECHNICAL ENGINEER AND SHALL EXHIBIT THE MINIMUM EFFECTIVE STRESS PARAMETERS REQUIRED TO PERMANENTLY MAINTAIN SLOPE STABILITY. B. MATERIAL SHALL BE FREE OF DEBRIS, HIGH PLASTIC CLAY, ICE, ORGANIC MATTER (<1%), AND OTHER DELETERIOUS MATERIALS.

| SIEVE SIZE | % PASSI |
|------------------------------------|----------|
| 1-INCH | 100 |
| ³ / ₄ − INCH | 95 - 100 |
| NO.4 | 35 - 70 |
| NO. 40 | 10-35 |
| NO. 200 | 5 - 15 |
| X (PI) < 10 | |
| | |



SECTION 3: EXECUTION

3.01 CONSTRUCTION STAKING

- A. STAKING SHALL BE PERFORMED BY A LICENSED SURVEYOR.
- B. WALL STATIONING SHOWN IS RELATIVE TO EACH WALL AND NOT TO ANY OTHER STATIONING SHOWN ON THE CONTRACT PLANS (UNLESS OTHERWISE NOTED). STATION 0.00 IS ON THE LEFT END OF WALL AS VIEWED FROM THE FRONT OF THE WALL (UNLESS OTHERWISE NOTED ON WALL ELEVATION).

3.02 EXCAVATION

A. CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS. CONTRACTOR SHALL BE CAREFUL NOT TO DISTURB EMBANKMENT AND FOUNDATION MATERIALS BEYOND LINES SHOWN. EXCAVATION FOR CONSTRUCTION OF THE RETAINING WALL SHALL CONFORM TO OSHA REQUIREMENTS FOR SAFE EXCAVATION.

3.03 SOIL COMPACTION

- A. COARSE GRAINED SOILS: ALL COARSE GRAINED SOIL SHALL BE PLACED IN MAXIMUM 9-INCH LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95% OF ITS STANDARD PROCTOR DENSITY AS DETERMINED BY ASTM D698. THE MOISTURE CONTENT OF THE BACKFILL MATERIAL, PRIOR TO AND DURING CONSTRUCTION, SHALL BE UNIFORMLY DISTRIBUTED THROUGHOUT EACH LAYER AND SHALL BE WITHIN A RANGE OF ±2° OF OPTIMUM MOISTURE CONTENT.
- B. FINE GRAINED SOILS: ALL FINE GRAINED SOIL SHALL BE PLACED IN MAXIMUM 8-INCH LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95% OF ITS STANDARD PROCTOR DENSITY AS DETERMINED BY ASTM D698. THE MOISTURE CONTENT OF THE BACKFILL MATERIAL, PRIOR TO AND DURING CONSTRUCTION, SHALL BE UNIFORMLY DISTRIBUTED THROUGHOUT EACH LAYER AND SHALL BE WITHIN A RANGE OF ±2° OF OPTIMUM MOISTURE CONTENT.
- C. CRUSHED STONE: CRUSHED STONE SHALL BE PLACED IN MAXIMUM 12-INCH LOOSE LIFTS AND COMPACTED WITH A MINIMUM OF THREE (3) PASSES OF A VIBRATORY COMPACTOR (OR OTHER SUITABLE EQUIPMENT) CAPABLE OF EXERTING A MINIMUM OF 3,000 LBS OF CENTRIFUGAL FORCE AND TO THE SATISFACTION OF THE 3.08 CONCRETE INSTALLATION GEOTECHNICAL ENGINEER.
- D. D. ONLY LIGHTWEIGHT HAND-OPERATED COMPACTION EQUIPMENT SHALL BE USED WITHIN 3-FEET OF THE BACK OF WALL.

