#### CITY STANDARD GRADING & DRAINAGE NOTES:

#### NOTE: THIS DRAWING IS APPROVED SUBJECT TO:

- ALL GRADING IS SUBJECT TO OBSERVATION BY THE CITY. PERMITTEE OR REPRESENTATIVE SHALL NOTIFY THE CITY OF SAN JOSE DEPARTMENT OF PUBLIC WORKS PROJECT INSPECTOR AT LEAST 24 HOURS BEFORE START OF ANY GRADING. THE PROJECT INSPECTOR IS CARL DINGA VOICEMAIL NO. (408) 931-1613.
- APPROVAL OF THIS PLAN APPLIES ONLY TO (A) THE EXCAVATION, PLACEMENT, AND COMPACTION OF NATURAL EARTH MATERIALS, (B) THE INSTALLATION OF ON-SITE (I.E. PRIVATE PROPERTY) STORM WATER CONVEYANCE AND TREATMENT FACILITIES THAT ARE OUTSIDE OF THE 5-FOOT BUILDING ENVELOPE, AND (C) THE INSTALLATION OF RETAINING STRUCTURES. THIS APPROVAL DOES NOT CONFER ANY RIGHTS OF ENTRY TO EITHER PUBLIC PROPERT OR THE PRIVATE PROPERTY OF OTHERS. APPROVAL OF THIS PLAN ALSO DOES NOT CONSTITUTE APPROVAL OF ANY IMPROVEMENTS WITH THE EXCEPTION OF THOSE LISTED ABOVE. PROPOSED IMPROVEMENTS. WITH THE EXCEPTION OF THOSE LISTED ABOVE, ARE SUBJECT TO REVIEW AND APPROVAL BY THE RESPONSIBLE AUTHORITIES AND ALL OTHER REQUIRED PERMITS SHALL BE OBTAINED.
- UNLESS OTHERWISE NOTED ON THE PLAN, ANY DEPICTION OF A RETAINING STRUCTURE ON THIS PLAN SHALL NOT CONSTITUTE APPROVAL FOR CONSTRUCTION OF THE RETAINING STRUCTURE UNLESS A SEPARATE STRUCTURAL REVIEW. BY THE DEPARTMENT OF PUBLIC WORKS IS COMPLETED AND APPROVED
- IT SHALL BE THE RESPONSIBILITY OF THE PERMITTEE OR AGENT TO IDENTIFY, LOCATE AND PROTECT ALL
- THE PERMITTEE OR AGENT SHALL MAINTAIN THE STREETS, SIDEWALKS AND ALL OTHER PUBLIC RIGHTS-OF-WAY IN A CLEAN, SAFE AND USABLE CONDITION. ALL SPILLS OF SOIL, ROCK OR CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE PUBLICLY OWNED PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. ALL ADJACENT PROPERTY, PRIVATE OR PUBLIC SHALL BE MAINTAINED IN A CLEAN, SAFE AND USABLE CONDITION.
- ALL GRADING SHALL BE PERFORMED IN SUCH A MANNER AS TO COMPLY WITH THE STANDARDS ESTABLISHED BY THE AIR QUALITY MANAGEMENT DISTRICT FOR AIRBORNE PARTICULATES.
- THIS PROJECT HAS BEEN DESIGNED TO COMPLY WITH THE FLOOD HAZARD AREA REGULATIONS AS STATED IN CHAPTER 17.08 OF THE SAN JOSE MUNICIPAL CODE.
- ALL KNOWN WELL LOCATIONS ON THE SITE HAVE BEEN INCLUDED AND SUCH WELLS SHALL BE MAINTAINED OR ABANDONED ACCORDING TO CURRENT REGULATIONS ADMINISTERED BY THE SANTA CLARA VALLEY WATER DISTRICT. CALL (408) 265-2600 EXTENSION 2660 TO ARRANGE FOR DISTRICT OBSERVATION OF ALL WELL
- IN THE EVENT THAT HUMAN REMAINS AND/OR CULTURAL MATERIALS ARE FOUND. ALL PROJECT-RELATED CONSTRUCTION SHOULD CEASE WITHIN A 100-FOOT RADIUS. THE CONTRACTOR SHALL, PURSUANT TO SECTION 7050.5 OF THE HEALTH AND SAFETY CODE, AND SECTION 5097.94 OF THE PUBLIC RESOURCES CODE OF THE STATE OF CALIFORNIA, NOTIFY THE SANTA CLARA COUNTY CORONER IMMEDIATELY
- THIS PLAN DOES NOT APPROVE THE REMOVAL OF TREES. APPROPRIATE TREE REMOVAL PERMITS AND METHODS OF TREE PRESERVATION SHOULD BE OBTAINED FROM THE CITY'S PLANNING DEPARTMENT AND THE CITY ARBORIST
- FOR NON-RESIDENTIAL PROJECTS, ANY NON-HAZARDOUS EXPORT RESULTING FROM PROJECT RELATED EXCAVATION OR LAND CLEARING SHALL BE 100% REUSED AND RECYCLED PER CALIFORNIA GREEN BUILDING STANDARDS CODE SECTION 5.408.
- BOLT-DOWN STORM DRAIN MANHOLE COVERS SHALL BE USED WHEN STORM DRAIN MANHOLES ARE NOT IN THE STREET (I.E. WHEN LOCATED IN LANDSCAPED AREAS, SIDEWALKS, ON-SITE EASEMENTS, ETC).

A. STENCILING LOCATION: CONTRACTOR SHALL STENCIL ALL STORM DRAIN INLETS AND CATCH BASINS WITH "NO DUMPING - FLOWS TO NEIGHBORHOOD CREEK" STENCIL. THE "NO DUMPING" MESSAGE SHOULD BE APPLIED TO BOTH THE TOP OF THE CURB AND THE FACE OF THE CURB NEXT TO THE STORM DRAIN INLET. PREFERABLY ON THE LEFT SIDE. IF THIS IS NOT FEASIBLE, PLACE THE MESSAGE IN THE STREET IN FRONT OF THE INLET.

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3 - SECTIONS

4 - SECTIONS

5 - SECTIONS

6 - DETAILS

2 - NOTES AND DETAILS

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9 - MASS GRADING PLAN

10 - MASS GRADING PLAN

11 - MASS GRADING PLAN

12 - MASS GRADING PLAN

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17- MASS GRADING PLAN

18 - MASS GRADING PLAN

19 - STORM WATER CONTROL PLAN

21 - EROSION CONTROL PLAN

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23 - EROSION CONTROL PLAN

24 - EROSION CONTROL DETAILS

25 - EROSION CONTROL DETAILS

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27 - GEOMITIGATION- 2 GEOTECHNICAL MITIGATION PLAN

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29 - GEOMITIGATION- 4 GEOTECHNICAL MITIGATION PLAN

30 - GEOMITIGATION- 5 GEOTECHNICAL MITIGATION PLAN

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60 - MSE RETAINING WALL MSE-6 MSE WALL DETAILS

61 - MSE RETAINING WALL MSE-7 MSE WALL DETAILS

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70 - SOIL NAIL AND SOLDIER PILE WALLS RW9 SOIL NAIL WALL TYPICAL SECTIONS

67 - SOIL NAIL AND SOLDIER PILE WALLS RW6 DEADMAN/TIE ROD INSTALLATION SEQUENCE

65 - SOIL NAIL AND SOLDIER PILE WALLS RW4 SOLDIER PILE WALL SCHEDULE

68 - SOIL NAIL AND SOLDIER PILE WALLS RW7 SOLDIER PILE WALL DETAILS

69 - SOIL NAIL AND SOLDIER PILE WALLS RW8 SOIL NAIL WALL ELEVATIONS

71 - SOIL NAIL AND SOLDIER PILE WALLS RW10 SOIL NAIL WALL DETAILS

GRADES SHOWN ON THIS MASS GRADING PLAN ARE

INTENDED TO PROVIDE FINISHED PERIMETER SLOPES AND AN

INTERIM GRADE FOR STREETS AND LOTS. FINAL STREET AND

LOT GRADES SHALL BE ESTABLISHED BASED ON THE

APPROVED ROUGH GRADING PLAN. IT SHALL BE THE

CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT DESIGN

PAD AND STREET GRADES ARE USED AS SHOWN ON THE

ROUGH GRADING PLAN TO ESTABLISH PADS AND STREET

SUBGRADE. ANY POTENTIAL DOUBLE-HANDLING OF MATERIAL

THAT MAY RESULT FROM THE USE OF GRADES SHOWN ON

THIS MASS GRADING PLAN OVER FUTURE STREET AND LOT

AREAS SHALL BE THE CONTRACTOR'S RESPONSIBILITY

62 - SOIL NAIL AND SOLDIER PILE WALLS RW1 SITE PLAN & NOTES

63 - SOIL NAIL AND SOLDIER PILE WALLS RW2 OVERALL SITE PLAN

- PREVIOUSLY MARKED INLETS: INLETS THAT HAVE ALREADY BEEN LABELED WITH PERMANENT PLASTIC "NO DUMPING" MARKERS DO NOT NEED STENCILING. IF THE INLET HAS BEEN PREVIOUSLY STENCILED. PAINT OVER THE OLD PAINT AND APPLY A FRESH STENCIL
- COLORS AND MATERIALS: USE WHITE TRAFFIC STRIPING PAINT FOR THE BACKGROUND AND BLUE TRAFFIC STRIPING PAINT FOR THE LETTERING. TRAFFIC STRIPING PAINT CAN BE PURCHASED AT COMMERCIAL PAINT RETAILERS OR THROUGH SPECIALTY TRAFFIC CONTROL OR CONSTRUCTION SUPPLIERS. THE USE OF ORDINARY PAINT FOR STORM DRAIN MARKING IS NOT ALLOWED. THE STENCILS MAY BE OBTAINED, AT NO CHARGE, THROUGH THE ENVIRONMENTAL SERVICE DEPARTMENT, CONTACT AMBER SCHAT AT 408-945-3000.
- 14. CIVIL ENGINEER INFORMATION AND STATEMENTS:
  - THE CIVIL ENGINEER FOR THIS PROJECT IS: PETER SMITH HMH, 1570 OAKLAND ROAD SAN JOSE, CA 95131
- B. THIS MASS GRADING PLAN HAS BEEN PREPARED UNDER THE DIRECTION OF A LICENSED ENGINEER AND DESIGNED BASED ON THE RECOMMENDATIONS OF THE REFERENCED PROJECT GEOTECHNICAL REPORT.
- C. THE STORMWATER CONVEYANCE SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH THE APPROPRIATE BUILDING AND PLUMBING CODES OR HAS BEEN PROVEN TO BE DESIGNED WITH ADEQUATE CAPACITY THROUGH SIGNED AND SEALED HYDRAULIC CALCULATIONS
- 15. SOILS ENGINEER INFORMATION AND REQUIREMENTS:
- A. THE SOIL ENGINEER FOR THIS PROJECT IS: CORNERSTONE EARTH GROUP
- B. THE GEOTECHNICAL REPORT FOR THIS PROJECT IS: DATE: SEPTEMBER 8, 2014
- PROJECT NUMBER: 174-4-3
- C. GEOLOGIC HAZARD CLEARANCE LETTER
- DATE: FEBRUARY 12, 2021 PROJECT NUMBER: 172-4-11
- D. ALL GRADING WORK SHALL CONFORM TO THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL REPORT AND/OR THE PROJECT SOIL ENGINEER.
- ALL GRADING WORK SHALL BE OBSERVED AND APPROVED BY THE SOIL ENGINEER. THE SOIL ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS BEFORE BEGINNING ANY GRADING. UNOBSERVED AND/OR UNAPPROVED GRADING WORK SHALL BE REMOVED AND REPLACED UNDER OBSERVATION.
- 16. A POST CONSTRUCTION "FINAL" REPORT IS REQUIRED BY THE DIRECTOR OF PUBLIC WORKS FROM A CIVIL ENGINEER RETAINED BY THE OWNER TO OBSERVE THE CONSTRUCTION STATING:
- A. "THAT THE CONSTRUCTION CONFORMS TO THE LINES AND GRADES ON THE APPROVED PLANS;" OR
- "THAT ALL SIGNIFICANT CHANGES WERE REVIEWED AND APPROVED IN ADVANCE BY THE DEPARTMENT OF PUBLIC WORKS" AND THE CIVIL ENGINEER SHALL SUBMIT A "RECORD DRAWING" PLAN.
- 17. A POST CONSTRUCTION "FINAL" REPORT IS REQUIRED BY THE DIRECTOR OF PUBLIC WORKS FROM A SOIL ENGINEER, AND ALSO FROM AN ENGINEERING GEOLOGIST IF THE PROJECT IS IN A GEOLOGIC HAZARD ZONE.
- "THAT THE ANTICIPATED CONDITIONS AND MATERIALS AND ACTUAL SITE CONDITIONS AND MATERIALS WERE COMPATIBLE," AND SUPPLY SUPPORTING DATA; OR
- "THAT THE DESIGN WAS MODIFIED TO MEET THE NEW CONDITIONS AND WAS REVIEWED AND APPROVED IN ADVANCE BY THE DEPARTMENT OF PUBLIC WORKS;" AND PROVIDE SUPPORTING DATA FOR THESE STATEMENTS.
- ACCORDING TO THE CITY'S WASTE WATER ORDINANCE. THE USE OF POTABLE (PIPED OR HYDRANT) WATER FOR BUILDING OR CONSTRUCTION PURPOSES INCLUDING CONSOLIDATION OF BACKFILL OR DUST CONTROL IS

RECLAIMED WATER IS AVAILABLE AT MULTIPLE LOCATIONS ACROSS THE CITY. TO CERTIFY FOR A RECYCLED WATER METER, PLEASE CALL LYLE FROHMAN AT (408) 794-6805.

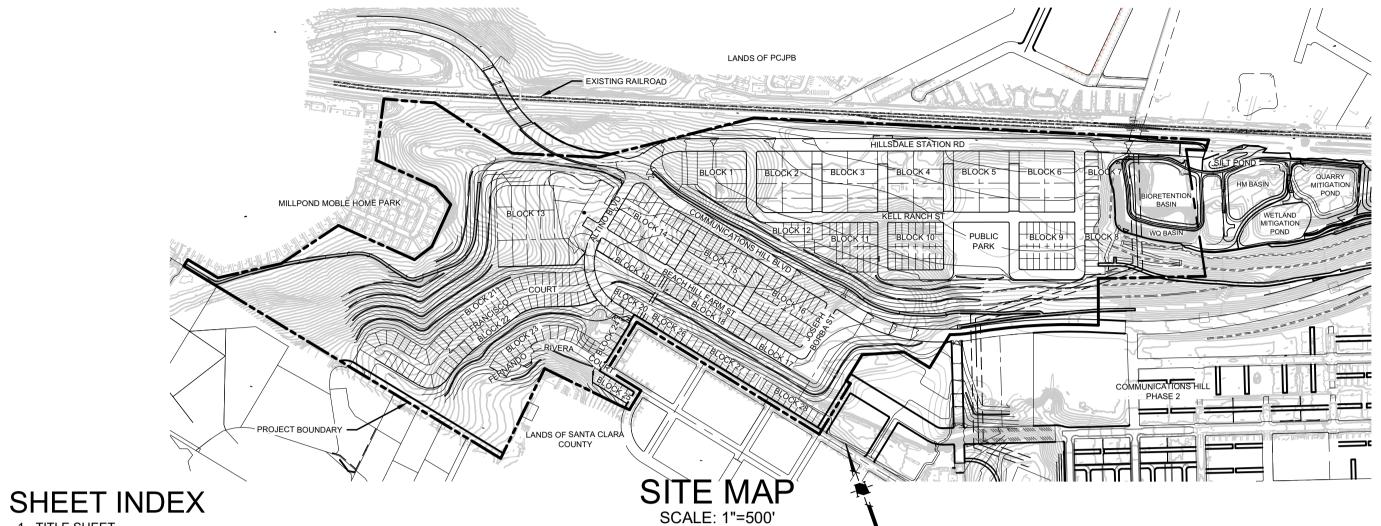
AN APPLICATION FOR AN EXCEPTION PERMIT TO APPROVE USE OF HYDRANT WATER CAN BE CONSIDERED IN THE PW DEVELOPMENT SERVICES OFFICE. FAX-BACK SERVICE IS PROVIDED FOR THIS PERMIT APPLICATION -- CONTACT

- A HAUL ROUTE PERMIT IS REQUIRED FOR ALL PROJECTS MOVING MORE THAN 10.000 C.Y. OF EARTH. THIS GRADING PERMIT IS INVALID WITHOUT THE HAUL ROUTE PERMIT. HAUL ROUTE PERMITS SHOULD BE OBTAINED FROM THE CITY'S TRANSPORTATION DEPARTMENT.
- GRADING WILL NOT BE ALLOWED BETWEEN OCTOBER 1ST AND APRIL 30TH OF ANY YEAR WITHOUT EROSION CONTROL PLANS AND MEASURES APPROVED BY THE DIRECTOR OF PUBLIC WORKS. STORMWATER POLLUTION PREVENTION MEASURES IN ACCORDANCE WITH CITY SPECIFICATIONS AND WITH THE DOCUMENT "CLEAN BAY BLUEPRINT" SHALL BE IMPLEMENTED THROUGHOUT THE YEAR TO THE SATISFACTION OF THE DIRECTOR OF PUBLIC

# COMMUNICATIONS HILL

# PHASE III & IV MASS GRADING PLAN

SAN JOSE, CALIFORNIA



**LEGEND** 

STORM DRAIN MANHOLE

STANDARD CURB INLET

STORM DRAIN FIELD INLET (SEE DETAIL SHEET 2)

OVERLAND RELEASE PATH

LIMIT OF GRADING

PROPERTY LINE

**RIGHT-OF-WAY** 

**CURB AND GUTTER** 

(SEE DETAIL SHEET 2)

CONCRETE DRAINAGE SWALE

**EARTHEN SWALE** 

STORM DRAIN PIPE

CMU RETAINING WALL

MSE RETAINING WALL

PROTECTIVE FENCING

**CUT/FILL LINE** 

**UTILITY POLE** 

**DETAIL CALLOUT** 

SOIL NAIL RETAINING WALL

SOLDIER PIER RETAINING WALL

SLOPE EROSION PROTECTION

(SEE SHEET 2 FOR DETAILS)

TEE DISSIPATOR W/ ROCK SLOPE PROTECTION

(SEE DETAIL ON SHEET 6)

**EASEMENT** 

CONTOUR

**BOUNDARY** 

**DIRECTION OF SURFACE DRAINAGE** 

**ABBREVIATIONS** 

CATCH BASIN

CENTERLINE

**EXISTING** 

**FLOW LINE** 

HIGH POIN

**INVFRT** 

INTERIM

**MAXIMUM** 

NOT TO SCALE

PAD ELEVATION

PROPERTY LINE

POWER POLE

**ROUGH GRADE** 

RIGHT OF WAY

STORM DRAIN

SOIL SNAIL WALL

SOLDIER PILE WALL

TOP OF U GUTTER

TOP OF PLATE COVER

TOP OF GRATE

TOP OF WALL

**TYPICAL** 

ROCK SLOPE PROTECTION

STORM DRAIN FIELD INLET

TOP OF CONCRETE SWALE

STORM DRAIN MANHOLE

OVERHEAD

PE/PL

SD

SN

SP

TCS

TGR

TPC

TYP

SDFI

MINIMUM

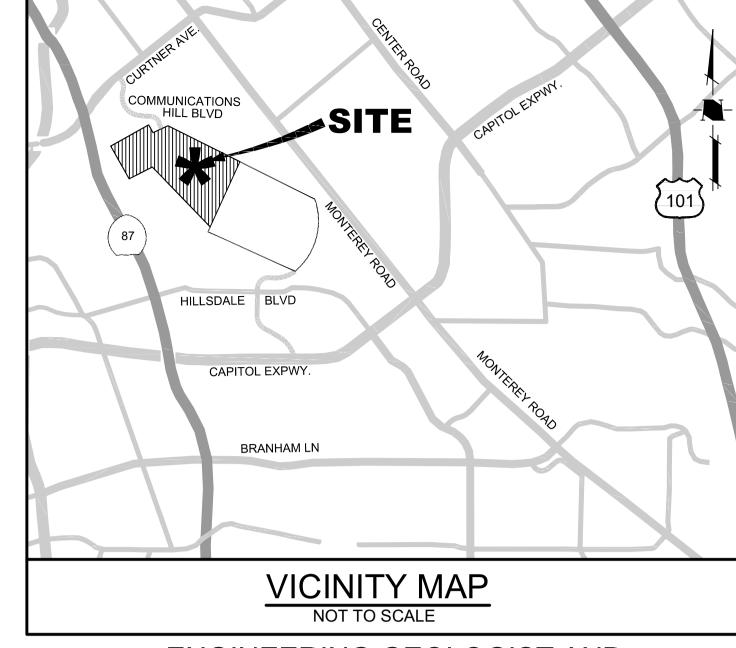
CITY OF SAN JOSE

**EXISTING GROUND** 

FINISHED GRADE

CONCRETE MASONRY UNIT WALL

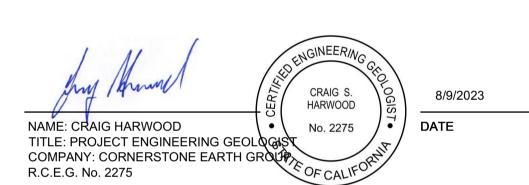
MECHANICALLY STABILIZED EART



# **ENGINEERING GEOLOGIST AND** GEOTECHNICAL ENGINEER OF **RECORD**

THIS PLAN HAS BEEN REVIEWED AND FOUND TO BE IN GENERAL CONFORMANCE WITH THE INTENT AND PURPOSE OF THE GEOTECHNICAL AND GEOLOGIC REPORT DATED SEPTEMBER 8, 2014 PREPARED BY CORNERSTONE EARTH GROUP.

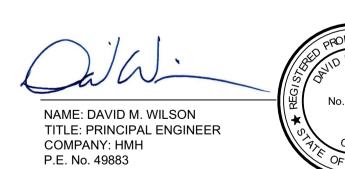




#### **ENGINEER'S STATEMENT**

THIS PLAN HAS BEEN PREPARED BY ME OR UNDER MY DIRECTION IN ACCORDANCE WITH STANDARD ENGINEERING PRACTICE.







# APPROVED FOR GRADING AND DRAINAGE ONLY

DEPARTMENT OF PUBLIC WORKS CITY OF SAN JOSE, CALIFORNIA

PROJECT/ENGINEER JOSE OROPEZA	7/1/2024 DATE
Michelle Kimball SENIOR ENGINEER	6/28/2024 DATE
21-017596-GR (3-18407) PERMIT NUMBER	7/31/2025 EXPIRATION DATE

UNAUTHORIZED CHANGES & USES: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.





Landscape Architecture

Civil Engineering Utility Design

Land Surveying

Stormwater Compliance

1570 Oakland Road (408) 487-2200

San Jose, CA 95131

DESCRIPTION

ROJECT NO: AD DWG FILE: 363681MG01.DW ESIGNED BY MM, MS, S HECKED BY APRIL 27, 202 AS SHOWI SCALE:

TITLE SHEET

OF 73

PW 3-18407

# RETAINING WALL INSPECTION

CONTRACTOR OR PERMITEE SHALL NOTIFY THE CITY STRUCTURAL INSPECTOR AT LEAST 48 HOURS PRIOR TO CONSTRUCTION OF THE RETAINING WALLS. THE STRUCTURAL INSPECTOR IS LES PAGE. VOICE MAIL NO. (408) 858-4940.

# EARTH WORK QUANTITIES

CUT: 2,008,200 ± CY FILL: <u>2,008,200 ± CY</u> EXPORT: 0 CY IMPORT: 0 CY

NOTE: EARTHWORK QUANTITIES SHOWN ARE APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INDEPENDENTLY ESTIMATE QUANTITIES FOR HIS/HER OWN USE.

## HORIZONTAL CONTROL

**PROPOSED** 

—— 150 ——

A — DETAIL

BASIS OF BEARING: THE BEARING NORTH 70°41'25" WEST OF THE CENTER LINE OF ADELINE FROM MANUEL TO LINA AS SHOWN ON THAT MAP OF TRACT 9435 FILED FOR RECORD IN BOOK 756 OF MAPS, PAGE 47, SANTA CLARA COUNTY RECORDS. AND AS FOUND MONUMENTED AND ROTATED COUNTER-CLOCKWISE 0° 00' 12" FOR THE PURPOSE OF THIS MAP, WAS ADOPTED AS THE BASIS OF BEARINGS.

### **BENCHMARK**

ELEV DATUM: NAVD88 153.24 FEET SCVWD BM1074 BRASS DISK STAMPED "SCVWD BM 877R 2002"; ON TOP OF CURB; AT WESTERLY SIDE OF MONTEREY ROAD; OPPOSITE TO ELECTROLIER #150-228 (SECOND ELECTROLIER SOUTHERLY OF SOUTHSIDE ROAD; 70 FEET SOUTHERLY FROM DRIVEWAY AT 3107 MONTEREY ROAD. CITY OF SAN JOSE).

### **ADDITIONAL NOTES**

THE FOLLOWING NOTES ARE NOT PART OF THE CITY OF SAN JOSE STANDARD NOTES AND ARE PROVIDED AS SUPPLEMENTAL NOTES BY HMH.

#### EARTHWORK AND GRADING

- THE DESIGN INTENT OF THIS PLAN IS TO SET LINES AND GRADES ONLY. REFER TO THE GEOTECHNICAL REPORT REFERENCED IN NOTE 3 BELOW FOR GEOTECHNICAL DESIGN AND MITIGATION.
- THE GEOTECHNICAL ENGINEER OF RECORD IS JOHN DYE IN CASE OF CONFLICTS, BETWEEN THE INFORMATION SHOWN ON THIS PLAN AND THE REQUIREMENTS CONTAINED IN THE GEOTECHNICAL REPORT, THE GEOTECHNICAL REPORT SHALL GOVERN WITH PRIOR APPROVAL BY THE CITY.
- THE DESIGN FOR THE GEOTECHNICAL AND SOILS REPAIR, MITIGATION, NOTES AND STABILIZATION DEPICTED ON THIS PLAN (ALL SHEETS OF THE PLAN SET) IS BASED ON THE DESIGN AND RECOMMENDATIONS PROVIDED TO HMH BY CORNER STONE EARTH GROUP HMH MAKES NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ADEQUACY OF THE PROPOSED GEOTECHNICAL DESIGN AND MITIGATION. HMH ACCEPTS NO LIABILITY AND/OR RESPONSIBILITY THAT MAY ARISE DUE TO SLIDE MOVEMENT, SETTLEMENT, OR SIMILAR RELATED OCCURRENCES WITH RESPECT TO THE DESIGN OR CONSTRUCTION OF GEOTECHNICAL CORRECTIVE SCHEMES
- BASE KEYS AND SUBDRAINS SHALL BE INSTALLED PER THE PROJECT GEOTECHNICAL REPORTS AS DIRECTED BY THE PROJECT GEOTECHNICAL ENGINEER IN THE FIELD.
- THE CONTRACTOR SHALL POTHOLE AND VERIFY LOCATIONS AND ELEVATIONS OF ALL CONNECTIONS TO EXISTING UNDERGROUND FACILITIES BEFORE ANY CONSTRUCTION. THE ENGINEER MUST BE NOTIFIED IMMEDIATELY IF CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLANS SO THAT DESIGN CHANGES CAN BE MADE.
- 6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES. CALL USA (UNDERGROUND SERVICE ALERT) 2 WORKING DAYS BEFORE DIGGING AT 811. LOCATIONS SHOWN ON THE PLANS WERE TAKEN FROM AVAILABLE RECORDS AND ARE APPROXIMATE AND SHOWN FOR GENERAL INFORMATION ONLY, AND MAY BE INCOMPLETE. RELOCATION OR REPAIR OF ANY DAMAGE TO UTILITIES OR PIPELINES AND PLUGGING OR REMOVAL OF ABANDONED LINES SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PRESERVE AND PROTECT ANY FENCES WHICH MAY BE REQUIRED TO REMAIN BY THE OWNER.
- ALL EXISTING CESSPOOLS, FOUNDATIONS, BASEMENTS, TANKS OR OTHER UNDERGROUND STRUCTURES SHALL BE REMOVED AND THE RESULTING DEPRESSIONS BACKFILLED AND COMPACTED UNDER THE OBSERVATION OF THE SOILS ENGINEER. ALL COST INVOLVED IN THIS WORK SHALL BE CONSIDERED AS INCLUDED IN THE CONTRACT PRICE FOR THE GRADING ITEMS UNLESS COVERED IN SEPARATE PAY ITEMS.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PRESERVE AND PROTECT THOSE TREES WHICH ARE TO REMAIN.
- 10. EARTHWORK QUANTITIES HAVE BEEN ESTIMATED BY THE OWNER'S ENGINEER, BASED UPON AVAILABLE INFORMATION IN ORDER TO ASSIST THE CONTRACTOR. HOWEVER, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INDEPENDENTLY ESTIMATE QUANTITIES FOR HIS USE. IF ADJUSTMENTS TO ELEVATIONS ARE NECESSARY TO EFFECT A BALANCE THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. THE COSTS INVOLVED TO EFFECT A BALANCE SHALL BE CONSIDERED AS INCLUDED IN THE CONTRACT PRICE FOR GRADING ITEMS AND NO EXTRA COMPENSATION WILL BE ALLOWED. BANK YARDAGE DOES NOT INCLUDE SHRINKAGE, SWELL SUBSIDENCE, GEOTECHNICAL REMEDIATION OR TRENCHING AND FOUNDATION SPOILS.
- 11. COMPACTION TO BE DETERMINED USING ASTM D 1557-78.
- 12. ALL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE 1992 CITY OF SAN JOSE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION UNLESS SPECIFICALLY NOTED OTHERWISE.
- ALL GRADING SHALL COMPLY WITH THE REQUIREMENTS CONTAINED IN THE PROJECT E.I.R. AND PROJECT GEOLOGIC/GEOTECHNICAL REPORT REGARDING ANY ASBESTOS REMOVAL, ENCAPSULATION, AND/OR GEOTECHNICAL OBSERVATION AND TESTING REQUIRED.
- 14. CONSTRUCTION ENTRANCES SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF GRADING. ALL CONSTRUCTION TRAFFIC ACCESSING AND EXITING THE SITE MUST CROSS THE STABILIZED CONSTRUCTION ENTRANCE WAYS.
- SEE PROJECT STRUCTURAL PLANS (PREPARED BY OTHERS) FOR RETAINING WALL DESIGN AND DETAILS. SEPARATE PERMITS FOR RETAINING WALLS ARE REQUIRED.
- OUTSIDE AGENCY PERMITS FOR THIS WORK AREA: GENERAL PERMIT TO DISCHARGE STORM WATER STATE WATER RESOURCE CONTROL
- BOARD. 18. WDID NO. 2 43C372676

#### STATEMENT OF RESPONSIBILITY

CONTRACTOR AGREES THAT HE SHALL 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 AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OR WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

#### **DEMOLITION NOTES**

- 1. ITEMS DEMOLISHED ARE TO BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN A LEGAL MANNER.
- PROTECT TREES TO REMAIN, BOTH ON-SITE AND ADJACENT PROPERTIES.
- PROTECT NEIGHBORING PROPERTIES FROM DAMAGE DURING CONSTRUCTION AND DEMOLITION ACTIVITIES.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN AND PRESERVE THE EXISTING MONUMENTS OF RECORD. SHOULD THE CONTRACTOR DESTROY OR DISTURB ANY MONUMENTS OF RECORD, THE CONTRACTOR SHALL, AT ITS SOLE EXPENSE, RETAIN A CALIFORNIA LICENSED LAND SURVEYOR TO REPLACE SAID MONUMENTS AND FILE AN APPROPRIATE CORNER RECORD.

#### **EXISTING CONDITIONS**

- GRADES ENCOUNTERED ON-SITE MAY VARY FROM THOSE SHOWN. CONTRACTOR SHALL REVIEW THE PLANS AND CONDUCT INVESTIGATIONS AS REQUIRED TO VERIFY EXISTING CONDITIONS AT THE PROJECT SITE.
- EXISTING GRADES AND CONFORM DESIGNS SHOWN ARE BASED OFF OF INTERMITTENT FIELD TOPO DATA AND MAY NOT INCLUDE ALL CONFORM SITUATIONS. CONTRACTOR SHALL REVIEW ALL CONFORM CONDITIONS AND NOTIFY ENGINEER OF ANY AREAS THAT MAY REQUIRE FIELD FIT ADJUSTMENTS. ALL PAVING AND HARDSCAPE CONFORMS MUST COMPLY WITH ADA REQUIREMENTS AND MAINTAIN POSITIVE DRAINAGE TO DRAIN INLETS.
- INFORMATION REGARDING EXISTING UTILITIES IS FROM RECORD DATA AND MAY NOT REPRESENT ACTUAL CONDITIONS. CONTRACTOR SHALL CONDUCT FIELD EVALUATION OF ALL EXISTING SUBSURFACE IMPROVEMENTS AND UTILITIES, WHETHER SHOWN ON THESE PLANS OR NOT, PRIOR TO THE COMMENCEMENT OF WORK. CONTRACTOR SHALL CONTACT HMH IF ANY DISCREPANCIES ARE DISCOVERED.

#### **GENERAL NOTES**

- 1. REVISIONS TO THESE PLANS MUST BE REVIEWED AND APPROVED IN WRITING BY HMH AND THE CITY OF SAN JOSE PRIOR TO CONSTRUCTION OF AFFECTED ITEMS.
- THE CONTRACTOR SHALL NOTIFY HMH, AT (408) 487 2200 BEFORE PROCEEDING WITH ANY WORK THAT APPEARS TO BE INSUFFICIENTLY DETAILED.
- CONTRACTOR SHALL REPLACE OR REPAIR, AT HIS OWN EXPENSE, ALL DAMAGED, REMOVED OR OTHERWISE DISTURBED EXISTING UTILITIES, OR IMPROVEMENTS IN KIND.
- IF TEMPORARY LANE CLOSURES ARE REQUIRED FOR CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN AND OBTAIN APPROVAL FROM THE CITY OF SAN JOSE BEFORE COMMENCING WORK. THE CONTRACTOR SHALL ALSO PROVIDE FLAG MEN, CONES OR BARRICADES, AS NECESSARY TO CONTROL TRAFFIC AND PREVENT HAZARDOUS CONDITIONS, PER CALTRANS STANDARDS.
- EXISTING PEDESTRIAN WALKWAYS, BIKE PATHS AND DISABLED ACCESS PATHWAYS SHALL BE MAINTAINED DURING CONSTRUCTION TO THE SATISFACTION OF THE CITY INSPECTOR.
- CONTRACTOR SHALL BACKFILL TRENCHES, OR PLACE STEEL PLATING AND/OR HOT-MIX ASPHALT, AS REQUIRED BY THE CITY INSPECTOR, TO PROTECT OPEN TRENCHES AT THE END OF EVERY WORK DAY.
- THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS RELATED TO SHORING OF EXCAVATIONS.
- CONTRACTOR SHALL CLEAN STREETS TO REMOVE ACCUMULATION OF MUD AND DEBRIS RESULTING FROM CONSTRUCTION ACTIVITIES.
- CONTRACTOR TO OBTAIN REQUIRED PERMITS FOR HAUL ROUTES PRIOR TO DEMOLITION AND CONSTRUCTION.
- 10. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING ALL INSPECTIONS AS REQUIRED.
- CONTRACTOR IS TO POTHOLE ALL UTILITY CONNECTIONS PRIOR TO CONSTRUCTION TO VERIFY INFORMATION PROVIDED ON PLAN REGARDING

#### **UTILITY NOTES**

NOTE

EXISTING UTILITIES.

ALL STORM DRAINS SHALL BE SDR-17 UNLESS OTHERWISE SPECIFIED.

AUTHORIZATION FOR THE ABOVE MENTIONED ITEMS.

 $\langle$  1  $\rangle$  SLOPE 2:1 MAX

3 SLOPE 4:1 MAX

> 24" CONCRETE DRAINAGE SWALE

6' BENCH DETAIL

CONTRACTOR TO GRADE MIN. OF 5% SLOPE

0.5'-

**CONCRETE DRAINAGE SWALE** 

4 FROM TOE OF SLOPE TO TOP OF CONC. SWALE AND COMPACT SOIL TO MATCH TOP OF CONC. SWALE

(SEE DETAIL THIS SHEET)

- STORM PIPE WITH 20% SLOPE OR STEEPER SHALL BE FUSION WELDED HDPE JOINTS OR WITH RESTRAINTS MECHANICAL JOINT HDPE.
- ALL FIELD INLETS SHALL BE 2' X 2' CONCRETE CAST IN PLACE BOX ( SEE MODIFIED INLET DETAILS ON SHEET 2 UNLESS OTHERWISE SPECIFIED.

THIS PLAN DOES NOT APPROVE THE CONSTRUCTION OF SOUND WALLS, ASPHALT PAVING, CURB, GUTTER,

SIDEWALK OR ANY OTHER STRUCTURE. DETAILS PROVIDED IN THIS PLAN SET ARE FOR REFERENCE ONLY.

