## SEGMENTAL BLOCK RETAINING WALL PLANS

# TUDOR MULTIFAMILY LEE'S SUMMIT, MO

JOB NO. OS-24-0128

PREPARED FOR:

KIWI LANDSCAPING
PO BOX 701
BELTON, MO 64012



VICINITY MAP
SCALE: NONE

## INDEX OF SHEETS

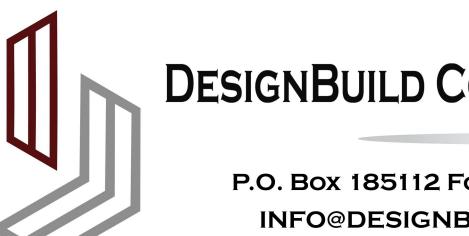
SHEET	DESCRIPTION
1	<b>COVER SHEET</b>
2	WALL LOCATIONS
3-8	WALL PROFILES
9	WALL DETAILS
10	WALL DETAILS & NOTES

## **CODES**

THE APPLICABLE CODE IS THE IBC-2018 AND THE DESIGN AND DETAILING OF THE RETAINING WALL IS BASED ON ON THE IBC-2018 AND THE NCMA DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS, 3RD EDITION

## **SCOPE OF WORK**

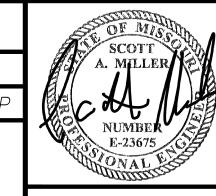
THE SCOPE OF WORK INCLUDES THE DESIGN AND CONSTRUCTION OF (7) GEOGRID REINFORCED SEGMENTAL BLOCK RETAINING WALL USING THE ANCHOR DIAMOND PRO 1.0" SETBACK SYSTEM. THE WALL IS LESS THAN 11.33 FEET IN EXPOSED HEIGHT.



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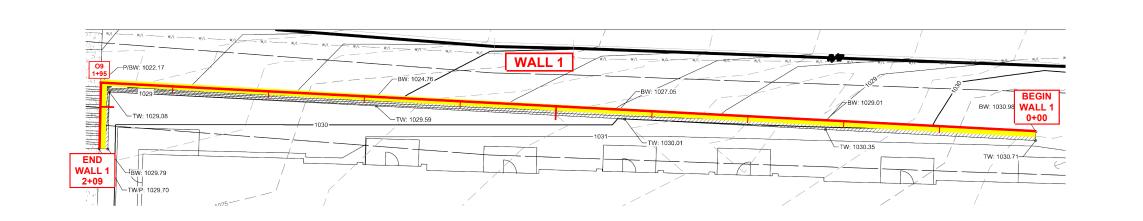
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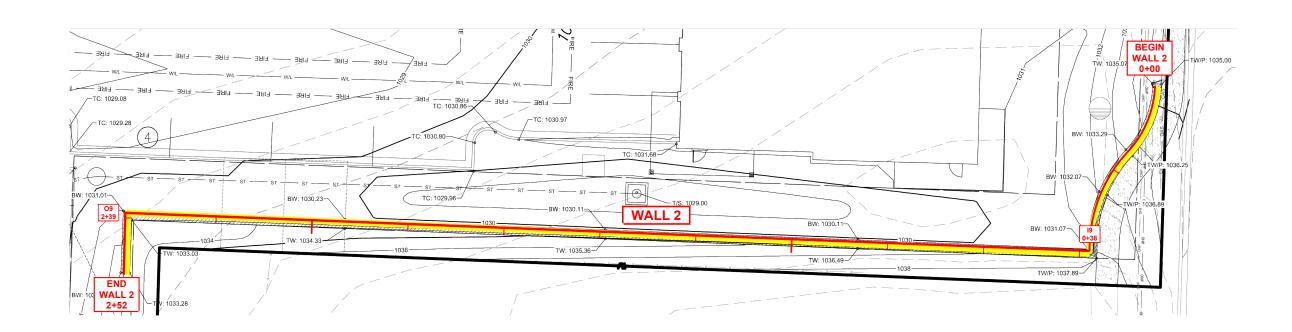


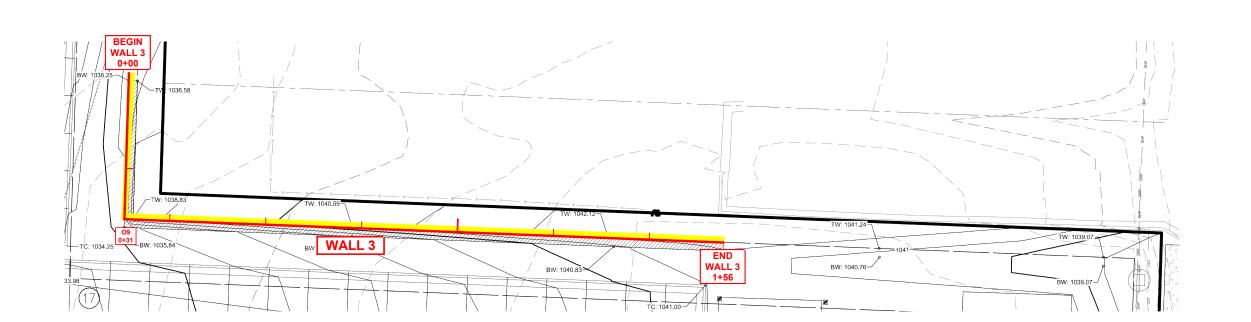
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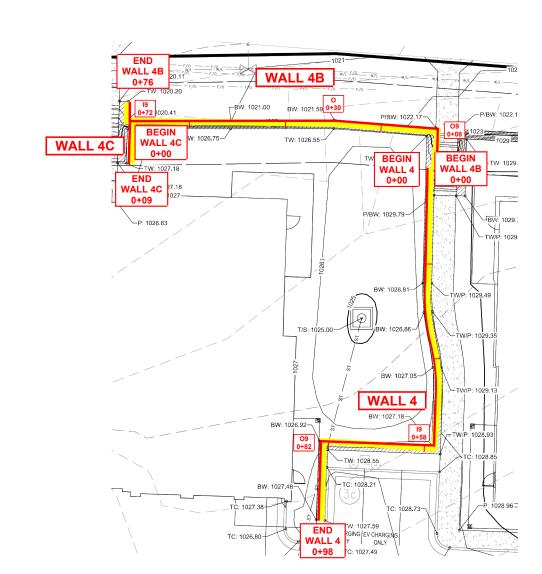
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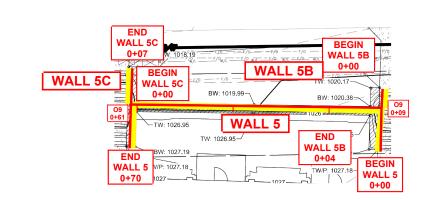
JOB#: 0S-24-0128 DATE: 10/11/24 SHEET: 1 OF 10