3.04 FOUNDATION SOIL PREPARATION

- A. FOUNDATION SOIL SHALL BE EXCAVATED FOR PLACEMENT OF THE LEVELING PAD AND BACKFILL MATERIAL AS SHOWN ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER (WHICHEVER IS MORE STRINGENT).
- B. FOUNDATION SHALL BE EXAMINED BY THE GEOTECHNICAL ENGINEER TO CONFIRM THAT THE ACTUAL FOUNDATION CONDITIONS MEET OR EXCEED THE DESIGN ASSUMPTIONS. AT A MINIMUM, FOUNDATION SOIL SHALL BE PROOF-ROLLED BEFORE CONSTRUCTION PROCEEDS, SUBGRADE MATERIAL NOT MEETING THE REQUIRED STRENGTH SHALL BE REMOVED AND REPLACED WITH SUITABLE STRUCTURAL FILL PER THE GEOTECHNICAL ENGINEER.
- C. OVER-EXCAVATED AREAS SHALL BE BACKFILLED WITH APPROVED STRUCTURAL FILL AND COMPACTED AS PER SPECIFICATION 3.03.

3.05 BASE LEVELING PAD

- A. LEVELING PAD MATERIALS SHALL BE PLACED UPON AN APPROVED FOUNDATION AS SHOWN ON THE CONSTRUCTION DRAWINGS TO A MINIMUM THICKNESS OF ----INCHES, OR AS SHOWN ON WALL PROFILE SHEETS, AND COMPACTED AS PER SPECIFICATION 3.03 (SOIL LEVELING PAD).
- B. LEVELING PAD SHALL BE PREPARED TO ENSURE COMPLETE CONTACT WITH THE BASE RETAINING WALL UNITS.

3.06 MODULAR WALL UNIT INSTALLATION

- A. THE FIRST COURSE OF KEYSTONE UNITS SHALL BE CAREFULLY PLACED ON TOP OF AND IN FULL CONTACT WITH THE LEVELING PAD. THE BASE UNITS SHALL BE CLOSELY ABUTTED TOGETHER AT THE LOCATIONS AND ELEVATIONS SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS. THE HORIZONTAL GAP BETWEEN UNITS SHALL NOT EXCEED 1/4INCH. EACH UNIT SHALL BE CHECKED FOR PROPER ELEVATION, ALIGNMENT, AND THAT IT IS LEVEL.
- B. UNITS ARE PLACED SIDE BY SIDE FOR FULL LENGTH OF WALL ALIGNMENT. ALIGNMENT MAY BE ACHIEVED WITH THE AID OF A STRING LINE OR OFFSET FROM A BASE LINE.

- C. DRAINAGE AGGREGATE SHALL BE PLACED BETWEEN THE UNITS, WITHIN THE UNITS 3.10 REINFORCED BACKFILL PLACEMENT (UNIT CORE FILL, IF APPLICABLE), AND IMMEDIATELY BEHIND THE UNITS TO THE DRAINAGE ZONE DEPTH SPECIFIED ON THE CROSS SECTION. THE DRAINAGE AGGREGATE SHALL BE PLACED AND COMPACTED AS PER SPECIFICATION 3.03.
- D. PRIOR TO PROCEEDING TO THE NEXT COURSE, SWEEP EXCESS MATERIAL FROM TOP OF UNITS
- E. UNITS MAY BE SHIMMED WITH GEOGRID REINFORCEMENT, ASPHALT ROOFING SHINGLES, OR ROLLED ROOFING TO MAINTAIN FACE BATTER AND UNIFORM BLOCK 3.11 RETAINED BACKFILL PLACEMENT ELEVATIONS. SHIMMING MATERIAL SHALL MAINTAIN A MAXIMUM NOMINAL THICKNESS OF 1/8-INCH AND SHALL ONLY OCCUR AT COURSES OF BLOCK WHERE PRIMARY LAYERS OF REINFORCEMENT ARE NOT PRESENT. CONTRACTOR SHALL TAKE PRECAUTIONS TO CONTINUOUSLY SUPPORT A SHIMMED UNIT TO PREVENT POINT LOADING THAT MAY INDUCE UNIT CRACKING. THE WALL CONTRACTOR MAY ALSO GRIND UNITS AS NECESSARY TO MAINTAIN FACE BATTER AND UNIFORM BLOCK ELEVATIONS.
- F. SEE MANUFACTURER'S INFORMATION FOR ADDITIONAL INSTALLATION REQUIREMENTS.