SEE APPROVED IMPROVEMENT PLAN AND/OR APPROVED WALL PLAN FOR APPROVED CONSTRUCTION

CONCRETE DRAINAGE SWALE

SUB DRAIN PIPE (SIZE PER GEOTECHNICAL ENGINEER)

TO BE 6" MIN DIAMETER)

NEATLY PLACE ROCK LEVEL (50% OF ROCK

 $\langle \ 3 \ \rangle$  FILTER FABRIC (MIRAFI 700X OR EQUIVALENT)

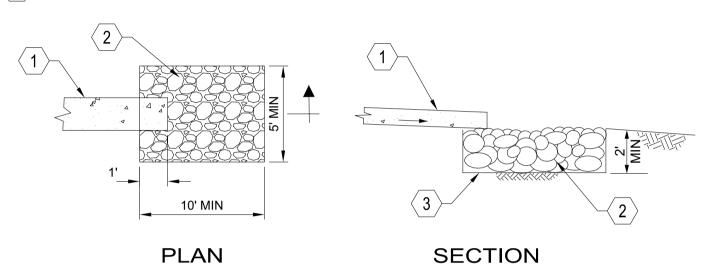
NEATLY PLACE ROCK LEVEL (50% OF ROCK TO BE 6" MIN DIAMETER)

SUBDRAIN OUTFALL DETAIL

10' MIN

**PLAN** 

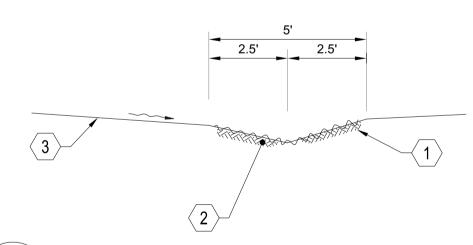
 $\langle \ 3 \ \rangle$  FILTER FABRIC (MIRAFI 700X OR EQUIVALENT)



SECTION

# STORM OUTFALL RIP-RAP DETAIL

- COMPACTED EARTHEN SWALE \_\_/ (SLOPE 3:1 MAX)
- ENKAMAT (OR APPROVED EQUAL) FOR EROSION PROTECTION. SEE EROSION CONTROL PLAN SHEETS 10 & 11 FOR LOCATION
- $\langle 3 \rangle$  PROPOSED MASS GRADE



# EARTHEN SWALE DETAIL

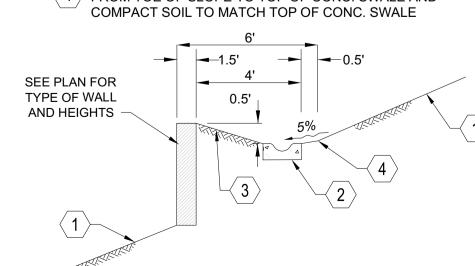
- ⟨ 1 ⟩ SLOPE 2:1 MAX
- 2 24" CONCRETE DRAINAGE SWALE (SEE DETAIL THIS SHEET)
- $\langle 3 \rangle$  SLOPE 4:1 MAX

RECOMPACT UPPER 6" TO 95%

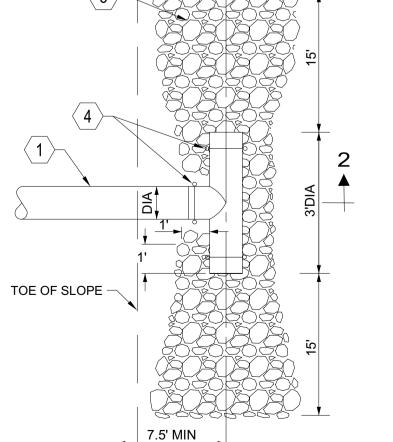
 $\langle 2 \rangle$  3 - #4 BARS (2" CLEAR)

 $\langle 3 \rangle$  6" x 6" #10

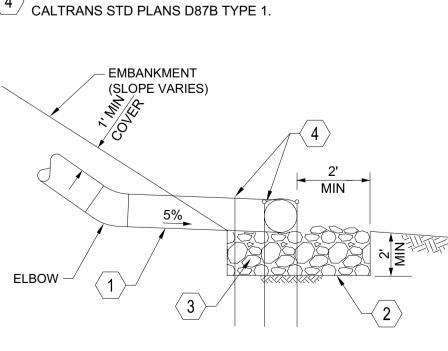
CONTRACTOR TO GRADE MIN. OF 5% SLOPE 4 FROM TOE OF SLOPE TO TOP OF CONC. SWALE AND COMPACT SOIL TO MATCH TOP OF CONC. SWALE



6' BENCH DETAIL WITH WALL



- HDPE W/ CORRUGATED EXTERIOR AND ( 1 ) FUSION WELED JOINTS (TYP). SEE PLAN FOR PIPE DIAMETERS.
- ⟨ 2 ⟩ FILTER FABRIC (MIRAFI 700X OR EQUIVALENT)
- NEATLY PLACE ROCK LEVEL  $\langle 3 \rangle$  (1/4 TON ROCK RIP RAP)
- \ PIPE JOINT AND OR RESTRAINER ASSEMBLY PER



**SECTION 2** 

PLAN

TEE DISSIPATOR W/ ROCK SLOPE PROTECTION DETAIL

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San Jose, CA 95131

24" x 24" CONCRETE CAST IN

WELD FRAME TO ANGLE IRON

2" x 2" x 1/4" x 10" ANGLE IRON

1/4" CHECKER PLATE COVER

SET INTO 24" x 24" FRAME

PLACE TO ACCEPT FRAME AS SHOWN

PLACE BOX

5' MIN

ig( f 1 ig) 3/4" GALVANIZED IRON PIPE

∠ PLATE COVER (TPC)

(4) CONCRETE SWALE

 $\langle$  6 angle FLOWLINE

3' SWALE

TRANSITION

**BOLT DOWN 1/4" CHECKER** 

APPROVED EQUIVALENT

24" x 24" CAST IN PLACE BASE WITH

 $\langle 3 \rangle$  SIDE OPENINGS AS REQUIRED OR

 $\langle$   $_{\mathsf{5}}$  angle TRANSITION SWALE TO CONFORM

WITH INLET OPENING

1.5'

FL SWALE

EMBED 6" MIN

INTO BASE

24" X 24"

CONCRETE BASE

— 3 BARS @

4.7" ON CENTER

**TYPICAL SIDE** 

OPENING

TYP SWALE TO INLET CONNECTION

**EARTHEN** 

**SWALE** 

FRAME FOR COVER



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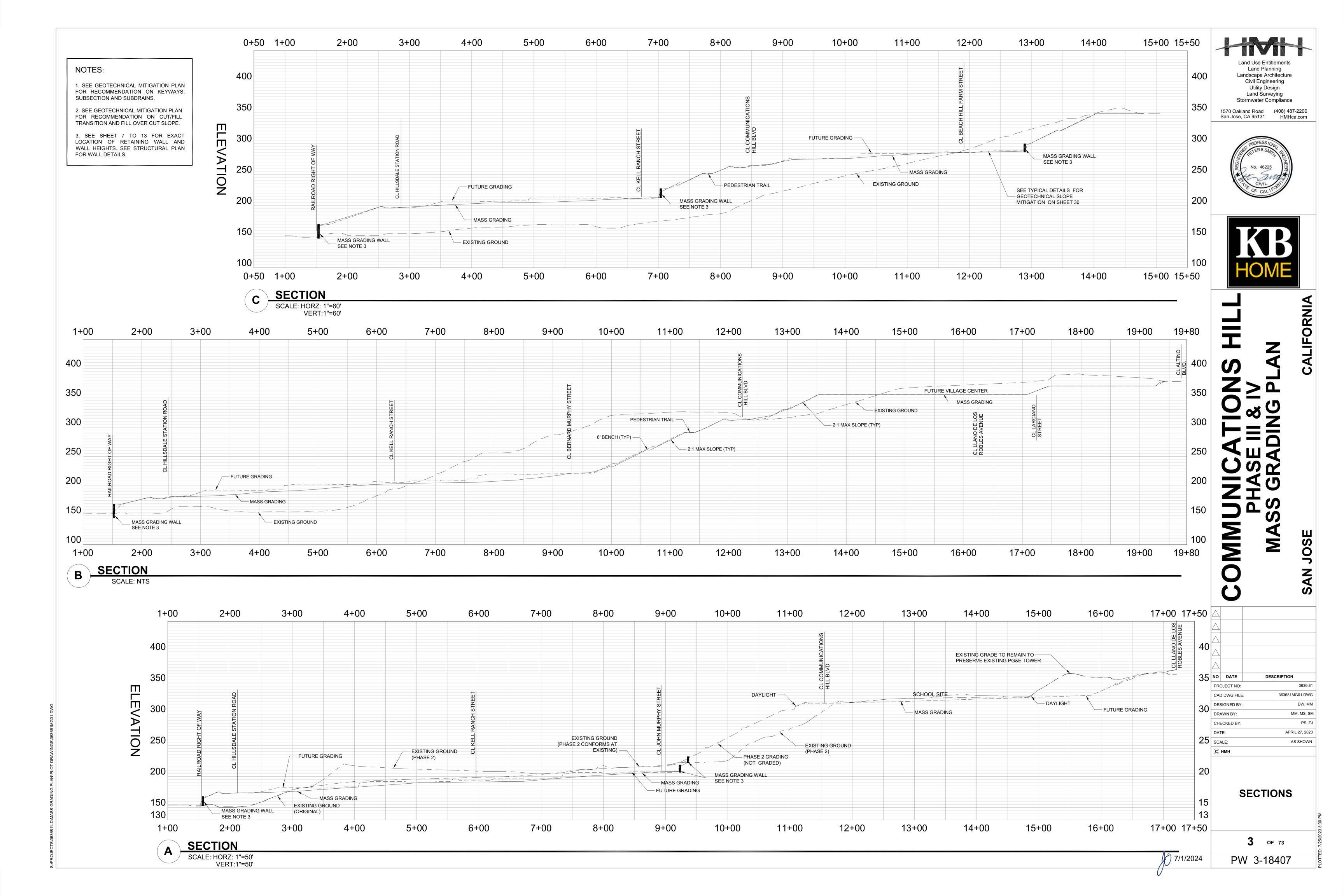


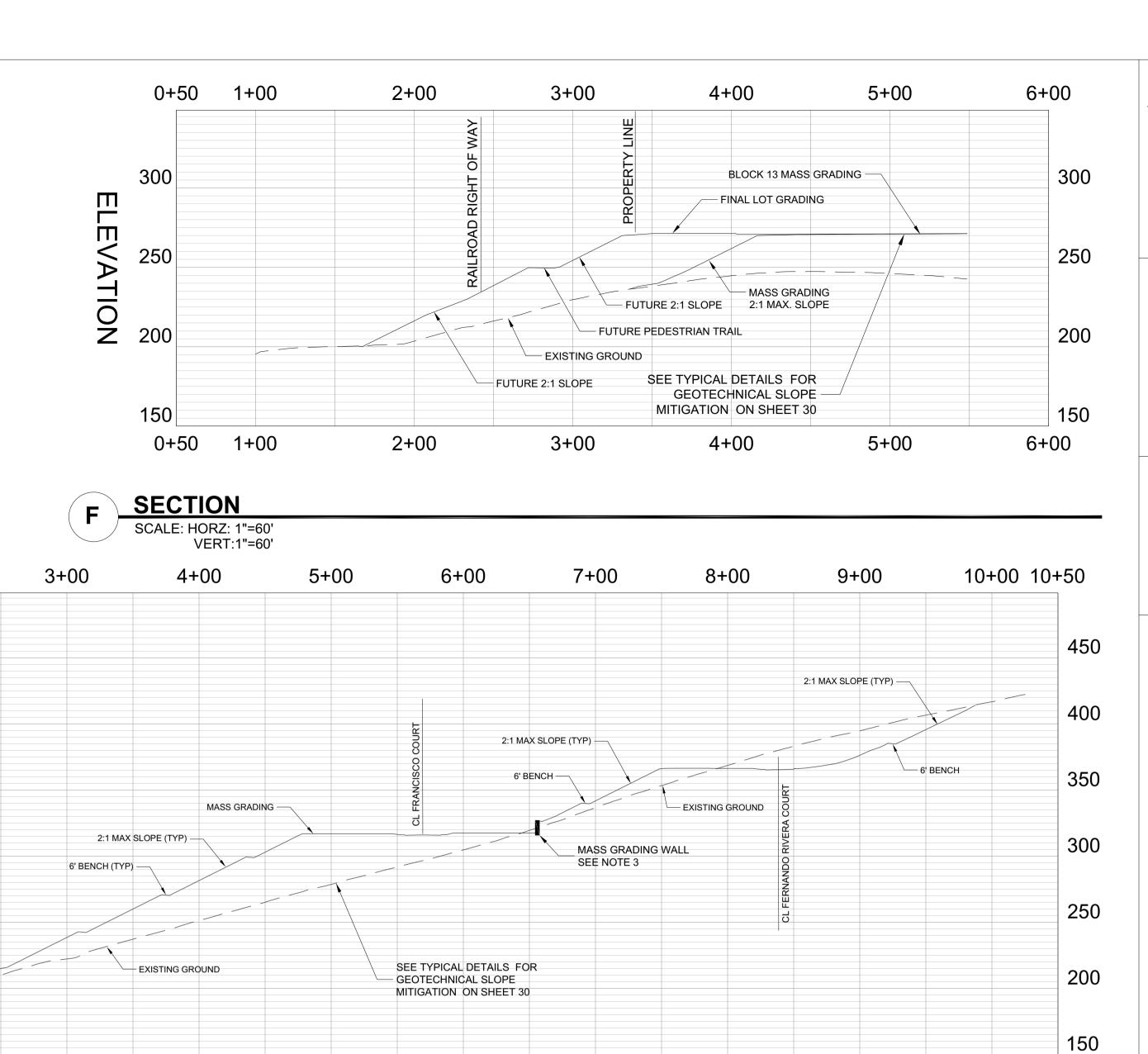
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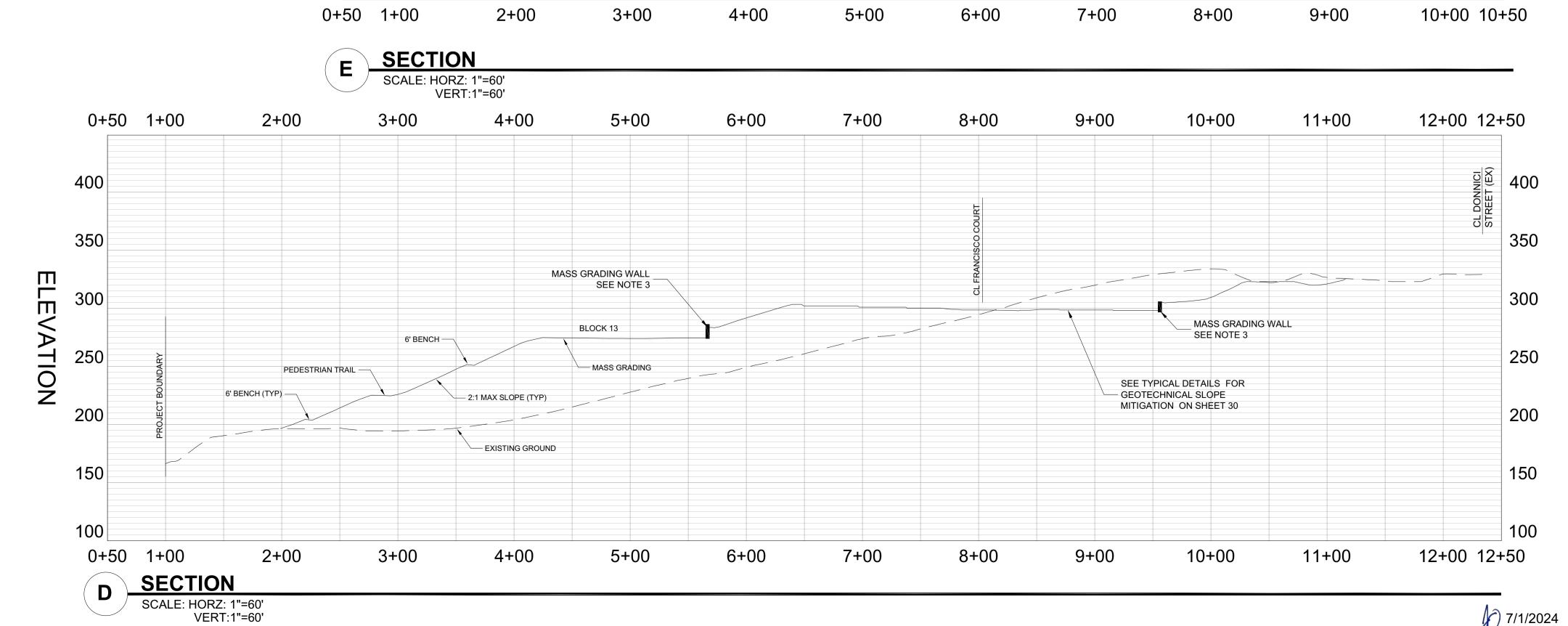
363681MG01.DWG DW, MM **DESIGNED BY** MM, MS, SM DRAWN BY: PS, ZJ CHECKED BY: DATE: APRIL 27, 2023 SCALE: AS SHOWN С нмн

> **NOTES AND DETAILS**

**2** OF 73







NOTES:

1. SEE GEOTECHNICAL MITIGATION PLAN

FOR RECOMMENDATION ON KEYWAYS,

2. SEE GEOTECHNICAL MITIGATION PLAN

FOR RECOMMENDATION ON CUT/FILL TRANSITION AND FILL OVER CUT SLOPE.

3. SEE SHEET 7 TO 13 FOR EXACT

LOCATION OF RETAINING WALL AND

WALL HEIGHTS. SEE STRUCTURAL PLAN

0+50 1+00

2+00

PEDESTRIAN TRAIL

DAYLIGHT

SUBSECTION AND SUBDRAINS.

FOR WALL DETAILS.

**ELEVATION** 

150

100

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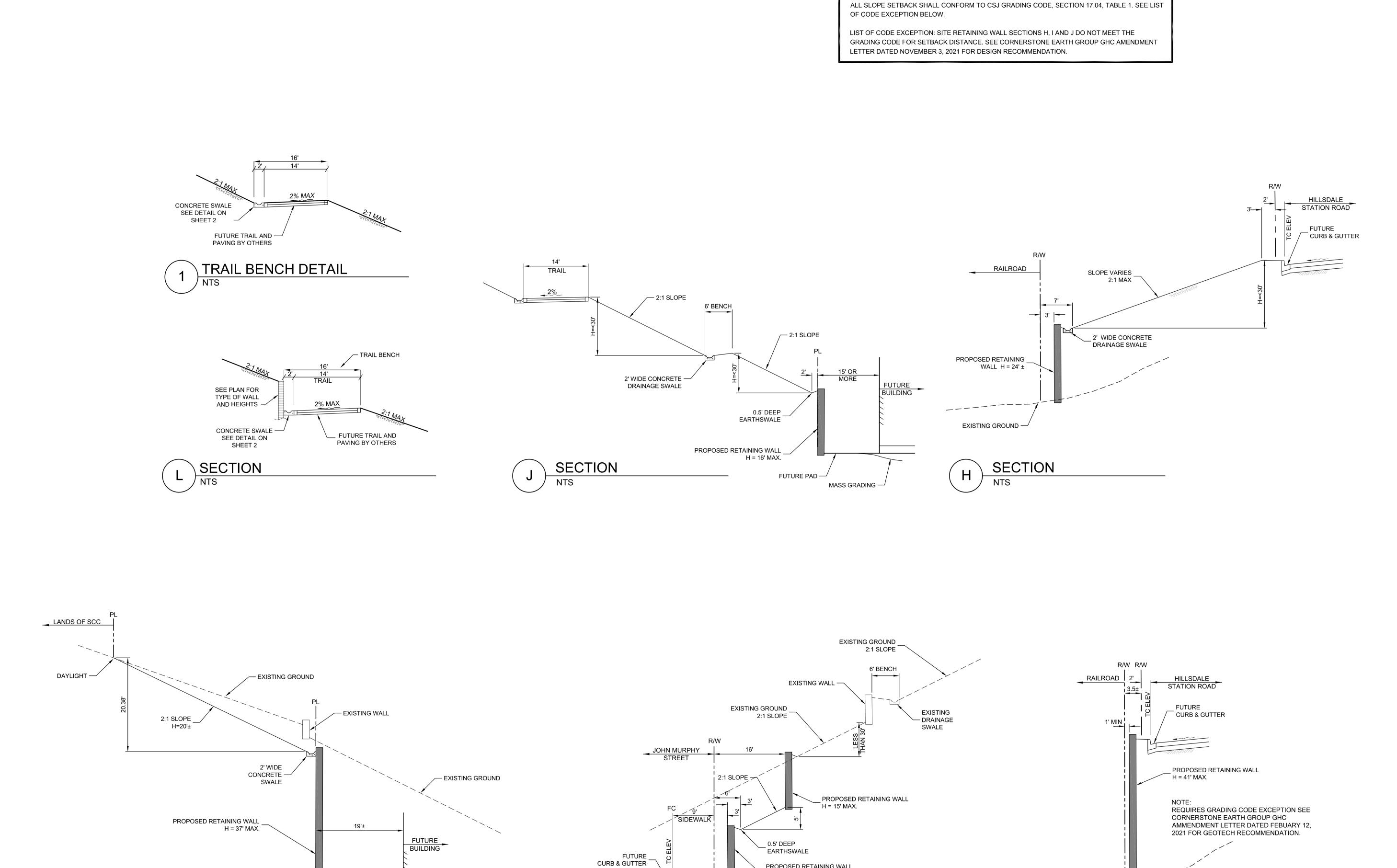
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**SECTIONS** 

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PW 3-18407



SECTION NTS

SECTION NTS

— FUTURE PAD

PROPOSED RETAINING WALL H = 15' MAX.

EXISTING GROUND —

NOTE

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**SECTIONS** 

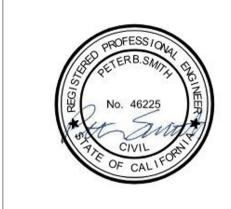
**5** OF 73

PW 3-18407

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NO DATE DESCRIPTION 363681MG01.DWG

PROJECT NO: CAD DWG FILE: DESIGNED BY: MM, MS, SM DRAWN BY: CHECKED BY: APRIL 27, 2023 AS SHOWN SCALE: С нмн

**DETAILS** 

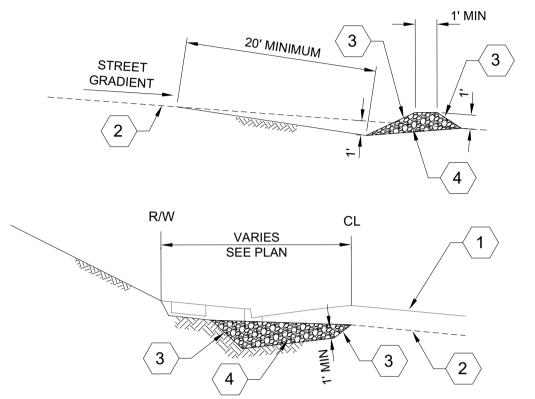
**6** OF 73

1 > STREET FINISHED SURFACE GRADE

⟨ 2 ⟩ STREET SUBGRADE OR MASS GRADE

 $\langle 3 \rangle$  2:1 MAXIMUM SLOPE

 $\overline{\left\langle 4\right\rangle }$  NEATLY PLACE ROCK LEVEL (50% OF ROCK TO BE 6" MIN DIAMETER)



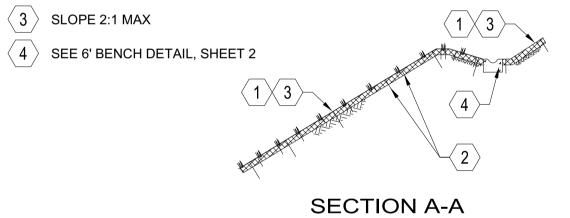


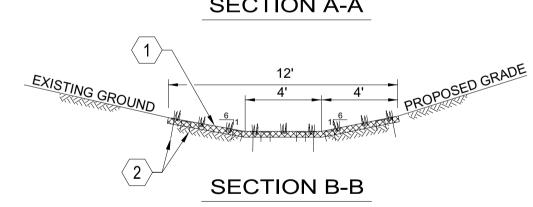
TENSAR - ROLLMAX, ROLLED EROSION CONTROL VMax P550 TURF REINFORCEMENT MAT

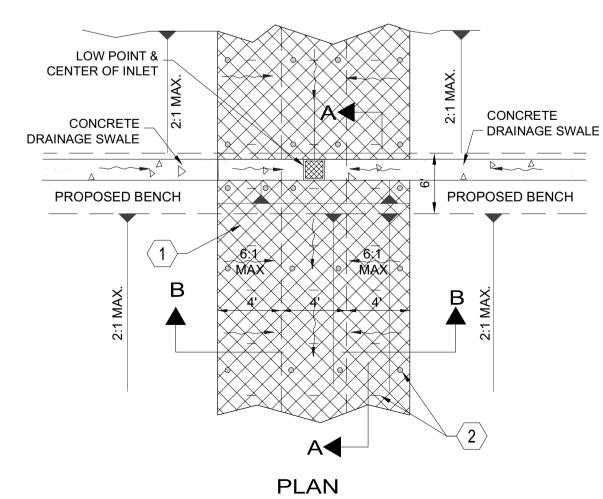
SEE MANUFACTURERS SPECIFICATIONS FOR

STAKING AND ANCHORING INFORMATION

3 SLOPE 2:1 MAX







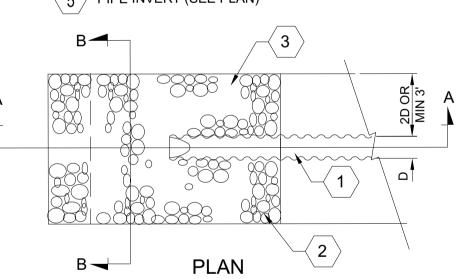
 $\langle 1 \rangle$  CMP PIPE (SEE PLAN FOR SIZE)

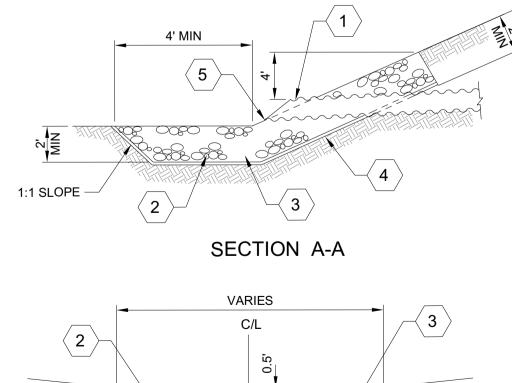
1/4 TON ROCK RIP RAP INSTALLED PER STATE SPEC. 72.2 (NO WHITE ROCK). ROCK SHALL BE MINIMUM OF 2 LAYERS THICK.

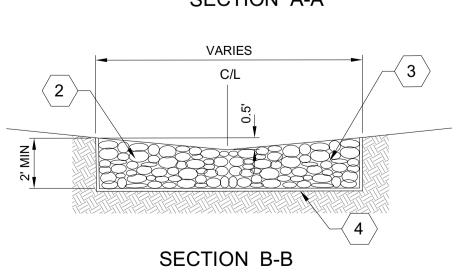
OF SOIL IS PERMITTED FOR PLACEMENT) GEOTEXTILE FABRIC SHALL BE MIRAFI 700X OR

RIP RAP VOIDS FILLED WITH TOP SOIL (WETTING

EQUAL) 5 PIPE INVERT (SEE PLAN)







TYP CMP STORM OUTFALL DETAIL

SLOPE EROSION PROTECTION

3" CLEAR — REBAR SEE NOTE 1 – 2 - #4 STIRRUPS - 3,300 PSI CONCRETE 4" CLEAR TYPICAL EQUAL EQUAL 1' MIN

SWALE TO DRAIN

(SEE NOTE 5)

RETAINING WALL

(SEE NOTE 2)

SLOPE VARIES

TYPICAL WALL CONDITION

\*SEE PLAN FOR ACTUAL WALL ELEVATIONS

TYP RETAINING WALL NOTES

**ELEVATION** 

SECTION A-A

ALL REQUIRED GEOTECHNICAL MITIGATION, DESIGN, BASE KEYS AND SUBDRAINS SHALL BE INSTALLED ACCORDING TO THE PROJECT GEOTECHNICAL REPORT.

SEE STRUCTURAL PLANS FOR BUILDING RETAINING

4. SEE STRUCTURAL PLANS FOR RETAINING WALL DESIGN

. CONTRACTOR TO CONSTRUCT SWALE IF WALL IS NON

(FOR REFERENCE ONLY)

- FINISH GRADE

XXVXVXVXVX

6. WALL CONTRACTOR TO INCORPORATE TOP OF WALL

3. SITE RETAINING WALLS SHOWN ON THE PLANS ARE

WALL DESIGN & DETAILS.

AND DETAILS BY OTHERS.

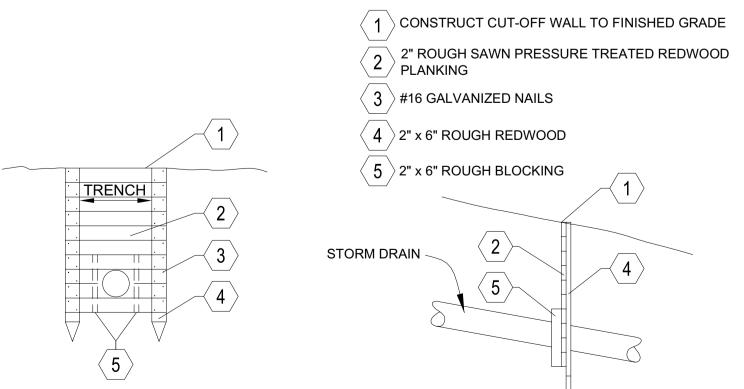
GRAVITY WALL.

FOR LOCATION AND HEIGHT ONLY.

STEPS BASED ON FIELD CONDITION.

SLOPE AND 30' MAX. SPACING

CONCRETE PIPE ANCHOR DETAIL



TRENCH CUT-OFF WALL

7/1/2024

PW 3-18407

SILT BASIN WITH OVER FLOW DRAIN

3/8" TO 1/2" WASHED — GRAVEL CONE

ANTI-FLOATATION CONCRETE BLOCK

**PROFILE VIEW** 

**PLAN VIEW** 

**PROFILE VIEW** 

SILT BASIN WITH SPILLWAY

VARIES. SEE PLAN

**PLAN VIEW** 

18" CMP WITH 1/2 " HOLES DRILLED @ 8" O.C. VERT. AND 10" O.C. HOROZ.

TRASH RACK

— SPILLWAY

- FUTURE FACE OF CURB

– FUTURE LIP OF GUTTER

FUTURE FACE OF CURB

SPILLWAY

STORM DRAIN PIPE. S=0.005 MIN

COMPACTED EARTHEN SWALE WITH EROSION MAT

- EMERGENCY SPILLWAY

- COMPACTED EARTHEN SWALE WITH RIP RAP (6" BELOW GRADE)

STREET GRADE -

STORMDRAIN PIPE -

STREET GRADE -

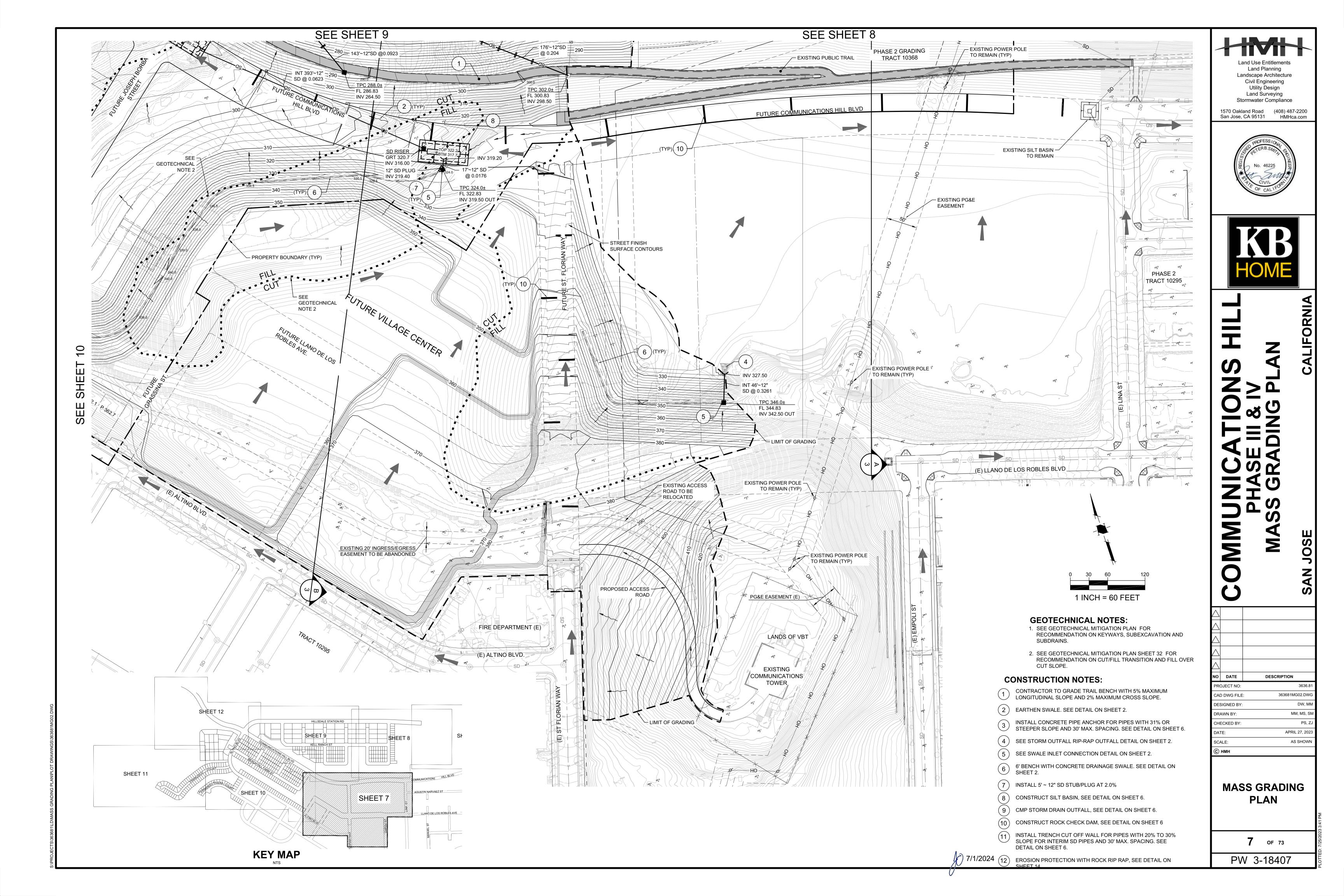
3:1 SLOPE -

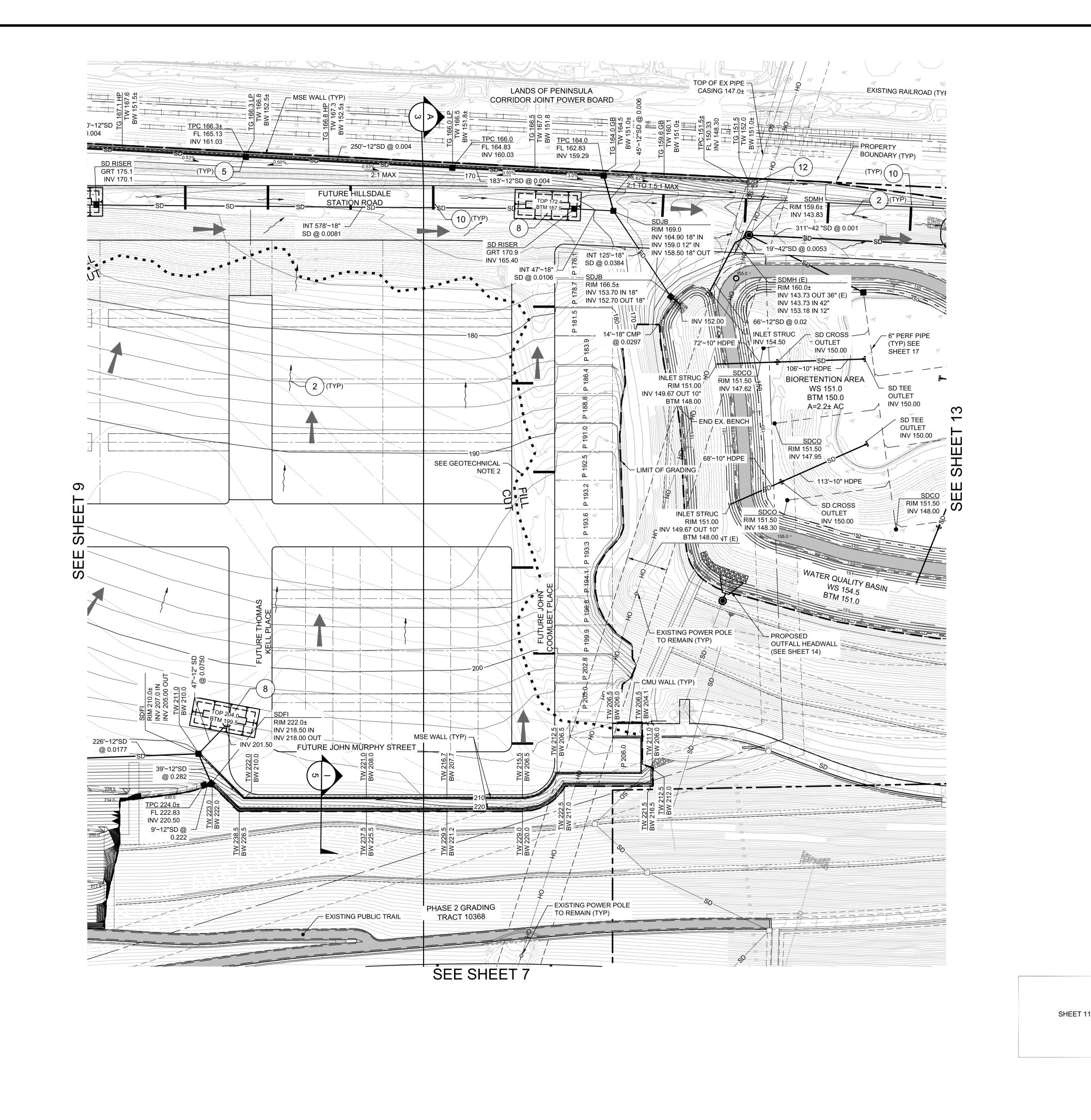
24" SETTLING DEPTH AND 12" STORAGE DEPTH

ROAD -CENTERLINE

3:1 SLOPE -

24" SETTLING DEPTH AND 12" STORAGE DEPTH





#### **CONSTRUCTION NOTES:**

- CONTRACTOR TO GRADE TRAIL BENCH WITH 5% MAXIMUM LONGITUDINAL SLOPE AND 2% MAXIMUM CROSS SLOPE.
- (2) EARTHEN SWALE. SEE DETAIL ON SHEET 2.
- INSTALL CONCRETE PIPE ANCHOR FOR PIPES WITH 31% OR STEEPER SLOPE AND 30' MAX. SPACING. SEE DETAIL ON SHEET 6.
- SEE STORM OUTFALL RIP-RAP OUTFALL DETAIL ON SHEET 2.
- SEE SWALE INLET CONNECTION DETAIL ON SHEET 2.
- 6' BENCH WITH CONCRETE DRAINAGE SWALE. SEE DETAIL ON SHEET 2.
- (7) INSTALL 5' ~ 12" SD STUB/PLUG AT 2.0%
- CONSTRUCT SILT BASIN, SEE DETAIL ON SHEET 6.
- CMP STORM DRAIN OUTFALL, SEE DETAIL ON SHEET 6.
- CONSTRUCT ROCK CHECK DAM, SEE DETAIL ON SHEET 6
- INSTALL TRENCH CUT OFF WALL FOR PIPES WITH 20% TO 30% SLOPE FOR INTERIM SD PIPES AND 30' MAX. SPACING. SEE DETAIL ON SHEET 6.
- EROSION PROTECTION WITH ROCK RIP RAP, SEE DETAIL ON SHEET 14

#### **GEOTECHNICAL NOTES:**

- 1. SEE GEOTECHNICAL MITIGATION PLAN FOR RECOMMENDATION ON KEYWAYS, SUBEXCAVATION AND SUBDRAINS.
- 2. SEE GEOTECHNICAL MITIGATION PLAN SHEET 32 FOR RECOMMENDATION ON CUT/FILL TRANSITION AND FILL OVER CUT SLOPE.

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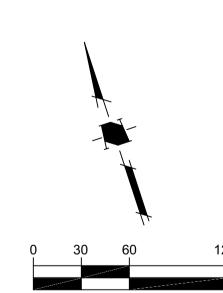
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ESIGNED BY:	DW, MM
RAWN BY:	MM, MS, SM
HECKED BY:	PS, ZJ
ATE:	APRIL 27, 2023
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**MASS GRADING PLAN** 

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PW 3-18407



SHEET 8

LLANO DE LOS ROBLES AVE

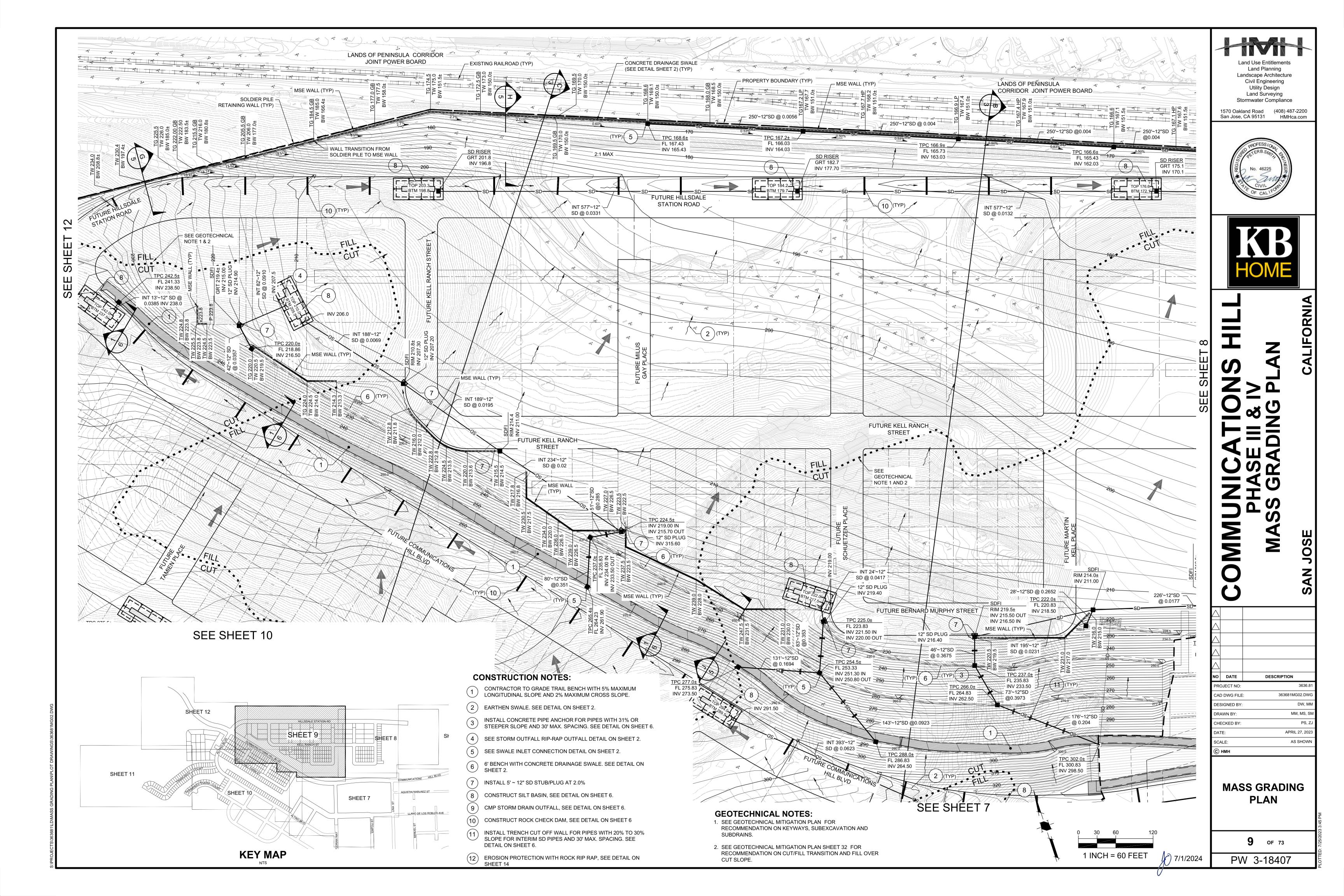
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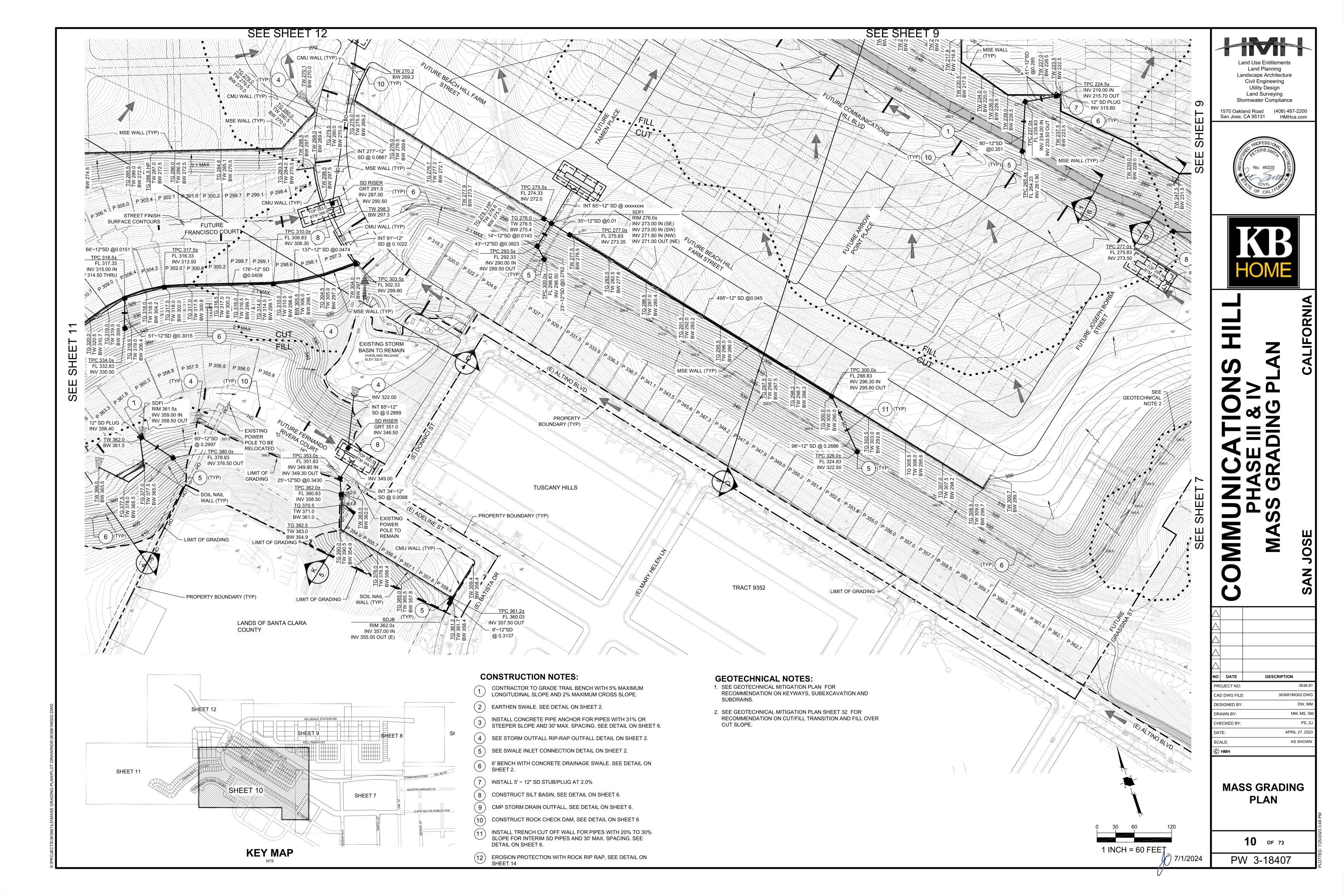
SHEET 7