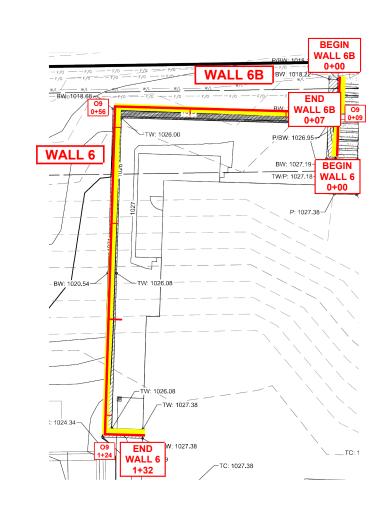


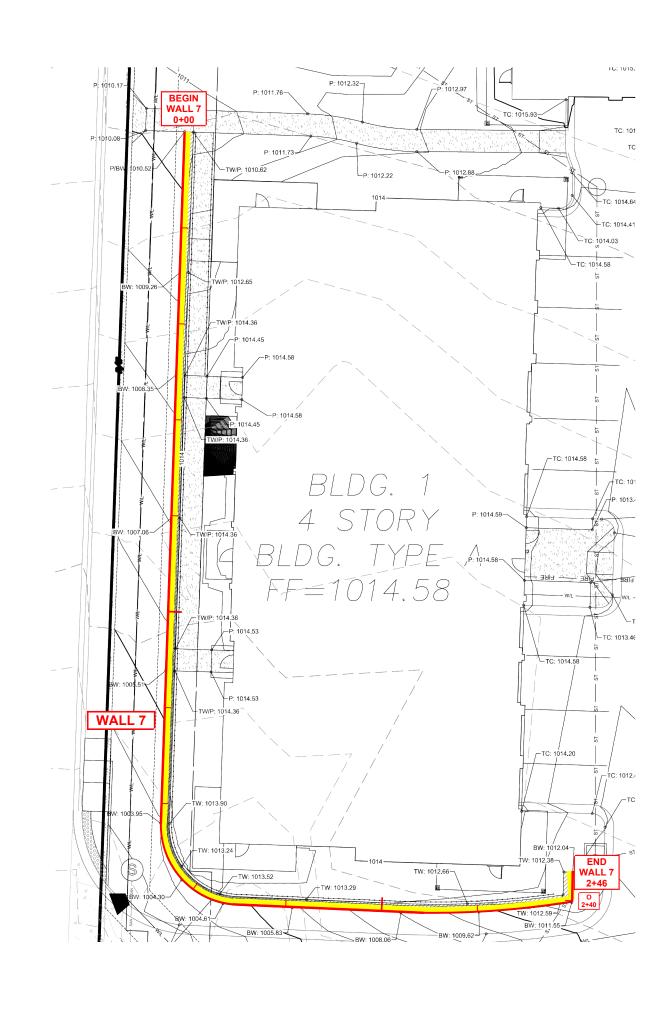














WALL LOCATION PLAN

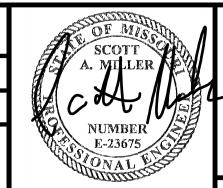
SCALE: 1":20'
LAYOUT WALLS PER CLIENT CONSIDERING
WALL FACE BATTER OF 1(H):8(V)



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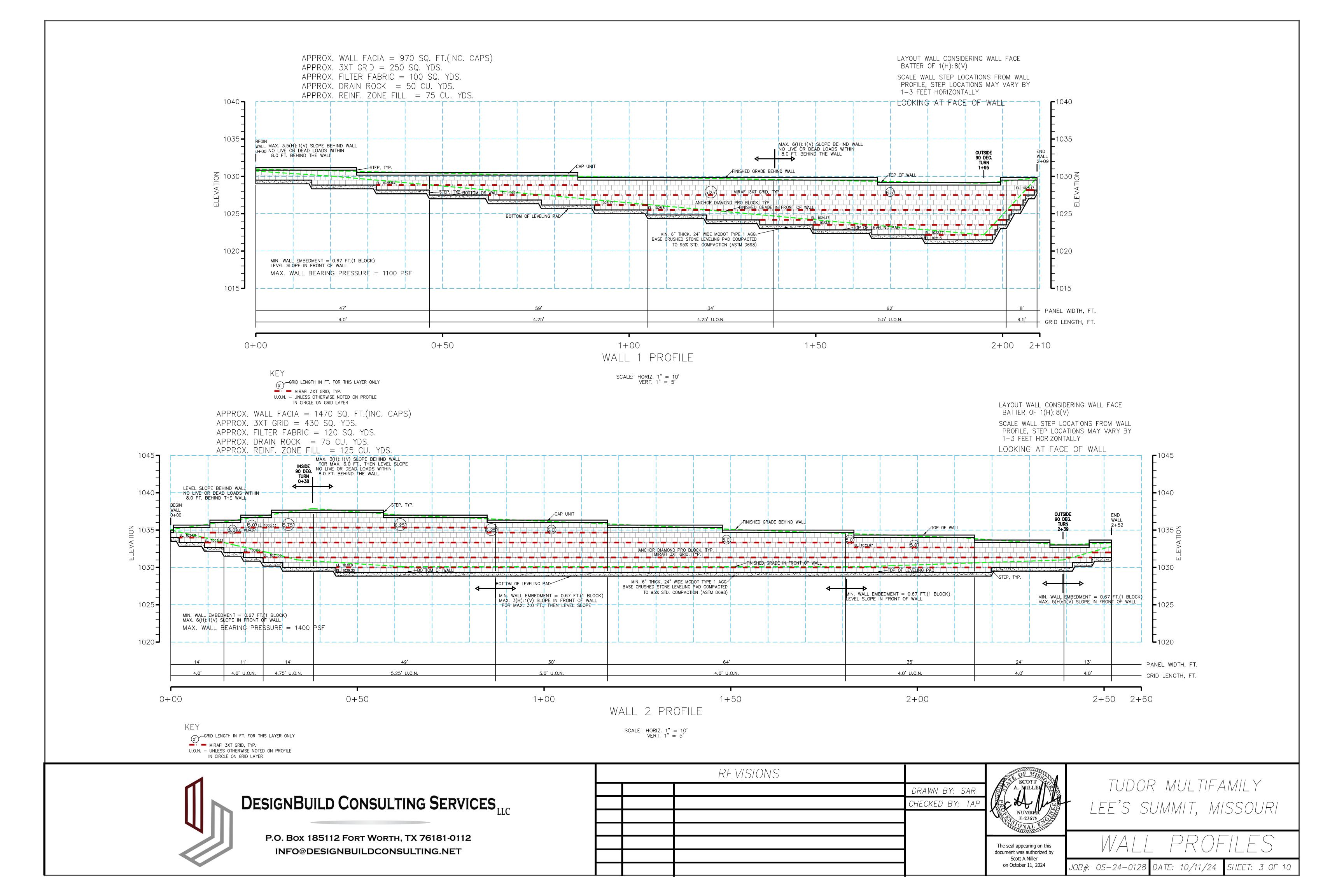
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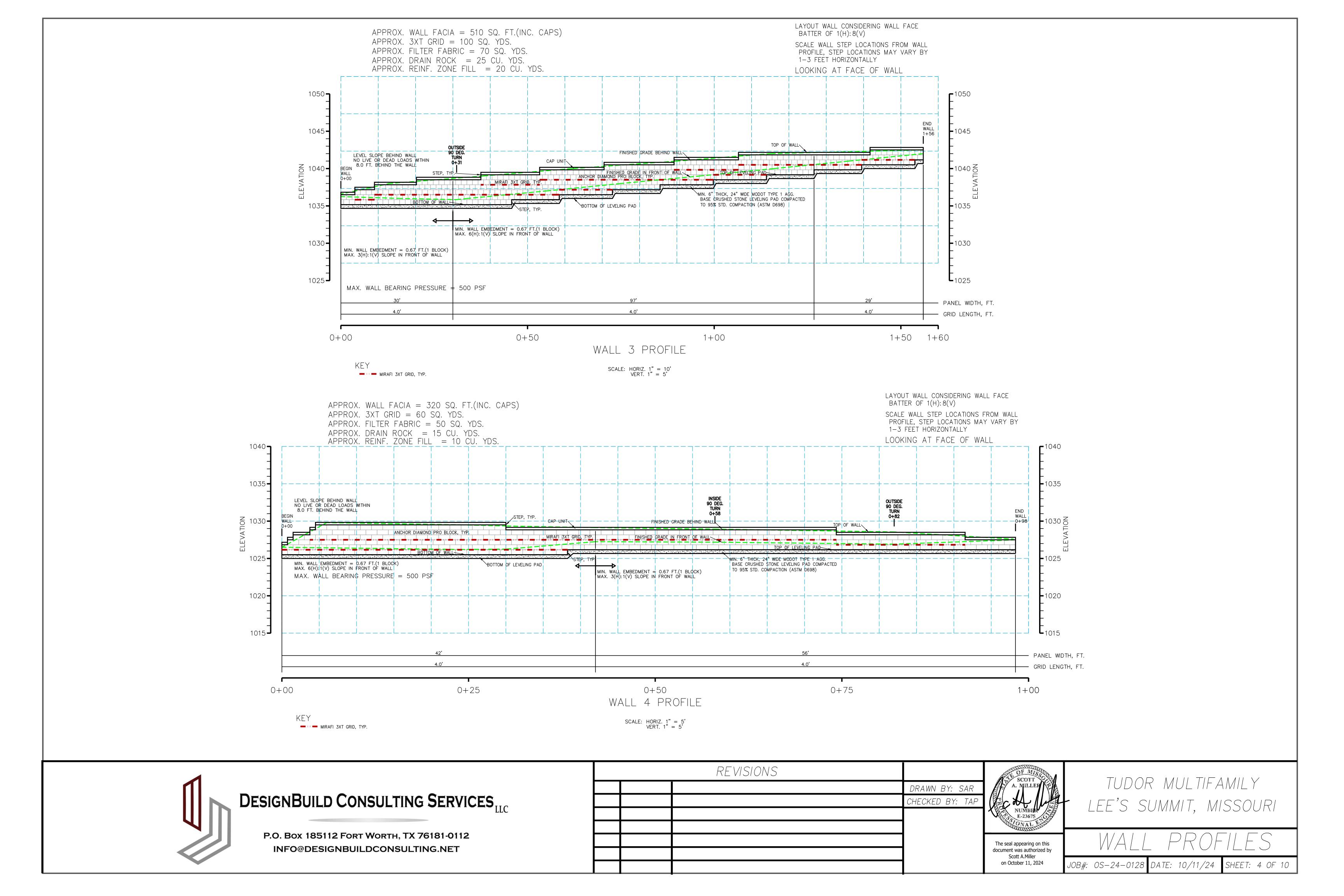