3.07 COLLECTION DRAIN PLACEMENT

- A. INSTALL COLLECTION DRAIN SYSTEM PER THE APPROVED CONSTRUCTION SHOP DRAWINGS.
- B. THE COLLECTION DRAIN SYSTEM SHALL DRAIN SURFACE WATER INFILTRATION AND GROUNDWATER AWAY FROM THE REINFORCED AND RETAINED BACKFILL ZONES. THE COLLECTION DRAIN SYSTEM SHALL OUTLET INDEPENDENT OF THE STORM DRAIN SYSTEMS AT LOCATIONS THAT MOVE THE WATER AWAY FROM THE WALL WHEREVER POSSIBLE.
- C. THE DRAIN PIPE SHALL BE PLACED TO MAINTAIN GRAVITY FLOW (1% MINIMUM).
- D. DO NOT CONNECT ANY OTHER DRAINS INTO THE COLLECTION DRAIN SYSTEM.
- E. DO NOT OUTLET UPPER TIERED WALL COLLECTION DRAIN SYSTEM ONTO LOWER TIERED WALL.
- F. TIERED WALL DRAINS SHALL REMAIN INDEPENDENT OF EACH OTHER.

A. POUR CONCRETE IN MAXIMUM 8" LIFTS TO THE DEPTHS AND ELEVATION SPECIFIED ON WALL ELEVATION PLAN SHEETS. PLACE GEOTEXTILE FILTER FABRIC BETWEEN NO FINES CONCRETE AND BOTH THE FOUNDATION AND RETAINED MATERIAL.

3.09 GEOGRID INSTALLATION

- A. GEOGRID SHALL BE ORIENTED WITH THE HIGHEST STRENGTH AXIS PERPENDICULAR TO THE WALL ALIGNMENT. CORRECT ORIENTATION (ROLL DIRECTION) SHALL BE VERIFIED BY CONTRACTOR PRIOR TO WALL INSTALLATION.
- B. GEOGRID SHALL BE PLACED AT THE ELEVATIONS AND TO THE EXTENTS SHOWN ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE ENGINEER. GEOGRID SHALL BE PLACED IN A MANNER TO ENSURE 100% COVERAGE PARALLEL TO THE WALL FACE.
- C. THE GEOGRID SHALL BE LAID HORIZONTALLY ON COMPACTED BACKFILL. THE GEOGRID SHALL BE PULLED TAUT (50LBS/FT) TO ELIMINATE LOOSE FOLDS AND PRETENSION THE REINFORCEMENT. STAKE OR SECURE THE BACK EDGE OF THE GEOGRID PRIOR TO BACKFILLING AND COMPACTION.
- D. GEOGRID LAYERS SHALL BE ONE CONTINUOUS PIECE FOR THEIR ENTIRE EMBEDMENT LENGTH. OVERLAP OR SPLICING OF THE GEOGRID IN THE DESIGN STRENGTH DIRECTION (PERPENDICULAR TO THE WALL FACE) SHALL NOT BE PERMITTED
- E. TRACKED OR RUBBER TIRE EQUIPMENT SHALL NOT BE OPERATED DIRECTLY ON THE GEOGRID REINFORCEMENT. A MINIMUM FILL THICKNESS OF 6-INCHES IS REQUIRED PRIOR TO OPERATION OF EQUIPMENT OVER THE GEOGRID 3.15 AS-BUILT CONSTRUCTION TOLERANCES: REINFORCEMENT. TURNING OF EQUIPMENT SHOULD BE KEPT TO A MINIMUM TO PREVENT DISPLACING THE FILL AND DAMAGING OR MOVING THE GEOGRID REINFORCEMENT.
- F. NO CHANGES TO GEOGRID WITHOUT WRITTEN APPROVAL OF CDP: INCLUDING, BUT NOT LIMITED TO, LAYOUT, LENGTH, TYPE, OR ELEVATION SHALL BE PERMITTED.
- G. SEE MANUFACTURER'S INFORMATION FOR ADDITIONAL REQUIREMENTS REGARDING THE GEOGRID INSTALLATION.