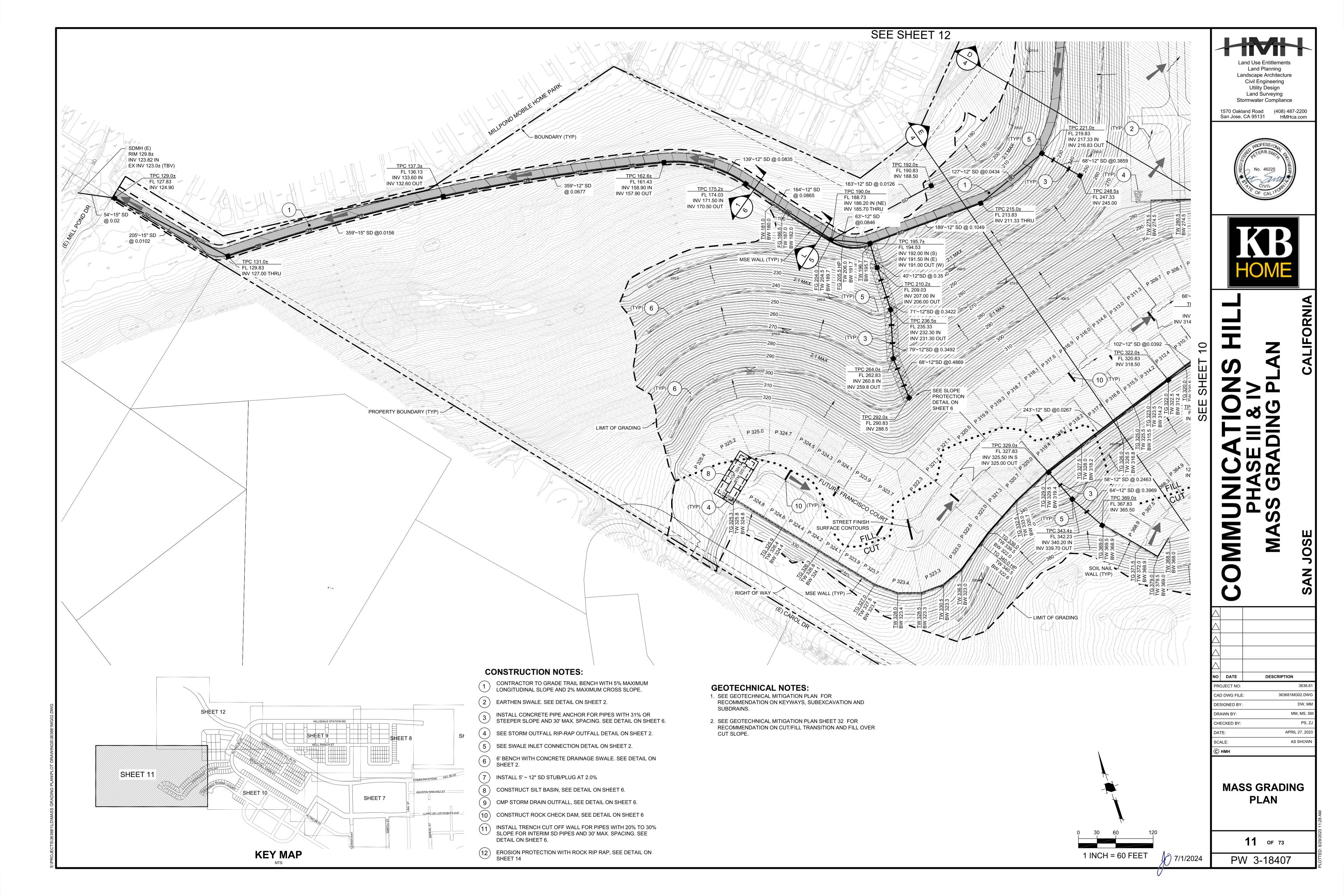
1 INCH = 60 FEET

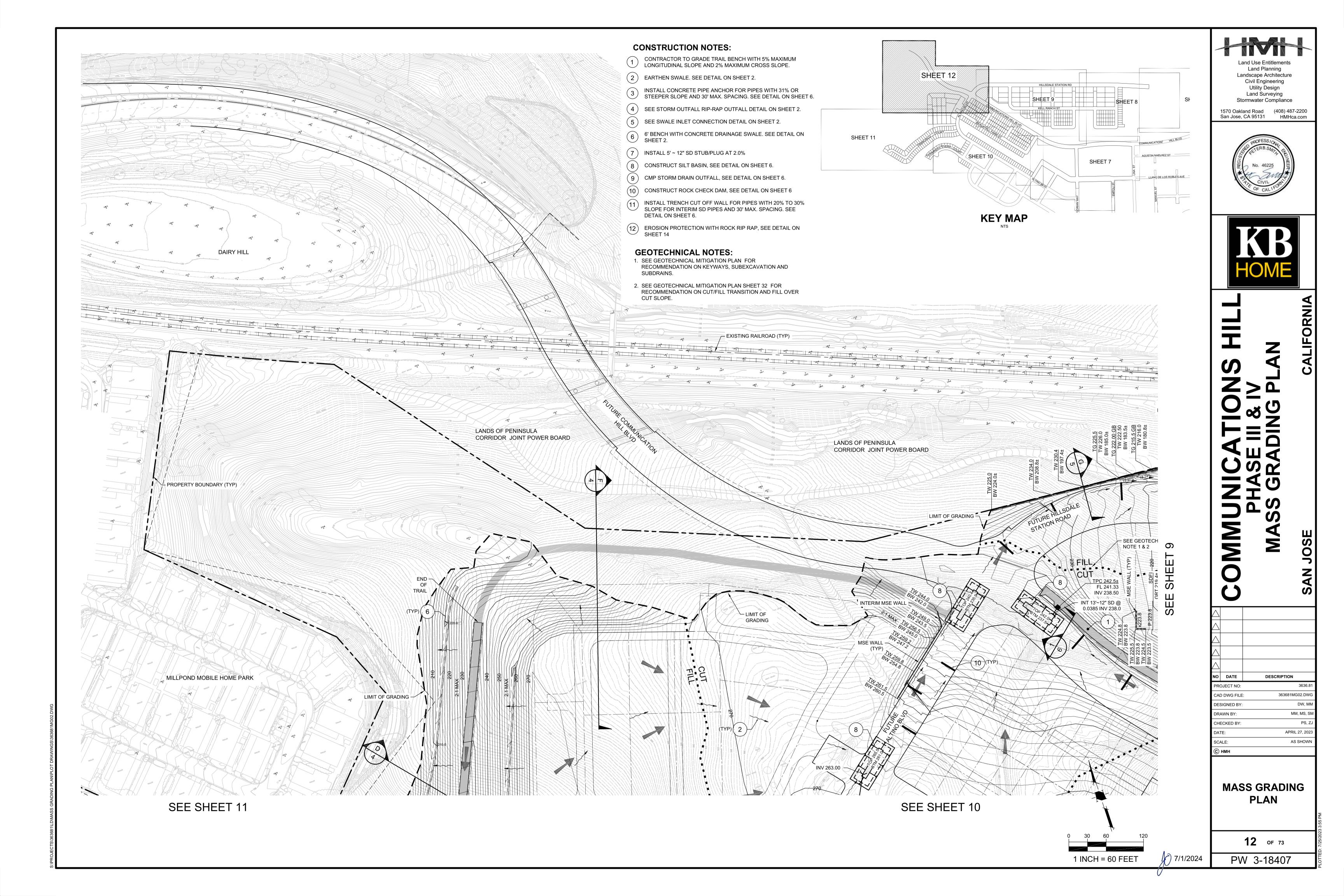
KEY MAP

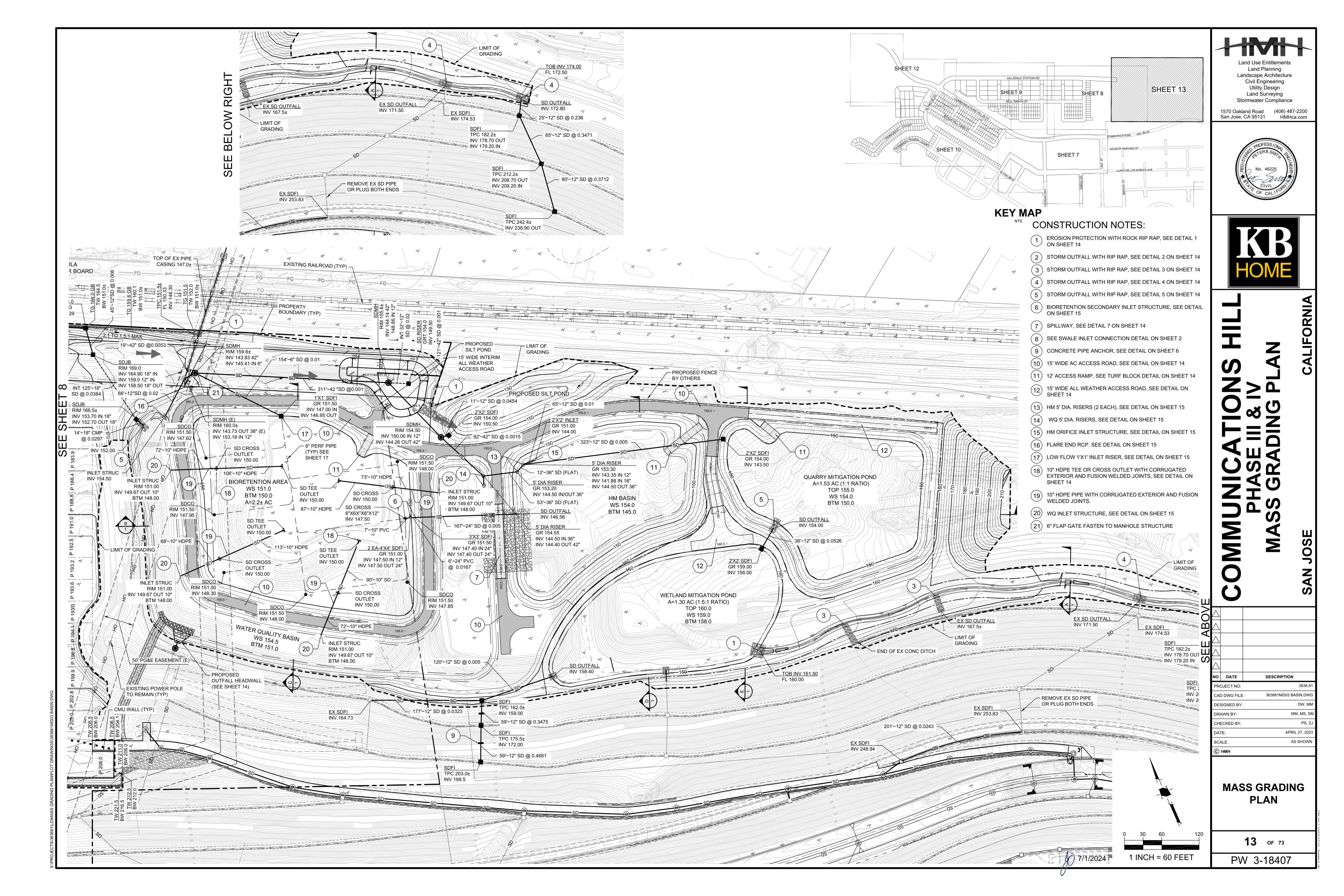
SHÈET 12

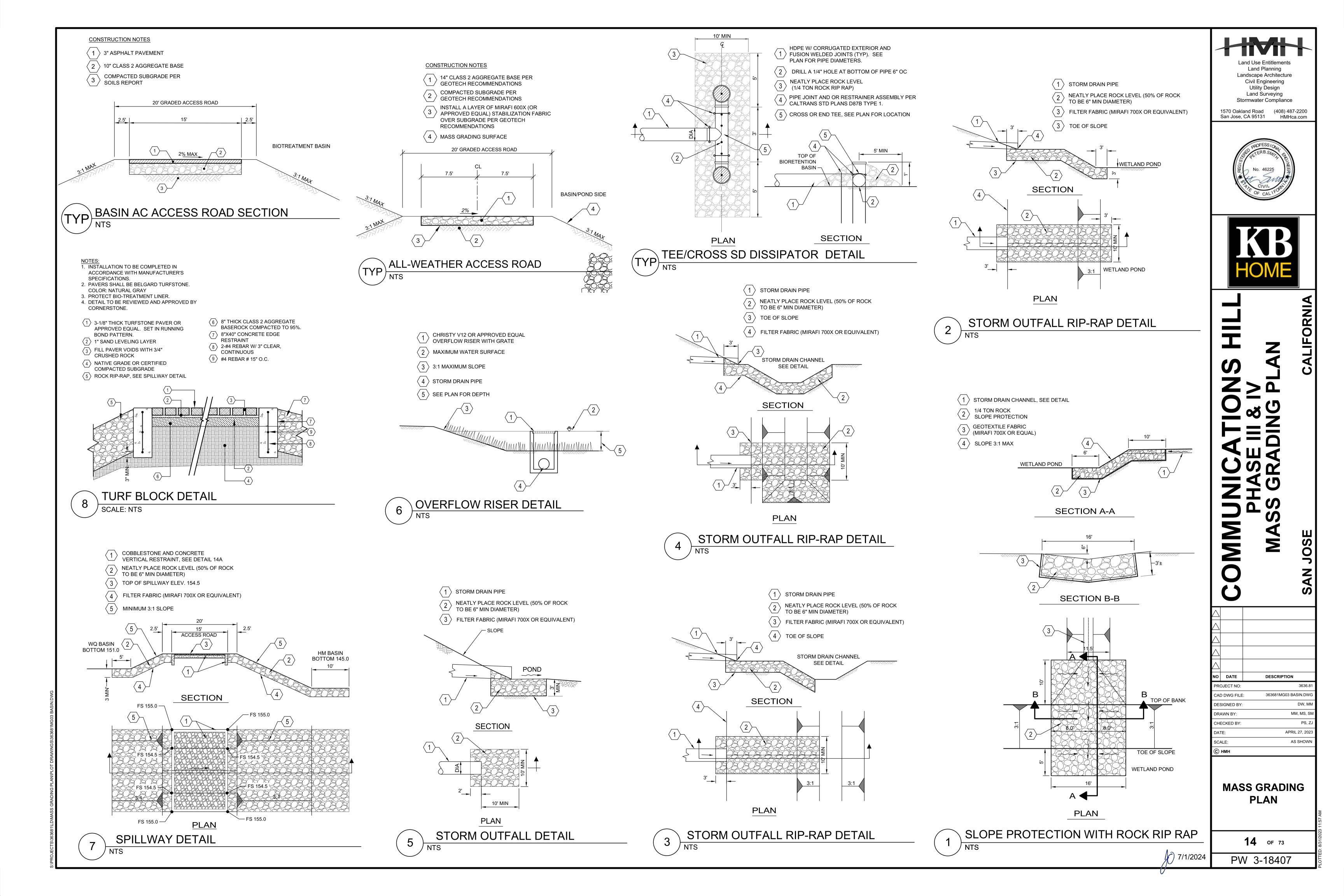


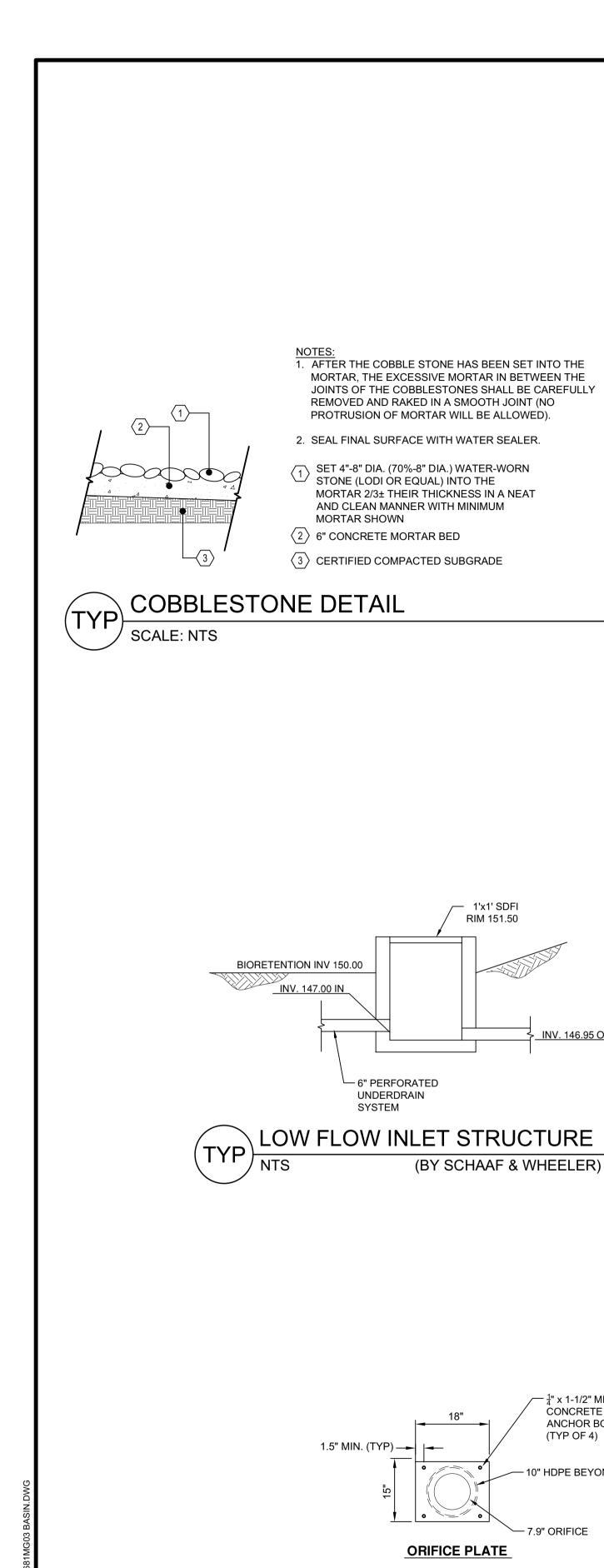


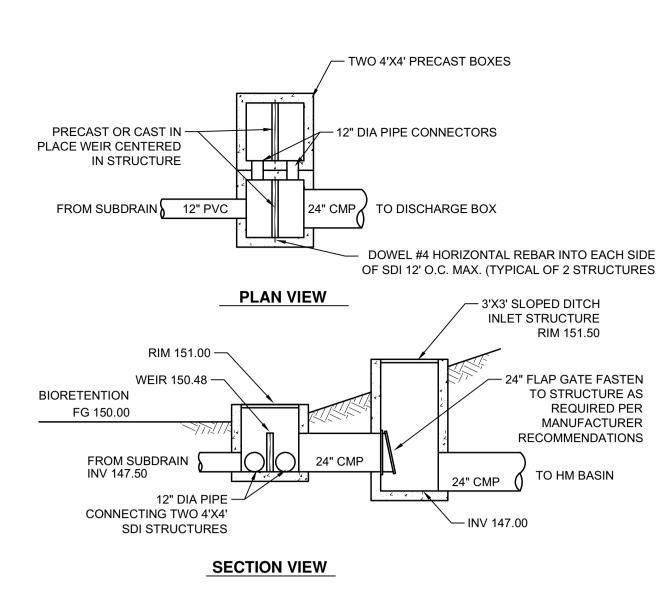






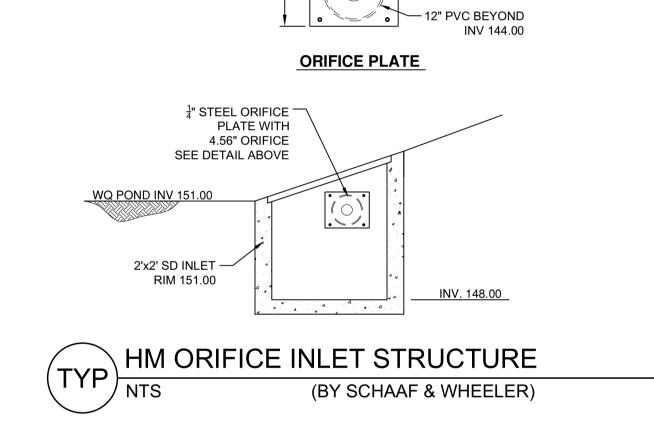






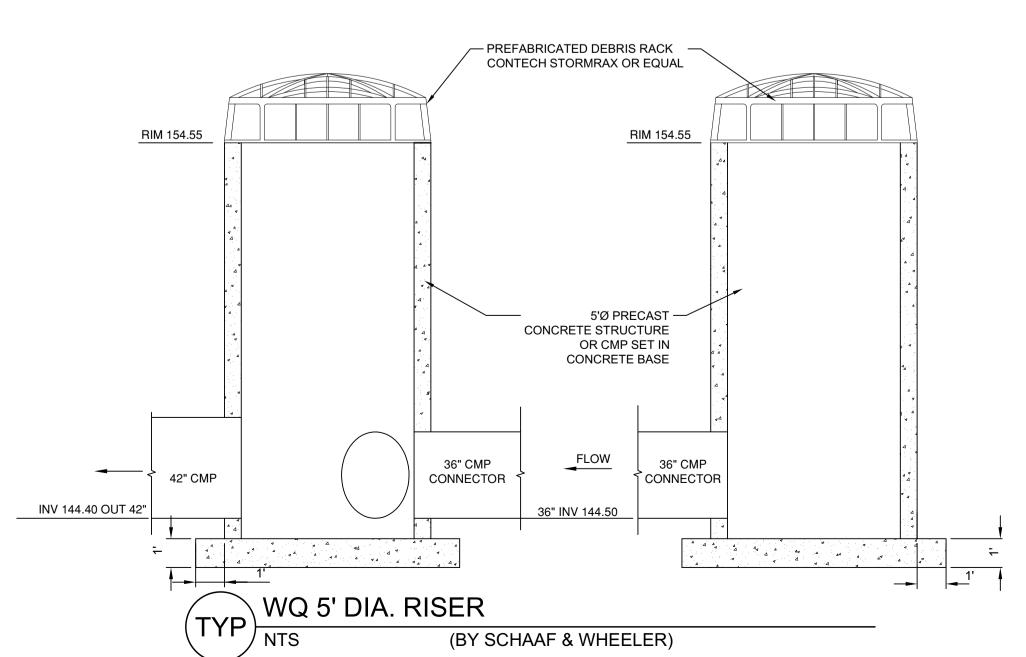


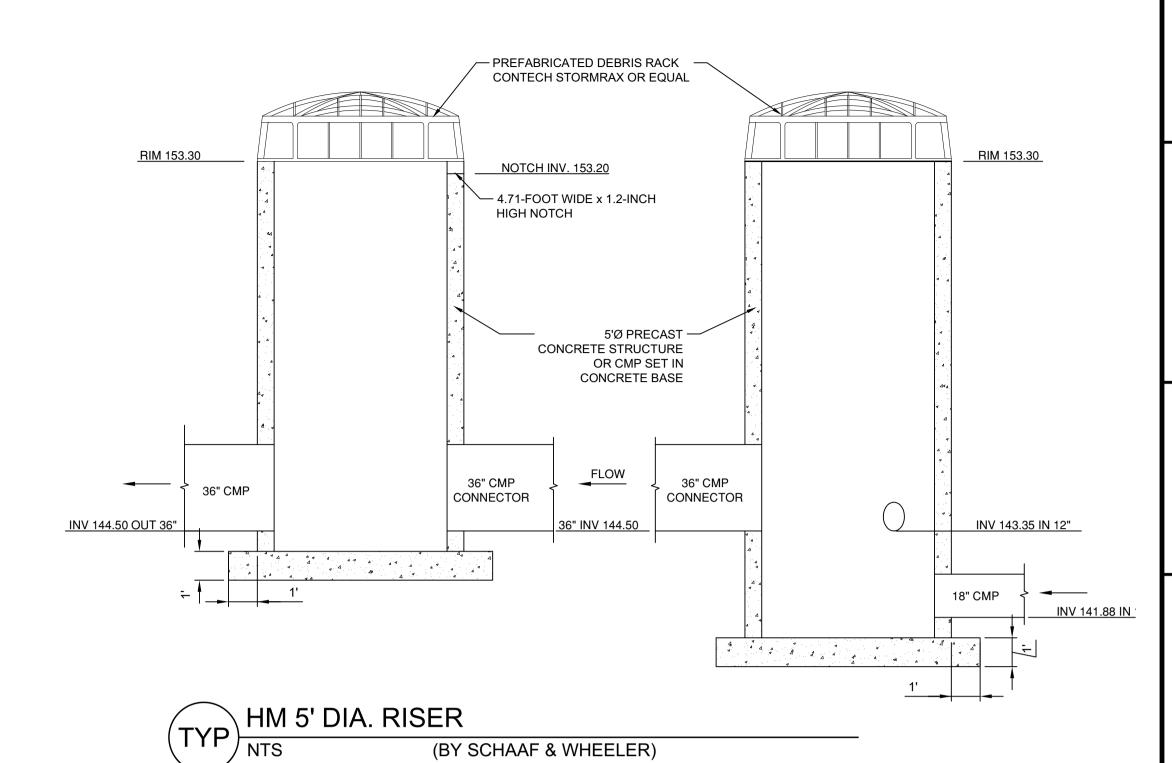
1.5" MIN. (TYP)

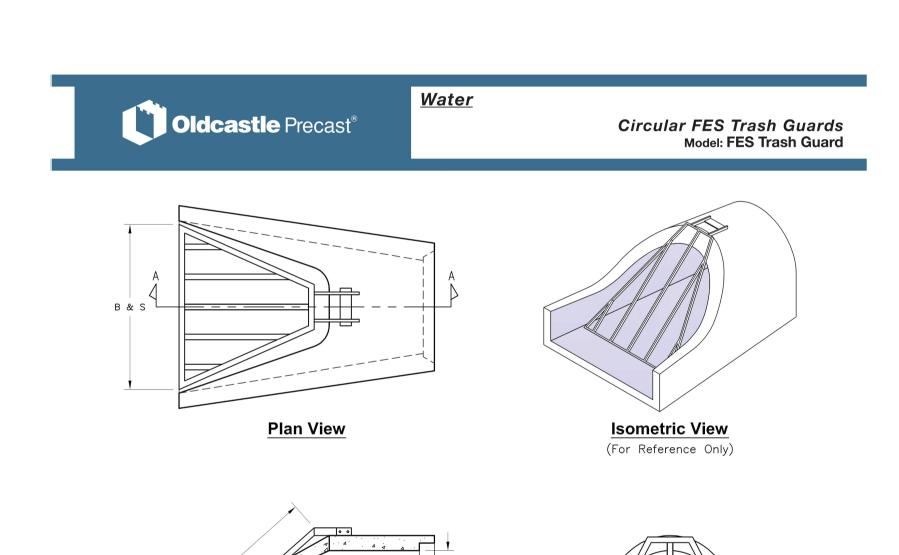


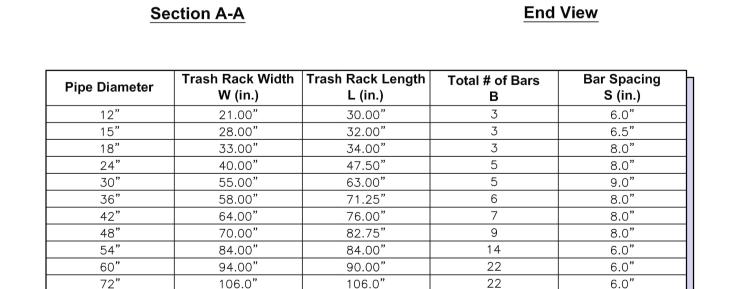
 $\frac{1}{4}$ " x 1-1/2" MIN.

CONCRETE **ANCHOR BOLTS** (TYP OF 4) 4.56" ORIFICE (CL 144.50 /INV 144.31)









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**MASS GRADING PLAN** 

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PW 3-18407

WQ INLET STRUCTURE

2'x2' SD INLET -

RIM 151.00

(BY SCHAAF & WHEELER)

INV. 149.67

INV. 148.00

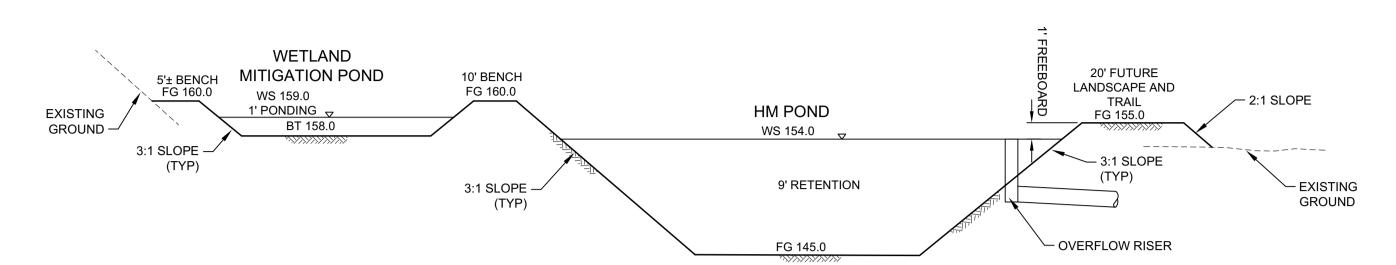
(TYP OF 4) - 10" HDPE BEYOND

 $\frac{1}{4}$ " x 1-1/2" MIN. CONCRETE **ANCHOR BOLTS** 

INV. 146.95 OUT 6"

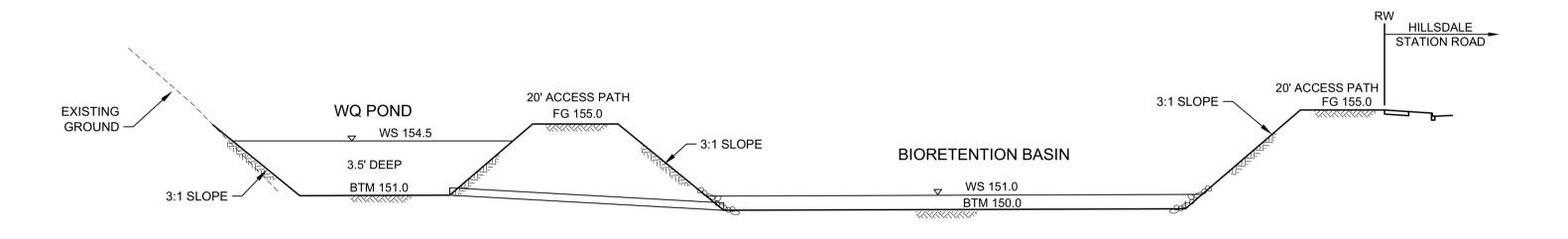
- 7.9" ORIFICE ORIFICE PLATE

1/4" STEEL ORIFICE THE PLATE WITH 7.9" ORIFICE SEE DETAIL ABOVE **WQ POND INV 151.00** ORIFICE CL 150.00/ INV 149.67

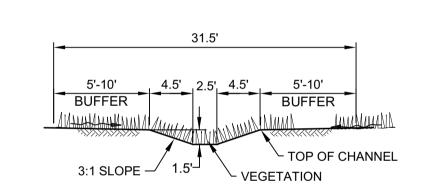


WETLAND MITIGATION & HM POND SECTION

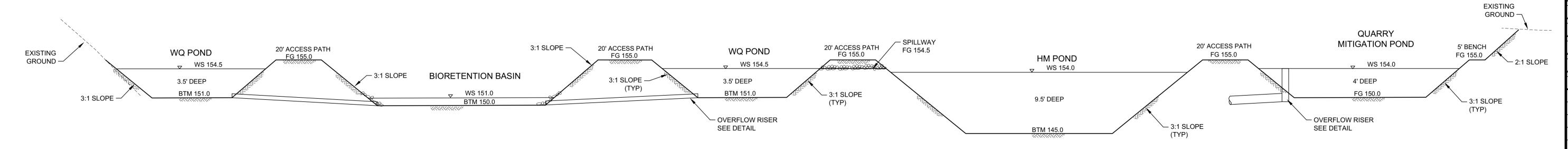
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WATER QUALITY & BIORETENTION BASIN SECTION

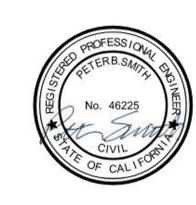


CHANNEL SECTION SCALE: NTS



BASINS SECTION

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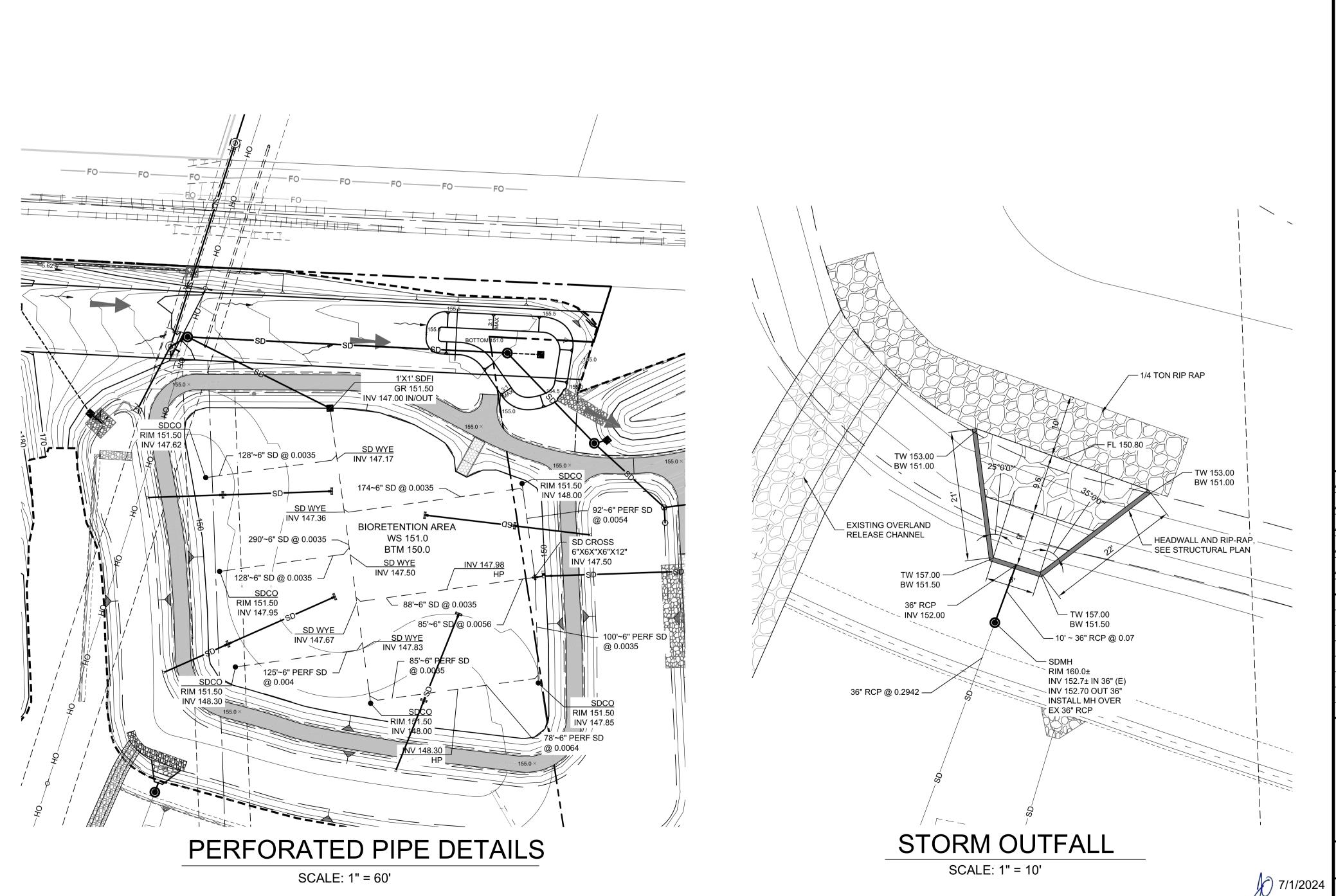
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DΑT	ΓE:	APRIL 27, 2023
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**MASS GRADING PLAN** 

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PW 3-18407



Land Use Entitlements Land Planning Landscape Architecture Civil Engineering **Utility Design** Land Surveying Stormwater Compliance





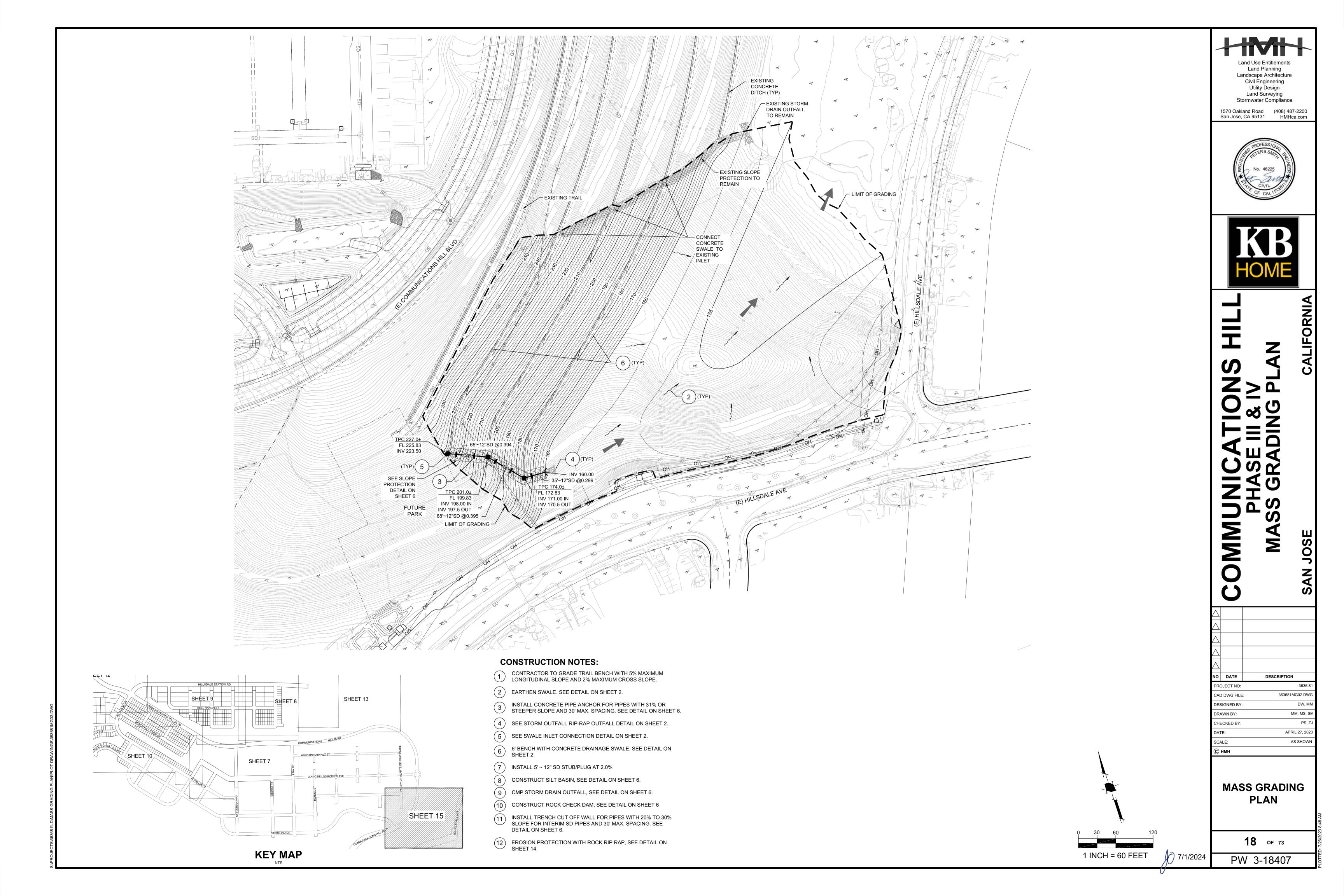


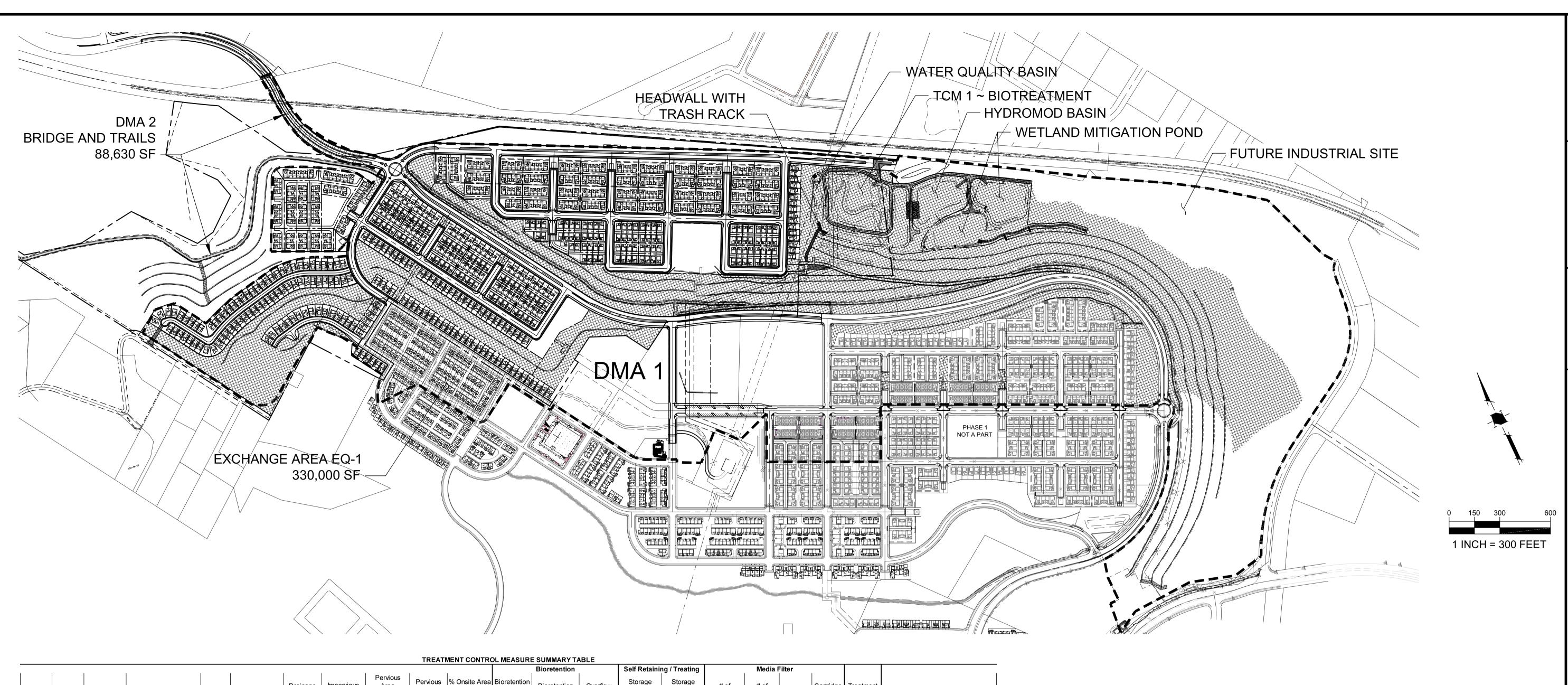
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RAWN BY:	MM, MS, SM
HECKED BY:	PS, ZJ
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**MASS GRADING PLAN** 

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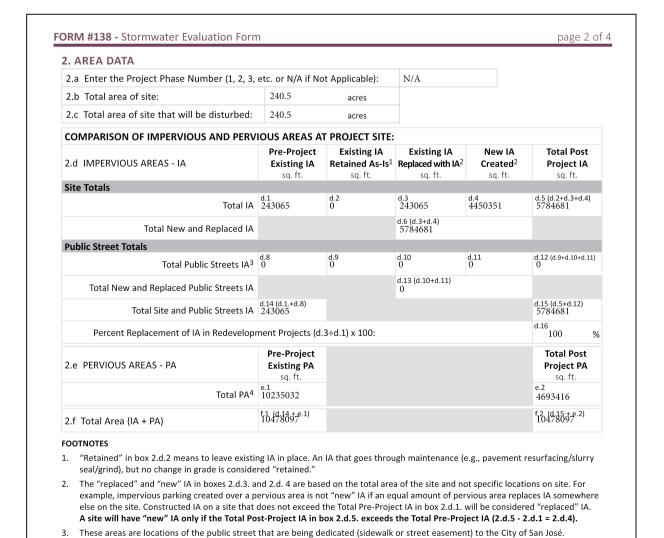




											Bioretention			Self Retaining / Treating		Media Filter					
DMA#	TCM#	Location <sup>1</sup>	Treatment Type <sup>2</sup>	LID or Non-LID	Sizing Method	Drainage Area (s.f.)	Impervious Area <sup>4</sup> (s.f.)	Pervious Area (Permeable Pavement) (s.f.)	Pervious Area (Other) (s.f.)	% Onsite Area Treated by LID or Non- LID TCM	l Aroa	Bioretention Area Provided (s.f.)	Overflow Riser Height (in)	Storage Depth Required (ft)	Storage Depth Provided (ft)	# of Cartridges Required	# of Cartridges Provided	Media Type	Cartridge Height (inches)	Treatment Credit (s.f.)	Comments
1	1	Onsite	Bioretention unlined w/ underdrain	LID	3. Flow-Volume Combo	10,478,097	5,784,681	4,693,416		100.00%	93,220	93,220									SEE SCHAAF & WHEELER REPORT DATED JULY 2023 FOR SIZING
2 <sup>5</sup>						88,630	88,630	0	0	0.00%											Being equivalently treated by EQ-1
EQ-1 <sup>5</sup>						330,000	247,500	0	82,500	-											Equivalent Treatment for DMA 2
				•	Totals:	10,478,097	5,784,681	4,693,416	0	100.00%				-		•			•		

- 1 Per the Municipal Regional Stormwater Permit, sidewalks and other parts of the right-of-way should be included in the new and/or replaced impervious surface calculation and treated as required
- 2 "Lined" refers to an impermeable liner placed on the bottom of a Bioretention basin or a concrete Flow-Through Planter, such that no infiltration into native soil occurs.
- 3 Sizing for Bioretention Area Required calculated using the flow combo method. 4 Gravel is considered as an impervious surface unless it is part of an infiltration trench.
- 5 DMA 2 is not being treated but will be treated by Equivalent Treatment Area EQ-1. Area EQ-1 is equal to or greater than the required treatment area of DMA 2. EQ-1 is not required to be treated because it is an existing development.
- 6 Treatment type of Self-Treating or Self-Retaining should only be used with landscape based treatment. If previous pavement is proposed for Self-Treating or Retaining, use the Pervious Pavement selection.