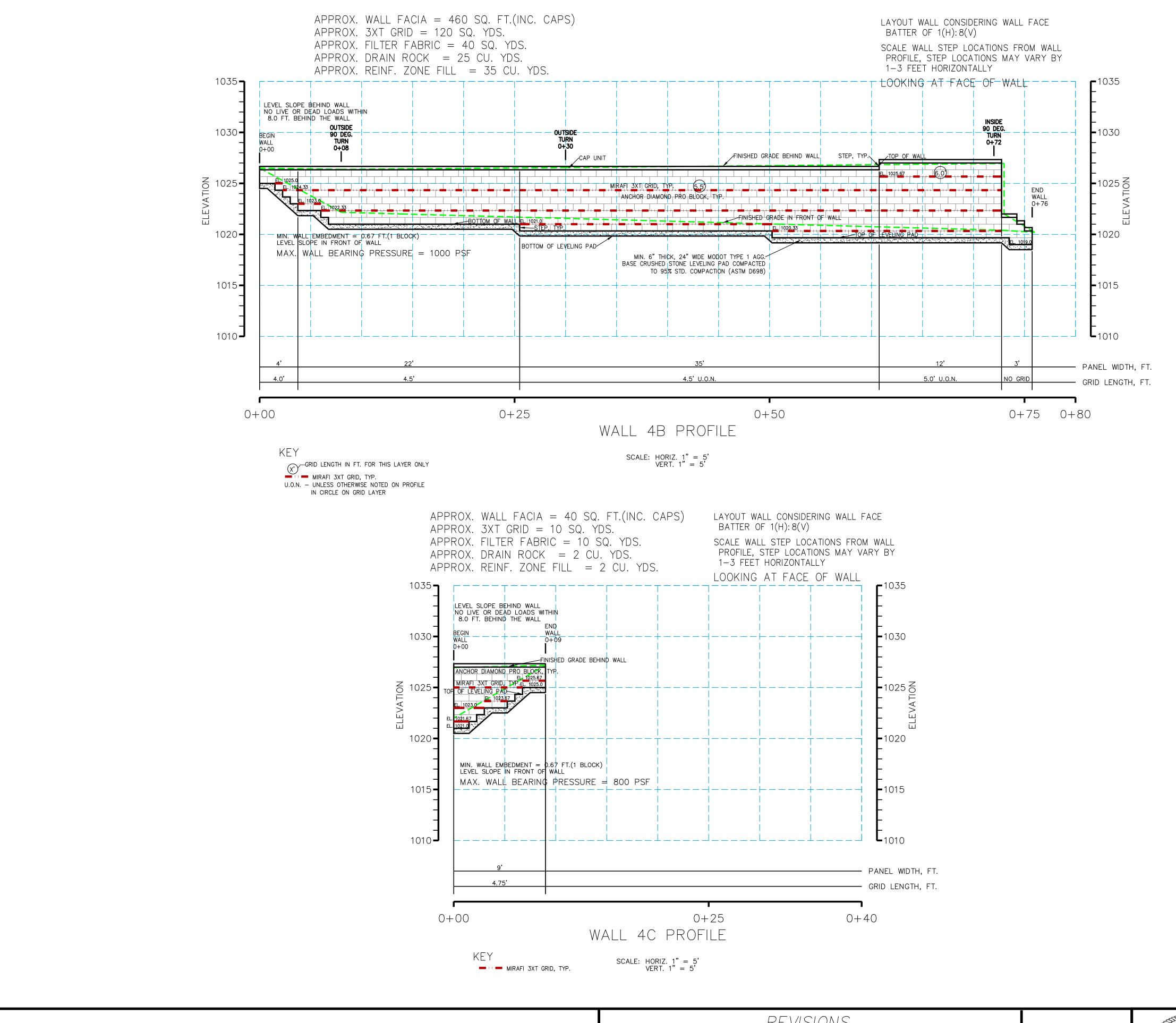
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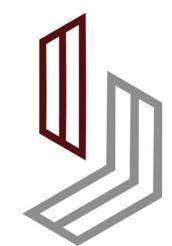
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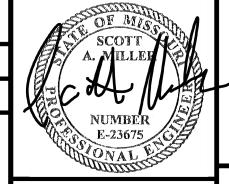