SJ. DEP CONSTRUCTION ADJACENT TO WALL: A. THE OWNER OR OWNER'S REPRESENTATIVE IS RESERVABLE. FOR EXPERING THAT CONSTRUCTION ADJACENT TO THE WALL DURING CANDON'S CONSTRUCTION WILL NOT DISTURB THE WALL OR PLACE TEMPORARY OR FERMANEND LOADS ON THE WALL EXCEEDING THE DESIGN LOADS, INCLUDING BUT 19976 LIMITED TO WATER 3.16 CONSTRUCTION ADJACENT TO WALL: PRESSURE, TEMPORARY GRADES, EQUIPMENT LEADING, AND FUTURE/STRECTURES.

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| | 7650 TERRITORY PASS LAKEVILLE, MN 55044 PHONE, (952) 053312 (WEBSTER WWW.CDPUS.COM SITE SOLUTION PROFESSIONALS, INC. D.B.A. CIVIL DISGON PROFESSIONALS | 4 | Date: NOV 25, 2024 | Title: SPECIFICATIONS: EXECUTION | Sheet No: 2.02 | DERICHS, CURP, P.E. Date: 2/13/2025 |

3.13 CAPSTONE AND FREESTANDING UNIT INSTALLATION

- MASONRY TO MASONRY.
- 3.14 SITE DRAINAGE

 - - MAXIMUM.

A. REINFORCED BACKFILL MATERIAL SHALL BE PLACED, SPREAD, AND COMPACTED IN SUCH A MANNER THAT MINIMIZES THE DEVELOPMENT OF SLACK IN THE GEOGRID. B. REINFORCED BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED AS PER SPECIFICATION 3.03 OR PER THE GEOTECHNICAL ENGINEERS RECOMMENDATION (WHICHEVER IS MORE STRINGENT).

A. RETAINED BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED AS PER SPECIFICATION 3.03 OR PER THE GEOTECHNICAL ENGINEERS RECOMMENDATION (WHICHEVER IS MORE STRINGENT).

3.12 BACK SLOPE PLACEMENT

A. ALL BACKFILL PLACED ABOVE THE REINFORCED AND RETAINED BACKFILL SHALL BE PLACED AND COMPACTED AS PER SPECIFICATION 3.03 OR PER THE GEOTECHNICAL ENGINEERS RECOMMENDATION (WHICHEVER IS MORE STRINGENT).

A. PRIOR TO PLACING CAPSTONES AND FREESTANDING UNITS, CLEAN BLOCK AND APPLY ADHESIVE PER THE MANUFACTURER'S RECOMMENDATIONS.

B. TRIM SIDES OF INTERIOR CAPSTONES TO ENSURE PROPER FIT OF WALL CAPSTONE. DO NOT LEAVE CUT SURFACES EXPOSED TO VIEW IN THE FINISHED WALL

C. ADHESIVE SHALL BE DESIGNED TO WITHSTAND MOISTURE AND TEMPERATURE EXTREMES, REMAIN FLEXIBLE, AND SPECIFICALLY FORMULATED FOR BONDING

A. POOR PERFORMANCE AND/OR FAILURE OF RETAINING WALLS DURING AND AFTER CONSTRUCTION CAN OCCUR IF UNANTICIPATED STORM WATER IMPACTS THE WALL. THEREFORE IT IS CRITICAL THAT ANY POTENTIAL DRAINAGE ISSUES THAT BECOME APPARENT DURING OR AFTER CONSTRUCTION BE ADDRESSED IMMEDIATELY TO AVOID RETAINING WALL PERFORMANCE ISSUES.