NOTE: THIS STORMWATER CONTROL PLAN IS A REVISION TO THE STORMWATER CONTROL PLAN APPROVED WITH PDA14-035-03. SEE CALCULATIONS PREPARED BY SCHAAF AND WHEELER DATED JULY 2023



4. Include bioretention areas, infiltration areas, green roofs, and pervious pavement in PA calculations.

#### **OPERATION AND MAINTENANCE INFORMATION:**

I. PROPERTY INFORMATION: I.A. PROPERTY ADDRESS: COMMUNICATIONS HILL BLVD. BETWEEN

I.B. PROPERTY OWNER:

- HILLSDALE AVE AND CURTNER AVE.
- KB HOME 5000 EXECUTIVE PARKWAY STE 125 SAN RAMON CA 94583
- II.A. CONTACT: CITY OF SAN JOSE CFD #8

II. RESPONSIBLE PARTY FOR MAINTENANCE:

- II.B. PHONE NUMBER OF CONTACT: 408-535-3555
- II.C. EMAIL:
- II.D. ADDRESS: 200 E. SANTA CLARA ST SAN JOSE CA 95113

### LEGEND

PROJECT BOUNDARY PROPERTY LINE RIGHT-OF-WAY STORM DRAIN (EXISTING) STORM DRAIN (PROPOSED)

DRAINAGE BOUNDARY AREA A

**EXCHANGE AREA** 

(SELF-TREATING AREA)

HILLSIDE AREA

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DESCRIPTION PROJECT NO:

CAD DWG FILE: 363681MG04 STORM WATER.DWG DESIGNED BY: RAWN BY: MM, MS, SM CHECKED BY: APRIL 27, 2023 SCALE: AS SHOWN

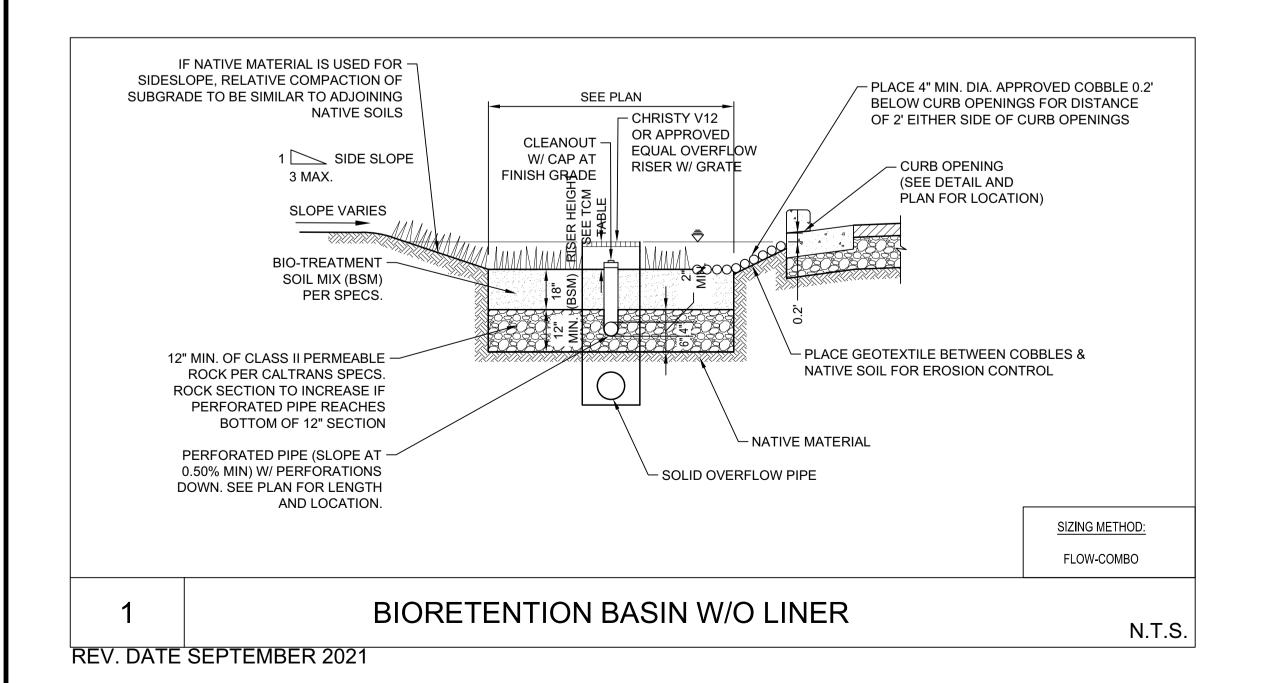
**STORMWATER CONTROL PLAN** 

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	TABLE 1 ROUTINE MAINTENANCE ACTIVITIES FOR BIORETENTION AREA	S
NO.	MAINTENANCE TASK	FREQUENCY OF TASK
1	REMOVE OBSTRUCTIONS, WEEDS, DEBRIS AND TRASH FROM BIORETENTION AREA AND ITS INLETS AND OUTLETS; AND DISPOSE OF PROPERLY.	QUARTERLY, OR AS NEEDED AFTER STORM EVENTS
2	INSPECT BIORETENTION AREA FOR STANDING WATER. IF STANDING WATER DOES NOT DRAIN WITHIN 2-3 DAYS, TILL AND REPLACE THE SURFACE BIOTREATMENT SOIL WITH THE APPROVED SOIL MIX AND REPLANT.	QUARTERLY, OR AS NEEDED AFTER STORM EVENTS
3	CHECK UNDERDRAINS FOR CLOGGING. USE THE CLEANOUT RISER TO CLEAN ANY CLOGGED UNDERDRAINS.	QUARTERLY, OR AS NEEDED AFTER STORM EVENTS
4	MAINTAIN THE IRRIGATION SYSTEM AND ENSURE THAT PLANTS ARE RECEIVING THE CORRECT AMOUNT OF WATER (IF APPLICABLE).	QUARTERLY
5	ENSURE THAT THE VEGETATION IS HEALTHY AND DENSE ENOUGH TO PROVIDE FILTERING AND PROTECT SOILS FROM EROSION. PRUNE AND WEED THE BIORETENTION AREA. REMOVE AND/OR REPLACE ANY DEAD PLANTS.	ANNUALLY, BEFORE THE WET SEASON BEGINS
6	USE COMPOST AND OTHER NATURAL SOIL AMENDMENTS AND FERTILIZERS INSTEAD OF SYNTHETIC FERTILIZERS, ESPECIALLY IF THE SYSTEM USES AN UNDERDRAIN.	ANNUALLY, BEFORE THE WET SEASON BEGINS
7	CHECK THAT MULCH IS AT APPROPRIATE DEPTH (2 - 3 INCHES PER SOIL SPECIFICATIONS) AND REPLENISH AS NECESSARY BEFORE WET SEASON BEGINS. IT IS RECOMMENDED THAT 2" – 3" OF ARBOR MULCH BE REAPPLIED EVERY YEAR.	ANNUALLY, BEFORE THE WET SEASON BEGINS
8	INSPECT THE ENERGY DISSIPATION AT THE INLET TO ENSURE IT IS FUNCTIONING ADEQUATELY, AND THAT THERE IS NO SCOUR OF THE SURFACE MULCH. REMOVE ACCUMULATED SEDIMENT.	ANNUALLY, BEFORE THE WET SEASON BEGINS
9	INSPECT OVERFLOW PIPE TO ENSURE THAT IT CAN SAFELY CONVEY EXCESS FLOWS TO A STORM DRAIN. REPAIR OR REPLACE DAMAGED PIPING.	ANNUALLY, BEFORE THE WET SEASON BEGINS
10	REPLACE BIOTREATMENT SOIL AND MULCH, IF NEEDED. CHECK FOR STANDING WATER, STRUCTURAL FAILURE AND CLOGGED OVERFLOWS. REMOVE TRASH AND DEBRIS. REPLACE DEAD PLANTS.	ANNUALLY AT THE END OF THE RAINY SEASON, AND/OR AFTER LARGE STORM EVENTS
11	INSPECT BIORETENTION AREA USING THE ATTACHED INSPECTION CHECKLIST.	ANNUALLY, BEFORE THE WET SEASON

	TABLE 1 ROUTINE MAINTENANCE ACTIVITIES FOR EXTENDED DETENTION BA	ASINS
NO.	MAINTENANCE TASK	FREQUENCY OF TASK
1	EVALUATE THE HEALTH OF VEGETATION AND REMOVE AND REPLACE ANY DEAD OR DYING PLANTS.	TWICE A YEAR
2	TRIM VEGETATION AT BEGINNING AND END OF WET SEASON.	TWICE A YEAR
3	INSPECT VEGETATION TO PREVENT ESTABLISHMENT OF WOODY VEGETATION AND FOR AESTHETICS AND MOSQUITO CONTROL.	MONTHLY
4	HARVEST VEGETATION ANNUALLY, DURING THE SUMMER	ANNUALLY
5	EXAMINE THE OUTLET, EMBANKMENTS, DIKES, BERMS, AND SIDE SLOPES FOR STRUCTURAL INTEGRITY AND SIGNS OF EROSION OR RODENT BURROWS. FILL IN ANY HOLES DETECTED IN THE SIDE SLOPES.	TWICE A YEAR
6	INSPECT INLETS, OUTLETS AND OVERFLOW STRUCTURES TO ENSURE THAT PIPING IS INTACT AND NOT PLUGGED. REMOVE ANY ACCUMULATED SEDIMENT AND DEBRIS. ENSURE THAT ENERGY DISSIPATION IS FUNCTIONING ADEQUATELY.	TWICE A YEAR
7	INSPECT FOR STANDING WATER AND CORRECT ANY PROBLEMS THAT PREVENT THE BASIN FROM DRAINING AS DESIGNED.	TWICE A YEAR
8	CONFIRM THAT ANY FENCES AROUND THE FACILITY ARE SECURE	TWICE A YEAR
9	REMOVE SEDIMENT FROM FOREBAY WHEN THE SEDIMENT LEVEL REACHES THE LEVEL SHOWN ON THE FIXED VERTICAL SEDIMENT MARKER AND DISPOSE OF SEDIMENT PROPERLY.	AS NEEDED
10	REMOVE ACCUMULATED SEDIMENT FROM THE DETENTION BASIN AND REGRADE WHEN THE ACCUMULATED SEDIMENT VOLUME EXCEEDS 10% OF BASIN VOLUME AND DISPOSE OF SEDIMENT PROPERLY.	EVERY 10 YEARS, OR AS NEEDED
11	REMOVE ACCUMULATED TRASH AND DEBRIS FROM THE EXTENDED DETENTION BASIN AND DISPOSE OF PROPERLY.	TWICE A YEAR
12	INSPECT EXTENDED DETENTION BASIN USING THE ATTACHED INSPECTION CHECKLIST.	QUARTERLY, OR AS NEEDED



#### Analysis Results POC 1 Percent Time Exceeding + Predeveloped x Mitigated Predeveloped Landuse Totals for POC #1 Total Pervious Area: Total Impervious Area: Mitigated Landuse Totals for POC #1 Total Pervious Area: 132.798 Total Impervious Area: Flow Frequency Method: Weibull Flow Frequency Return Periods for Predeveloped. POC #1 Flow(cfs) 34.9533 **Return Period** 2 year 70.733114 5 year 91.005638 10 year 100.77699 25 year Flow Frequency Return Periods for Mitigated. POC #1 Return Period Flow(cfs) 12.3935 2 year 59.525414 5 year 10 year 73.032152 25 year 77.95639 **Annual Peaks** Annual Peaks for Predeveloped and Mitigated. POC #1 Predeveloped Mitigated 3.251 3.364 6.860 1961 1962 1.492 12.394 46.439 1963 1964 77.634 70.443 13.743 34.953 1965 1966 8.667 30.164 3.247 1.291 1967 53.458 59.245 1968 97.210 74.724 1969 56.396 12.466 1970 59.692 10.115 1971 42.268 64.803 1972 1.703 3.072 1973 51.047 22.376 KABR30\_CommHillPh2-4Ind\_2023Design 7/19/2023 12:48:50 PM Page 24

#### **BIORETENTION NOTES:**

- A. CONTRACTOR TO REFER TO C.3 STORM WATER HANDBOOK APPENDIX C FOR SAND AND COMPOST MATERIAL SPECIFICATIONS AND SHALL MEET THE BIORETENTION SOIL MIX REQUIREMENTS.
- B. PRIOR TO ORDERING THE BIOTREATMENT SOIL MIX OR DELIVERY TO THE PROJECT SITE, CONTRACTOR SHALL PROVIDE THE CITY AND DESIGN ENGINEER A BIOTREATMENT SOIL MIX SPECIFICATIONS CHECKLIST, COMPLETED BY SOIL MIX SUPPLIER AND CERTIFIED TESTING LAB FOR REVIEW AND APPROVAL.

#### C. BIORETENTION DELIVERY, STORAGE AND HANDLING

- CONTRACTOR TO PROTECT THE BSM AND MULCH FROM CONTAMINATION AND ALL SOURCES OF ADDITIONAL MOISTURE AT SUPPLIER SITE, DURING TRANSPORT, AND AT THE PROJECT SITE, UNTIL INCORPORATED INTO THE
- THE CONTRACTOR IS REQUIRED TO COORDINATE DELIVERY OF BSM AND AGGREGATES WITH BIORETENTION FACILITY EXCAVATION AND SOIL INSTALLATION. A WRITTEN SCHEDULE SHALL BE SUBMITTED FOR REVIEW AS PART OF THE SUBMITTAL PACKAGE. BSM SHOULD NOT BE STOCKPILED ONSITE FOR ANY LENGTH OF TIME. IN NO CASE SHALL BSM BE STOCKPILED ONSITE FOR MORE THAN 24 HOURS WITHOUT PRIOR WRITTEN APPROVAL BY THE PROJECT ENGINEER. IF STOCKPILING ONSITE FOR ANY LENGTH OF TIME, BSM STOCKPILES SHALL MEET THE FOLLOWING REQUIREMENTS:
- 1. LOCATE STOCKPILES AWAY FROM DRAINAGE COURSES, INLETS, SEWER CLEANOUT VENTS, AND CONCENTRATED STORMWATER FLOWS
- 2. PLACE STOCKPILES ON GEOTEXTILE FABRIC
- 3. COVER STOCKPILES WITH PLASTIC OR COMPARABLE MATERIAL
- 4. CONTAIN STOCKPILES (AND PREVENT CONTAMINATION FROM ADJACENT STOCKPILES) WITH TEMPORARY PERIMETER BARRIER (E.G., SAND BAGS, WATTLES, SILT FENCE)

#### D. GRADING

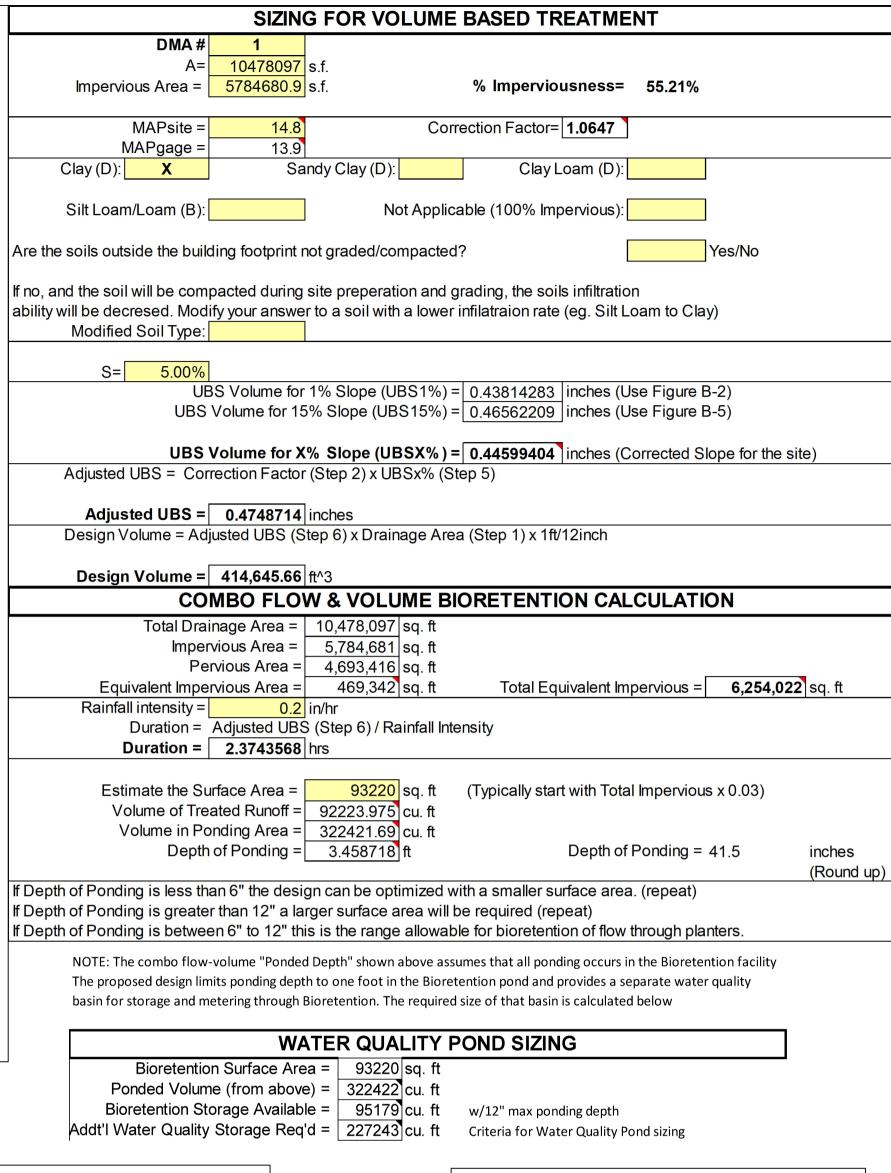
- THE CONTRACTOR SHALL NOT START BIORETENTION FACILITY GRADING UNTIL ALL AREAS DRAINING TO THE FACILITY ARE STABILIZED AND AUTHORIZATION HAS BEEN GIVEN BY THE PROJECT ENGINEER.
- CONSTRUCT BIORETENTION FACILITY SUBGRADE TO +/- 3/4 INCH OF THE GRADES AND SLOPES SPECIFIED ON THE
- EXCAVATION WITHIN 6 INCHES OF FINAL NATIVE SOIL GRADE SHALL NOT BE PERMITTED IF FACILITY SOILS HAVE STANDING WATER OR HAVE BEEN SUBJECTED TO MORE THAN 1/2 INCH OF PRECIPITATION WITHIN THE PREVIOUS 48 HOURS.

#### E. BIORETENTION SOIL MIX INSTALLATION

- CONTRACTOR TO REFER TO BASMAA MODEL BIORETENTION SOIL MEDIA SPECIFICATIONS MRP PROVISION C.3.C.III(3) FOR THE INSTALLATION OF BSM. CONTRACTOR MAY OBTAIN A COPY OF THE BASMAA INSTALLATION SPECIFICATIONS AT:
- HTTP://SCVURPPP-W2K.COM/PDFS/1011/TRANSMITTAL-MODEL\_BIORETENTION\_SOIL\_MEDIA\_SPECIFICATIONS\_ REPORT\_120110.PDF

#### F. ALTERNATIVE TO FLOOD TESTING

 THE MAINTENANCE PERIOD PRIOR TO CITY OF SAN JOSE DOT ACCEPTANCE BE ONE YEAR INSTEAD OF A STANDARD 90 DAYS. THIS WILL ALLOW THE FACILITY TO BE TESTED OVER A WET WEATHER SEASON, AND IT WILL ALSO COINCIDE WITH TYPICAL WARRANTIES OF MATERIALS.



#### **BIOTREATMENT SOIL REQUIREMENTS**

- BIORETENTION SOIL MIX SHALL MEET THE REQUIREMENTS AS OUTLINED IN APPENDIX C OF THE C.3 STORM WATER HANDBOOK AND SHALL BE A MIXTURE OF FINE SAND AND COMPOST MEASURED ON A VOLUME BASIS OF 60-70% SAND AND 30-40% COMPOST. CONTRACTOR TO REFER TO APPENDIX C FOR SAND AND COMPOST MATERIAL SPECIFICATIONS. CONTRACTOR MAY OBTAIN A COPY OF THE C3 HANDBOOK AT: HTTPS://CLEANWATER.SCCGOV.ORG/SITES/G/FILES/ EXJCPB461/FILES/SCVURPP\_C.PDF
- PRIOR TO ORDERING THE BIOTREATMENT SOIL MIX OR DELIVERY TO THE PROJECT SITE, CONTRACTOR SHALL PROVIDE A BIOTREATMENT SOIL MIX SPECIFICATION CHECKLIST, COMPLETED BY THE SOIL MIX SUPPLIER AND CERTIFIED TESTING LAB.
- **BIORETENTION & FLOW-THROUGH PLANTER NOTES:** SEE GRADING PLAN FOR BASIN FOOTPRINT AND DESIGN ELEVATIONS.
- PLACE 3 INCHES OF COMPOSTED, NON-FLOATABLE MULCH IN AREAS BETWEEN STORMWATER PLANTINGS.
- SEE LANDSCAPE PLAN FOR MULCH, PLANT MATERIALS AND IRRIGATION REQUIREMENTS
- CURB CUTS SHALL BE A MINIMUM 18" WIDE AND SPACED AT MAXIMUM 10' O.C. INTERVALS AND SLOPED TO DIRECT STORMWATER TO DRAIN INTO THE BASIN. CURB CUTS SHALL ALSO NOT BE PLACED INLINE WITH OVERFLOW CATCH BASIN. SEE GRADING PLAN FOR MORE DETAIL ON LOCATIONS OF CURB
- A MINIMUM 0.2' DROP BETWEEN STORM WATER ENTRY POINT (I.E. CURB OPENING, FLUSH CURB, ETC.) AND ADJACENT LANDSCAPE FINISHED GRADE.
- DO NOT COMPACT NATIVE SOIL / SUBGRADE AT BOTTOM OF BASIN. LOOSEN SOIL TO 12" DEPTH.

### PROJECT SITE INFORMATION:

1. SOILS TYPE: CLAY (D)

- 2. **GROUND WATER DEPTH**: \_\_\_\_\_10' TO 20'
- 3. NAME OF RECEIVING BODY: COYOTE CREEK
- 4. FLOOD ZONE: UNDETERMINED (ZONE D)
- 5. FLOOD ELEVATION (IF APPLICABLE): N/A

- PROTECT EXISTING TREES, VEGETATION, AND
- PRESERVE OPEN SPACE AND NATURAL DRAINAGE PATTERNS.
- DIRECT RUNOFF FROM ROOFS, SIDEWALKS,
- PATIOS TO LANDSCAPE AREAS. PLANT TREES ADJACENT TO AND IN PARKING

# AREAS TO OTHER IMPERVIOUS AREAS.

- SOURCE CONTROL MEASURES: CONNECT THE FOLLOWING FEATURES TO
- SANITARY SEWER COVERED TRASH/RECYCLING ENCLOSURES INTERIOR PARKING STRUCTURES
- POOLS, SPAS, FOUNTAINS
- USE OF WATER EFFICIENT IRRIGATION SYSTEMS MAINTENANCE (PAVEMENT SWEEPING, CATCH BASIN CLEANING, GOOD HOUSEKEEPING). STORM DRAIN LABELING.

#### **STANDARD STORMWATER CONTROL NOTES:**

- STANDING WATER SHALL NOT REMAIN IN THE TREATMENT MEASURES FOR MORE THAN FIVE DAYS. TO PREVENT MOSQUITO GENERATION. SHOULD ANY MOSQUITO ISSUES ARISE, CONTACT THE SANTA CLARA VALLEY VECTOR CONTROL DISTRICT (DISTRICT). MOSQUITO LARVICIDES SHALL BE APPLIED ONLY WHEN ABSOLUTELY NECESSARY, AS INDICATED BY THE DISTRICT, AND THEN ONLY BY A LICENSED PROFESSIONAL OR CONTRACTOR. CONTACT INFORMATION FOR THE DISTRICT IS PROVIDED BELOW.
- DO NOT USE PESTICIDES OR OTHER CHEMICAL APPLICATIONS TO TREAT DISEASED PLANTS, CONTROL WEEDS OR REMOVED UNWANTED GROWTH, EMPLOY NON-CHEMICAL CONTROLS (BIOLOGICAL, PHYSICAL AND CULTURAL CONTROLS) TO TREAT A PEST PROBLEM. PRUNE PLANTS PROPERLY AND AT THE APPROPRIATE TIME OF YEAR. PROVIDE ADEQUATE IRRIGATION FOR LANDSCAPE PLANTS. DO NOT OVER WATER.

Land Use Entitlements Land Planning Landscape Architecture Civil Engineering

Utility Design Land Surveying Stormwater Compliance

1570 Oakland Road (408) 487-2200 San Jose, CA 95131 HMHca.com





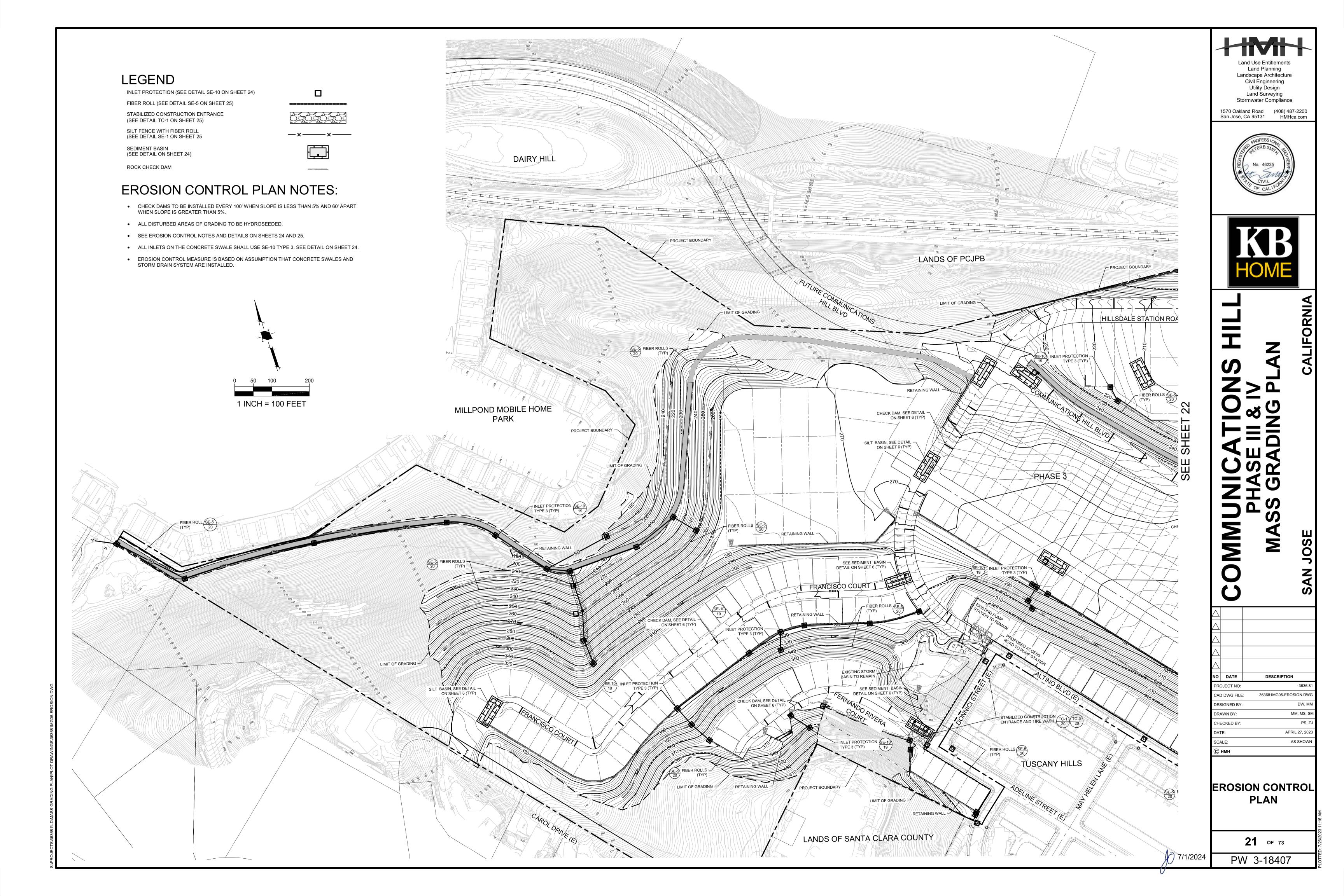
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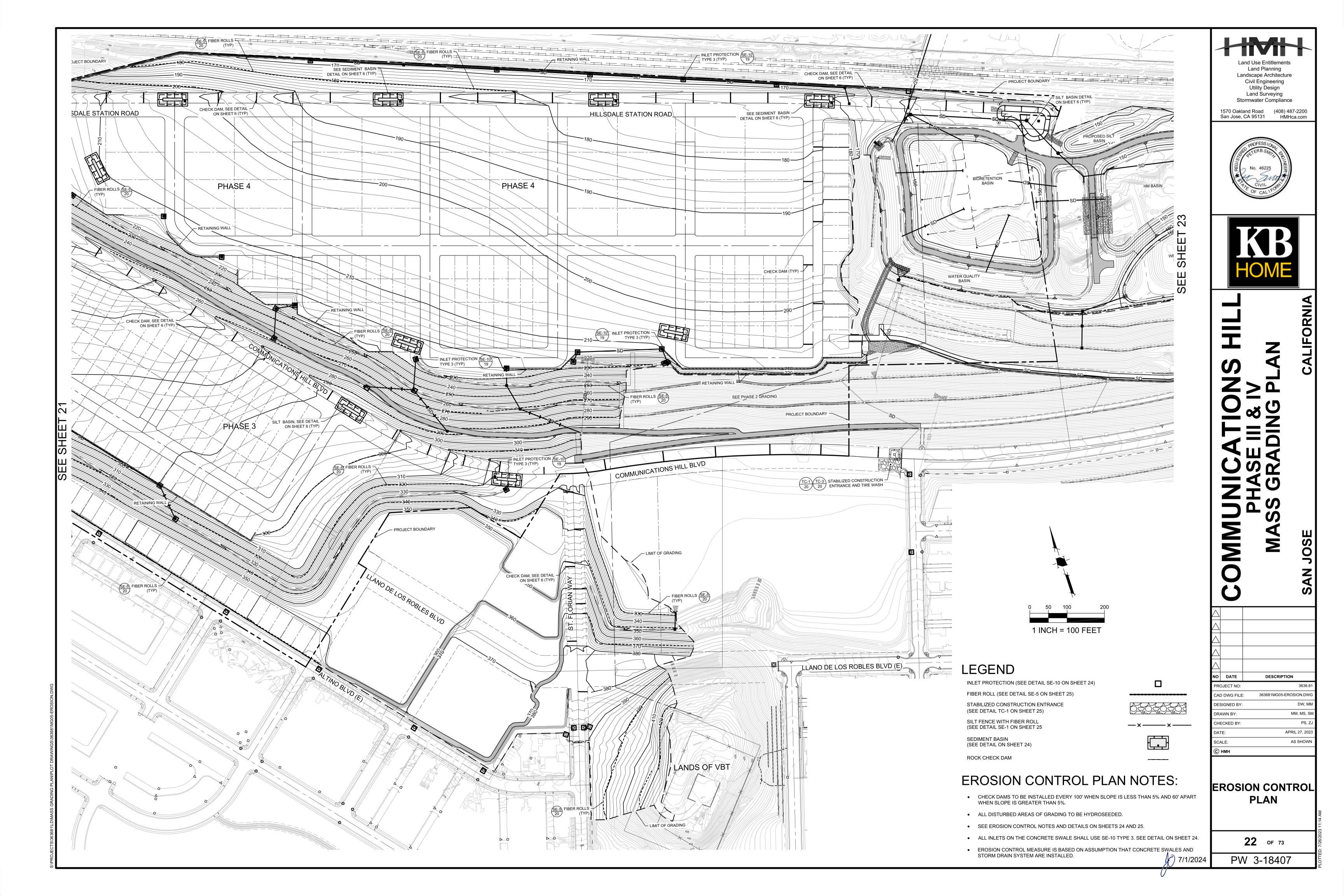
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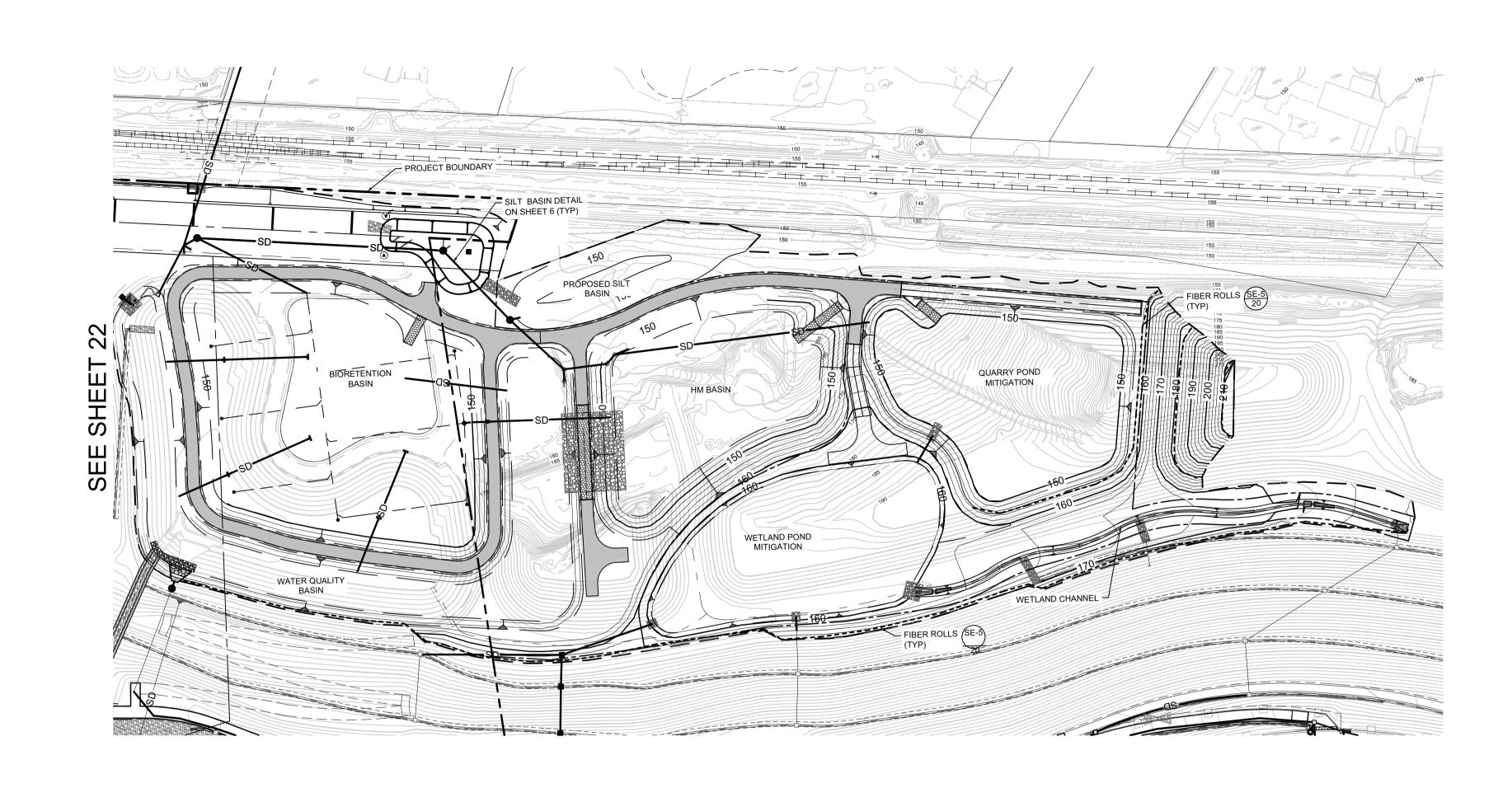
**STORMWATER CONTROL NOTES AND DETAILS** 

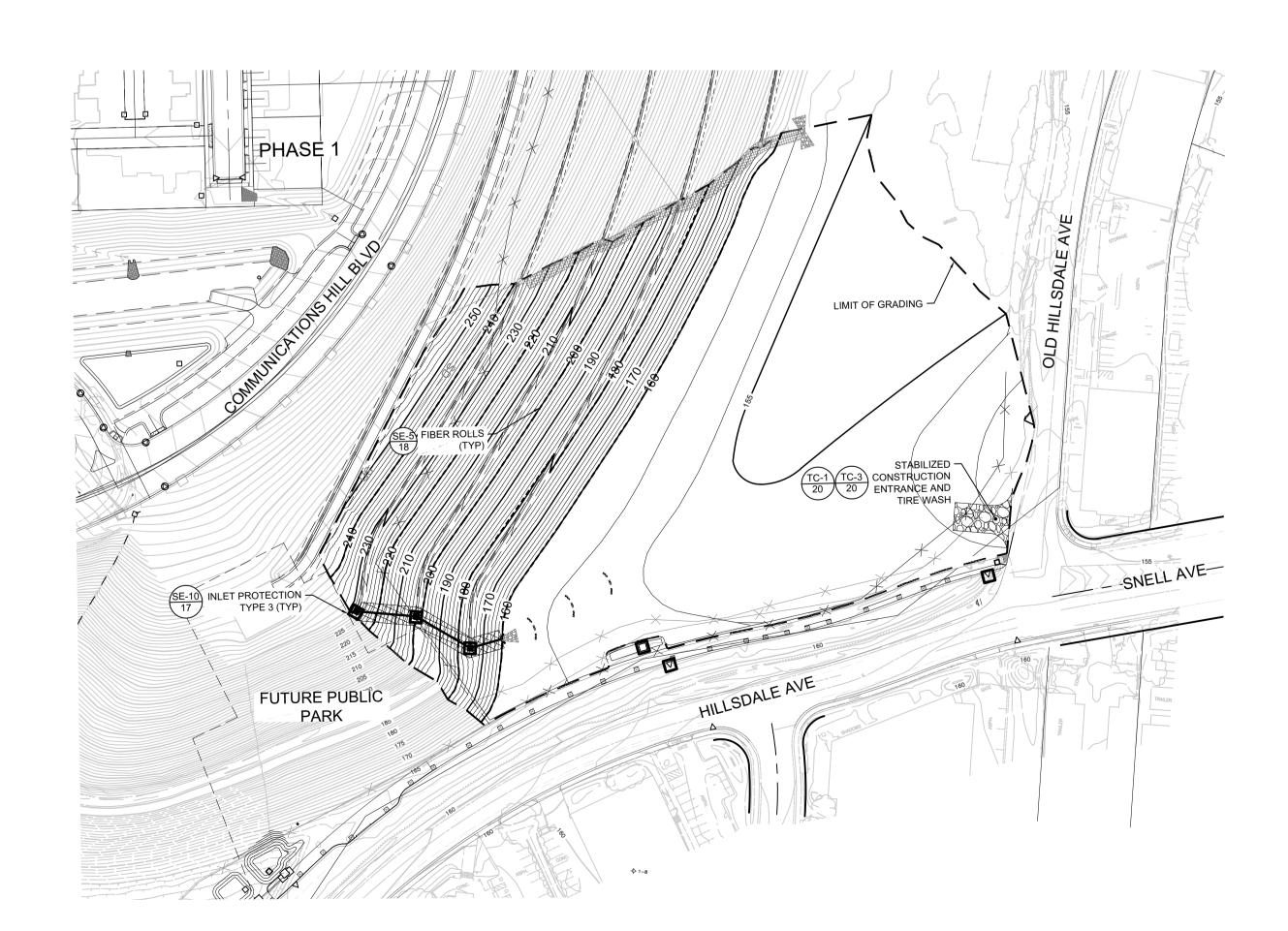
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# LEGEND

INLET PROTECTION (SEE DETAIL SE-10 ON SHEET 24)

FIBER ROLL (SEE DETAIL SE-5 ON SHEET 25)

STABILIZED CONSTRUCTION ENTRANCE
(SEE DETAIL TC-1 ON SHEET 25)

SILT FENCE WITH FIBER ROLL (SEE DETAIL SE-1 ON SHEET 25

SEDIMENT BASIN (SEE DETAIL ON SHEET 24)

ROCK CHECK DAM

# **EROSION CONTROL PLAN NOTES:**

- CHECK DAMS TO BE INSTALLED EVERY 100' WHEN SLOPE IS LESS THAN 5% AND 60' APART WHEN SLOPE IS GREATER THAN 5%.
- ALL DISTURBED AREAS OF GRADING TO BE HYDROSEEDED.
- SEE EROSION CONTROL NOTES AND DETAILS ON SHEETS 24 AND 25.
- ALL INLETS ON THE CONCRETE SWALE SHALL USE SE-10 TYPE 3. SEE DETAIL ON SHEET 24.
- EROSION CONTROL MEASURE IS BASED ON ASSUMPTION THAT CONCRETE SWALES AND STORM DRAIN SYSTEM ARE INSTALLED.