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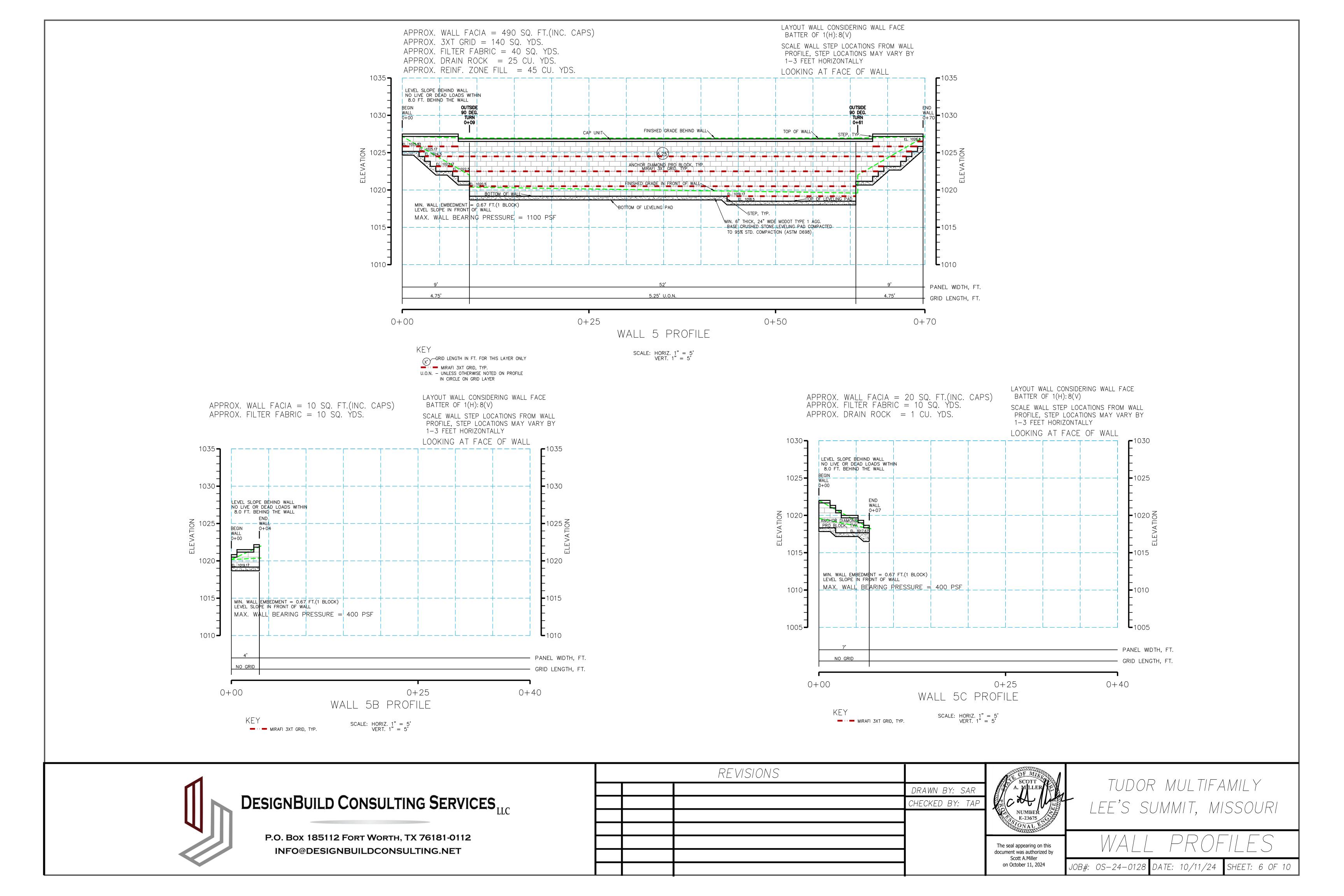
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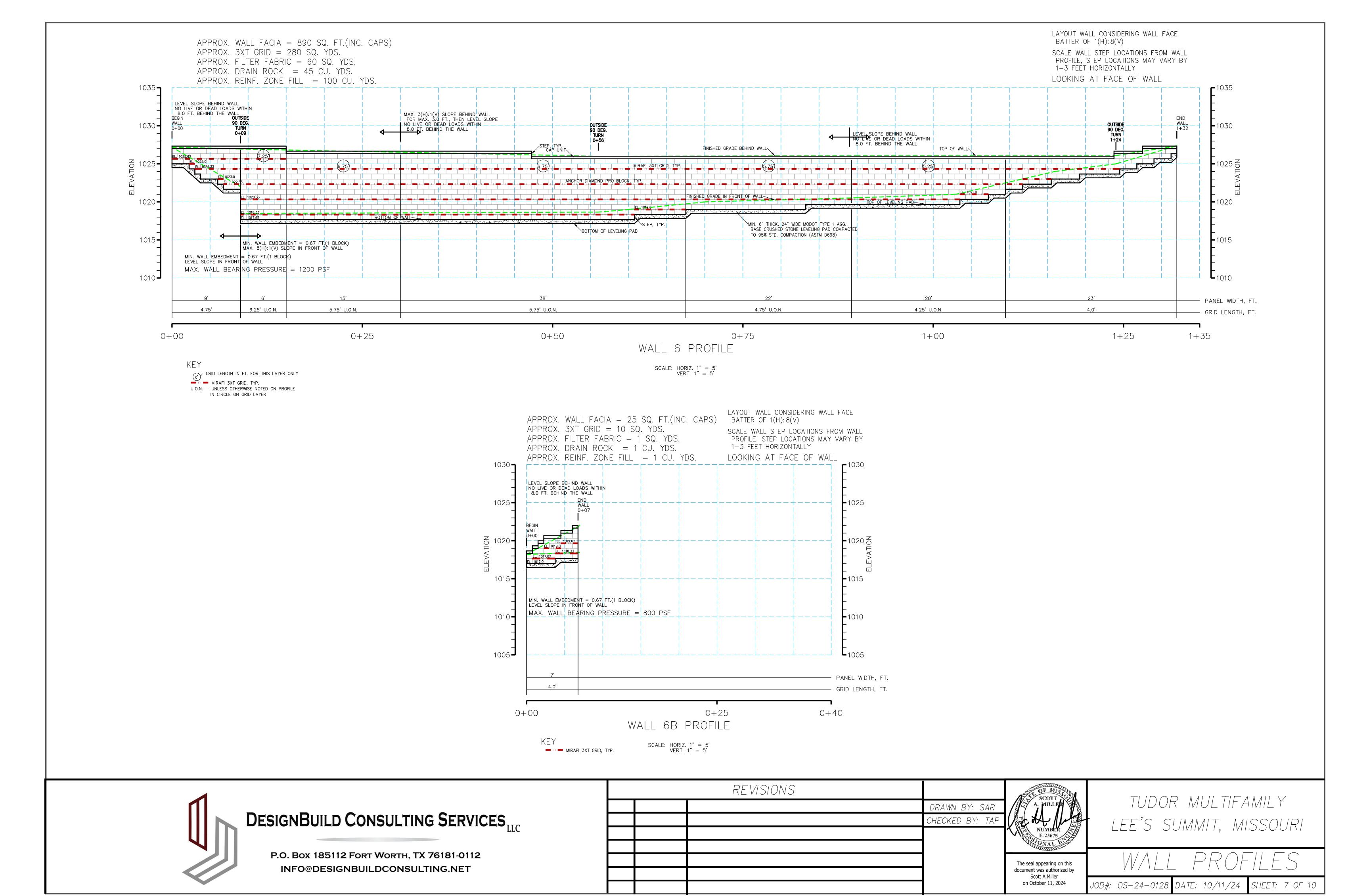