B. CONTRACTOR SHALL PROTECT RETAINING WALLS AGAINST SURFACE WATER RUNOFF FROM ADJACENT AREAS AT ALL TIMES THROUGH THE USE OF BERMS, DIVERSION DITCHES, TEMPORARY DRAINS, OR ANY OTHER MEANS NECESSARY.

C. AT THE END OF EACH DAYS OPERATION, THE CONTRACTOR SHALL SLOPE THE LAST LIFT AWAY FROM THE WALL FACING TO DIRECT RUNOFF AWAY FROM THE WALL.

D. AT COMPLETION OF WALL CONSTRUCTION, BACKFILL SHALL BE PLACED LEVEL WITH FINAL TOP OF WALL ELEVATION. IF FINAL GRADING, PAVING, LANDSCAPING, OR STORM DRAINAGE INSTALLATIONS ADJACENT TO THE WALL ARE NOT PLACED IMMEDIATELY AFTER THE WALL CONSTRUCTION IS COMPLETED, TEMPORARY GRADING AND DRAINAGE SHALL BE PROVIDED TO ENSURE WATER RUNOFF IS NOT DIRECTED TOWARDS THE WALL NOR ALLOWED TO COLLECT OR POND BEHIND THE WALL UNTIL FINAL CONSTRUCTION ADJACENT TO THE WALL IS COMPLETED.

E. ALL SLOPES ABOVE OR BELOW THE RETAINING WALL SHALL BE IMMEDIATELY VEGETATED AND PROTECTED FROM EROSION. SLOPES ABOVE THE RETAINING WALL STEEPER THAN AN 8H:1V SHALL HAVE A SILT FENCE INSTALLED AND MAINTAINED UNTIL ADEQUATE VEGETATION CAN BE ESTABLISHED.

F. THE RETAINING WALLS ARE NOT DESIGNED TO RESIST CONCENTRATED FLOWS: INCLUDING, BUT NOT LIMITED TO, DOWNSPOUTS, SUMP PUMPS, AND SWALES. ALL CONCENTRATED FLOWS SHALL BE COLLECTED IN A SUB-DRAIN SYSTEM, DIRECTED AWAY FROM AND/OR AROUND THE ENDS OF RETAINING WALLS. ANY CHANGE IN SURFACE WATER DIRECTION OR CONNECTION INTO SITE STORM SEWER SYSTEM SHALL BE SUBMITTED TO THE SITE CIVIL ENGINEER FOR REVIEW AND APPROVAL.

A. HORIZONTAL ALIGNMENT: ±0.75-INCHES OVER ANY 10-FOOT DISTANCE; 3-INCHES

B. WALL BATTER: WITHIN ±1° (NOT LESS THAN 0°) OF DESIGN BATTER. C. CORNERS, BENDS, AND CURVES: ±2-FEET FROM THEORETICAL POSITION. D. MAXIMUM DIFFERENTIAL SETTLEMENT: L/200 (0.5% OF REFERENCES LENGTH)). E. TOTAL SETTLEMENT: 2-INCHES MAXIMUM.

SECTION 4: QUALITY ASSURANCE

4.01 OWNER/GENERAL CONTRACTOR:

- A. THE OWNER OR GENERAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND CONTRACTING FOR PROFESSIONAL GEOTECHNICAL ENGINEERING AND RETAINING WALL CONSTRUCTION INSPECTION SERVICES PER SPECIFICATION 4.02 AND 4.03 RESPECTIVELY.
- B. THE OWNER SHALL BE RESPONSIBLE FOR LONG TERM MAINTENANCE (SEE SPECIFICATION 4.05)