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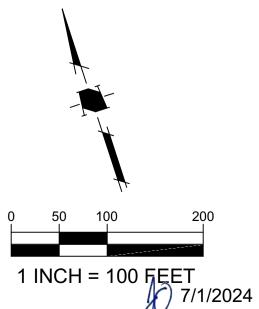
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RAWN BY:	MM, MS, SM
HECKED BY:	PS, ZJ
ATE:	APRIL 27, 2023
CALE:	AS SHOWN

EROSION CONTROL PLAN

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# GENERAL CSJ EROSION AND SEDIMENT CONTROL NOTES

- 2. IT SHALL BE THE OWNER'S RESPONSIBILITY TO MAINTAIN CONTROL OF THE ENTIRE CONSTRUCTION OPERATION AND TO KEEP THE ENTIRE SITE IN COMPLIANCE WITH THE SOIL EROSION CONTROL PLAN.
- 3. CIVIL ENGINEER: HMH, 1570 OAKLAND RD, SAN JOSE, CA 95131
- 4. CONSTRUCTION SUPERINTENDENT: <u>JOSE BUENROSTRO</u>
  CONTRACTOR: <u>DESILVA GATES CONSTRUCTION</u>
- 5. THIS PLAN IS INTENDED TO BE USED FOR INTERIM EROSION AND SEDIMENT CONTROL ONLY AND IS NOT TO BE USED FOR FINAL ELEVATIONS OR PERMANENT IMPROVEMENTS.
- 6. DEVELOPER WILL SUBMIT TO THE CITY MONTHLY (AT THE FIRST OF EACH MONTH BETWEEN OCT 1ST AND APRIL 30TH) CERTIFICATIONS THAT ALL EROSION/SEDIMENT MEASURES IDENTIFIED ON THE APPROVED EROSION CONTROL PLAN ARE IN PLACE. IF MEASURES ARE NOT IN PLACE, DEVELOPER SHALL PROVIDE THE CITY WITH A WRITTEN EXPLANATION OF WHY THE MEASURE IS NOT IN PLACE AND WHAT WILL BE DONE TO REMEDY THIS SITUATION.
- OWNER/CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING EROSION AND SEDIMENT CONTROL MEASURES PRIOR, DURING, AND AFTER STORM EVENTS.
- 8. REASONABLE CARE SHALL BE TAKEN WHEN HAULING ANY EARTH, SAND, GRAVEL, STONE, DEBRIS, PAPER OR ANY OTHER SUBSTANCE OVER ANY PUBLIC STREET, ALLEY OR OTHER PUBLIC PLACE. SHOULD ANY BLOW, SPILL, OR TRACK OVER AND UPON SAID PUBLIC OR ADJACENT PRIVATE PROPERTY, IMMEDIATE REMEDY SHALL OCCUR.
- 9. SANITARY FACILITIES SHALL BE MAINTAINED ON THE SITE.
- 10. DURING THE RAINY SEASON, ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT LADEN RUNOFF TO ANY STORM DRAINAGE SYSTEM, INCLUDING EXISTING DRAINAGE SWALES AND WATER COURSES.
- 11. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION WILL BE MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT SHALL BE COMPLIED WITH.
- 12. CONTRACTOR SHALL PROVIDE DUST CONTROL AS REQUIRED BY THE APPROPRIATE FEDERAL, STATE AND LOCAL

## EROSION AND SEDIMENT CONTROL MEASURES

- 1. THE FACILITIES SHOWN ON THIS PLAN ARE DESIGNED TO CONTROL EROSION AND SEDIMENT DURING THE RAINY SEASON, OCTOBER 1 TO APRIL 30. FACILITIES ARE TO BE OPERABLE PRIOR TO SEPTEMBER 15 OF ANY YEAR. GRADING OPERATIONS DURING THE RAINY SEASON WHICH LEAVE DENUDED SLOPES SHALL BE PROTECTED WITH EROSION CONTROL MEASURES IMMEDIATELY FOLLOWING GRADING ON THE SLOPES. DURING THE NON-RAINY SEASON BEST MANAGEMENT PRACTICES (BMP'S) MUST BE IMPLEMENTED DURING CONSTRUCTION WHICH INCLUDES, BUT IS NOT LIMITED TO: STABALIZED CONSTRUCTION ENTRANCE, TIRE WASH AREA AND INLET PROTECTION.
- 2. THIS PLAN COVERS ONLY THE FIRST WINTER FOLLOWING GRADING WITH ASSUMED SITE CONDITIONS AS SHOWN ON THE EROSION CONTROL PLAN. PRIOR TO SEPTEMBER 15, THE COMPLETION OF SITE IMPROVEMENT SHALL BE EVALUATED AND REVISIONS MADE TO THIS PLAN AS NECESSARY WITH THE APPROVAL OF THE CITY ENGINEER. PLANS ARE TO BE RESUBMITTED FOR CITY APPROVAL PRIOR TO SEPTEMBER 1 OF EACH SUBSEQUENT YEAR UNTIL SITE IMPROVEMENTS ARE ACCEPTED BY THE CITY.
- 3. CONSTRUCTION ENTRANCES SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF GRADING. ALL CONSTRUCTION TRAFFIC ENTERING ONTO THE PAVED ROADS MUST CROSS THE STABILIZED CONSTRUCTION ENTRANCE WAYS. (ALSO INCLUDE THIS NOTE ON GRADING PLANS.)
- 4. CONTRACTOR SHALL MAINTAIN STABILIZED ENTRANCE AT EACH VEHICLE ACCESS POINT TO EXISTING PAVED STREETS. ANY MUD OR DEBRIS TRACKED ONTO PUBLIC STREETS SHALL BE REMOVED DAILY AND AS REQUIRED BE THE CITY.
- 5. IF HYDROSEEDING IS NOT USED OR IS NOT EFFECTIVE BY 9/23, THEN OTHER IMMEDIATE METHODS SHALL BE IMPLEMENTED, SUCH AS EROSION CONTROL BLANKETS, OR A THREE-STEP APPLICATION OF 1) SEED, MULCH, FERTILIZER 2) BLOWN STRAW 3) TACKIFIER AND MULCH.
- 6. INLET PROTECTION SHALL BE INSTALLED AT OPEN INLETS TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAIN SYSTEM. INLETS NOT USED IN CONJUNCTION WITH EROSION CONTROL ARE TO BE BLOCKED TO PREVENT ENTRY OF
- 7. LOTS WITH HOUSES UNDER CONSTRUCTION WILL NOT BE HYDROSEEDED. EROSION PROTECTION FOR EACH LOT WITH A HOUSE UNDER CONSTRUCTION SHALL CONFORM TO THE TYPICAL LOT EROSION CONTROL DETAIL SHOWN ON THIS
- 8. THIS EROSION AND SEDIMENT CONTROL PLAN MAY NOT COVER ALL THE SITUATIONS THAT MAY ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS. VARIATIONS AND ADDITIONS MAY BE MADE TO THIS PLAN IN THE FIELD. NOTIFY THE CITY REPRESENTATIVE OF ANY FIELD CHANGES.

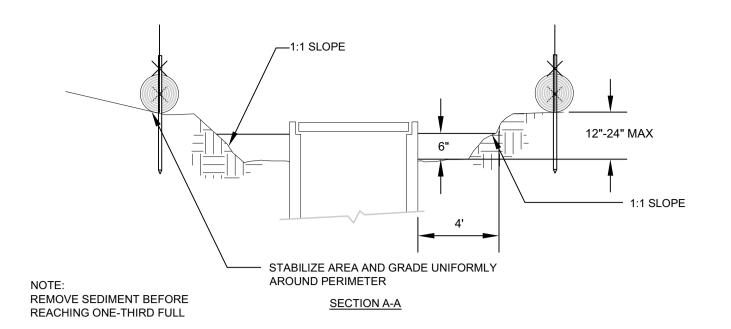
## MAINTENANCE NOTES

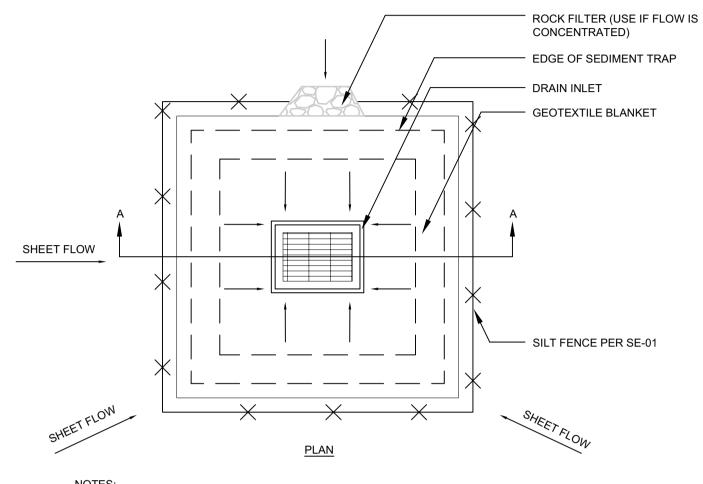
- A. REPAIR DAMAGES CAUSED BY SOIL EROSION OR CONSTRUCTION AT THE END OF EACH WORKING DAY.
- B. SWALES SHALL BE INSPECTED PERIODICALLY AND MAINTAINED AS NEEDED.
- C. SEDIMENT TRAPS, BERMS, AND SWALES ARE TO BE INSPECTED AFTER EACH STORM AND REPAIRS MADE AS NEEDED. D. SEDIMENT SHALL BE REMOVED AND SEDIMENT TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT HAS
- ACCUMULATED TO A DEPTH OF 1 FOOT. E. SEDIMENT REMOVED FROM TRAP SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT
- F. RILLS AND GULLIES MUST BE REPAIRED.
- 2. SAND BAG INLET PROTECTION SHALL BE CLEANED OUT WHENEVER SEDIMENT DEPTH IS ONE HALF THE HEIGHT OF ONE

	BMP SUMMARY TABLE						
BMP CATEGORY	BMP USED						
EROSION CONTROL	FIBER ROLLS, HYDROSEEDING & STABILIZED CONSTRUCTION ENTRANCE/EXIT						
SEDIMENT CONTROL	FIBER ROLLS, STORM DRAIN INLET PROTECTION, CONSTRUCTION ENTRANCE/EXIT WITH TIRE WASH, SILT FENCE, ENKAMAT EROSION CONTROL MAT						
GOOD SITE MANAGEMENT	STOCK PILE MANAGEMENT						
NON-STORMWATER MANAGEMENT							
RUN-ON AND RUN-OFF CONTROL	STABILIZED CONSTRUCTION ENTRANCE/EXIT WITH TIRE WASH						
ACTIVE TREATMENT SYSTEMS							

## MAINTENANCE SCHEDULE

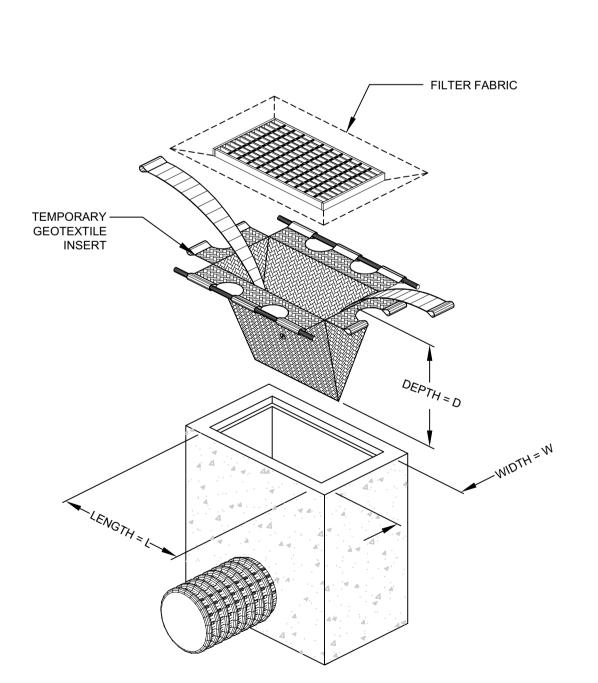
	COLLEDGE	
CONTROL	INSPECTION FREQUENCY	MAINTENANCE/REPAIR MEASURES
STABILIZED CONSTRUCTION ENTRANCE	WEEKLY & AFTER EACH RAIN	REPLACE GRAVEL MATERIAL WHEN VOIDS ARE PRESENT REMOVE ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS WITHIN 24 HOURS REMOVE GRAVEL AT COMPLETION OF CONSTRUCTION
STORM DRAIN INLET PROTECTION	WEEKLY & AFTER EACH RAIN	REPLACE CLOGGED FILTER FABRIC IMMEDIATELY REMOVE SEDIMENT WHEN IT REACHES 1/2 THE HEIGHT OF THE FILTER
SEDIMENT BASIN	WEEKLY & AFTER EACH RAIN	REMOVE SEDIMENT WHEN THE SEDIMENT STORAGE ZONE IS HALF FULL REPAIR EROSION AS NECESSARY UNCLOG OUTLET RISER
HYDROSEED/HYDROMULCH EROSION CONTROL BLANKETS	PERIODICALLY DURING & AFTER EACH RAIN	PRIOR TO RESEEDING, REPAIR ALL RILLS AND GULLIES REMOVE SEDIMENT BUILDUP AT TOE OF SLOPES REAPPLY SEED AND/OR MULCH TO AREAS THAT HAVE BEEN REPAIRED, ERODED, OR ARE WITHOUT ADEQUATE VEGETATION DISLOCATED BLANKETS, NETS, OR MATS SHOULD BE REPAIRED OR REPLACED
STRAW ROLLS	WEEKLY & AFTER EACH RAIN	REPAIR WHENEVER STRAW ROLL IS DAMAGED REMOVE SEDIMENT WHEN IT REACHES 1/3 THE HEIGHT OF THE ROLLS ESPECIALLY IF HEAVY RAINS ARE EXPECTED





- 1. FOR USE IN CLEARED AND GRUBBED AND IN GRADED AREAS
- 2. SHAPE BASIN SO THAT LONGEST INFLOW AREA FACES LONGEST LENGTH OF TRAP
- 3. FOR CONCENTRATED FLOWS SHAPE BASIN IN 2:1 RATIO WITH LENGTH ORIENTED TOWARDS DIRECTION FLOW

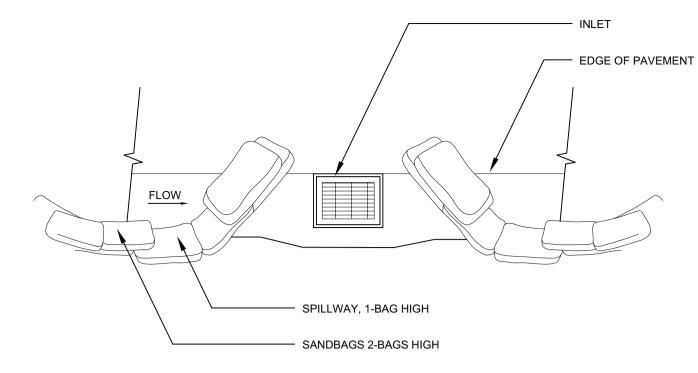
## SE-10 STORM DRAIN INLET PROTECTION - TYPE 2



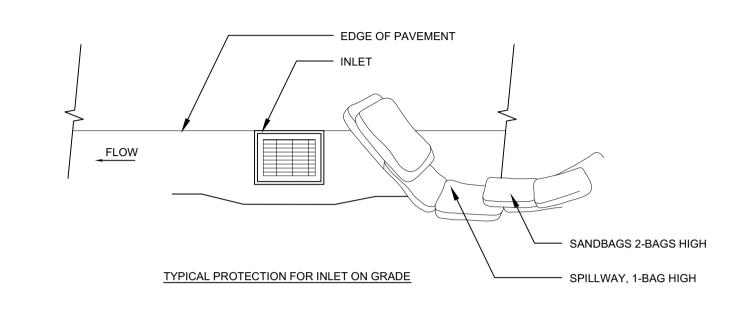
#### NOTES:

- INTENDED FOR SHORT TERM USE
- 2. INSTALL PER MANUFACTURER INSTRUCTION
- 3. PERFORM MAINTENANCE PER MANUFACTURER RECOMMENDATION

## SE-10 STORM DRAIN INLET PROTECTION - TYPE 4



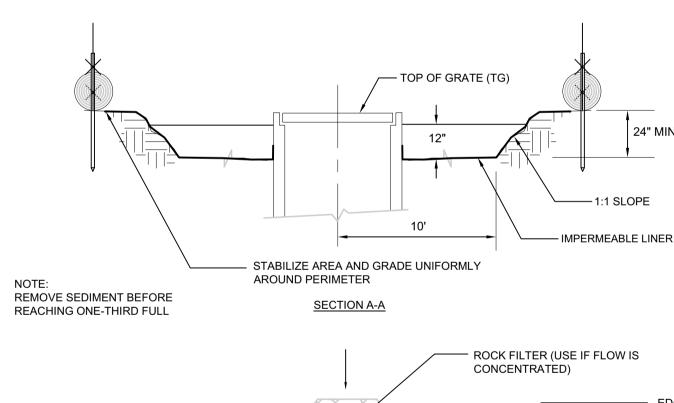
TYPICAL PROTECTION FOR INLET ON SUMP

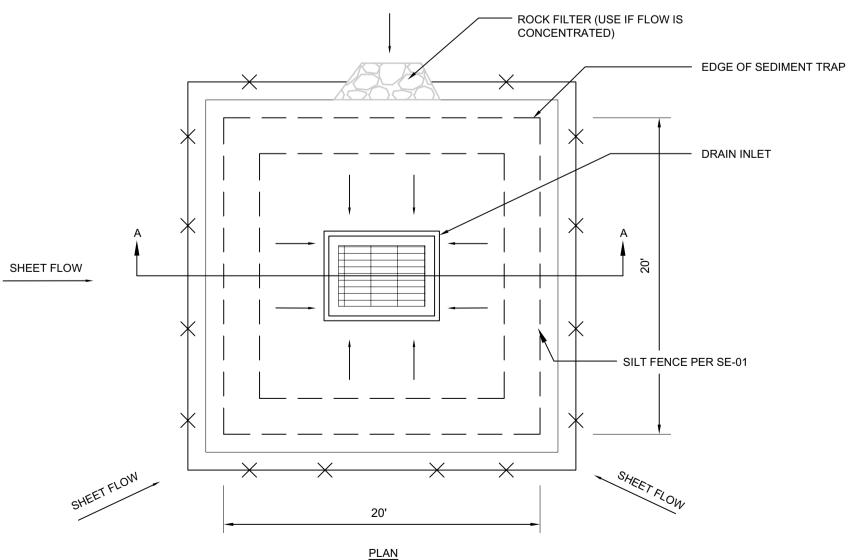


#### 1. INTENDED FOR SHORT TERM USE

- 2. USED TO INHIBIT STORM WATER FLOW
- 3. ALLOW FOR PROPER MAINTENANCE AND CLEANUP
- 4. BAG MUST BE REMOVED AFTER ADJACENT OPERATION IS COMPLETED
- 5. NOT APPLICABLE IN AREAS WITH HIGH SILTS AND CLAYS WITHOUT FILTER FABRICS

#### SE-10 STORM DRAIN INLET PROTECTION - TYPE 3





1. FOR USE IN CLEARED AND GRUBBED AND IN GRADED AREAS

- 2. SHAPE BASIN SO THAT LONGEST INFLOW AREA FACES LONGEST LENGTH OF TRAP
- 3. FOR CONCENTRATED FLOWS SHAPE BASIN IN 2:1 RATIO WITH LENGTH ORIENTED TOWARDS DIRECTION FLOW

## SEDIMENT BASIN DETAIL

7/1/2024

Land Planning Landscape Architecture Civil Engineering Utility Design Land Surveying Stormwater Compliance

1570 Oakland Road (408) 487-2200 San Jose, CA 95131 HMHca.com





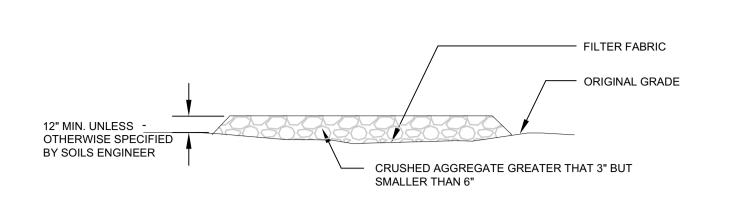
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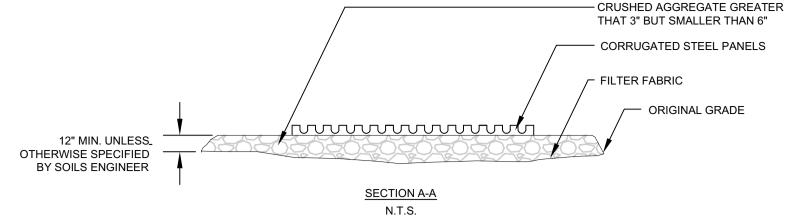
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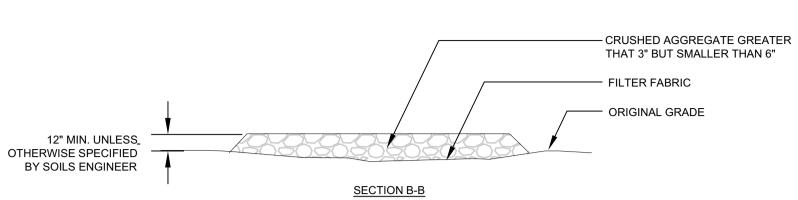
**EROSION CONTROL DETAILS** 

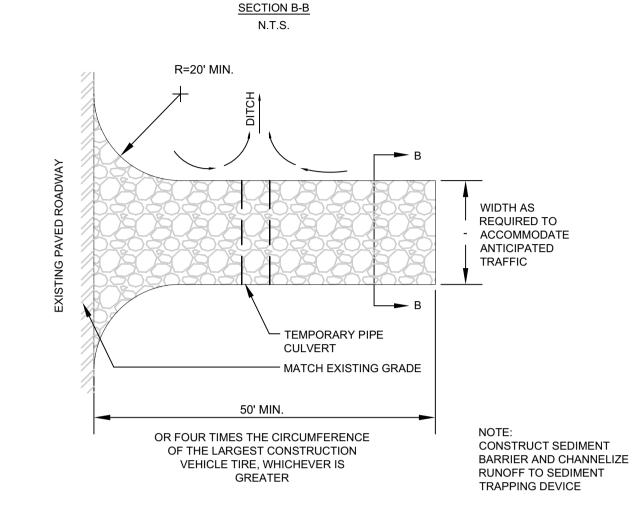
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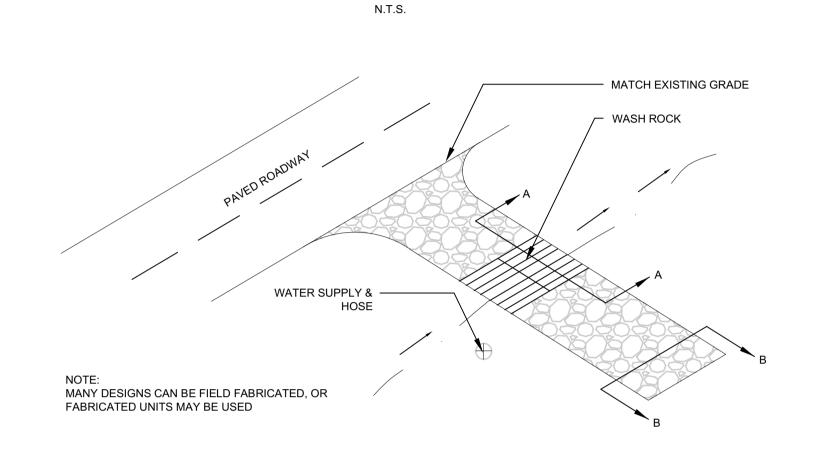
**24** OF 73





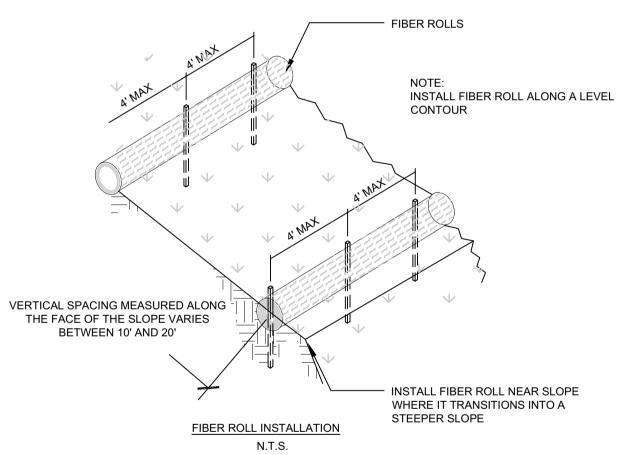


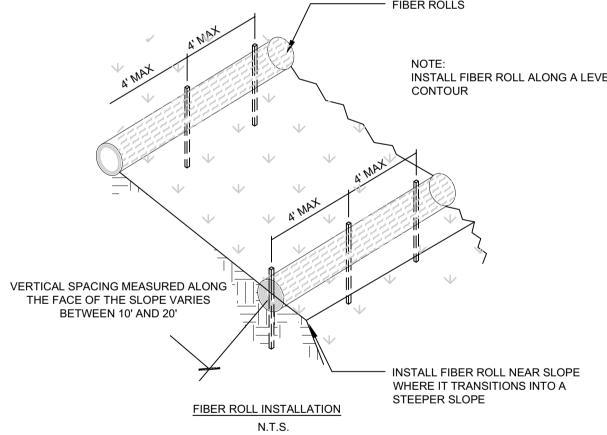


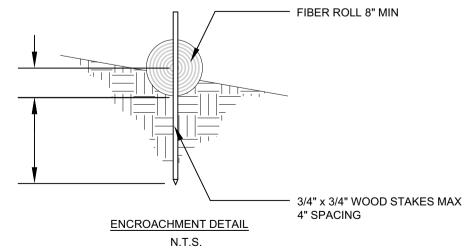


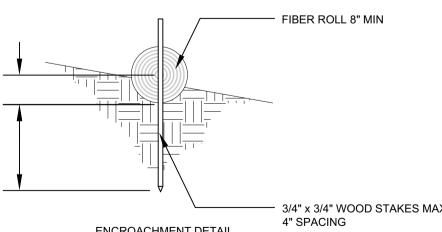
TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT

ENTRANCE / OUTLET TIRE WASH







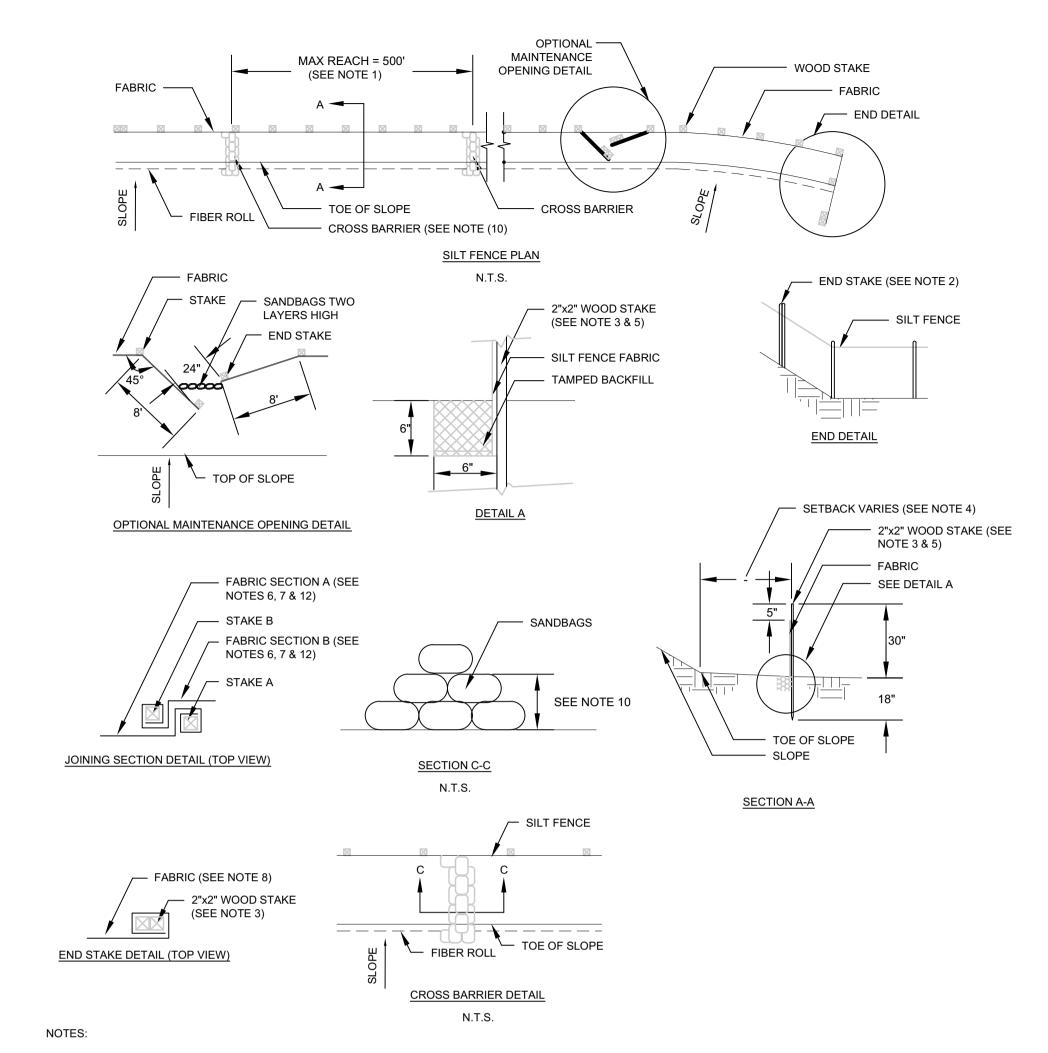


SE-5 FIBER ROLLS

NOTE:

DETAILS SHOWN ARE BASED UPON THE CALIFORNIA STORMWATER QUALITY ASSOCIATION'S STORMWATER BEST MANAGEMENT PRACTICE HANDBOOK.





1. CONSTRUCT LENGTH OF EACH REACH SO THAT THE CHANGE IN BASE ELEVATION ALONG THE REACH DOES NOT EXCEED 1/3 THE HEIGHT OF THE LINEAR BARRIER IN NO CASE SHALL THE REACH LENGTH EXCEED 500'

2. THE LAST 8'-0" OF FENCE SHALL BE TURNED UP SLOPE

3. STAKE DIMENSIONS ARE NOMINAL

4. DIMENSION MAY VARY TO FIT FIELD CONDITIONS

5. STAKES SHALL BE SPACED AT 8'-0" MAXIMUM AND SHALL BE POSITIONED ON THE DOWNSIDE OF THE FENCE

6. STAKES TO OVERLAP AND FENCE FABRIC TO FOLD AROUND EACH STAKE ONE FULL TURN. SECURE FABRIC TO STAKE WITH 4 STAPLES

7. STAKES SHALL BE DRIVEN LIGHTLY TOGETHER TO PREVENT POTENTIAL FLOW-THROUGH OF SEDIMENT AT JOINT. THE TOPS OF THE STAKES SHALL BE SECURED WITH

8. FOR END STAKE FENCE FABRIC SHALL BE FOLDED AROUND TWO STAKES ONE FULL TURN AND SECURED WITH 4 STAPLES

9. MINIMUM 4 STAPLES PER STAKE. DIMENSIONS SHOWN ARE TYPICAL

10. CROSS BARRIERS SHALL BE A MINIMUM OF 1/3 AND A MAXIMUM OF 1/2 HEIGHT OF THE LINEAR BARRIER

11. MAINTENANCE OPENINGS SHALL BE CONSTRUCTED INA MANNER TO ENSURE SEDIMENT REMAINS BEHIND SILT FENCE

12. JOINING SECTIONS SHALL NOT BE PLACES AT SUMP LOCATIONS

13. SANDBAG ROWS AND LAYERS SHALL BE OFFSET TO ELIMINATE GAPS

N.T.S.

## **EROSION CONTROL PLAN NOTES:**

THIS WATER POLLUTION CONTROL PLAN MAY NOT COVER ALL THE SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES (BMPS) LISTED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP), AND SHALL IMPLEMENT AND MAINTAIN THE SWPPP FOR THE PROJECT IN FULL COMPLIANCE WITH THE REVISED STATE REGULATIONS TO CONTROL THE DISCHARGE OF STORMWATER POLLUTANTS.

Land Use Entitlements Land Planning Landscape Architecture Civil Engineering **Utility Design** Land Surveying

Stormwater Compliance 1570 Oakland Road (408) 487-2200 San Jose, CA 95131 HMHca.com





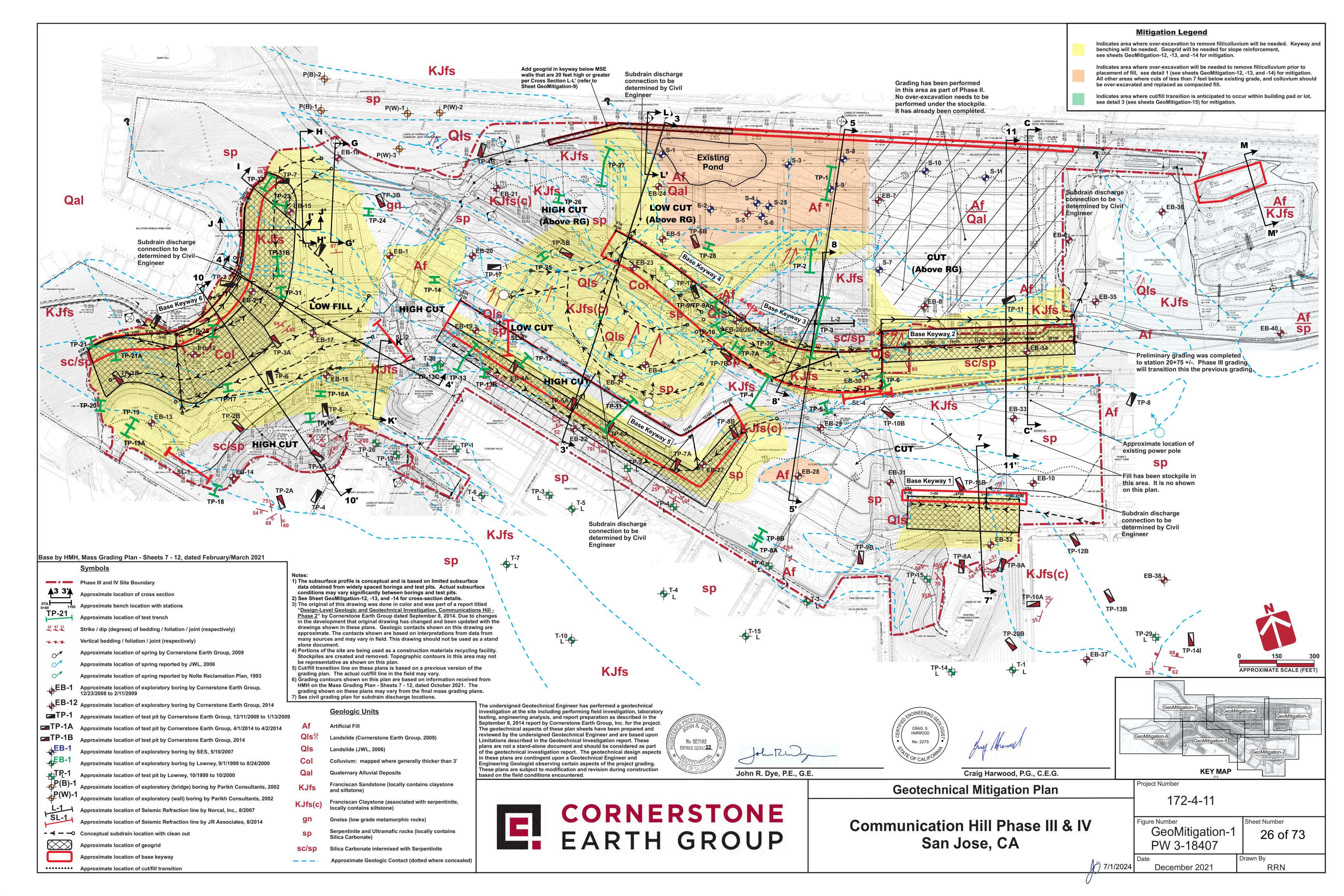
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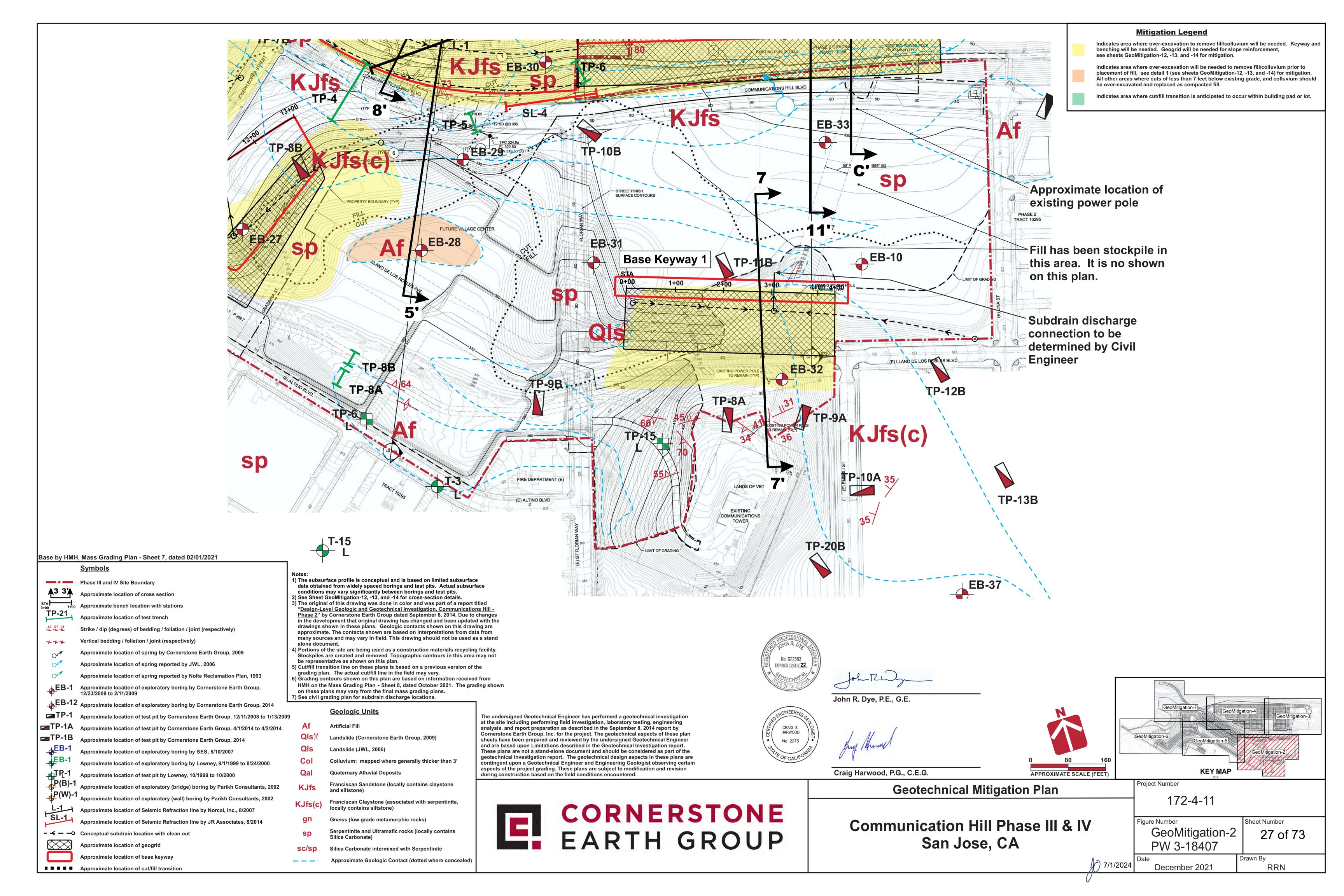
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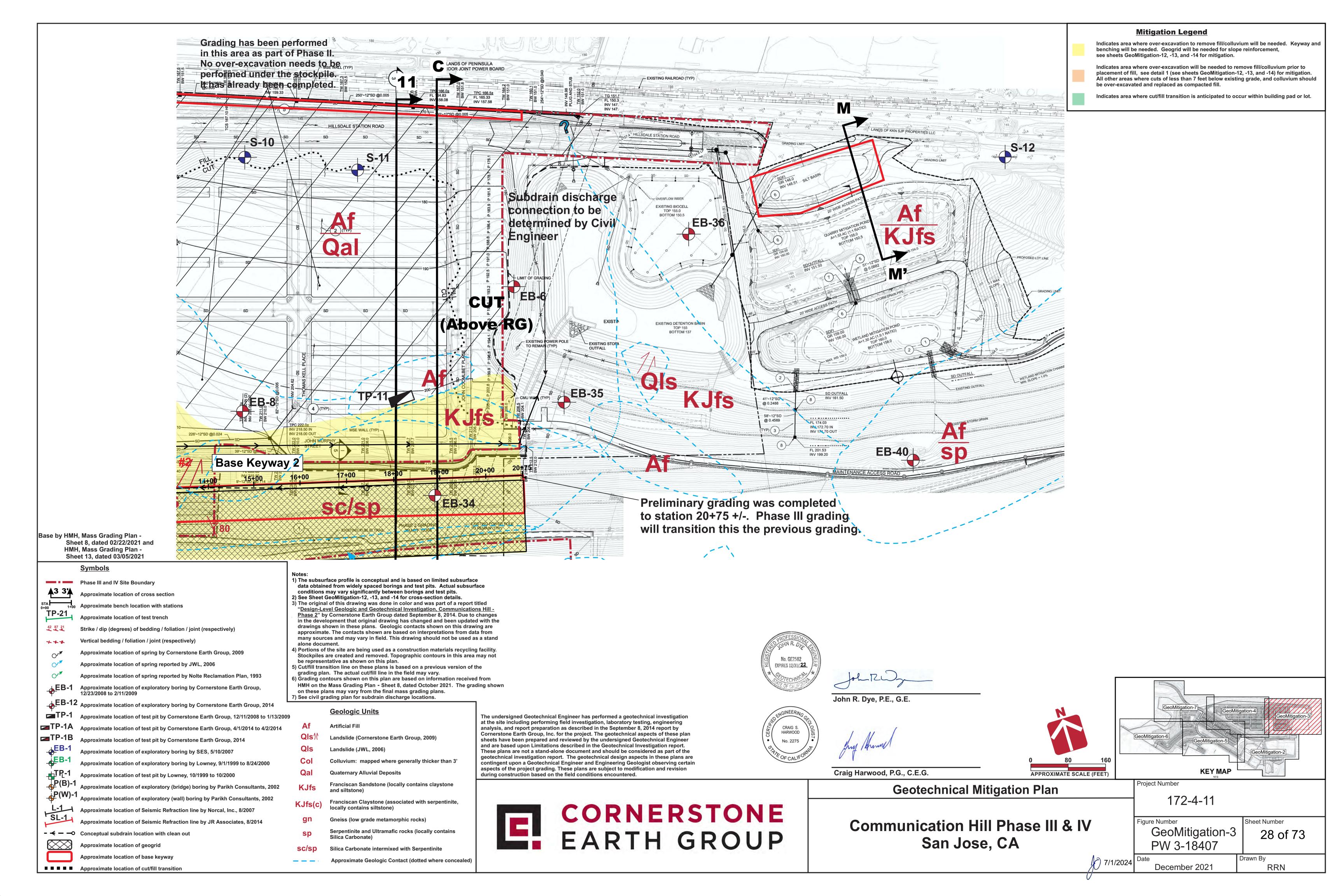
**EROSION CONTROL DETAILS** 