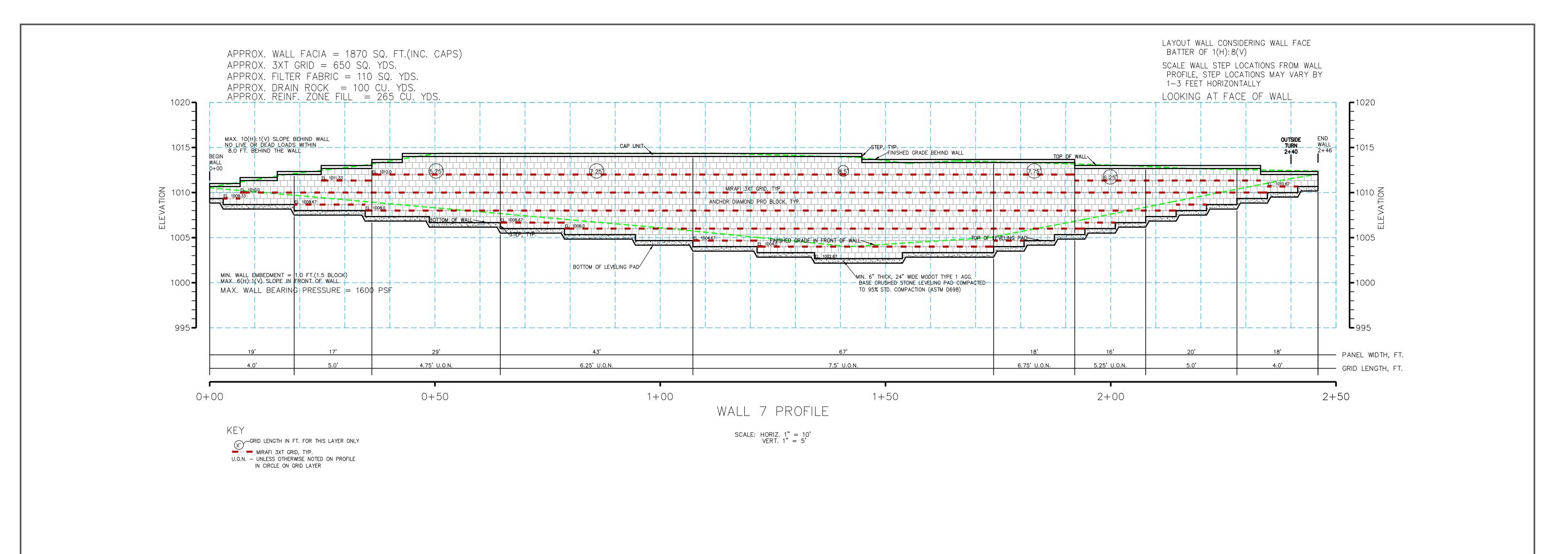
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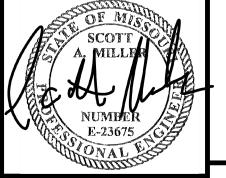








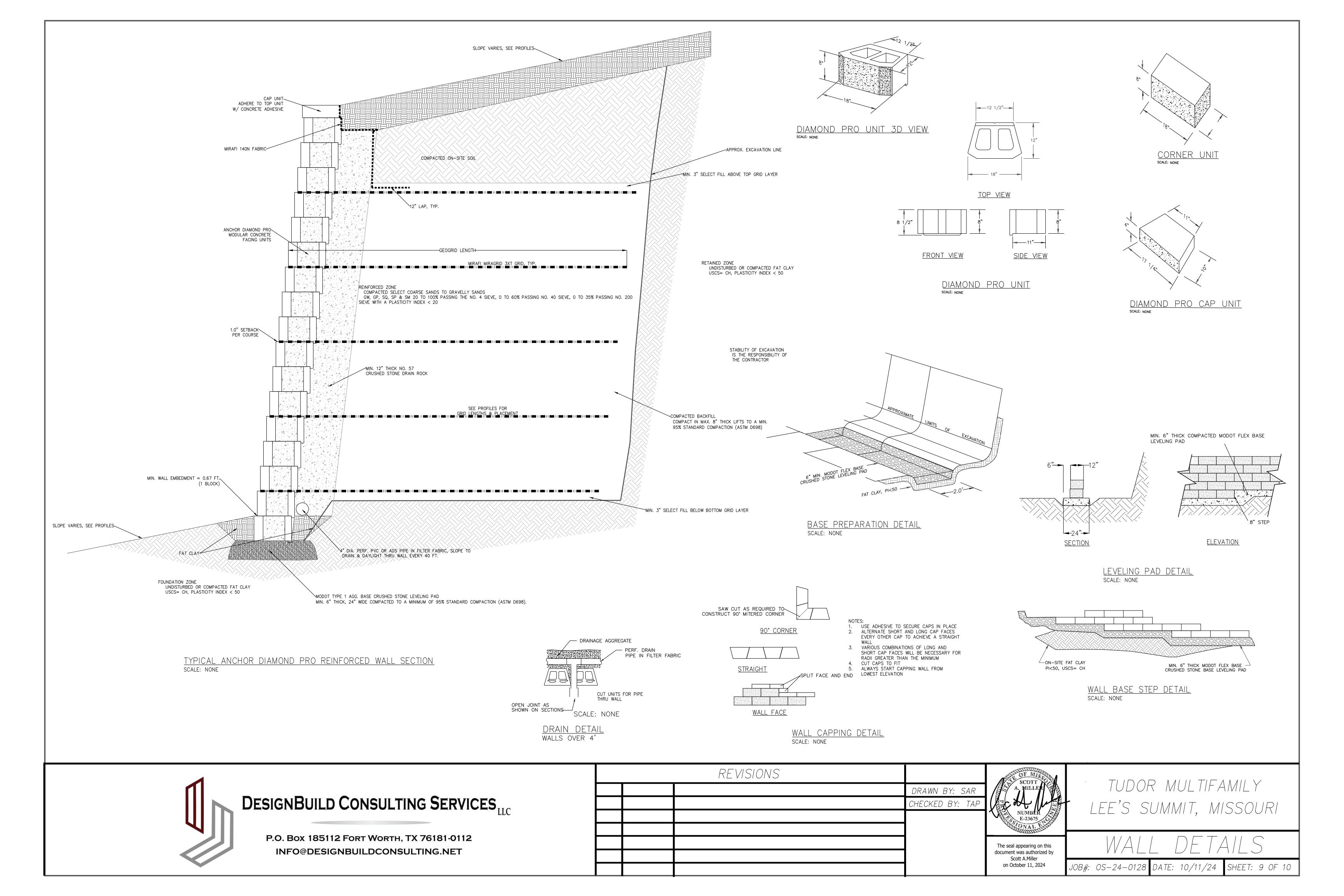
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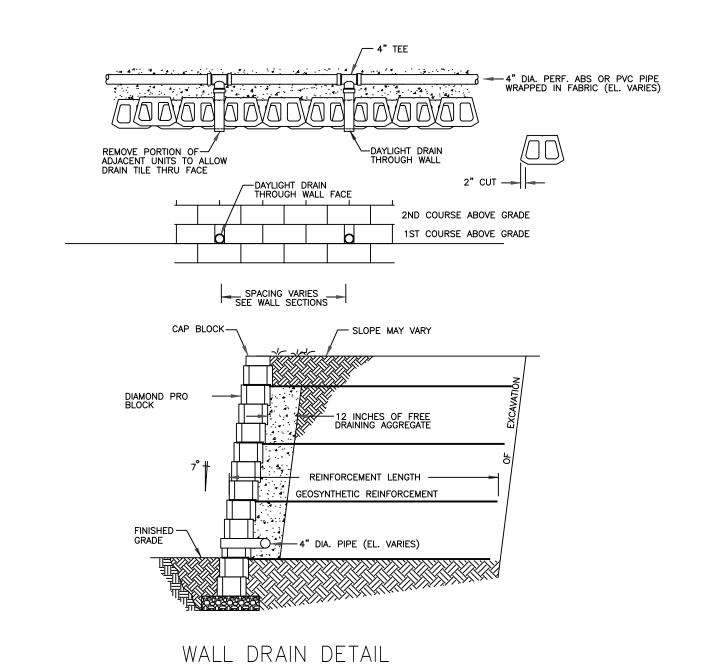