4.02 PROFESSIONAL GEOTECHNICAL ENGINEER:

- A. THE GEOTECHNICAL ENGINEER SHALL OBSERVE SITE SOIL CONDITIONS FOR COMPLIANCE WITH RETAINING WALL DESIGN PLANS PRIOR TO WALL CONSTRUCTION. IF THE GEOTECHNICAL ENGINEER DETERMINES THE ONSITE SOIL WILL NOT EXHIBIT THE EFFECTIVE STRESS PARAMETERS ASSUMED IN THE DESIGN PLANS, THE WALL CONSTRUCTION SHALL NOT COMMENCE UNTIL AN APPROPRIATE SOLUTION IS DETERMINED.
- B. THE GEOTECHNICAL ENGINEER SHALL INSPECT AND EVALUATE THE FOUNDATION SOILS AT THE RETAINING WALL LOCATIONS, PRIOR TO CONSTRUCTION, TO ENSURE THEY WILL SAFELY SUPPORT THE MAXIMUM APPLIED LOADS PROVIDED ON THE WALL PROFILES WITHOUT FAILURE OR EXCESSIVE DIFFERENTIAL SETTLEMENT PER SPECIFICATION 3.14D. ANY UNSUITABLE SOIL OR IMPROPERLY COMPACTED EMBANKMENT MATERIAL SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE GEOTECHNICAL ENGINEER TO ACHIEVE ADEQUATE BEARING CAPACITY AND ACCEPTABLE SETTLEMENT LIMITS.
- C. THE GEOTECHNICAL ENGINEER SHALL INSPECT WALL EXCAVATION AND RETAINED SOILS FOR GROUNDWATER AND SEEPAGE. IF EITHER CONDITION IS OBSERVED, THE GEOTECHNICAL ENGINEER SHALL IMMEDIATELY HALT THE RETAINING WALL CONSTRUCTION AND NOTIFY CDP.
- D. WALL BACKFILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER FOR COMPLIANCE WITH THE MINIMUM STRENGTH ASSUMPTIONS AND GRADATION LIMITS PER SECTION 2 OF THESE SPECIFICATIONS.
- E. WALL BACKFILL SOIL SHALL BE TESTED BY THE GEOTECHNICAL ENGINEER FOR MOISTURE, DENSITY, AND COMPACTION EVERY 2-FEET VERTICALLY, 100-FEET TO 200-FEET C/C, OR PER THE PROJECT SPECIFICATIONS, IF MORE STRINGENT, TO ENSURE COMPLIANCE WITH THE MINIMUM COMPACTION REQUIREMENTS IN SPECIFICATION 3.03.

4.03 RETAINING WALL CONSTRUCTION INSPECTOR:

- A. THE RETAINING WALL CONSTRUCTION SHALL BE INSPECTED BY A LICENSED PROFESSIONAL ENGINEER OR QUALIFIED TECHNICIAN (IF NOT THE GEOTECHNICAL ENGINEER). THE INSPECTOR SHALL HAVE ADEQUATE KNOWLEDGE OF THE PROJECT AND BE FAMILIAR WITH THE MEANS AND METHODS OF RETAINING WALL CONSTRUCTION. IF THE RETAINING WALL INSPECTOR IS NOT EMPLOYED BY THE GEOTECHNICAL ENGINEER, THE GEOTECHNICAL ENGINEER SHALL BE CONSULTED IN THOSE MATTERS PERTAINING TO SOIL CONDITIONS AND WALL PERFORMANCE.
- B. THE INSPECTOR IS RESPONSIBLE FOR READING AND UNDERSTANDING THE RETAINING WALL DESIGN AND CONSTRUCTION PLANS AND SPECIFICATIONS. THE INSPECTOR SHALL BE IN POSSESSION OF A COMPLETE SET OF THESE DOCUMENTS WHEN PERFORMING ON-SITE INSPECTIONS.
- C. THE INSPECTOR SHALL INSPECT THE RETAINING WALL UNITS, GEOGRID (TYPE, PLACEMENT, ORIENTATION, AND DEPTH), WALL ELEVATIONS, GRADES, BACK SLOPE, AND TOE SLOPE CONDITIONS FOR CONFORMANCE WITH THE APPROVED SHOP DRAWINGS.
- D. THE INSPECTOR SHALL IMMEDIATELY NOTIFY THE WALL CONTRACTOR OF ANY DEFICIENCIES DISCOVERED IN THE RETAINING WALL INSTALLATION AND PROVIDE THE CONTRACTOR A REASONABLE OPPORTUNITY TO CORRECT THE DEFICIENCY.
- E. THE INSPECTOR SHALL NOTIFY THE GENERAL CONTRACTOR, OWNER, AND CDP OF ANY CONSTRUCTION DEFICIENCIES THAT HAVE NOT BEEN CORRECTED IN A TIMELY MANNER.
- F. THE INSPECTOR SHALL DOCUMENT AND MAINTAIN RECORDS OF ALL INSPECTION RESULTS.