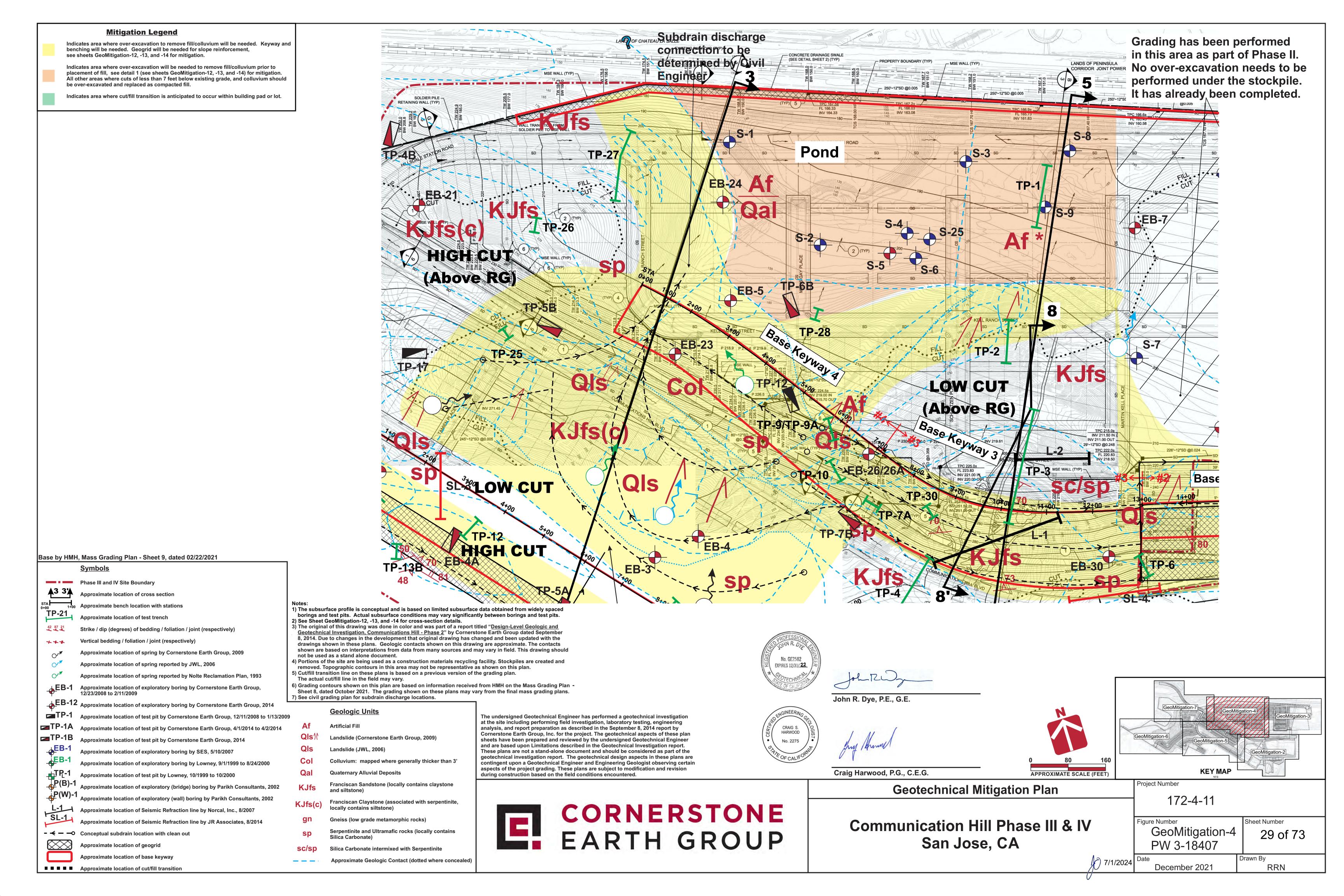
**25** OF 73

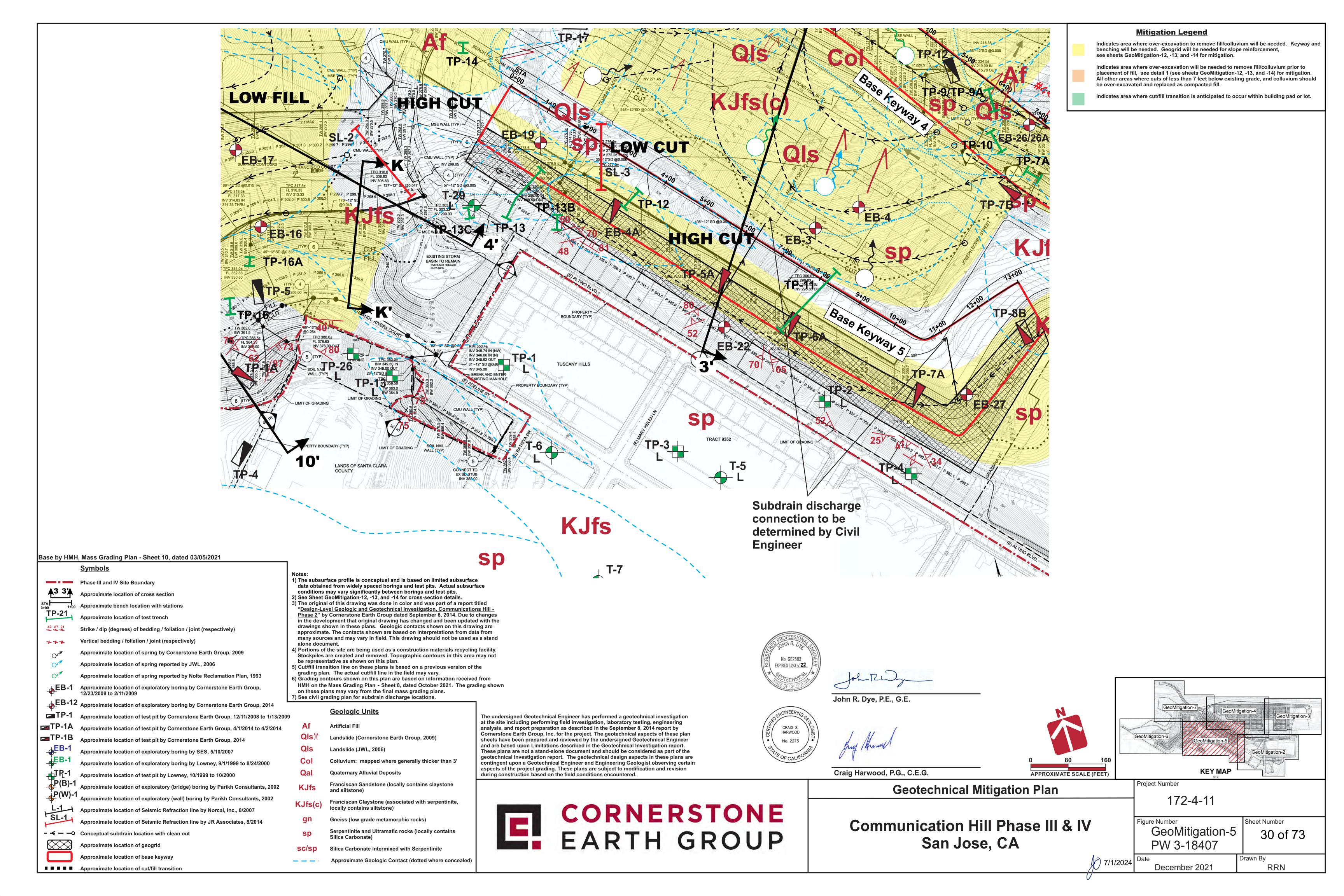
PW 3-18407

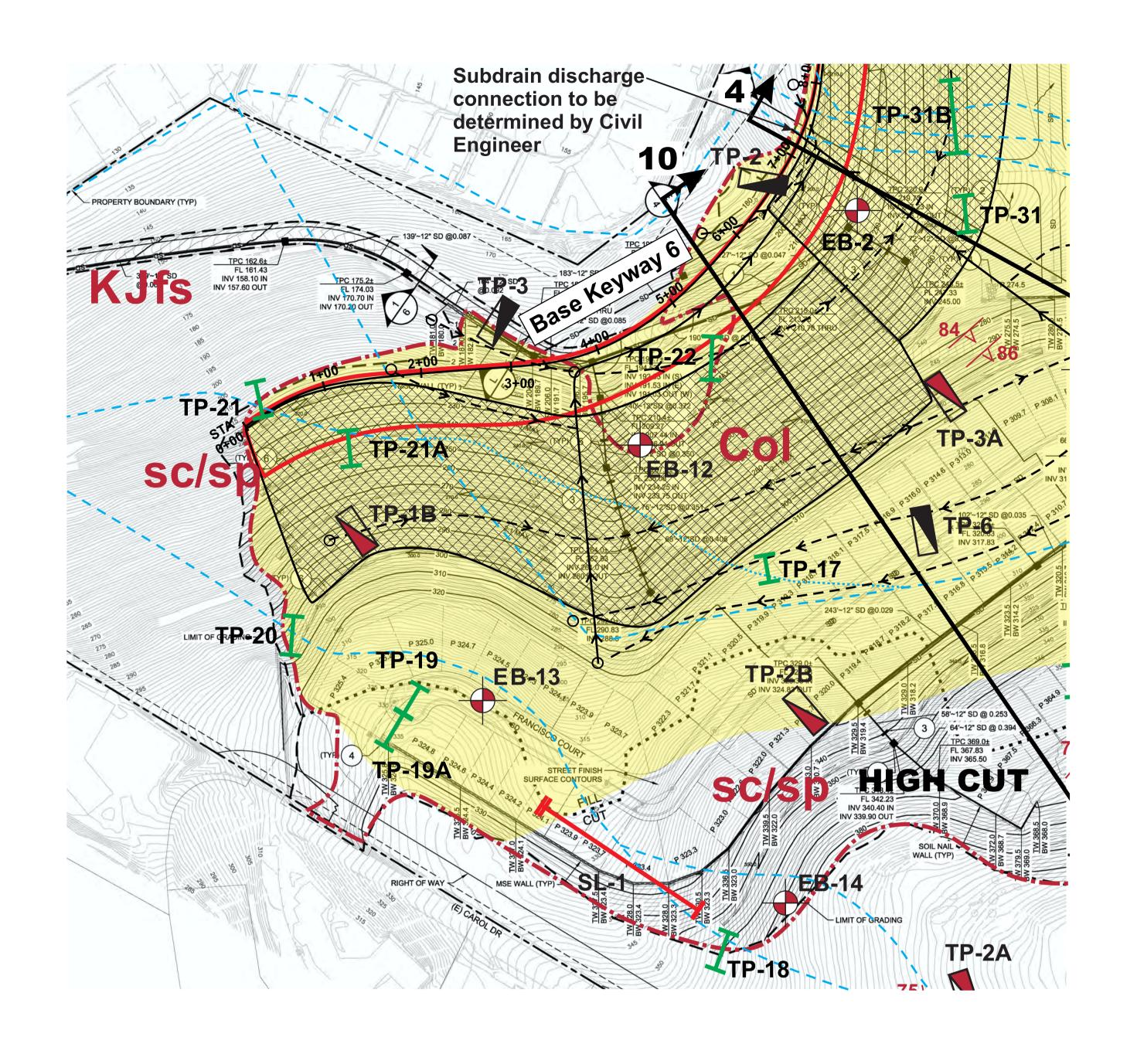


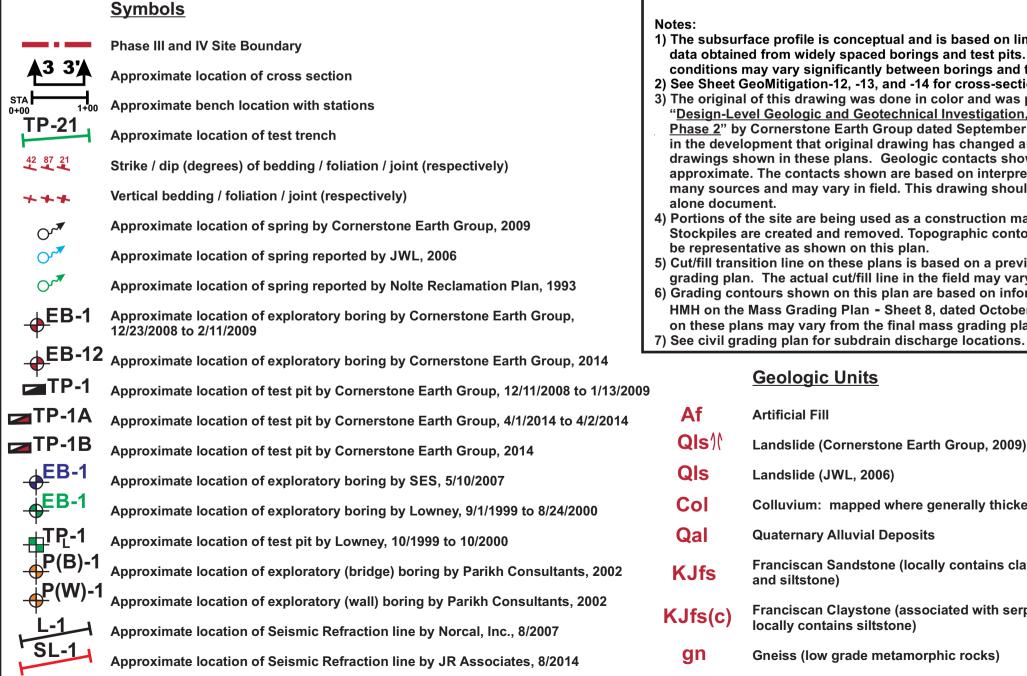












Base by HMH, Mass Grading Plan - Sheet 11, dated 02/22/2021

- ← - O Conceptual subdrain location with clean out

■ ■ ■ ■ Approximate location of cut/fill transition

Approximate location of geogrid

Approximate location of base keyway

1) The subsurface profile is conceptual and is based on limited subsurface data obtained from widely spaced borings and test pits. Actual subsurface conditions may vary significantly between borings and test pits. 2) See Sheet GeoMitigation-12, -13, and -14 for cross-section details. 3) The original of this drawing was done in color and was part of a report titled "Design-Level Geologic and Geotechnical Investigation, Communications Hill -

Phase 2" by Cornerstone Earth Group dated September 8, 2014. Due to changes in the development that original drawing has changed and been updated with the drawings shown in these plans. Geologic contacts shown on this drawing are approximate. The contacts shown are based on interpretations from data from many sources and may vary in field. This drawing should not be used as a stand alone document.

4) Portions of the site are being used as a construction materials recycling facility. Stockpiles are created and removed. Topographic contours in this area may not be representative as shown on this plan.

5) Cut/fill transition line on these plans is based on a previous version of the grading plan. The actual cut/fill line in the field may vary.

6) Grading contours shown on this plan are based on information received from HMH on the Mass Grading Plan - Sheet 8, dated October 2021. The grading shown on these plans may vary from the final mass grading plans.

**Geologic Units** 

**Artificial Fill** Landslide (Cornerstone Earth Group, 2009) Landslide (JWL, 2006) Colluvium: mapped where generally thicker than 3'

Franciscan Sandstone (locally contains claystone

**Quaternary Alluvial Deposits** 

Franciscan Claystone (associated with serpentinite, locally contains siltstone)

**Gneiss (low grade metamorphic rocks)** Serpentinite and Ultramafic rocks (locally contains Silica Carbonate)

Silica Carbonate intermixed with Serpentinite Approximate Geologic Contact (dotted where concealed)

The undersigned Geotechnical Engineer has performed a geotechnical investigation at the site including performing field investigation, laboratory testing, engineering analysis, and report preparation as described in the September 8, 2014 report by Cornerstone Earth Group, Inc. for the project. The geotechnical aspects of these plan sheets have been prepared and reviewed by the undersigned Geotechnical Engineer and are based upon Limitations described in the Geotechnical Investigation report. These plans are not a stand-alone document and should be considered as part of the geotechnical investigation report. The geotechnical design aspects in these plans are contingent upon a Geotechnical Engineer and Engineering Geologist observing certain aspects of the project grading. These plans are subject to modification and revision during construction based on the field conditions encountered.





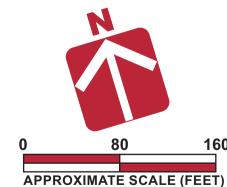
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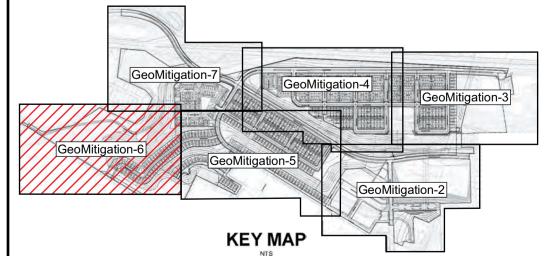
No. 2275











Mitigation Legend

see sheets GeoMitigation-12, -13, and -14 for mitigation.

be over-excavated and replaced as compacted fill.

Indicates area where over-excavation to remove fill/colluvium will be needed. Keyway and benching will be needed. Geogrid will be needed for slope reinforcement,

Indicates area where over-excavation will be needed to remove fill/colluvium prior to

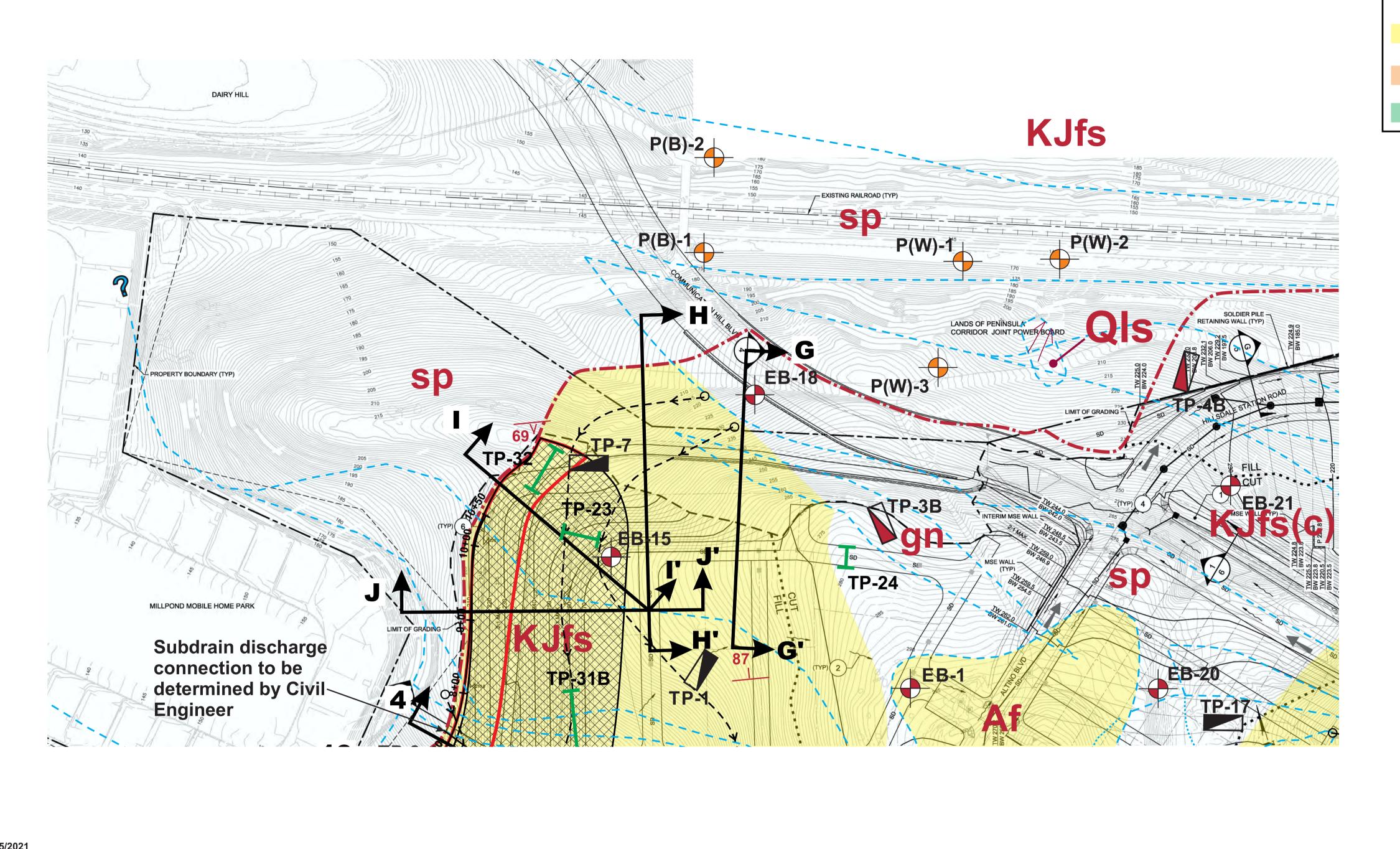
placement of fill, see detail 1 (see sheets GeoMitigation-12, -13, and -14) for mitigation. All other areas where cuts of less than 7 feet below existing grade, and colluvium should

Indicates area where cut/fill transition is anticipated to occur within building pad or lot.

Craig Harwood, P.G., C.E.G. **Geotechnical Mitigation Plan** 

Communication Hill Phase III & IV San Jose, CA

172-4-11 Figure Number Sheet Number GeoMitigation-6 31 of 73 PW 3-18407 7/1/2024 Date Drawn By December 2021 RRN



Mitigation Legend

see sheets GeoMitigation-12, -13, and -14 for mitigation.

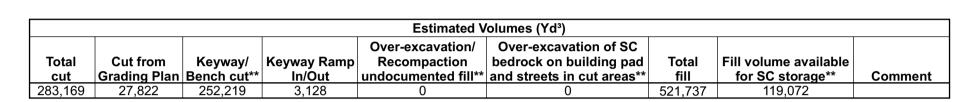
be over-excavated and replaced as compacted fill.

Indicates area where over-excavation to remove fill/colluvium will be needed. Keyway and benching will be needed. Geogrid will be needed for slope reinforcement,

Indicates area where over-excavation will be needed to remove fill/colluvium prior to placement of fill, see detail 1 (see sheets GeoMitigation-12, -13, and -14) for mitigation. All other areas where cuts of less than 7 feet below existing grade, and colluvium should

Indicates area where cut/fill transition is anticipated to occur within building pad or lot.



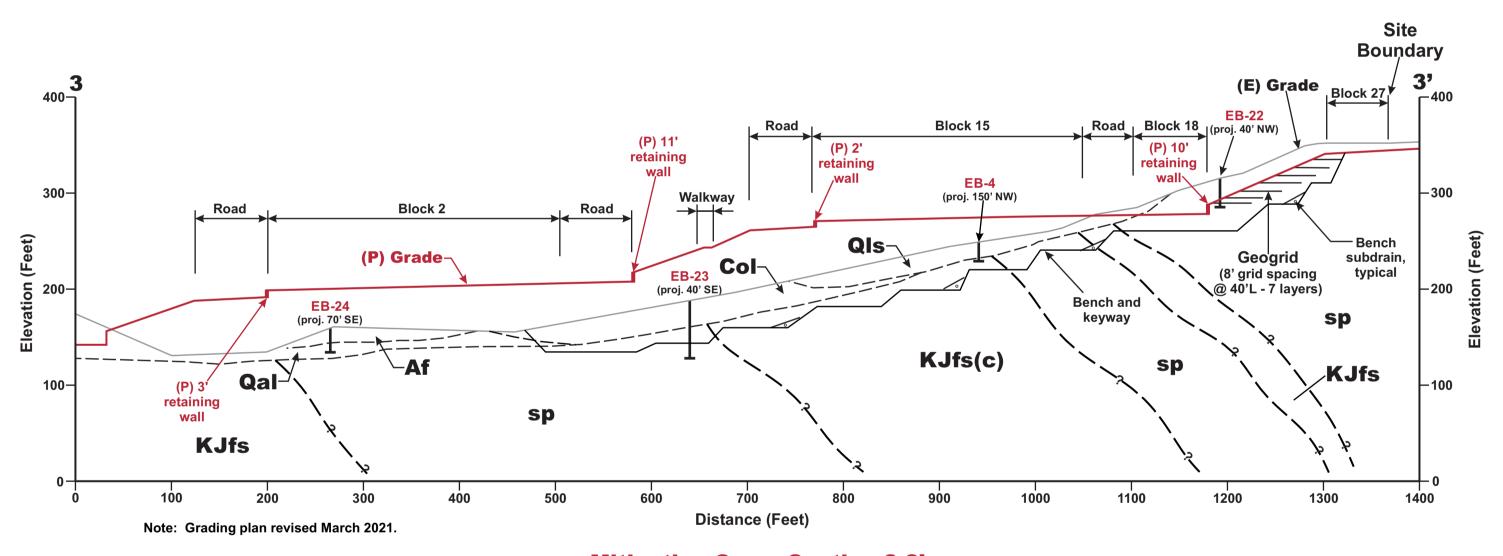


(View Looking Northeast)

1"=100" H:V

Consultants, Inc.

\*\* Note: Adjusted volume by 15%.



#### **Mitigation Cross Section 3-3'** (View Looking Southeast) 1"=100' H:V

	Estimated Volumes (Yd³)									
Total cut	Cut from Grading Plan		Keyway Ramp In/Out**		Over-excavation of SC bedrock on building pad and streets in cut areas**		Fill volume available for SC storage**	Comment		
1,449,757	267,756	1,042,823	35,110	104,068	4,294	2,385,797	808,493			

#### \*\* Note: Adjusted volume by 15%.

## **Explanation**

**Artificial Fill** 

Colluvium: Mapped where generally thicker than 3'

**Quaternary Alluvial Deposits** 

Franciscan Sandstone (locally contains claystone and siltstone)

Franciscan Claystone (associated with serpentinite, locally contains siltstone)

**Serpentinite and Ultramafic rocks locally contains** 

Silica Carbonate

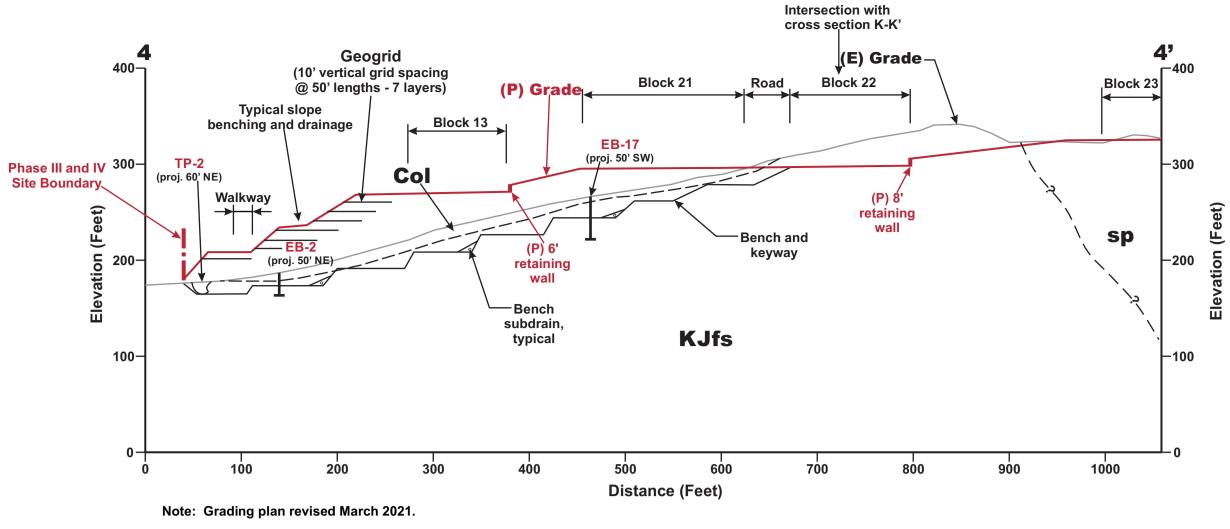
Existing Grade (E)

Proposed Grade (P)

**Approximate Geologic Contact** 

Approximate fault contact between Franciscan units

Silica Carbonate intermixed with Serpentinite

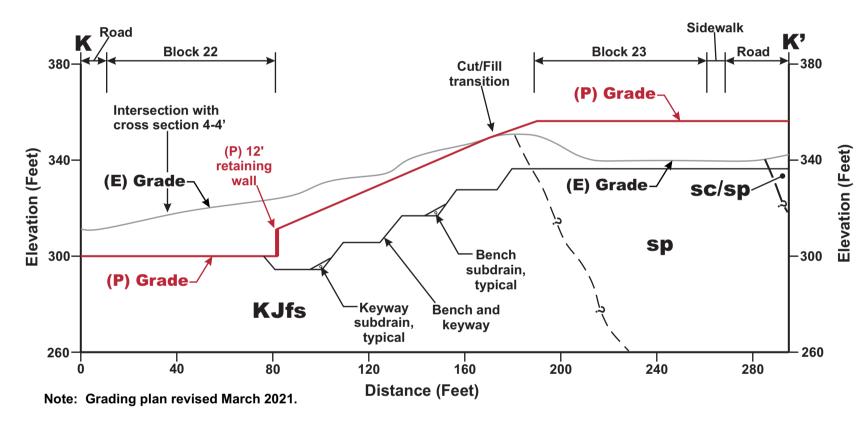


# **Mitigation Cross Section 4-4**

(View Looking Northeast) 1"=100" H:V

Estimated Volumes (Yd³)								
Total cut	Cut from Grading Plan	. , . , .	Keyway Ramp	•	Over-excavation of SC bedrock on building pad and streets in cut areas**		Fill volume available for SC storage**	Comment
210,253	77,778	131,209	1,266	0	14,482	465,374	70,925	

\*\* Note: Adjusted volume by 15%.



**Mitigation Cross Section K-K'** 

(View Looking Southeast) 1"=40' H:V



John R. Dye, P.E., G.E.



Craig Harwood, P.G., C.E.G.

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3) The original of this drawing was done in color and was part of a report titled "Design-Level Geologic and Geotechnical Investigation, Communications Hill -Phase 2" by Cornerstone Earth Group dated September 8, 2014. Due to changes in the development that original drawing has changed and been updated with the drawings shown in these plans. Geologic contacts shown on this drawing are approximate. The contacts shown are based on interpretations from data from many sources and may vary in field. This drawing should not be used as a stand

alone document. 4) Portions of the site are being used as a construction materials recycling facility.

Stockpiles are created and removed. Topographic contours in this area may not be representative as shown on this plan. 5) Cut/fill transition line on these plans is based on a previous version of the

grading plan. The actual cut/fill line in the field may vary. 6) Grading contours shown on this plan are based on information received from HMH on the Mass Grading Plans, dated October 2021. The grading shown

on these plans may vary from the final mass grading plans. 7) NOA cap materials, if needed, to be placed and compacted per geotechnical report. 8) Project environmental consultant to provide direction and monitoring for mercury

contaminated soils per approved Soil Management Plan. Cut slopes in serpentinite will be over-excavated and rebuilt as keyed and benched fill soils. Fill slopes containing serpentinite will be capped with non-asbestos containing fill material in accordance with the project environmental consultant.

The undersigned Geotechnical Engineer has performed a geotechnical investigation at the site including performing field investigation, laboratory testing, engineering analysis, and report preparation as described in the September 8, 2014 report by Cornerstone Earth Group, Inc. for the project. The geotechnical aspects of these plan sheets have been prepared and reviewed by the undersigned Geotechnical Engineer and are based upon Limitations described in the Geotechnical Investigation report. These plans are not a stand-alone document and should be considered as part of the geotechnical investigation report. The geotechnical design aspects in these plans are contingent upon a Geotechnical Engineer and Engineering Geologist observing certain aspects of the project grading. These plans are subject to modification, and revision during construction based on the field conditions encountered.



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2

Sections

Cross

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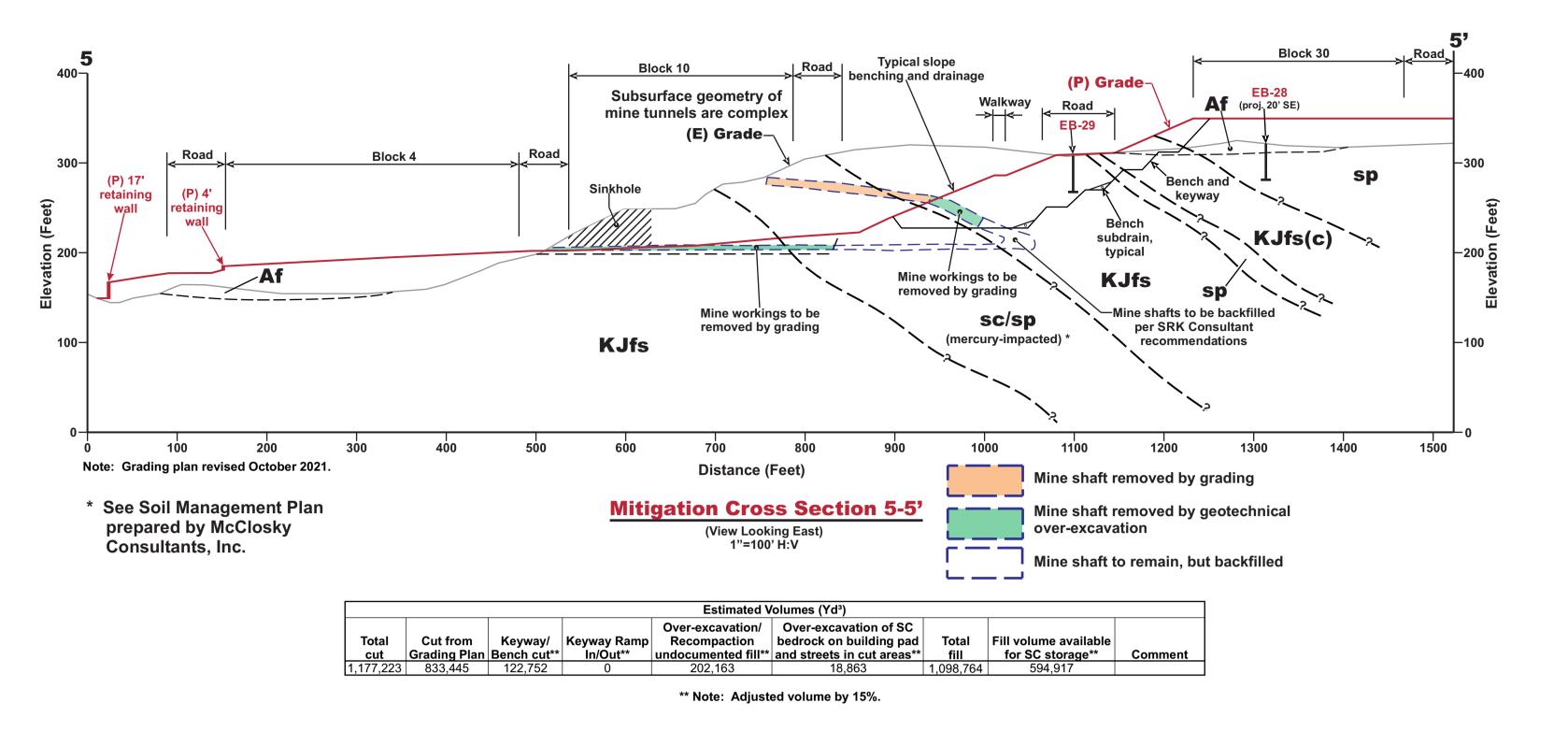
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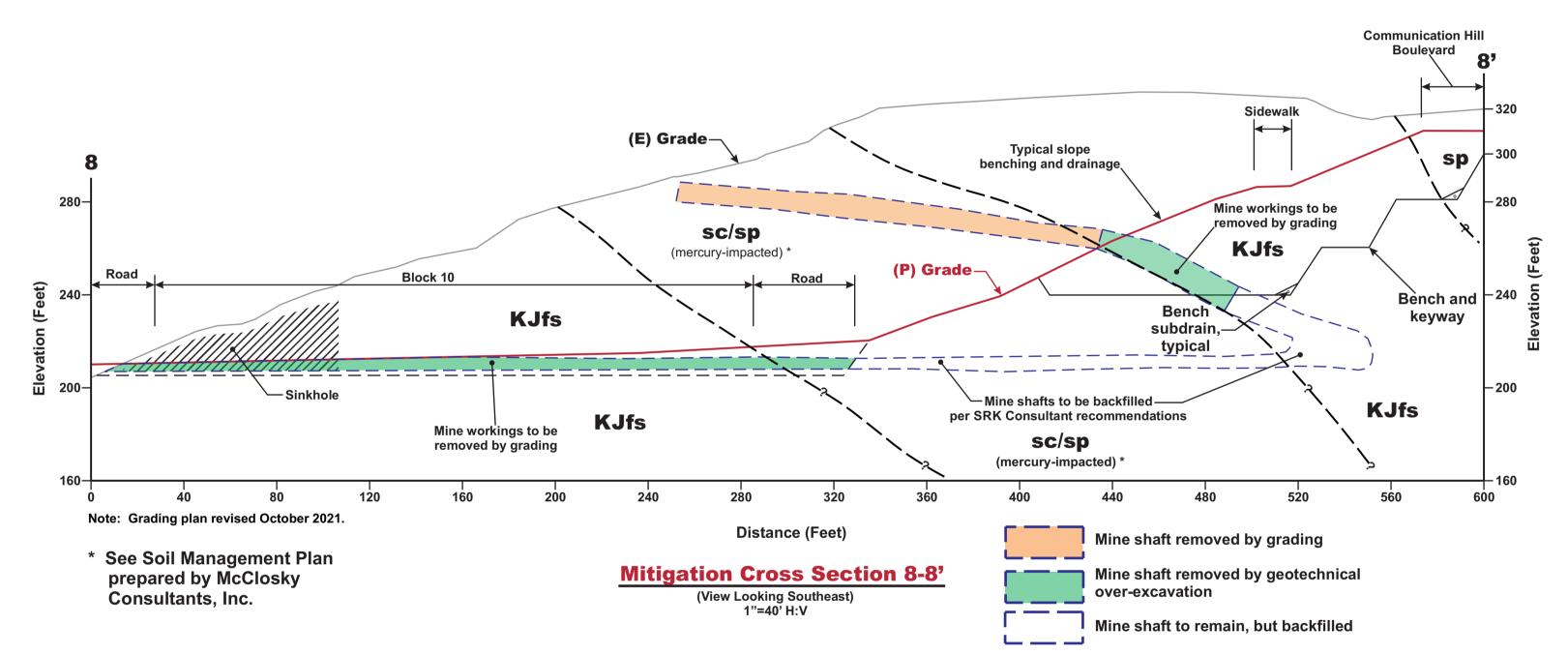
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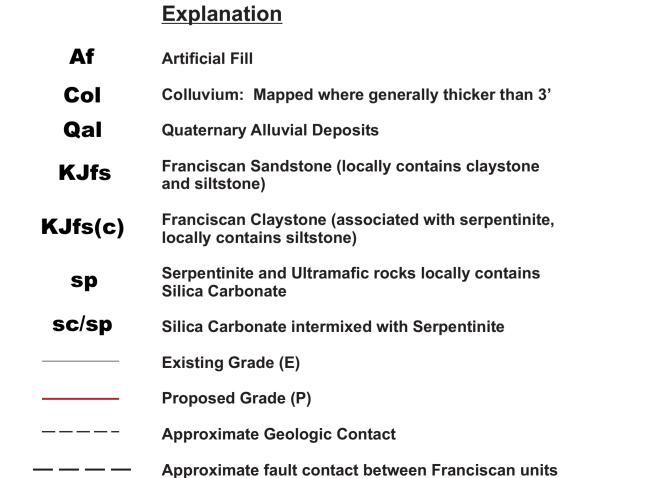
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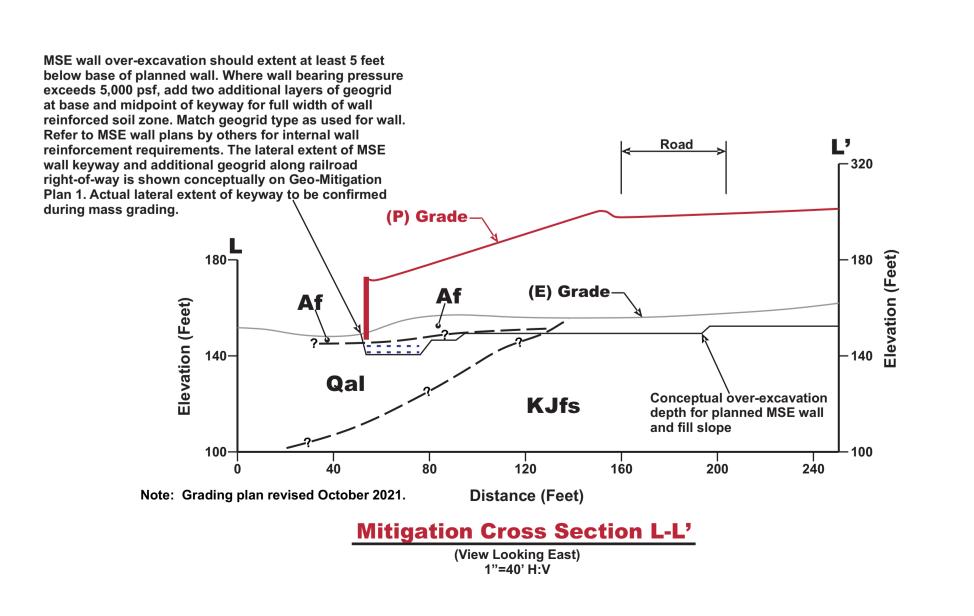
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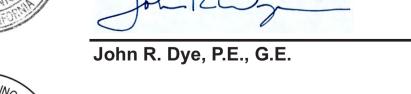


See Mitigation Cross Section 5-5' for estimated volumes.