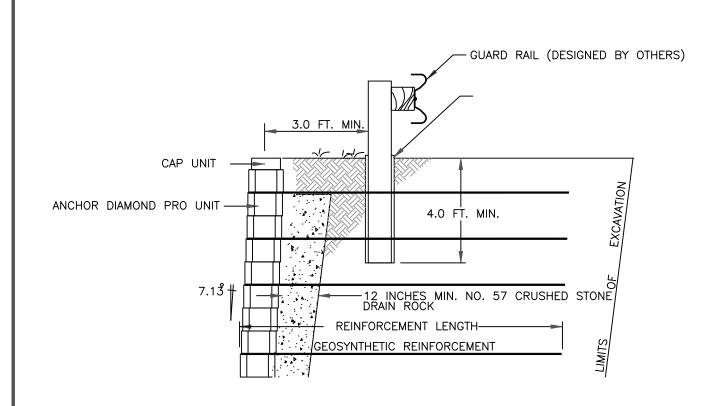
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WALL PROFILE

JOB#: OS-24-0128 DATE: 10/11/24 SHEET: 8 OF 10

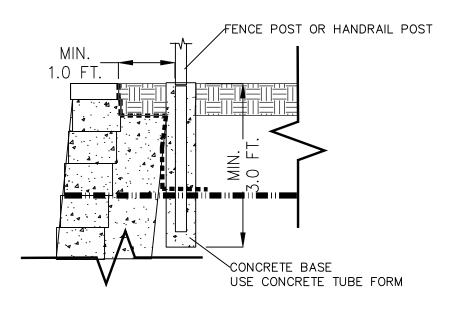




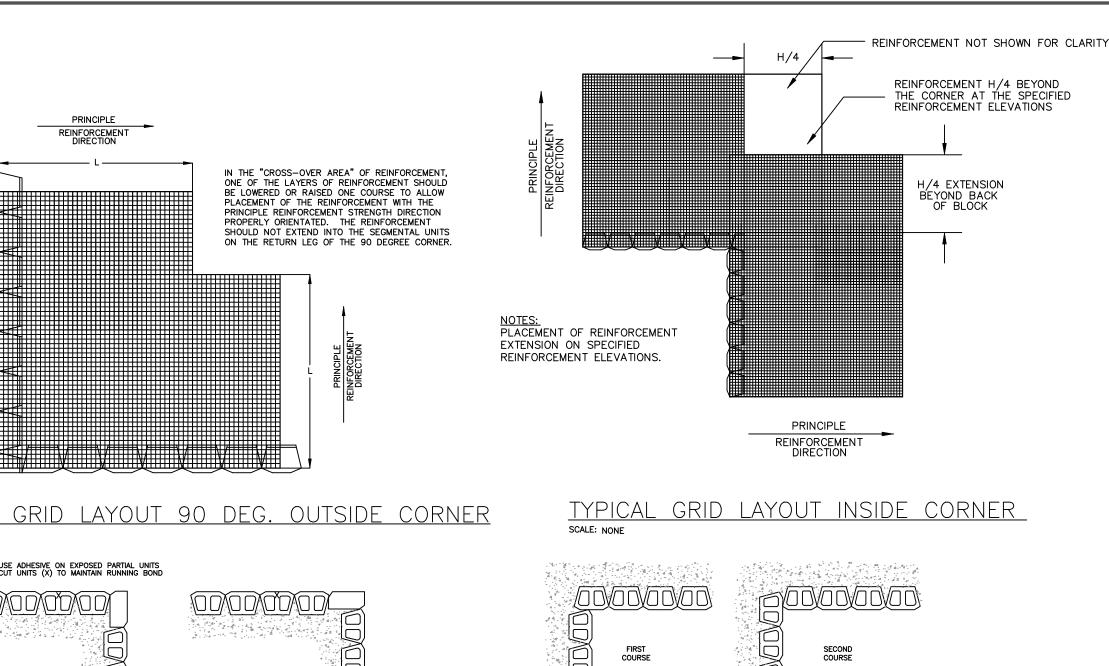


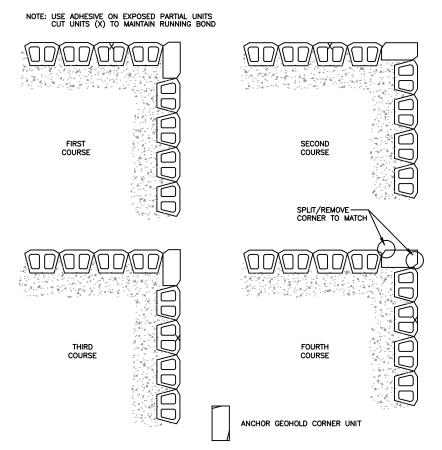
SCALE: NONE

GUARD RAIL DETAIL TYPICAL HANDRAIL AND/OR FENCE POST

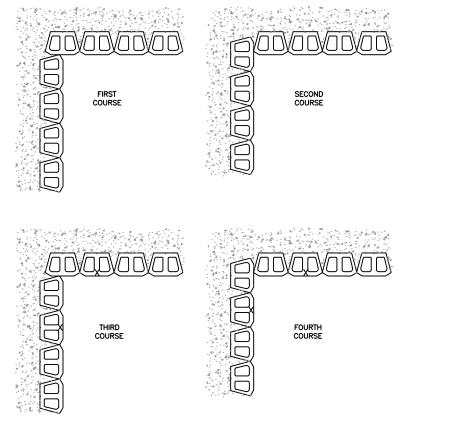


POST DETAIL TYPICAL HANDRAIL AND/OR FENCE POST SCALE: NONE

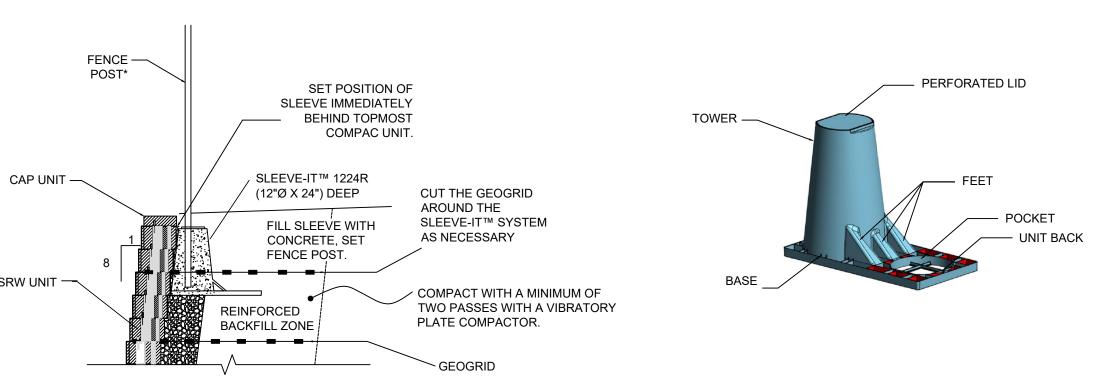




TYPICAL 90 DEG. OUTSIDE CORNER



TYPICAL 90 DEG. INSIDE CORNER



DETAIL OF FENCE POST INSTALLATION USING SLEEVE-IT™ N.T.S.

### ASSEMBLY & INSTALLATION

- 1. General The Sleeve-It™ post foundation system shall be purchased and installed by the retaining wall contractor to facilitate future fence post installation. Contractor shall verify proper spacing requirements prior to installation 2. Assembly & Installation - Refer to instructions provided with units for specific information related to the assembly of the Sleeve-It™ system and the correct installation procedure. When the segmental retaining wall has been constructed to two feet from top not including the capstone:
- Step 1: Prepare a level area approximately 24" wide x 36" deep behind the wall face. The prepared area should be 24" below the proposed top of wall (not including the cap stone).
- Step 2: Place the Sleeve-It unit on the level surface in an upright position with the front edge of the unit flush against the back of the wall. Multiple units should be spaced in accordance with fence specifications Step 3: Encapsulate and stabilize the Sleeve-It unit by placing and compacting sufficient backfill material layers as
- required. if geogrid is required, slit the geogrid perpendicular to the wall face just enough to fit around the base of the unit while ensuring that the geogrid remains properly attached to the wall. Continue the backfilling process until the material reaches the top of the tower. Do not remove perforated liduntil ready to place post. Do not step on perforated lid, as this Step 4: Punch the perforated lid using a mallet or hammer to expose the inside of the Sleeve-It unit. Detached lids can be