4.04 RETAINING WALL CONTRACTOR:

- A. PRIOR TO PLACING THE BLOCKS, THE CONTRACTOR SHALL INSPECT THE RETAINING WALL UNITS TO ENSURE THEY DO NOT CONTAIN ANY VISIBLE DEFECTS PER SPECIFICATION 2.02C.
- B. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN QUALITY CONTROL FOR THE CONSTRUCTION OF THE RETAINING WALL TO ENSURE COMPLIANCE WITH THE CONTRACT REQUIREMENTS. THIS INCLUDES, BUT IS NOT LIMITED TO, TAKING PHOTOGRAPHS THROUGHOUT THE WALL CONSTRUCTION AND MAINTAINING ALL QUALITY CONTROL RECORDS.

4.05 MAINTENANCE:

- A. THE RETAINING WALL(S) SHOULD BE INSPECTED EVERY SIX MONTHS FOR MOVEMENT, SOIL TENSION CRACKS, EROSION ADJACENT TO THE RETAINING WALL STRUCTURES, AND FOR SURFICIAL SLOPE STABILITY WHEN A SLOPE EXISTS ABOVE OR BELOW THE RETAINING WALL(S).
- B. SURFICIAL SLOPE INSTABILITY TYPICALLY IMPACTS THE UPPER 3 TO 5 FEET OF THE SUBSURFACE PROFILE. REGULAR MAINTENANCE SHOULD BE ANTICIPATED TO IDENTIFY AND ADDRESS POTENTIAL SOIL CREEP OR EROSION. THIS INCLUDES REPLACING OR REPLANTING TREES AND GRASSES, AS NECESSARY, AND GRADING THE SLOPE TO REDUCE SOIL CREEP AND EROSION. IF FUTURE SURFICIAL SLOPE EROSION OCCURS, CDP RECOMMENDS THE SLOPE FACE BE RESTORED AS SOON AS PRACTICAL. CDP ALSO RECOMMENDS IRRIGATED LANDSCAPING BE SETBACK A MINIMUM OF 20-FEET FROM THE CREST OF THE SLOPES.
- C. FILL SLOPES SHOULD BE RE-VEGETATED AS SOON AS POSSIBLE AFTER GRADING AND PROTECTED FROM EROSION UNTIL VEGETATION IS ESTABLISHED. SLOPE PLANTING SHOULD CONSIST OF GROUND COVER, SHRUBS, AND TREES POSSESSING DEEP, DENSE ROOT STRUCTURES THAT REQUIRE MINIMUM IRRIGATION.

4.06 CONFORMANCE LETTER:

- A. IF A CONFORMANCE LETTER IS REQUIRED, IT MAY BE PROVIDED UNDER A SEPARATE PROPOSAL.
- B. IN ORDER TO PROVIDE A CONSTRUCTION CONFORMANCE LETTER, THE FOLLOWING ITEMS WILL BE REQUIRED:
- B.1. FOUNDATION INSPECTION/TESTING
- B.2. SOIL PROPERTY TESTING (SIEVE, SHEAR, MOISTURE, ETC.)
- B.3. SOIL COMPACTION TESTING
- B.4. INSPECTION LOGS
- B.5. CONSTRUCTION PHOTOGRAPHS, INCLUDING: EXCAVATION, LEVELING PAD, DRAINPIPE AND OUTLETS, BLOCK PLACEMENT AND STEPS, FILTER FABRIC AND/OR GEOGRID REINFORCEMENT (IF APPLICABLE), FINISHED GEOMETRY (BACK SLOPE, TOE SLOPE, BATTER, ETC.)