Craig Harwood, P.G., C.E.G.

1) The subsurface profile is conceptual and is based on limited subsurface data obtained from widely spaced borings and test pits. Actual subsurface conditions may vary significantly between borings and test pits. 2) See Sheet GeoMitigation-12, -13, and -14 for cross-section details.

3) The original of this drawing was done in color and was part of a report titled "Design-Level Geologic and Geotechnical Investigation, Communications Hill -Phase 2" by Cornerstone Earth Group dated September 8, 2014. Due to changes in the development that original drawing has changed and been updated with the drawings shown in these plans. Geologic contacts shown on this drawing are approximate. The contacts shown are based on interpretations from data from many sources and may vary in field. This drawing should not be used as a stand

alone document. 4) Portions of the site are being used as a construction materials recycling facility.

Stockpiles are created and removed. Topographic contours in this area may not be representative as shown on this plan.

5) Cut/fill transition line on these plans is based on a previous version of the grading plan. The actual cut/fill line in the field may vary. 6) Grading contours shown on this plan are based on information received from

HMH on the Mass Grading Plans, dated October 2021. The grading shown on these plans may vary from the final mass grading plans. 7) NOA cap materials, if needed, to be placed and compacted per geotechnical report.

8) Project environmental consultant to provide direction and monitoring for mercury contaminated soils per approved Soil Management Plan. Cut slopes in serpentinite will be over-excavated and rebuilt as keyed and benched fill soils. Fill slopes containing serpentinite will be capped with non-asbestos containing fill material in accordance with the project environmental consultant.

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Mitigation 3-18407

Sections

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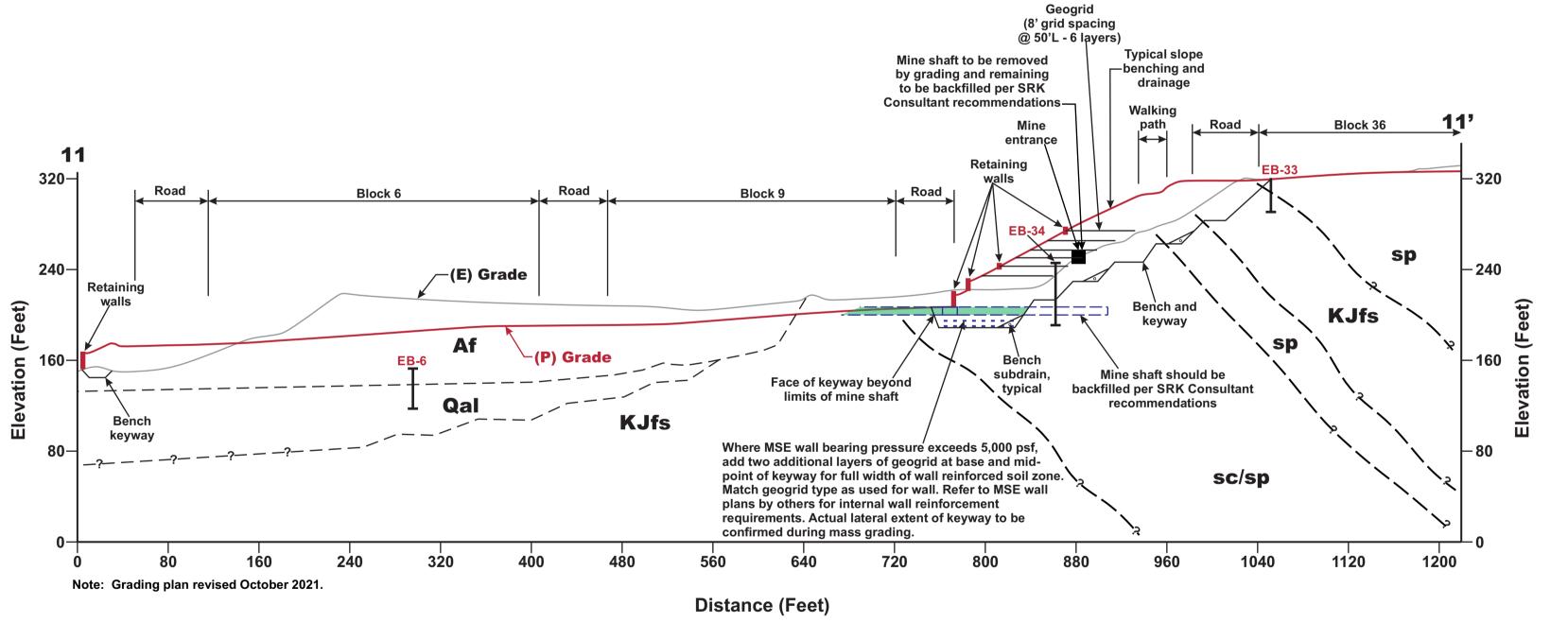
See Mitigation Cross Section 11-11' for estimated volumes.

Phase III and IV Site Boundary Communications -Typical slope benching and Tower Property drainage (8' vertical grid spacing (proj. 90' E) EB-32 @ 60' lengths - 5 layers) (proj. 40'W) Lot 35 (proj. 60' E subdrain, **Distance (Feet)** Note: Grading plan revised October 2021.

**Mitigation Cross Section 7-7'** (View Looking East) 1"=100' H:V

	Estimated Volumes (Yd³)									
Total cut	Cut from Grading Plan		Keyway Ramp In/Out		Over-excavation of SC bedrock on building pad and streets in cut areas**	Total fill	Fill volume available for SC storage**	Comment		
275,444	94,068	179,076	2,300	0	0	214,459	179,076	•		

\*\* Note: Adjusted volume by 15%.



#### **Explanation**

**Artificial Fill** 

Colluvium: Mapped where generally thicker than 3'

**Quaternary Alluvial Deposits** 

Franciscan Sandstone (locally contains claystone and siltstone)

Franciscan Claystone (associated with serpentinite, locally contains siltstone)

Serpentinite and Ultramafic rocks locally contains Silica Carbonate

Silica Carbonate intermixed with Serpentinite

Existing Grade (E)

Proposed Grade (P)

**Approximate Geologic Contact** 

Approximate fault contact between Franciscan units

#### **Mitigation Cross Section 11-11'** (View Looking East) 1"=80' H:V

Mine shaft removed by geotechnical over-excavation Mine shaft to remain, but backfilled

Note: Mine workings were encountered during grading for Phase II. These have been left in place and will need to be mitigated as part of Phase III & IV grading. Our records indicate that up to four mine tunnels have been encountered and were backfilled with loose

materials during grading for Phase II.

	Estimated Volumes (Yd°)									
				Over-excavation/	Over-excavation of SC					
Total	Cut from	Keyway/	Keyway Ramp	Recompaction	bedrock on building pad	Total	Fill volume available			
cut	<b>Grading Plan</b>	Bench cut**	In/Out**	undocumented fill**	and streets in cut areas**	fill	for SC storage**	Comment		
617,342	286,102	329,234	2,006	0	0	416,525	238,134			
								-		

\*\* Note: Adjusted volume by 15%.



1) The subsurface profile is conceptual and is based on limited subsurface data obtained from widely spaced borings and test pits. Actual subsurface conditions may vary significantly between borings and test pits. 2) See Sheet GeoMitigation-12, -13, and -14 for cross-section details.

3) The original of this drawing was done in color and was part of a report titled "Design-Level Geologic and Geotechnical Investigation, Communications Hill -Phase 2" by Cornerstone Earth Group dated September 8, 2014. Due to changes in the development that original drawing has changed and been updated with the drawings shown in these plans. Geologic contacts shown on this drawing are approximate. The contacts shown are based on interpretations from data from many sources and may vary in field. This drawing should not be used as a stand alone document.

4) Portions of the site are being used as a construction materials recycling facility. Stockpiles are created and removed. Topographic contours in this area may not be representative as shown on this plan.

5) Cut/fill transition line on these plans is based on a previous version of the

grading plan. The actual cut/fill line in the field may vary. 6) Grading contours shown on this plan are based on information received from HMH on the Mass Grading Plans, dated October 2021. The grading shown on these plans may vary from the final mass grading plans.

7) NOA cap materials, if needed, to be placed and compacted per geotechnical report. 8) Project environmental consultant to provide direction and monitoring for mercury contaminated soils per approved Soil Management Plan. Cut slopes in serpentinite will be over-excavated and rebuilt as keyed and benched fill soils. Fill slopes containing serpentinite will be capped with non-asbestos containing fill material in accordance with the project environmental consultant.

The undersigned Geotechnical Engineer has performed a geotechnical investigation at the site including performing field investigation, laboratory testing, engineering analysis, and report preparation as described in the September 8, 2014 report by Cornerstone Earth Group, Inc. for the project. The geotechnical aspects of these plan sheets have been prepared and reviewed by the undersigned Geotechnical Engineer and are based upon Limitations described in the Geotechnical Investigation report. These plans are not a stand-alone document and should be considered as part of the geotechnical investigation report. The geotechnical design aspects in these plans are contingent upon a Geotechnical Engineer and Engineering Geologist observing certain aspects of the project grading. These plans are subject to modification and revision during construction based on the field conditions encountered.



John R. Dye, P.E., G.E.



Craig Harwood, P.G., C.E.G.

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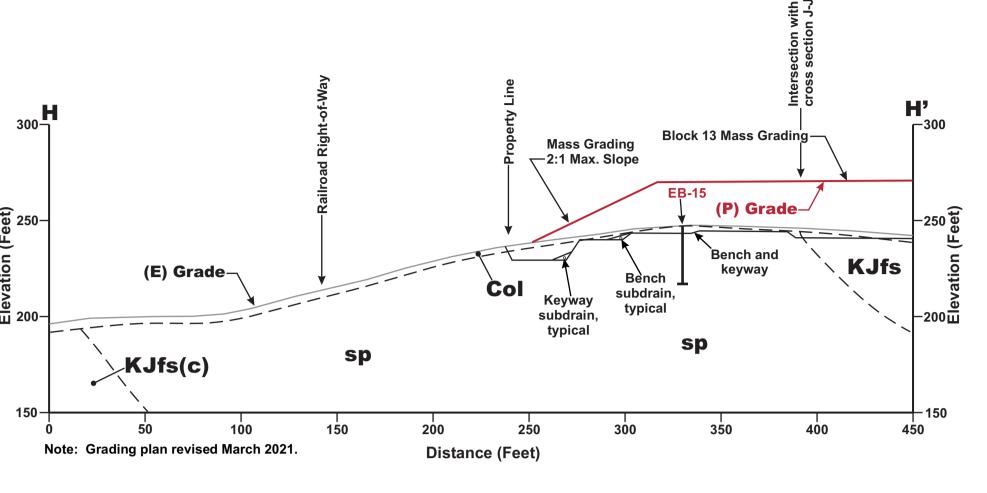
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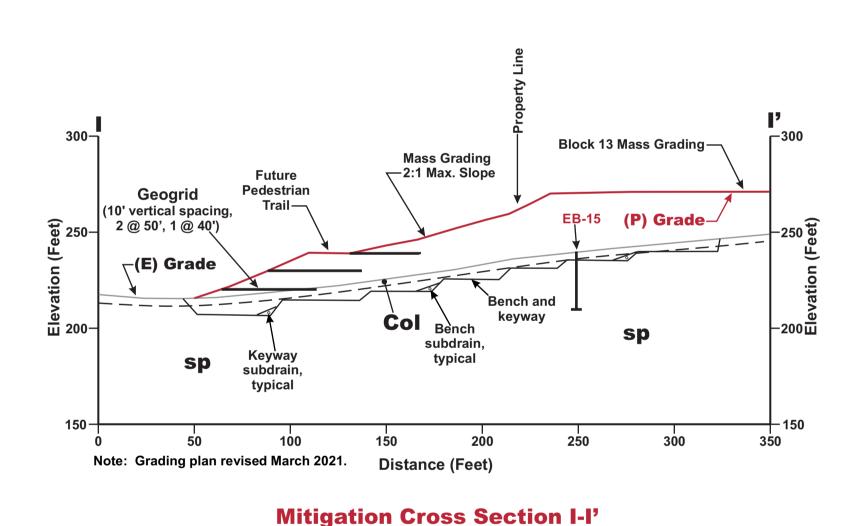
**Mitigation Cross Section G-G'** 

(View Looking East) 1"=50' H:V

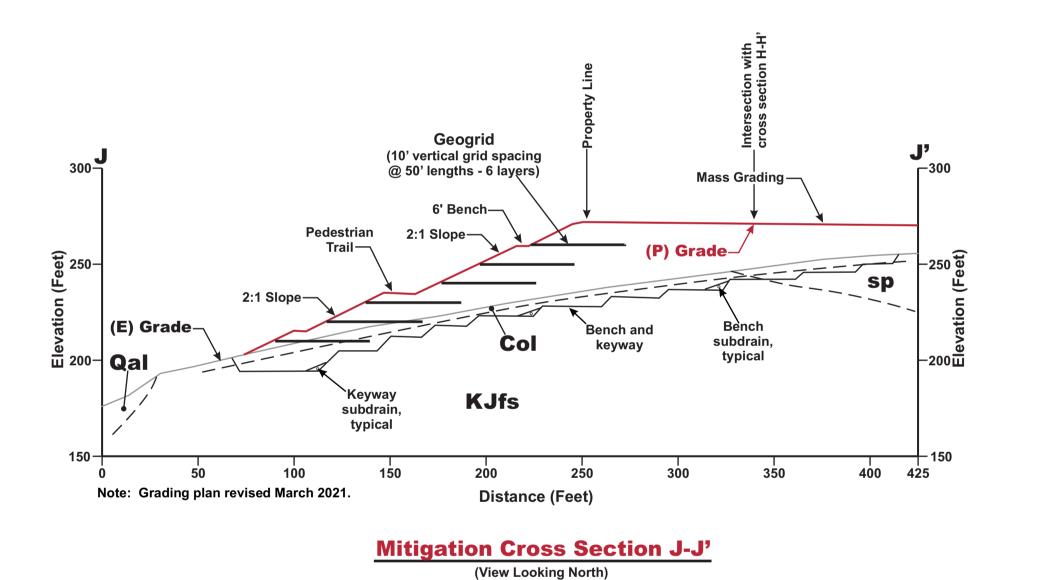


Mitigation Cross Section H-H'

(View Looking East)
1"=50' H:V



(View Looking Northeast)



Explanation

Af Artificial fill

**Qal** Alluvium

**Col** Colluvium: Mapped where generally thicker than 3'

KJfs Franciscan Sandstone (locally contains claystone

and siltstone)

**KJfs(c)** Franciscan Claystone (associated with serpentinite, locally contains siltstone)

and the second of the second o

Gneiss (low grade metamorphic rocks)

Serpentinite and Ultramafic rocks locally contains Silica Carbonate

sc/sp Silica Carbonate intermixed with Serpentinite

Existing Grade (E)

Proposed Grade (P)

— – Approximate Geologic Contact

Approximate fault contact between Franciscan units

Keyway/benching | (E) Grade | (P) Grade |



CRAIG S. HARWOOD

No. 2275

1"=50' H:V

John R. Dye, P.E., G.E.

Ing Amount

Craig Harwood, P.G., C.E.G.

Notes

Notes:

1) The subsurface profile is conceptual and is based on limited subsurface data obtained from widely spaced borings and test pits. Actual subsurface conditions may vary significantly between borings and test pits.

See Sheet GeoMitigation-12, -13, and -14 for cross-section details.
 The original of this drawing was done in color and was part of a report titled "Design-Level Geologic and Geotechnical Investigation, Communications Hill - Phase 2" by Cornerstone Earth Group dated September 8, 2014. Due to changes in the development that original drawing has changed and been updated with the drawings shown in these plans. Geologic contacts shown on this drawing are approximate. The contacts shown are based on interpretations from data from many sources and may vary in field. This drawing should not be used as a stand

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Stockpiles are created and removed. Topographic contours in this area may not be representative as shown on this plan.

5) Cut/fill transition line on these plans is based on a previous version of the grading plan. The actual cut/fill line in the field may vary.
6) Grading contours shown on this plan are based on information received from

HMH on the Mass Grading Plans, dated October 2021. The grading shown on these plans may vary from the final mass grading plans.

NOA cap materials, if needed, to be placed and compacted per geotechnical reports.

Project environmental consultant to provide direction and monitoring for mercury.

7) NOA cap materials, if needed, to be placed and compacted per geotechnical report.
8) Project environmental consultant to provide direction and monitoring for mercury contaminated soils per approved Soil Management Plan. Cut slopes in serpentinite will be over-excavated and rebuilt as keyed and benched fill soils. Fill slopes containing serpentinite will be capped with non-asbestos containing fill material in accordance with the project environmental consultant.

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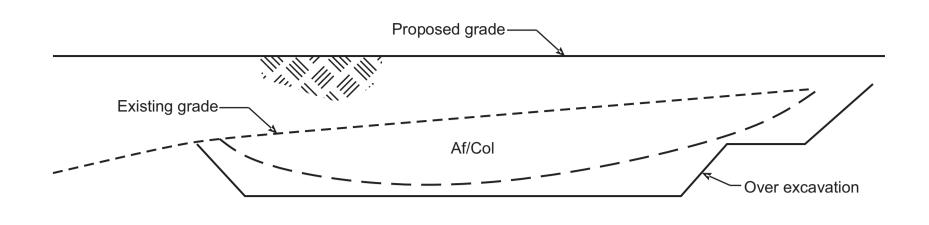
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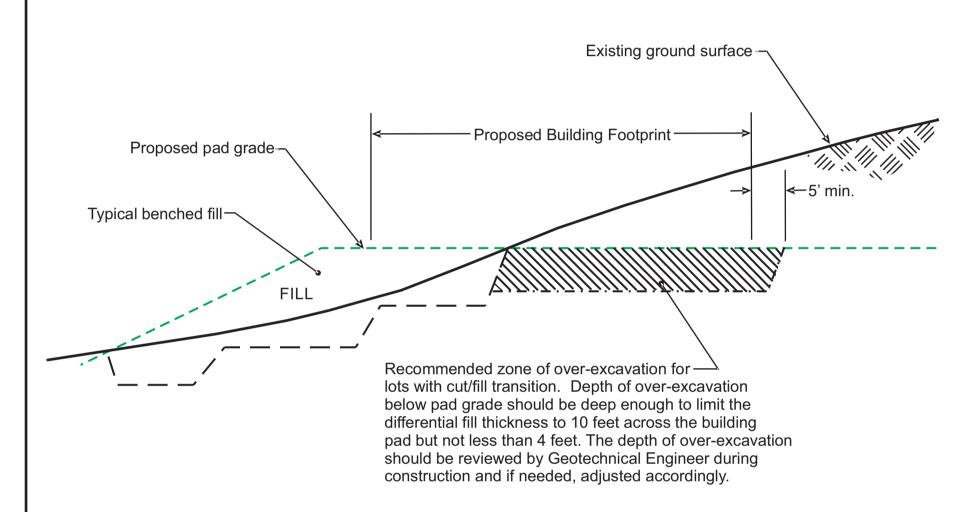
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**Detail 1 - Fill/Colluvium Removal Detail** 

Not to scale



**Detail 3 - Conceptual Cut / Fill Transition Over-Excavation** Not to scale

DRAINAGE MATERIAL Alternative 1 Class 2 Permeable Material (Caltrans Standard Specs, latest edition)

Material shall consist of clean, coarse sand and gravel or crushed stone, conforming to the following gradation requirements: Sieve Size % Passing Sieve 90-100 40-100 25-40 18-33 #30 5-15 #50 0-7 Drainage material – #200 0-3 Height of drainage material may 1 /2- to 3/4- inch Clean Crushed Rock or Gravel Wrapped in Filter Fabric

All non-woven filter fabric shall meet the following

by Cornerstone Earth Group

Flow Rate (ASTM D-4491):

3. All pipe joints shall be glued.

by the Civil Engineer.

30 feet deep.

Grab Strength (ASTM D-4632):

Mass Per Unit Area (ASTM D-4751):

Puncture Strength (ASTM D-4833):

2. All perforated pipe placed perforations down.

minimum average roll values unless otherwise specified

1. 1% fall (minimum) along all keyways, benches and subdrain lines.

5. Subdrain pipe (perforated or solid connector) should consist of SDR-35 PVC pipe when placed in fills less than 30 feet deep. SDR-23.5 PVC pipe should be used when fill is greater than

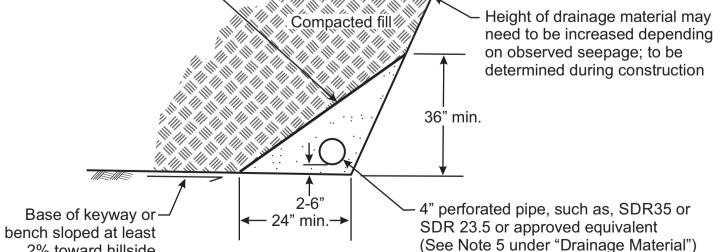
4. All subdrains should be discharged to a free draining outlet approved

Apparent Opening Size (ASTM D-4751): 70-100 U.S. std. sieve

5 oz/yd

80 lbs.

80 gal/min/ft



**Detail 4 - Typical Bench and Keyway Subdrain** 

Not to scale

2% toward hillside

### 1) See mitigation plan and cross sections for locations. 2) Geocomposite drain limited to areas with 30 feet or Height of drainage material may 3) Geotechnical engineer to verify location and placement need to be increased depending on observed seepage; to be 4) Contractor responsible to install connection of determined during construction. 5) Labor and material cost to furnished install geocomposite 6) Final subdrain layent and placement to be determined by Single-sided HDPE composite (ASTM-3350) such as contech stripdrain (C-100) or equivalent 2% min. slope basepreapproved by Geotechnical Engineer. of keyway or bench. Connect to subdrain system.

### **Detail 5 - Keyway and Bench Geocomposite Subdrain**

Cut slope --24" Concrete Drainage Swale (per HMH sheet 2)

less fill depth.

of these subdrains in the field at time of construction.

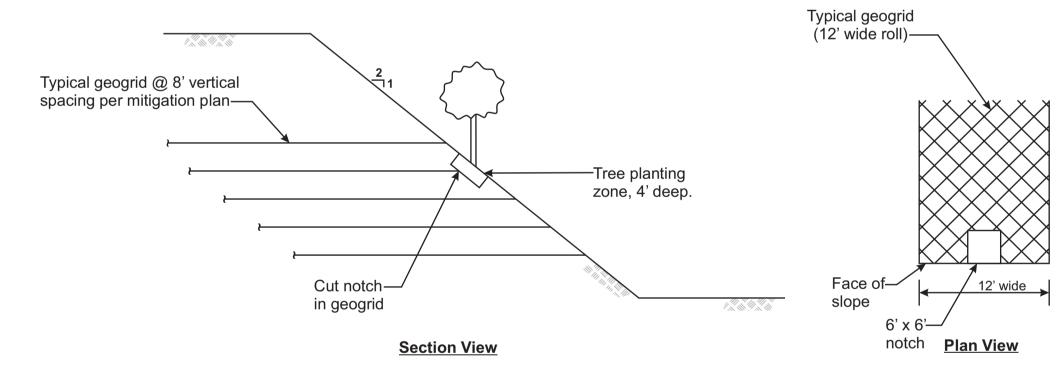
drain and pipe connections to subdrain system to be

Geotechnical Engineer at time of construction.

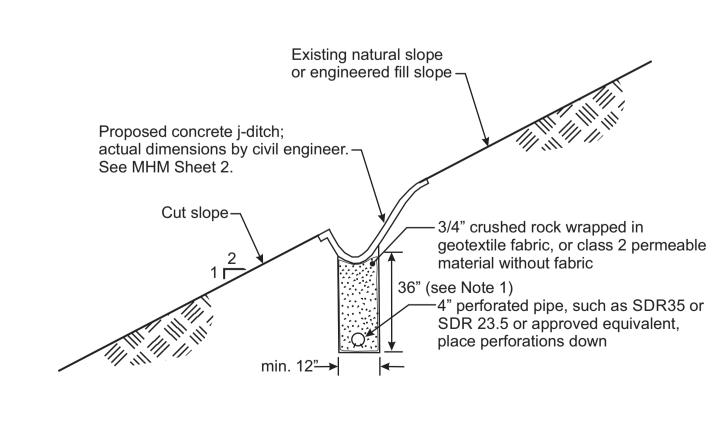
composite to solid discharge lines.

included in contractors scope of work.

**Detail 6 - Bench Detail** 



### **Detail 7 - Tree Planting on Slope with Geogrid Detail**



Note 1: Actual subdrain depth to be determined in the field during construction based on actual subsurface conditions encountered.

**Detail 8 - J-Ditch with Subdrain** Not to scale

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John R. Dye, P.E., G.E.



7/1/2024

Craig Harwood, P.G., C.E.G.



**Typical Details** 

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### EARTHWORK RECOMMENDATIONS

The earthwork recommendations presented on the following sheets are reprinted directly from the geotechnical report for this project titled, "Design-level Geologic and Geotechnical Investigation, Communications Hill – Phase 2, San Jose, California," dated September 8, 2014 by Cornerstone Earth Group for convenience. Cornerstone Earth Group should be retained to provide geotechnical observation and testing during the earthwork and foundation construction.

### **SECTION 8: EARTHWORK**

#### 8.1 SITE DEMOLITION, CLEARING AND PREPARATION

Prior to site demolition, the contractor should refer to the mitigation plans presented as Figures 8A through 8D and the relevant cross sections from Figures 10A through 10E in this report that show the recommended cuts and engineered fills sections.

### 8.1.1 Site Stripping

The site should be stripped of all surface vegetation. A detailed discussion of removal of existing fills is provided later in this report. Surface vegetation and topsoil should be stripped to a sufficient depth to remove all material greater than 3 percent organic content by weight. Based on our site observations, surficial stripping should extend about 3 to 6 inches below existing grade.

At the owner's option the surface vegetation may be mowed, leaving no more than 1 inch of stubble, the area disked in two directions to a depth of 12 inches, moisture conditioned, and recompacted. This does not include trees and shrubs roots which will require deeper removals.

#### 8.1.2 Tree and Shrub Removal

Trees and shrubs designated for removal should have the root balls and any roots greater than ½-inch diameter removed completely. Mature trees are estimated to have root balls extending to depths of 2 to 4 feet, depending on the tree size. Significant root zones are anticipated to extend to the diameter of the tree canopy. Grade depressions resulting from root ball removal should be cleaned of loose material and backfilled in accordance with the recommendations in the "Compaction" section of this report.

### 8.1.3 Abandonment of Existing Utilities

All utilities should be completely removed from within planned development areas. For any utility line to be considered acceptable to remain within building areas, the utility line must be completely backfilled with grout or sand-cement slurry (sand slurry is not acceptable), the ends outside the building area capped with concrete, and the trench fills either removed and replaced as engineered fill with the trench side slopes flattened to at least 1:1, or the trench fills are determined not to be a risk to the structure. The assessment of the level of risk posed by the particular utility line will determine whether the utility may be abandoned in place or needs to be completely removed. The contractor should assume that all utilities will be removed from within building areas unless provided written confirmation from both the owner and the geotechnical engineer.

Utilities extending beyond the building area may be abandoned in place provided the ends are plugged with concrete, they do not conflict with planned improvements, and that the trench fills do not pose significant risk to the planned surface improvements.

The risks associated with abandoning utilities in place include the potential for future differential settlement of existing trench fills, and/or partial collapse and potential ground loss into utility lines that are not completely filled with grout. In general, the risk is relatively low for single utility lines less than 4 inches in diameter, and increases with increasing pipe diameter.

### 8.2 REMOVAL OF EXISTING FILLS

Several artificial fills were observed on the site from our site reconnaissance and noted in our test pits and borings. Fills ranged from about 1 to 16 feet in our explorations across a majority of the site. All fills should be completely removed prior to placement of additional fill whether as temporary or permanent fill. The anticipated area for removal of existing fills greater than approximately 7 feet thick are shown on Figures 3A and 3B and 8A and 8B. It is noted that most of the site has some fills due to the previous quarry. The contractor should anticipate over-excavating any existing fills prior to placement of new fill across the entire site. Provided the fills meet the "Material for Fill" requirements below, the fills may be reused when backfilling the excavations. Based on review of the samples collected from our borings, it appears that the fill may be reused. If materials are encountered that do not meet the requirements, such as debris, wood, trash, those materials should screened out of the remaining material and be removed from the site. Backfill of excavations should be placed in lifts and compacted in accordance with the "Compaction" section below.

### 8.3 CUT/FILL TRANSITION OVER-EXCAVATION

We recommend that lots with material or fill thickness transitions, such as significant differential fill thickness, cut/fill transitions, etc. be over-excavated to provide a relatively uniform thickness and soil type beneath the building footprint, as shown on Figures 8A and 8B. On a preliminary basis, the depth of over-excavation below pad grade should be equal to the fill thickness, but not exceed 5 feet in depth for differential fills ranging up to 10 feet in thickness. If the differential fill thickness is greater than 10 feet, the specific lot transition should be reviewed and supplemental recommendations provided on a case-by-case basis.

Over-excavation should extend to at least 5 feet beyond the building footprint as shown on Figures 8A and 8B. If the building layouts on each lot are not yet established during grading, we recommend that the grading contractor perform over-excavation from the minimum building setback lines minus 3 feet. Field modifications may be necessary depending on the actual conditions encountered during grading.

We recommend that the lots requiring over-excavation be confirmed once final grading plans are completed and suggest that these lots be verified by the grading contractor prior to the start of grading.

### 8.4 TEMPORARY CUT AND FILL SLOPES

The contractor is responsible for maintaining all temporary slopes and providing temporary shoring where required. Temporary shoring, bracing, and cuts/fills should be performed in accordance with the strictest government safety standards. On a preliminary basis, a majority of the Phase I area at the site may be classified as OSHA Soil Class B or C materials. Type B soil classification may be assumed for cuts into bedrock or engineered fill. Type C soil classification may be assumed for excavation in existing fills, alluvium, or colluviums soils. A Cornerstone representative should be retained to confirm the preliminary site classification as site grading continues.

Excavations performed during site demolition and fill removal should be sloped at 3:1 (horizontal:vertical) within the upper 5 feet below building subgrade. Excavations extending more than 5 feet below building subgrade and excavations in pavement and flatwork areas should be slope at a 1:1 inclination unless the OSHA soil classification indicates that slope should not exceed 1.5:1.

### 8.5 SUBGRADE PREPARATION

After site clearing and demolition is complete, and prior to backfilling any excavations resulting from fill removal or demolition, the excavation subgrade and subgrade within areas to receive additional site fills, slabs-on-grade and/or pavements should be scarified to a depth of 12 inches, moisture conditioned, and compacted in accordance with the "Compaction" section below. The depths of some keyway excavations is shown on our mitigations sections, Figure 10A through 10E. The bottom of keyways excavated into undisturbed rock do not need to be scarified but should be proof rolled to confirm subgrade stability prior to placement of any fill.

Prior to mass grading completion, a majority of the building pad locations for Phase I will be located on exposed serpentinite. We recommend at least 12 inches of scarification and recompaction in the areas where buildings will be placed for constructability of utilities and foundations. Additional consideration should be given to ripping deeper to allow for easier trenching and landscape planting especially in backyard areas and public improvements such as streets and sidewalks. As grading plans have not been finalized for the remaining Phases, there may be substantial variability in the subgrade soils in each phase area, which will be determined in the update letters presented at a future date.

### 8.6 SUBGRADE STABILIZATION MEASURES

Where claystone will be exposed at finished subgrade or used as soil fill materials, or other soils with high fines contents such as clays and silty soils, it can become unstable due to high moisture content, whether from high in-situ moisture contents or from winter rains. As the moisture content increases over the laboratory optimum, it becomes more likely the materials will be subject to softening and yielding (pumping) from construction loading or become unworkable during placement and compaction.

There are several methods to address potential unstable soil conditions and facilitate fill placement and trench backfill. Some of the methods are briefly discussed below. Implementation of the appropriate stabilization measures should be evaluated on a case-by-case basis according to the project construction goals and the particular site conditions.

### 8.6.1 Scarification and Drying

The clay subgrade may be scarified to a depth of 12 inches and allowed to dry to near optimum conditions, if sufficient dry weather is anticipated to allow sufficient drying. More than one round of scarification may be needed to break up the soil clods.

#### 8.6.2 Removal and Replacement

As an alternative to scarification, the contractor may choose to over-excavate the unstable soils and replace them with dry on-site or import materials. A Cornerstone representative should be present to provide recommendations regarding the appropriate depth of over-excavation, whether a geosynthethic (stabilization fabric or geogrid) is recommended, and what materials are recommended for backfill.

### 8.6.3 Chemical Treatment

Where the unstable area exceeds about 5,000 to 10,000 square feet and/or site winterization is desired, chemical treatment with quicklime (CaO), kiln-dust, or cement may be more cost-effective than removal and replacement. Recommended chemical treatment depths will typically range from 12 to 18 inches depending on the magnitude of the instability.

### 8.7 MATERIAL FOR FILL

### 8.7.1 Re-Use of On-site Soils for Mass Grading

On-site soils with an organic content less than 3 percent by weight may be reused as general fill. We understand that large boulders (over 3 feet in diameter) may be uncovered through the mass grading operations at the site and may be unable to be broken down to smaller pieces. These oversized rocks may be used within the larger fills, although they must be spaced relative to each other such that soils with fines must be compacted in suitable lifts around each boulder. General fill should not have lumps, clods or cobble pieces larger than 6 inches in diameter; 85 percent of the fill should be smaller than  $2\frac{1}{2}$  inches in diameter. Minor amounts of oversize material (smaller than 12 inches in diameter) may be allowed provided the oversized pieces are not allowed to nest together and the compaction method will allow for loosely placed lifts not exceeding 12 inches.

### 8.7.2 Potential Import Sources

For planning purposes, imported and non-expansive material should be inorganic with a Plasticity Index (PI) of 15 or less, and not contain recycled asphalt concrete where it will be used within the under building areas. Since the site has variable expansive soil conditions, soils with PI's up to 30 could be considered provided the foundations and improvements are designed for the higher PI materials. Each potential import source should be reviewed on a case by case basis. To prevent significant caving during trenching or foundation construction, imported material should have sufficient fines. Samples of potential import sources should be delivered to our office at least 10 days prior to the desired import start date. Information regarding the import source should be provided, such as any site geotechnical reports. If the material will be derived from an excavation rather than a stockpile, potholes will likely be required to collect samples from throughout the depth of the planned cut that will be imported. At a minimum, laboratory testing will include PI tests. Material data sheets for select fill materials (Class 2 aggregate base, ¾-inch crushed rock, quarry fines, etc.) listing current laboratory testing data (not older than 6 months from the import date) may be provided for our review without providing a sample. If current data is not available, specification testing will need to be completed prior to approval.

Environmental and soil corrosion characterization should also be considered by the project team prior to acceptance. Suitable environmental laboratory data to the planned import quantity should be provided to the project environmental consultant; additional laboratory testing may be required based on the project environmental consultant's review. The potential import source should also not be more corrosive than the on-site soils, based on pH, saturated resistivity, and soluble sulfate and chloride testing.

### 8.8 COMPACTION REQUIREMENTS

All fills, and subgrade areas where fill, slabs-on-grade, and pavements are planned, should be placed in loose lifts 8 inches thick or less and compacted in accordance with ASTM D1557 (latest version) requirements as shown in the table below. In general, clayey soils should be compacted with sheepsfoot equipment and sandy/gravelly soils with vibratory equipment; open-graded materials such as crushed rock should be placed in lifts no thicker than 18 inches consolidated in place with vibratory equipment. Each lift of fill and all subgrade should be firm and unyielding under construction equipment loading in addition to meeting the compaction requirements to be approved. The contractor (with input from a Cornerstone representative) should evaluate the in-situ moisture conditions, as the use of vibratory equipment on soils with high moistures can cause unstable conditions. General recommendations for soil stabilization are provided in the "Subgrade Stabilization Measures" section of this report. Where the soil's Pl is 20 or greater, the expansive soil criteria should be used.

### Table 9: Compaction Requirements

Description	Material Description	Minimum Relative <sup>1</sup> Compaction (percent)	Moisture Content (percent)
General Fill	On-Site Expansive Soils	87 – 92	>3
(within upper 5 feet)	Low Expansion Soils	90	>1
General Fill	On-Site Expansive Soils	93	>3
(below a depth of 5 feet)	Low Expansion Soils	93	>2
Trench Backfill	On-Site Expansive Soils	87 – 92	>3
Trench Backfill	Low Expansion Soils	90	>1
Trench Backfill (upper 6 inches of subgrade)	On-Site Low Expansion Soils	95	>1
Crushed Rock Fill	¾-inch Clean Crushed Rock	Consolidate In-Place	NA
Non-Expansive Fill	Imported Non-Expansive Fill	90	Optimum
Flatwork Subgrade	On-Site Expansive Soils	87 - 92	>3
Flatwork Subgrade	Low Expansion Soils	90	>1
Flatwork Aggregate Base	Class 2 Aggregate Base <sup>3</sup>	90	Optimum
Pavement Subgrade	On-Site Expansive Soils	87 - 92	>3
Pavement Subgrade	Low Expansion Soils	95	>1
Pavement Aggregate Base	Class 2 Aggregate Base <sup>3</sup>	95	Optimun
Asphalt Concrete	Asphalt Concrete	95 (Marshall)	NA

- 1 Relative compaction based on maximum density determined by ASTM D1557 (latest version)
   2 Moisture content based on optimum moisture content determined by ASTM D1557 (latest version)
- 3 Class 2 aggregate base shall conform to Caltrans Standard Specifications, latest edition, except that the relative
- compaction should be determined by ASTM D1557 (latest version)

### 8.8.1 Construction Moisture Conditioning

Expansive soils can undergo significant volume change when dried then wetted. The contractor should keep all exposed expansive soil subgrade (and also trench excavation side walls) moist until protected by overlying improvements (or trenches are backfilled). If expansive soils are allowed to dry out significantly, re-moisture conditioning may require several days of re-wetting (flooding is not recommended), or deep scarification, moisture conditioning, and re-compaction.

### 8.8.2 Shrinkage and Swell

We understand that the average shrinkage factors for the general site may be required for construction as large amounts of material will be moved from each Phase to accommodate the grading plans. We have made preliminary estimates of shrinkage values based on comparing in-situ densities to the anticipated as-compacted densities from laboratory compaction tests. It is noted that a limited amount of data was available and actual shrinkage/swell values may vary from our estimates. We have summarized the conceptual shrinkage factors in the table below.

### **Table 10: Shrinkage Factors**

Type of Soil	Estimated Shrinkage Factor Range	Recommended for Earthwork Estimates
Bedrock (cuts =15 ft)	8 – 13%	10%
Bedrock (cuts >15 ft)	0% - 6%	4%
Soil/Fill/Colluvium	7% - 20%	12%

These estimates should be considered as approximate and will vary depending on the compaction equipment used, amount of effort, variations in in-situ densities, rock types, soil types, etc. Therefore, we recommend that these estimates be further evaluated in the field at the time of construction and some contingency be left in the plans to adjust for the actual values measured in the field. Additionally, we recommend that experienced grading contractors be contacted to provide their estimates of the shrinkage factor range based on their experience in the vicinity of the site for comparison to our estimates. The grading contractor is responsible for determining the actual shrinkage based on load count, surveying, etc.

### 8.9 TRENCH BACKFILL

Utility lines constructed within public right-of-way should be trenched, bedded and shaded, and backfilled in accordance with the local or governing jurisdictional requirements. Utility lines in private improvement areas should be constructed in accordance with the following requirements unless superseded by other governing requirements.

All utility lines should be bedded and shaded to at least 6 inches over the top of the lines with crushed rock (? -inch-diameter or greater) or well-graded sand and gravel materials conforming to the pipe manufacturer's requirements. Open-graded shading materials should be consolidated in place with vibratory equipment and well-graded materials should be compacted to at least 90 percent relative compaction with vibratory equipment prior to placing subsequent backfill materials.

General backfill over shading materials may consist of on-site native materials provided they meet the requirements in the "Material for Fill" section, and are moisture conditioned and compacted in accordance with the requirements in the "Compaction" section.

Where utility lines will cross perpendicular to strip footings, the footing should be deepened to encase the utility line, providing sleeves or flexible cushions to protect the pipes from anticipated foundation settlement, or the utility lines should be backfilled to the bottom of footing with sand-cement slurry or lean concrete. Where utility lines will parallel footings and will extend below the "foundation plane of influence," an imaginary 1:1 plane projected down from the bottom edge of the footing, either the footing will need to be deepened so that the pipe is above the foundation plane of influence or the utility trench will need to be backfilled with sand-cement slurry or lean concrete within the influence zone. Sand-cement slurry used within foundation influence zones should have a minimum compressive strength of 75 psi.

On expansive soils sites or hillside sites it is desirable to reduce the potential for water migration into building and pavement areas through the granular shading materials. We recommend that a plug of low-permeability clay soil, sand-cement slurry, or lean concrete be placed within trenches just outside where the trenches pass into building and pavement areas.