- left inside the unit or discarded prior to pouring the infill material. Step 5: Place post through the exposed area and rest on the flat ground surface area inside the Sleeve-It cavity. Ensure
- that the post is upright and level and hold in place while carefully pouring infill material such as concrete through the exposed cavity. Follow guidelines as specified by infill supplier. Concrete is highly recommended as infill material.

SLEEVE-IT FENCE POST ALTERNATE DETAIL

SCALE: NONE

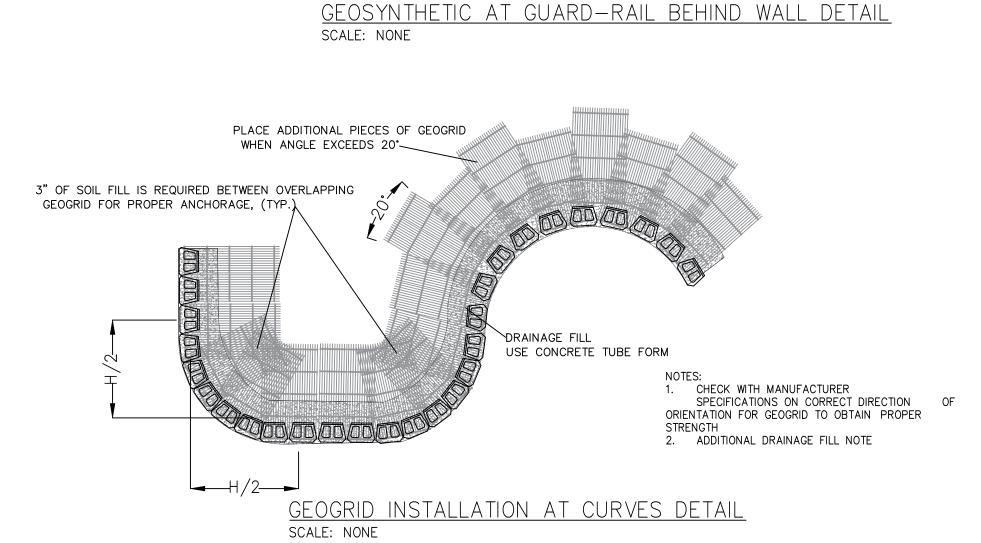
Important Note: Backfill soil as prescribed by retaining wall manufacturer. Backfill material above and surrounding the Sleeve-It™ system must be compacted to a minimum of 95% of the material's maximum dry density as determined by ASTM D-698 (Standard Proctor). Backfill and compaction within three feet of the wall face should be performed with hand operated equipment as recommended by the National Concrete Masonry Association (NCMA) SRW guidelines. Repeat Above Steps for next Sleeve-It™ unit.

Fence posts shall extend a minimum distance of 18" into the sleeve to ensure proper engagement with the Sleeve-It™ system. All posts must be on the "inboard" side of the vertical portion of the cantilever base. Fill cavity completely with concrete. When concrete cures, topsoil or other surficial cover may be placed over the Sleeve-It™ system to create final,

The Sleeve-It™ product shall be evenly spaced. Use of the Sleeve-It™ system is limited to the following fencing applications without consideration of wind load: - 8-foot high and under chain link fences - 6-foot high and under wood fence with gaps between boards

- 6-foot hight and under ballustraded PVC, steel, aluminum or wrought iron fences. For other fencing systems specifically not meeting these criteria, contact Strata Systems Inc., to determine suitability. 1 (800) 680-7750 or email strata@geogrid.com

ALL material may be subject to site testing for compliance to the above specifications.



START GRID APPROX.