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GENERAL NOTES:

- 1. ABUT WALL 4 INTO EXISTING WALL 1.
- 2. REMOVE CAP AND TOP UNIT OF EXISTING WALL 1 AND GRADE OVER TOP OF WALL 1.
- 3. POUR CONCRETE TO WITHIN 18" OF THE TOP OF THE WALL.



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- THE LEVELING PAD SHALL BE PER SPECIFICATION 2.05.
- 2 THE BASE FOUNDATION SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF THE LEVELING PAD.
- IF THE LEVELING PAD IS AT AN ELEVATION LOWER THAN 3 THE 100-YEAR HIGH WATER LEVEL IN FRONT OF THE WALL, THE LEVELING PAD, UNLESS CONCRETE, SHALL BE WRAPPED WITH AN 80Z. MINIMUM FILTER FABRIC.



LEVELING PAD 6.00

SCALE: N.T.S.

NOTES:

- PLACE SONOTUBES AT POST LOCATIONS DURING WALL CONSTRUCTION, AND HAND CUT GEOGRID AROUND SONOTUBE (IF APPLICABLE).
- 2 X=3.0' MIN. AND Y=3.0' MIN. FOR STANDARD FENCING; X=3.0' MIN. AND Y=5.0' MIN. FOR FOR GUARDRAILS. EDGE OF SONOTUBE SHALL NOT BE CLOSER THAN 1-FOOT FROM THE BACK OF THE CLOSEST BLOCK
- SEE NCMA FOR ADDITIONAL REQUIREMENTS. 3
- 4. FENCE AND RAIL DESIGNED BY OTHERS.



- 1. DURING WALL EXCAVATION, BENCHCUT LIMITS OF EXCAVATION, WHEN ONSITE SOILS ALLOW, TO INCREASE BOND BETWEEN THE IN-SITU SOILS AND NEW BACKFILL.
- 2. BENCHCUT USING MINIMUM 24-INCH HORIZONTAL BENCHES (TYPICAL).



TYPICAL BENCHCUT DETAIL 6.00 SCALE: N.T.S.

NOTES:

- 1. PLACE SLEEVE-IT SD1 AT POST LOCATIONS DURING WALL CONSTRUCTION, AND HAND CUT GEOGRID AROUND SLEEVE-IT (IF APPLICABLE).
- 2. FENCING SYSTEMS APPROVED FOR USE WITH THE SLEEVE-IT SD1 ARE LIMITED TO THE FOLLOWING HEIGHTS: CHAIN LINK UP TO 8 FT, PRIVACY UP TO 6 FT (WOODEN, PVC, METAL). MAXIMUM POST SIZE 4" x 4".
- SEE STRATA SYSTEMS INC. SLEEVE-IT FENCE POST 3 INSTALLATION DETAILS FOR ADDITIONAL CONSTRUCTION REOUIREMENTS.



NOTES:

- 1. UPON EXCAVATION, WHERE UNSUITABLE SOILS ARE FOUND, SUBCUT TO DEPTH "D" AS REQUIRED BY THE ONSITE GEOTECHNICAL ENGINEER AND REPLACE WITH SUITABLE COMPACTED STRUCTURAL FILL TO ACHIEVE THE REOUIRED BEARING CAPACITY.
- 2. APPROXIMATE LIMITS OF EXCAVATION VARIES WHERE SUBCUT IS REQUIRED. ACTUAL LIMITS AND SIDE SLOPES SHALL BE DETERMINED BY OSHA REGULATIONS OR THE ONSITE GEOTECHNICAL ENGINEER.



NOTES:





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