FROM FRONT OF UNITS

DO NOT OVERLAR

CUT GRID AROUND VERTICAL

1. FOLLOW GEOSYNTHETIC GRID

DESIGN ENGINEER

MANUFACTURER'S INSTALLATION

GEOGRID LENGTH AND ELEVATION

INSTRUCTIONS AND SPECIFICATIONS

PLACEMENT SHALL BE DETERMINED BY WAL

STRUCTURES BEHIND WALL

#### NOTES:

- 1. REINFORCED ZONE- COMPACTED SELECT COARSE SANDS TO GRAVELLY SANDS WITH A GW, GP, SQ, SP & SM 20 TO 100% PASSING THE NO. 4 SIEVE, 0 TO 60% PASSING NO. 40 SIEVE, 0 TO 35% PASSING NO. 200 SIEVE WITH A PLASTICITY INDEX LESS THAN 20, AN EFFECTIVE FRICTION ANGLE OF 28 DEGREES, MOIST UNIT WEIGHT= 125 PCF, & COHESION =
- 2. LEVELING PAD MINIMUM 6" THICK MODOT TYPE 1 AGG. BASE CRUSHED STONE COMPACTED TO A MINIMUM OF 95% STANDARD COMPACTION (ASTM D698).
- 3. FOUNDATION ZONE- UNDISTURBED OR COMPACTED FAT CLAY WITH A USCS= CH, PLASTICITY INDEX LESS THAN 50, AN EFFECTIVE FRICTION ANGLE OF 24 DEGREES, MOIST UNIT WEIGHT= 120 PCF, & COHESION = 100 PSF.
- 4. RETAINED ZONE- UNDISTURBED OR COMPACTED FAT CLAY WITH A USCS= CH, PLASTICITY INDEX LESS THAN 50, AN EFFECTIVE FRICTION ANGLE OF 24 DEGREES, MOIST UNIT WEIGHT= 120 PCF, & COHESION = 0 PSF

## 5. MINIMUM WALL EMBEDMENT - 0.67 FT.(1 BLOCK)

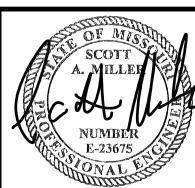
- 6. A GEOTECHNICAL REPORT BY TERRACON CONSULTANTS, INC. DATED JUNE 10, 2022 WAS PROVIDED FOR THE PROJECT AND THE SOIL PROPERTIES USED WERE CORRELATED FROM THE INFORMATION IN THE GEOTECHNICAL REPORT. THE FIELD SOIL PROPERTIES MUST BE VERIFIED BY THE TESTING AGENCY OF RECORD AND THE WALL DESIGNER NOTIFIED OF SOILS DIFFERENT THAN THOSE NOTED HEREIN.
- 7. WALL BATTER WILL BE 1.0-INCH PER COURSE.
- 8. THESE PLANS ARE BASED ON SHEET C29 & C30 OF THE PROJECT PLANS BY RENAISSANCE INFRASTRUCTURE CONSULTING DATED AUGUST 16, 2024. THE TOP AND BOTTOM OF WALL ELEVATIONS AND SLOPES IN THE VICINITY OF THE WALLS MUST BE VERIFIED BY THE WALL INSTALLER BEFORE BEGINNING WALL CONSTRUCTION. THE WALL DESIGNER MUST REVIEW ANY CHANGES TO THE WALL DIMENSIONS OR SLOPES AROUND THE WALLS.
- 9. THE WALL DESIGNER ASSUMES NO LIABILITY FOR INFORMATION PROVIDED BY OTHERS OR NOT VERIFIED.
- 10. ALL SOIL AND MODOT TYPE 1 AGG. BASE CRUSHED STONE FILL MUST BE PLACED IN MAXIMUM 8.0 INCH THICK LIFTS AND COMPACTED TO A MINIMUM OF 95% STANDARD COMPACTION (ASTM D698) WITHIN TWO PERCENTAGE POINTS OF THE SOIL OPTIMUM MOISTURE CONTENT. THE COMPACTION OF EACH LIFT OF SOIL FILL MUST BE VERIFIED BY THE TESTING AGENCY OF RECORD WITH AT LEAST ONE TEST PER 5000 SQ. FT. OF FILL PLACED PER LIFT, PER DAY
- 11. MAXIMUM WALL BEARING PRESSURE = 1600 PSF.
- 12. THE LONG-TERM STATIC GROUNDWATER LEVEL IS ASSUMED TO WELL BELOW THE BOTTOM OF THE WALLS (GREATER THAN 10.0 FEET).
- 13. ALL QUANTITIES DO NOT INCLUDE ANY WASTE OR OVERLAP REQUIRED AND ARE BASED ON IN-PLACE COMPACTED VOLUMES. THE INSTALLER MUST VERIFY ALL QUANTITIES.
- 14. WALL HEIGHTS SHOWN MUST NOT BE EXCEEDED WITHOUT THE CONSULTATION AND APPROVAL OF THE WALL DESIGNER.
- 15. ALL FACIA BLOCK MUST BE ANCHOR DIAMOND PRO BLOCK UNITS.
- 16. ALL REINFORCING GEOGRID MUST BE MIRAFI MIRAGRID 3XT GEOGRID AS SHOWN ON THE WALL PROFILES AND DRAWINGS.
- 17. ALL UTILITIES BEHIND, IN FRONT AND UNDER THE WALLS SHOULD BE INSTALLED BEFORE COMMENCING WALL CONSTRUCTION TO LIMIT DISTURBANCE AND DAMAGE TO THE GRID AND UNDERMINING OF THE WALLS. THE COMPACTION OF ALL UTILITY BACKFILL UNDER THE BLOCK AND GRID ZONES MUST BE VERIFIED TO BE AT LEAST 95% STANDARD COMPACTION (ASTM D698).
- 18. MAXIMUM SLOPE BEHIND AND IN FRONT OF THE WALLS ARE SHOWN ON THE WALL PROFILES AND SHALL NOT BE EXCEEDED WITHOUT THE CONSULTATION AND APPROVAL OF THE WALL DESIGNER.
- 19. CARE MUST BE TAKEN WHEN INSTALLING ANY UTILITIES, STRUCTURES OR LANDSCAPING BEHIND THE WALLS SO AS NOT TO DAMAGE THE GEOGRID OR WALL FACE. ANY DAMAGED GEOGRID OR WALL FACE DISTORTION MUST BE REPLACED.
- 20. ALL ROOF DRAINS AND SURFACE WATER MUST BE ROUTED AROUND OR PIPED THROUGH THE WALL FACE. NO SURFACE WATER SHALL BE ALLOWED TO FLOW OVER THE WALL FACE DURING OR AFTER WALL CONSTRUCTION.
- 21. ANY SPRINGS, SEEPS OR OTHER WATER SOURCES NOTED IN THE WALL EXCAVATION MUST BE IMMEDIATELY REPORTED TO THE WALL DESIGNER FOR REMEDIAL ACTION.
- 22. SEE PROFILES FOR LIVE AND DEAD LOADS BEHIND THE WALLS.
- 23. ALL FILTER FABRIC MUST BE MIRAFI 140N NON-WOVEN FABRIC OR APPROVED EQUIVALENT.
- 24. FACTORS OF SAFETY USED IN THE WALL DESIGN: SLIDING = 1.5, OVERTURNING = 2.0, BEARING CAPACITY = 2.0



## DESIGNBUILD CONSULTING SERVICES

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