### 8.10 PERMANENT CUT AND FILL SLOPES

We understand the proposed fill slopes will be at a maximum of 2:1 (horizontal:vertical) as presented in our preliminary report. Several of these slopes will need to over-excavated and rebuilt as engineered fill slopes. Mitigation plans showing the locations to over-excavate are shown on Figure 8A and 8B. All permanent cut and fill slopes in soil should have a maximum inclination of 2:1 (horizontal:vertical). Our engineering geologist should review all bedrock cut slopes at the time of construction. If adverse conditions are observed, then the slope should be over-excavated and rebuilt as an engineered fill slope. Fill slopes should be overbuilt and trimmed back, exposing engineered fill when complete. Refer to the "Erosion Control" section of this report for a discussion regarding protection of slope surfaces.

(Continued on Sheet GeoMitigation-13)

The undersigned Geotechnical Engineer has performed a geotechnical investigation at the site including performing field investigation, laboratory testing, engineering analysis, and report preparation as described in the September 8, 2014 report by Cornerstone Earth Group, Inc. for the project. The geotechnical aspects of these plan sheets have been prepared and reviewed by the undersigned Geotechnical Engineer and are based upon Limitations described in the Geotechnical Investigation report. These plans are not a stand-alone document and should be considered as part of the geotechnical investigation report. The geotechnical design aspects in these plans are contingent upon a Geotechnical Engineer and Engineering Geologist observing certain aspects of the project grading. These plans are subject to modification and revision during construction based on the field conditions encountered.



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Specifications

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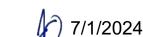
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#### STRUCTURAL GEOGRID REINFORCEMENT MATERIAL (Geogrid) SPECIFICATIONS

#### DESCRIPTION

GENERAL. This item includes furnishing and installing structural geogrid reinforcement material for embankment-in-place construction, as shown on the plans and discussed in the project geotechnical report. Structural geogrid reinforcement material shall be used only as shown on the plans or as directed by the Engineer. Earthwork recommendations are presented in the geotechnical report titled "Design-level Geologic and Geotechnical Investigation, Communications Hill - Phase 2, San Jose, California," dated September 8, 2014 by Cornerstone Earth Group.

Geotextile materials will not be considered as an alternative to geogrid material. Polyester Geogrids, whether coasted or uncoated, will not be acceptable for use in calcareous, alkaline or highly acidic environments, including lime-treated or cement-treated soils, crushed limerock, or soils potentially exposed to leachate from cement, lime or de-icing salts. In no case shall polyester geogrids be used in soils with a pH > 9.

**SUBMITTAL DATA.** The Contractor shall submit to the Engineer a minimum one square foot sample of the structural geogrid reinforcement material proposed for use. Submittal shall be accompanied by manufacturer's written warranty against defects in materials and workmanship and written affidavit as to the physical properties of the fabric test results from an independent testing laboratory in accordance with referenced testing procedures. The submittal shall also include the manufacturer's instructions for storage, handling, installation, general recommendations and all other additional information required by the Engineer. All submittals shall be made to the Engineer a minimum of twenty-eight (28) calendar days prior to the start of geogrid reinforcement material placement.

**SERVICE CONDITIONS.** The structural geogrid reinforcement material shall be installed beneath a thickness of embankment-in-place fill material as defined in the project plans and specifications. Details for geogrid fill thickness, reinforcement location and associated details shall be as shown on the plans.

### Work for this item shall consist of:

- Providing a structural geogrid reinforcement material supplier representative for a
- pre-construction conference with the Contractor and the Engineer.
- Furnishing structural geogrid reinforcement material as specified herein and shown on the plans. Storing, cutting, and placing geogrids in accordance with these specifications and in close conformity with the lines, grades, and dimensions shown on the plans and as directed by the
- Implementing of the Contractor Quality Control Program.

The structural geogrid reinforcement material shall accept applied force in use by positive mechanical interlock with: (a) compacted soil or fill materials; (b) contiguous sections of itself when overlapped and embedded in compacted soil or fill materials; and (c) rigid mechanical connectors such as bodkins, pins or hooks. The structural geogrid shall possess sufficient cross sectional profile to present a substantial abutment interface to compacted soil or particulate fill materials and to resist movement relative to such materials when subject to applied force. The structural geogrid shall possess sufficient true initial modulus to cause applied force to be transferred to the geogrid at low strain levels without geogrid material deformation. The structural geogrid shall possess complete continuity of all properties throughout its structure and shall be suitable for reinforcement of compacted soil and embankment-in-place fill materials.

MATERIAL CONFIGURATION SPECIFICATIONS. A certificate of compliance shall be furnished to the Engineer of the Specifications a minimum of four weeks prior to placement of structural geogrid reinforcement material. The Certificate of Compliance shall be prepared and signed by a representative of the manufacturer who is a California-registered Civil Engineer.

Structural geogrid reinforcement material shall be designed for use in subsurface geotechnical slope reinforcement applications. Structural geogrid reinforcement material shall be configured as a geogrid material. Geogrid shall have a regular and defined open area. Geogrid shall obtain pullout resistance from the soil by a combination of soils shearing friction on the plane surfaces parallel to the direction of shearing and soils bearing on transverse grid surfaces normal to the direction of grid movement. The percentage of the open area for geogrids shall range from 50 to 90 percent of the total projection of a section of the material.

Structural geogrid reinforcement material shall meet the following requirements:

1. Long Term Design Strength (LTDS) for structural geogrid reinforcement material shall be determined by Geosynthetic Research Institute (GRI) Test Methods. LTDS for geogrid reinforcement and geotextile reinforcement shall be determined by Standard Practice GRI GG4 (a) and (b). respectively. These values are minimum average roll values. Long Term Design Strength is the strength of the geogrid or the geotextile calculated by applying all partial factors of safety in accordance with GRI Standard Practice 004 (a) and (b) except that the product of the partial factors of safety for installation damage (based on a soil gradation possessing a 050 between 2.36 and 4.75 mm), chemical degradation, and biological degradation of less than 1.30 shall not be allowed. The factor of safety for creep deformation shall be determined for a 75-year design life as determined by GRI 004 (a) and (b) for geogrids. The 75-year design life strength is determined from the creep curve that becomes asymptotic to a constant strain line of 10 percent or less. In the absence of specific test data, the partial factor of safety default values (installation damage, creep deformation, chemical degradation, biological degradation, and joint) as indicated in the Standard Practice GRI 0 0 4 (a) and (b) shall be applied to the calculations of the LTDS.

2. Structural geogrid reinforcement material shall be resistant to naturally occurring alkaline and acidic soil conditions, and to attack by bacteria. All test results used in the calculations of the LTDS shall be submitted to the Engineer no less than 4 weeks prior to placement of the structural geogrid reinforced embankment. All test results, which contribute to the calculations of the LTDS, shall be prepared and signed by a California-registered Civil Engineer.

### MATERIALS

The structural geogrid reinforcement material shall be an integrally formed grid structure manufactured of a stress resistant high-density polyethylene (HDPE) or high tenacity polyester yarn encapsulated. The structural geogrid reinforcement material installed under this Specification shall exhibit the properties identified discussed below. In general the structural geogrid reinforcement material shall be Miragrid 10XT or approved equal. The geogrid shall be made in America.

### High Density Polyethylene

Structural geogrid reinforcement material consisting of high-density polyethylene shall meet the following requirements:

- I. Be manufactured from high-density polyethylene (HDPE), which conforms to ASTM Method D
- 2. Shall have a Long Term Design Strength (LTDS) in the primary strength direction greater than or equal to 5,200 lbs. per foot.

### High Tenacity Polyester Encapsulated

Structural geogrid reinforcement material consisting of high tenacity polyester yarn shall meet the following requirements:

- I. Be manufactured from high tenacity polyester yarn as determined by ASTM Designation: D 629. In addition to meeting the requirements for geosynthetic, geogrid shall be encapsulated in an acrylic latex, PVC, polymer or similar coating.
- 2. Shall have a LTDS in the primary strength direction greater than or equal 5,200 lbs. per foot.

Additionally, the structural geogrid reinforcement material shall be specifically compounded to be stable under exposure to ultraviolet light for sufficient periods of time to assure proper installation of the fabric. The Contractor shall submit shop drawings or manufacturer's cut sheets for the geogrid material that will be used to the Engineer for approval prior to use.

#### CONSTRUCTION METHODS

DELIVERY AND STORAGE. Structural Geogrid Reinforcement materials shall be delivered to the jobsite in roll form with each roll individually identified and in original, unopened roll packaging. The delivery process shall protect the materials fi om abrasion and ultraviolet exposure. The material shall be handled and stored in accordance with manufacturer's recommendations. **INSTALLATION**. The subgrade soil shall be prepared as indicated on the Plans and as directed by the Engineer. Subgrade soil shall be excavated to the lines and grades as shown on the Plans and as directed by the Engineer. Over- excavated areas shall be filled with compacted embankment-in-place fill material or subgrade stabilization material as specified in the project specifications and geotechnical report.

Structural geogrid reinforcement material shall be laid at the proper elevation and orientation as shown on the Plans and as directed by the Engineer. Correct orientation (roll direction) of the material shall be verified by the Contractor. Structural geogrid reinforcement material may be temporarily secured in place with staples, pins, sand bags, or backfill as required by fill properties, fill placement procedures, or weather conditions, or as directed by the Engineer.

Structural geogrid reinforcement material shall be connected/spliced as required to provide continuity of tensile resistance. Geogrids manufactured using polyolefins (e.g., HDPE) shall be connected with a mechanical polymer bar. structural geogrid reinforcement material manufactured of polyester shall be connected by sewing with Kevlar<sup>1M</sup> sewing thread perpendicular to the direction of loading at the ends of the materials.

Overlap connections may be used if the Contractor provides the Engineer independent test documentation which demonstrates that the load/deformation characteristics of the overlap of the structural geogrid reinforcement material is equal to or exceeds those of the geogrid. The minimum overlap shall be five (5) feet.

Embankment-in-place material shall be placed in lifts and compacted as directed the project specifications and geotechnical report. Embankment-in-place shall be placed, spread, and compacted in such a manner that minimizes the development of wrinkles and minimizes the movement of the structural geogrid reinforcement material.

Tracked construction equipment shall not be operated directly on the geogrid material. A minimum fill thickness of six (6) inches is required prior to operation of tracked vehicles over the geogrid material. Keep turning of tracked vehicles to a minimum to prevent tracks from displacing the fill and damaging the geogrid. Rubber-tired equipment may pass over polyolefin structural geogrid reinforcement material at slow speeds, less than 10 mph. Sudden braking and sharp turning shall be avoided. Rubber-tired equipment shall not pass over polyester geogrid reinforcement. A minimum fill thickness of six (6) inches is required prior to operation of rubber-tired equipment over polyester geogrid reinforcement.

Any geogrid material damaged during delivery or installation shall be replaced by the Contractor at the Contractor's sole expense.

Coated geogrids shall not be used if the coating is tom, shedding, cracked, punctured, flawed or cut, unless a repair procedure is carried out as accepted by the Engineer. The repair procedure shall include placing a suitable patch over the defective area or applying a coating solution identical to the original coating and conform to manufacturer's recommendations for making such repairs.

#### METHOD OF MEASUREMENT

Structural geogrid reinforcement material will be measured on the basis of the number of square yards completed as measured in place by the Engineer. The quantity of structural geogrid reinforcement material shall be bid on the basis of Plan quantities per square yard. The in-place measured quantity will not include material for repair of tears nor for material used at overlaps and joints.

### BASIS OF PAYMENT

Payment for structural geogrid reinforcement material shall be made as specified by the developer. The price bid shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete structural geogrid reinforcement material installation.

### CORNERSTONE CONSTRUCTION OBSERVATION

As site conditions may vary significantly between the small-diameter borings performed during the geotechnical investigation, we also recommend that a Cornerstone representative be present to provide geotechnical observation and testing during earthwork and foundation construction. This will allow us to form an opinion and prepare a letter at the end of construction regarding contractor compliance with project plans and specifications, and with the recommendations in our report. We will also be allowed to evaluate any conditions differing from those encountered during our investigation, and provide supplemental recommendations as necessary. For these reasons, the recommendations in this report are contingent of Cornerstone providing observation and testing during construction. If we will not be observing and testing, Cornerstone will cease to be the Geotechnical Engineer of Record for the project. Contractors should provide at least a 48-hour notice when scheduling our field personnel.

### **ESTIMATED GEOGRID QUANTITY**

The estimated quantities were determined by measuring the depth and width of the proposed geogrid reinforcement on the mitigation cross sections and plan views. No additional quantity was made for overlap. Overlap will be required during installation and should be determined in the field. We have provided a contingency line item of 10% to account for potential overlap. The actual amount of overlap may vary and should be determined during construction. The earthwork contractor should provide a unit price to add/deduct geogrid quantities to the estimated geogrid quantity presented in this plan.

The undersigned Geotechnical Engineer has performed a geotechnical investigation at the site including performing field investigation, laboratory testing, engineering analysis, and report preparation as described in the September 8, 2014 report by Cornerstone Earth Group, Inc. for the project. The geotechnical aspects of these plan sheets have been prepared and reviewed by the undersigned Geotechnical Engineer and are based upon Limitations described in the Geotechnical Investigation report. These plans are not a stand-alone document and should be considered as part of the geotechnical investigation report. The geotechnical design aspects in these plans are contingent upon a Geotechnical Engineer and Engineering Geologist observing certain aspects of the project grading. These plans are subject to modification and revision during construction based on the field conditions encountered.



John R. Dye, P.E., G.E.



Craig Harwood, P.G., C.E.G.





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# **COMMUNICATIONS HILL - PHASE 3** MINE HAZARD MITIGATION

### PURPOSE AND SCOPE OF WORK

- THE PURPOSE OF THIS PROJECT IS TO MITIGATE AN EXISTING UNDERGROUND MINE HAZARD. THE WORK INCLUDES PARTIAL MINE TUNNEL REMOVAL BY GEOTECHNICAL OVER-EXCAVATION. AND PARTIAL MINE TUNNEL BACKFILL. THE WORK SEQUENCE, TECHNIQUES AND DETAILS INCLUDED ON THESE DRAWINGS ARE BASED ON INFORMATION PROVIDED BY OTHERS THAT THE EXISTING MINE TUNNELS CAN BE SAFELY ACCESSED BY AN EXPERIENCED AND QUALIFIED
- THE WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:
  - EXCAVATION TO ESTABLISH AN ALTERNATE MINE ACCESS POINT.
- DE-WATERING THE FLOODED LOWER PORTION OF MINE WORKINGS
- CONTAINMENT AND TREATMENT OF WATER PUMPED OUT OF MINE WORKINGS.
- DRILLING VERTICAL BOREHOLES AND INSTALLING CASINGS IN BOREHOLES TO ACCOMMODATE MINE BACKFILL.
- CONSTRUCTION OF BULKHEADS TO CONTAIN MINE BACKFILL MATERIAL AS NEEDED.
- BACKFILLING MINE WORKINGS WITH LOW DENSITY CELLULAR CONCRETE (LCC).
- WHERE REFERRED TO ON THESE DRAWINGS, "ENGINEER" AND "TESTING AGENCY" MEANS CONDOR EARTH TECHNOLOGIES, INC. (CONDOR), CONDOR'S DESIGNATED REPRESENTATIVE OR ANOTHER QUALIFIED ENGINEER IN CHARGE OF THE WORK.
- 4. CONSTRUCTION PHASES:
- A. SITE ACCESS AND SURVEY BOREHOLE LOCATIONS
- B. DRILL VERTICAL BOREHOLES INTO LOWER MINE WORKINGS
- C. DE-WATER FLOODED MINE WORKINGS
- D. CONSTRUCT BULKHEADS AS NEEDED E. BACKFILL MINE WORKINGS WITH LCC

### **GENERAL NOTES**

- THE CONTRACTOR SHALL FURNISH NECESSARY LABOR, MATERIALS, SUPPLIES, AND EQUIPMENT FOR CONSTRUCTION OF THE IMPROVEMENTS SHOWN ON THESE DRAWINGS AND AS DESCRIBED IN RELATED CONTRACT DOCUMENTS.
- 2. THE OWNER SHALL CONTRACT SEPARATELY FOR REQUIRED CONSTRUCTION MONITORING AND MATERIALS TESTING. THE CONTRACTOR SHALL PROVIDE THE OWNER, ENGINEER AND TESTING AGENCY AT LEAST TWO WORKING DAYS NOTICE PRIOR TO COMMENCEMENT OF THE WORK.
- WORKMANSHIP AND MATERIALS FOR THE IMPROVEMENTS SHOWN ON THESE DRAWINGS SHALL CONFORM TO THE REQUIREMENTS OF THE 2013 CALIFORNIA BUILDING CODE (C.B.C.) AND THE REQUIREMENTS OF THE CITY OF SAN JOSE.
- 4. CONTRACTOR SHALL BE APPROPRIATELY LICENSED WITH THE STATE OF CALIFORNIA TO PERFORM THE WORK OUTLINED ON THESE DRAWINGS AND SHALL BE EXPERIENCED IN THESE TYPES OF WORK.
- 5. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE OWNER AND CONTRACTOR SHALL SECURE REQUIRED CONSTRUCTION PERMITS FROM CITY OF SAN JOSE AND OTHER AGENCIES AS NECESSARY. THE CONTRACTOR SHALL ALSO OBTAIN NECESSARY PERMITS FROM CAL/OSHA MINING AND TUNNELING UNIT AND ARRANGE THE REQUIRED PRE-JOB MEETING WITH CAL/OSHA. THE TUNNEL HAS BEEN CLASSIFIED BY CAL/OSHA AS "POTENTIALLY GASSY WITH SPECIAL CONDITIONS AND ASBESTOS".
- 6. CONTRACTOR SHALL CONTACT THE OWNER AND ENGINEER TO ARRANGE FOR A PRE-PROJECT CONFERENCE FOR THE PURPOSE OF REVIEWING JOB REQUIREMENTS.
- 7. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS FOR WORK SHOWN ON THESES DRAWINGS DURING THE COURSE OF CONSTRUCTION, INCLUDING SAFETY OF PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
- 8. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER, ENGINEER, AND TESTING AGENCY HARMLESS FROM LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT; EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER, ENGINEER, OR MATERIALS TESTING AGENCY.
- 9. THE WORK SHALL BE IN COMPLIANCE WITH APPLICABLE CAL OSHA SAFETY AND HEALTH REGULATIONS (CALIFORNIA CODE OF REGULATIONS, TITLE 8, CHAPTER 4 - LATEST EDITION).
- 10. THE CONTRACTOR SHALL VERIFY SITE CONDITIONS AND DIMENSIONS BEFORE STARTING WORK. SHOULD ANY CONTRACTOR OR SUBCONTRACTOR FIND DEFICIENCIES, ERRORS, CONFLICTS OR OMISSIONS IN THESE DRAWINGS AND SPECIFICATIONS OR SHOULD THERE BE DOUBT AS TO THEIR MEANING OR INTENT. THE CONTRACTOR SHALL NOTIFY CONDOR.
- 11. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. IF THERE IS A CONFLICT, NOTIFY THE ENGINEER TO OBTAIN A CLARIFICATION. NO DEVIATION OR SUBSTITUTION SHALL BE ALLOWED WITHOUT OBTAINING WRITTEN APPROVAL FROM CONDOR.
- 12. BOUNDARY LINES SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND FOR INFORMATIONAL PURPOSES ONLY.
- 13. THESE DRAWINGS ARE INTENDED TO SHOW SITE IMPROVEMENTS OUTSIDE OF THE LIMITS OF THE EXISTING AND NEW GRADE AND IMPROVEMENTS. THIS DESIGN INCLUDES, BUT IS NOT LIMITED TO, MITIGATING AN EXISTING UNDERGROUND MINE. OTHER SITE IMPROVEMENTS SHOWN ON THESE PLANS ARE SHOWN STRICTLY AS A REFERENCE.
- 14. ADDITIONAL PROVISIONS PROVIDED IN THE SPECIFICATIONS, BID AND CONTRACT DOCUMENTS ARE INCLUDED HEREIN BY REFERENCE.
- 15. THE CONTRACTOR SHALL PROVIDE WORKMAN'S COMPENSATION INSURANCE & LIABILITY INSURANCE.
- 16. ACCEPT NO INK OR PENCIL CORRECTIONS TO THESE DRAWINGS WITHOUT THE DESIGNER'S INITIAL OR SIGNATURE. CONDOR SHALL BE HELD HARMLESS FOR ALL CHANGES NOT IN CONFORMANCE WITH THIS PROVISION.
- 17. USERS OF THESE DRAWINGS AGREE BY USING THESE DRAWINGS TO HOLD CONDOR HARMLESS FOR DRAWING CONTENT AND WORK THAT DOES NOT CONFORM TO REQUIREMENTS AND MINIMUM STANDARDS OF THE RELEVANT BUILDING CODES, LOCAL ORDINANCES, AND ACCEPTABLE STANDARDS.
- 18. THESE DRAWINGS ARE THE PROPERTY OF CONDOR AND ARE NOT TO BE USED IN PART FOR ANY WORK OTHER THAN AT THE LOCATION SHOWN HEREIN.

- 19. CONDOR SHALL HAVE NO CONTROL OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES FOR ANY SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
- 20. CONDOR ASSUMES NO RESPONSIBILITY FOR THE PERFORMANCE OF PRODUCTS OR MATERIALS NOT SPECIFIED IN THESE DRAWINGS.
- 21. SPECIFICATIONS ARE STATED IN AN OUTLINE FORM. THE CONTRACTOR SHALL FURNISH ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION IN ACCORDANCE WITH GOOD TRADE PRACTICE.
- 22. FADED BACKGROUND REPRESENTS EXISTING TOPOGRAPHIC AND PROPOSED SITE FEATURES PROVIDED BY HMH: FILE 20200116 363681 MINE TOPO.DWG, DATED JANUARY 16, 2020.
- 23. THE FOLLOWING REPORTS AND DATA CONTAINED THEREIN HAVE BEEN USED AS A BASIS FOR THE
- DESIGN.

GEOTECHNICAL ENGINEERING STUDY, BY CORNERSTONE EARTH GROUP, DATED SEPTEMBER 8,

- MINE BACKFILL WORK PLAN, BY SRK CONSULTING, DATED APRIL 28, 2014.
- COMMUNICATIONS HILL PHASE 3 MASS GRADING PLAN, BY HMH, DATED JANUARY 16, 2020.
- MINE HAZARD MITIGATION PLAN, BY CONDOR EARTH, DATED AUGUST 7, 2020.

### **ENVIRONMENTAL PROTECTION**

- DURING THE LIFE OF THE WORK, ENVIRONMENTAL PROTECTION SHALL BE PROVIDED AND MAINTAINED TO CONTROL POLLUTION THAT MAY DEVELOP DURING THE NORMAL CONSTRUCTION PRACTICE.
- 2. OILY OR OTHER HAZARDOUS SUBSTANCES SHALL BE PREVENTED FROM ENTERING THE GROUND, DRAINAGE AREAS, OR LOCAL BODIES OF WATER. TEMPORARY FUEL, OIL OR PETROLEUM STORAGE TANKS SHALL BE SURROUNDED WITH A SUITABLE CONTAINMENT OF SUFFICIENT SIZE AND STRENGTH TO CONTAIN THE CONTENTS OF THE TANKS IN THE EVENT OF LEAKAGE OR SPILLAGE. THE OWNER SHALL APPROVE SUCH CONTAINMENTS.
- 3. AREAS SHALL BE MANAGED AND RECLAIMED TO PREVENT SEDIMENT FROM ENTERING THE NEARBY SURFACE DRAINAGES.
- WASTES SHALL BE PICKED UP, CONTROLLED, AND DISPOSED OFF SITE. FOOD SHALL NOT BE PREPARED COOKED, OR DISPOSED ON THE PROJECT SITE. CONTAMINATION OF THE SITE OR OTHER AREAS SHALL BE PREVENTED WHEN HANDLING AND DISPOSING OF WASTES. UPON COMPLETION OF WORK, THE SITE SHALL BE LEFT CLEAN.
- 5. CHEMICAL TOILETS OR COMPARABLY EFFECTIVE UNITS SHALL BE PROVIDED FOR THE WORKERS.
- 6. THE FUELING AND LUBRICATING OF EQUIPMENT AND MOTOR VEHICLES SHALL BE CONDUCTED IN A MANNER TO PROTECT AGAINST SPILLS AND EVAPORATION. LUBRICANTS TO BE DISCARDED AND EXCESS OIL SHALL BE DISPOSED OFF-SITE.

### **INSPECTIONS**

- CONDOR, CONDOR'S QUALIFIED REPRESENTATIVE, OR A TESTING AGENCY APPROVED BY CONDOR SHALL PERFORM OBSERVATIONS AND SPECIAL INSPECTIONS FOR THE TUNNELS, AND OTHER ELEMENTS AS NOTED ON THE DRAWINGS AND SPECIFICATIONS.
- 2. OBSERVATION, SPECIAL INSPECTION AND TESTING REPORTS SHALL BE KEPT ON FILE AT THE JOBSITE FOR CITY REVIEW DURING CONSTRUCTION AND SHALL BE SUBMITTED TO THE CITY OF SAN JOSE DEPARTMENT OF PUBLIC WORKS UPON PROJECT COMPLETION.
- 3. SEE INSPECTIONS TABLE BELOW.

### **INSPECTIONS TABLE:**

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"TYPE" (INSPECTION / TEST) BLANK IF NOT REQUIRED	"DESCRIPTION" (PERIODIC / CONTINUOUS) INSPECTION OR TEST FREQUENCY	GOVERNING CODE FOR SPECIAL INSPECTIONS	NOTES
INSPECTION	PERIODIC		DESIGN REQUIREMENT
INSPECTION	CONTINUOUS	ACI 523	DESIGN REQUIREMENT
TESTS	4 CYLINDERS PER 50 CY OR MIN. 2 SETS OF 4 CYLINDERS PER DAY	ACI 523 ASTM C 495, ASTM C 796	DESIGN REQUIREMENT
	"TYPE" (INSPECTION / TEST) BLANK IF NOT REQUIRED  INSPECTION  INSPECTION  INSPECTION  INSPECTION  INSPECTION	"TYPE" (INSPECTION / TEST) BLANK IF NOT REQUIRED  INSPECTION  INSPECTION  INSPECTION  INSPECTION  CONTINUOUS  INSPECTION  CONTINUOUS	"TYPE" (INSPECTION / TEST) BLANK IF NOT REQUIRED  INSPECTION  INSPECTION  INSPECTION  INSPECTION  CONTINUOUS  ACI 523  TESTS  4 CYLINDERS PER 50 CY OR MIN. 2 SETS OF 4  ASTM C 495, ASTM C

### **Drawing Index**

Sht. No.

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### 1.0 **COVER SHEET AND NOTES** 1.1 OVERALL MINE PLAN 2.1 PLAN AND PROFILE - MINE HAULAGE ALTERNATE MINE ACCESS PLAN AND PROFILE MINE BACKFILL PLAN

MINE BACKFILL PROFILES

DETAILS

#### PROJECT SITE: **COMMUNICATIONS HILL** SANTA CLARA COUNTY

SAN JOSE, CALIFORNIA

**PREPARED BY: CONDOR EARTH 21663 BRIAN LANE SONORA, CALIFORNIA 95370** SCOTT LEWIS, CEG (209) 536-7370 slewis@condorearth.com

CONC

ELEC ELECTRICAL

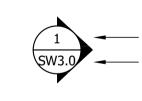
ES EACH SIDE

EW EACH WAY

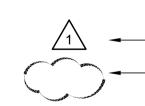
ETW EDGE OF TRAVELED WAY

# **SAN JOSE APPROXIMATE** SITE LOCATION LAT: 37.2884 LONG:-121.8586 NORTH **Vicinity Map** Scale: 1" = 2,000

### **SYMBOLS**



SECTION AND ELEVATION SECTION/ELEVATION/DETAIL IDENTIFICATION SECTION/ELEVATION/DETAIL LOCATION



REVISION AREA OF REVISION

			ABBREVIATIONS:		
AGGREGATE	BASE ROCK	FDR	FULL DEPTH RECLAMATION	P.T.	POINT OF TANGENCY
ASPHALTIC	CONCRETE	FF	FINISH FLOOR GRADE	PRF	PAVEMENT REINFORCING FABRIC
AREA DRAII	N	FG	FINISH GRADE	PSI	POUNDS PER SQUARE INCH
AVERAGE		FL	FLOW LINE	PVC	POLYVINYL CHLORIDE PIPE
BARREL		FOC	FACE OF CONCRETE	P.W.	PROCESS WASTE
воттом оғ	FOOTING	FS	FINISH SURFACE	R	RADIUS
BEGIN HOR	IZONTAL CURVE	FRC	FIBER REINFORCED CONCRETE	RCP	REINFORCED CONC. PIPE
BOTTOM OF	KEY	FRS	FIBER REINFORCED SHOTCRETE	S	SLOPE
воттом ог	WALL	FT	FOOT	SCH	SCHEDULE
CONTROLLE	D DENSITY FILL	GB	GRADE BREAK	SD	STORM DRAIN
CAST-IN-F	PLACE	GAL	GALLON	SF	SQUARE FEET
CORRUGATE	D PLASTIC PIPE	HMA	HOT MIX ASPHALT	SG	SUBGRADE
CENTER LIN	NE	INV	INVERT	SS	SANITARY SEWER
CORRUGATE	D METAL PIPE	IN	INCH	SAD	SEE ARCHITECTURAL DOCUMENTS
CORRUGATE	D PLASTIC PIPE	ID	INSIDE DIAMETER	SCD	SEE CIVIL DOCUMENTS
CONCRETE		LBS	POUNDS	SLD	SEE LANDSCAPE DOCUMENTS
CUBIC YAR	D	LCC	LOW DENSITY CELLULAR CONCRETE	SMD	SEE MECHANICAL DOCUMENTS
DROP INLE	Т	LF	LINEAR FEET	SSD	SEE STRUCTURAL DOCUMENTS
DIAMETER		MAX	MAXIMUM	STA	STATION
DIAMETER		MH	MANHOLE	SWPPP	STORM WATER POLLUTION PREVENTION
DESIGN LO	AD	MIN	MINIMUM		PLAN
EXISTING		(N)	NEW	TC	TOP OF CONCRETE
EACH FACE	:	OC	ON CENTER	TBD	TO BE DETERMINED
EXISTING G	ROUND	(P)	PROPOSED	TF	TOP OF FOOTING
END HORIZ	ONTAL CURVE	P.Ć.	POINT OF CURVATURE	TYP	TYPICAL
ELEVATION		P.C.C.	POINT OF COMPOUND CURVATURE	TW	TOP OF WALL
ELECTRICAL		P.I.	POINT OF INTERSECTION	U.N.O.	UNLESS NOTED OTHERWISE
			ı	—	

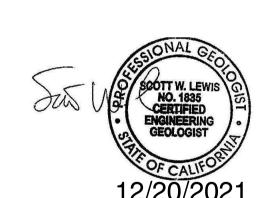
PROTECT IN PLACE

PLATE OR PROPERTY LINE

P.R.C. POINT OF REVERSE CURVATURE

V.I.F. VERIFY IN FIELD

WWF WELDED WIRE FABRIC



SWL FOR RESUBMITTAL 12.10.2020 SWL FOR PERMITTING DATE BY DESCRIPTION

KB HOMES SOUTH BAY, INC.

**COMMUNICATIONS HILL PHASE 3** 

COVER SHEET AND NOTES



7/1/2024

**CONDOR EARTH** 21663 Brian Lane P.O. Box 3905 Sonora, CA 95370 (209) 532-0361

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DRAWN: K.G. McKINLEY SCALE: AS SHOWN CHECKED: S.W. LEWIS FILE:

### **EARTHWORK**

- EXCAVATION WILL BE REQUIRED TO EXPOSE A PORTION OF THE KNOWN MINE WORKINGS AND ESTABLISH AN ALTERNATE MINE ACCESS POINT, AS SHOWN ON SHEET 2.2.
- CUTSLOPES SHOWN ON SHEET 2.2 ARE CONCEPTUAL AND FOR ILLUSTRATION PURPOSES ONLY.
- EXCAVATION SPOILS MAY REMAIN ON SITE.
- CONTRACTOR MAY ASSUME THAT NATIVE GROUND IS RIPPABLE (APPROXIMATE UNCONFINED COMPRESSIVE STRENGTH: 1,000 TO 5,000 PSI). USE OF A HYDRAULIC HAMMER MAY BE REQUIRED. BLASTING WILL NOT BE REQUIRED.
- CONTRACTOR IS RESPONSIBLE FOR PERFORMING AND MAINTAINING THE EXCAVATION IN ACCORDANCE WITH APPLICABLE CAL/OSHA SAFETY REGULATIONS.
- THE EXTENT OF THE EXCAVATION SHALL NOT EXCEED THE MINIMUM AMOUNT REQUIRED TO ACCOMMODATE SAFE, RELIABLE ACCESS INTO THE MINE WORKINGS. CONDOR WILL BE ON SITE TO VERIFY THE LIMITS OF THE EXCAVATION.
- CLEARING AND GRUBBING OF EXISTING VEGETATION MAY BE REQUIRED. ORGANIC DEBRIS MAY BE LEFT ON SITE IN A SEPARATE STOCKPILE FROM THE EXCAVATION SPOILS.
- GRADING ABOVE THE LCC-BACKFILLED MINE WORKINGS SHALL BE PERFORMED BY OTHERS IN ACCORDANCE WITH THE GEOTECHNICAL MITIGATION PLANS. SUCH GRADING SHALL NOT COMMENCE BEFORE COMPRESSIVE STRENGTH OF THE LCC REACHES AT LEAST 80 PSI OR AT LEAST 28 DAYS AFTER LCC BACKFILLING IS COMPLETED, WHICHEVER OCCURS FIRST.

### LOW DENSITY CELLULAR CONCRETE

- 1.1 DESCRIPTION
- 1.1.1 WORK INCLUDED: PROVIDE LOW DENSITY CELLULAR CONCRETE (CELLULAR CONCRETE OR LCC) AS ENGINEERED FILL FOR THE MINE TUNNEL ABANDONMENT, AS SHOWN ON THESE DRAWINGS, AS SPECIFIED HEREIN, AND AS NEEDED FOR A COMPLETE AND PROPER INSTALLATION. THE LOW DENSITY FILL FLOWS VERY WELL TO PRODUCE A COMPLETE FILL WITHIN THE MINE TUNNEL.
- 1.1.2 CELLULAR CONCRETE FOR THIS APPLICATION IS DESIGNATED AS CLASS III, WITH CAST DENSITY OF 36-41 PCF AND MINIMUM COMPRESSIVE STRENGTH OF 80 PSI AT 28 DAYS.
- 1.2 QUALITY ASSURANCE
- 1.2.1 THE CELLULAR CONCRETE APPLICATOR SHALL BE APPROVED BY THE FOAM AGENT MANUFACTURER. USE SKILLED WORKMEN WHO ARE EXPERIENCED AND FAMILIAR WITH THE REQUIREMENTS AND THE METHODS FOR PROPER PERFORMANCE OF THIS WORK. THE CONTRACTOR'S REPRESENTATIVE SHALL BE EXPERIENCED IN THE PLACEMENT OF CELLULAR CONCRETE AND SHALL BE ON SITE FULL-TIME DURING PLACEMENT.
- 1.2.2 BATCHING, MIXING AND PLACING EQUIPMENT SHALL BE CAPABLE OF PRODUCING MATERIAL THAT MEETS THE REQUIREMENTS OF THIS SECTION.
- 1.2.3 THE ENGINEER SHALL OBSERVE AND MONITOR THE WORK, AND SHALL MAKE MODIFICATIONS TO THE WORK AS NEEDED, BASED ON THE ACTUAL CONDITIONS ENCOUNTERED.
- 1.3 SUBMITTALS
- 1.3.1 SUBMIT A MIX DESIGN THAT WILL PRODUCE A CAST DENSITY AT POINT OF PLACEMENT AND A MINIMUM COMPRESSIVE STRENGTH FOR THE CLASS DESCRIBED. INCLUDE LABORATORY DATA USING THE MIX DESIGN VERIFYING CAST DENSITY AND STRENGTH REQUIREMENTS.
- 1.3.2 SUBMIT A CELLULAR CONCRETE QUALITY CONTROL AND PLACEMENT PLAN FOR THE ENGINEER'S REVIEW AND ACCEPTANCE10 WORKING DAYS BEFORE PLACEMENT OF BACKFILL MATERIAL. PLACEMENT OF CELLULAR CONCRETE SHALL BE IN ACCORDANCE WITH THE INFORMATION PROVIDED IN THE QUALITY CONTROL PLAN. THE SUBMITTED PLAN SHALL PROVIDE, AS A MINIMUM, THE FOLLOWING ELEMENTS:
- a. AN ORGANIZATION CHART INCLUDING NAMES, TELEPHONE NUMBERS, CURRENT CERTIFICATIONS AND/OR TITLES, AND ROLES AND RESPONSIBILITIES OF ALL THOSE INVOLVED IN THE QUALITY CONTROL PROGRAM.
- THE PROCESS OF COMMUNICATION BY WHICH QUALITY CONTROL INFORMATION WILL BE DISSEMINATED TO THE APPROPRIATE PERSONS. INCLUDING MATERIALS SUPPLIERS AND THE
- WRITTEN EVIDENCE THAT CELLULAR CONCRETE INSTALLER IS CERTIFIED BY AND APPROVED BY THE FOAM AGENT MANUFACTURER
- d. LOCATION OF EQUIPMENT AND BATCHING AREAS.
- PROPOSED CONSTRUCTION SEQUENCE AND SCHEDULE.
- TYPE OF EQUIPMENT AND TOOLS TO BE USED.
- g. MATERIAL LIST OF ITEMS AND MANUFACTURER'S SPECIFICATIONS
- 2.1 MATERIALS
- 2.1.1 MATERIALS SHALL BE DELIVERED, STORED AND HANDLED PER RECOMMENDATIONS OF MANUFACTURERS.
- 2.1.2 FOAMING AGENT: THE FOAMING AGENT SHALL MEET ASTM C869 WHEN TESTED IN ACCORDANCE WITH ASTM C796-12. THE CELLULAR CONCRETE SHALL MEET THE PROPERTIES OF SECTION 1.1.2.
- 2.1.3 CEMENT: PORTLAND CEMENT MUST COMPLY WITH ASTM C 150, TYPES II/ V. POZZOLANS AND OTHER CEMENTITIOUS MATERIALS MAY BE USED WHEN APPROVED BY THE MANUFACTURER OF THE FOAMING AGENT. FLY ASH AND NATURAL POZZOLANS MUST COMPLY WITH ASTM C 618. GROUND GRANULATED BLAST FURNACE SLAG MUST COMPLY WITH ASTM C 989, GRADE 100 OR 120.
- 2.1.4 WATER: NON-POTABLE (RECYCLED) WATER MAY BE USED, BUT SHOULD BE TESTED FOR HARDNESS, pH, SUSPENDED SOLIDS, IRON ION, AND TOTAL SALT CONTENT PER ACI 523.IR-06...
- 2.1.5 ADMIXTURES: ADMIXTURES MAY BE USED WHEN SPECIFICALLY APPROVED BY THE MANUFACTURER OF THE FOAMING AGENT.
- 3.1 EXECUTION
- 3.1.1 PRIOR TO COMMENCING THE WORK, THE SUBMITTALS SHALL BE APPROVED BY THE ENGINEER AND A PRECONSTRUCTION CONFERENCE SHALL BE HELD AT THE SITE.
- 3.1.2 PREPARATION: THE INSTALLATION OF THE CELLULAR CONCRETE SHALL BE IN ACCORDANCE WITH THE QUALITY CONTROL AND PLACEMENT PLAN SPECIFIED IN SECTION 1.3.2. THE FILL AREA SHALL NOT HAVE STANDING WATER. ITEMS ENCASED IN THE FILL SHALL BE SET AND STABLE PRIOR TO INSTALLING THE CELLULAR CONCRETE.
- 3.1.3 INSTALLATION: CELLULAR CONCRETE SHALL BE A HOMOGENEOUS MIXTURE AND ALL MATERIALS SHALL BE APPROVED PRIOR TO USE.
- 3.1.4 CELLULAR CONCRETE MUST BE JOB SITE MIXED WITH FOAMING AGENT AND PLACED WITH EQUIPMENT SPECIALIZED FOR CELLULAR CONCRETE LIGHTWEIGHT MATERIAL. CEMENT AND WATER MAY BE PREMIXED AND DELIVERED TO THE JOB SITE AND FOAMING AGENT ADDED ON SITE. ONCE MIXED, THE CELLULAR CONCRETE SHALL BE CONVEYED PROMPTLY TO THE LOCATION OF PLACEMENT WITHOUT EXCESSIVE HANDLING.
- 3.1.5 CELLULAR CONCRETE LIFT THICKNESSES MUST NOT EXCEED 4 FEET.
- 3.1.6 A MINIMUM 12 HOUR CURING PERIOD BETWEEN LIFTS IS REQUIRED.
- 3.1.7 CELLULAR CONCRETE MUST NOT BE PLACED ON FROZEN GROUND. CELLULAR CONCRETE SHALL NOT BE PLACED IN WET GROUND CONDITION. DEWATERING IS NECESSARY WHERE GROUNDWATER IS PRESENT.
- 3.1.8 CELLULAR CONCRETE MUST NOT BE PLACED WHERE AMBIENT TEMPERATURE IN LOCATION OF PLACEMENT EXCEEDS 90 DEGREES FAHRENHEIT.
- 3.1.9 THE CONTRACTOR SHALL CONFORM TO ACI 305 AND ACI 306 FOR CELLULAR CONCRETE PLACEMENT DURING HOT AND COLD WEATHER RESPECTIVELY.
- 3.2 QUALITY CONTROL
- 3.2.1 SAMPLING: DURING PLACEMENT OF THE INITIAL BATCHES DURING EACH SHIFT, CHECK THE DENSITY AND ADJUST THE MIX TO OBTAIN THE SPECIFIED CAST DENSITY AT THE POINT OF PLACEMENT.

- 3.2.2 TESTING: TEST IN ACCORDANCE WITH ASTM C495 AND C796 EXCEPT DO NOT OVEN DRY LOAD TEST
- a. TEST SPECIMENS SHALL BE 3" DIAMETER X 6" HIGH CYLINDERS COVERED AFTER CASTING TO PREVENT DAMAGE AND LOSS OF MOISTURE. DURING MOLDING, PLACE THE CONCRETE IN 2 EQUAL LAYERS AND RAISE AND DROP THE CYLINDERS 1 INCH, 3 TIMES ON A HARD SURFACE OR LIGHTLY TAP THE SIDE OR BOTTOM OF THE CYLINDER TO CLOSE ANY ACCIDENTAL ENTRAINED AIR. NO RODDING IS ALLOWED.
- b. AT A MINIMUM, PREPARE A SET OF 4 TEST CYLINDERS PER SHIFT, SPECIMENS MUST BE COVERED AND PROTECTED IMMEDIATELY AFTER CASTING TO PREVENT DAMAGE AND LOSS OF MOISTURE. SPECIMENS SHOULD BE CURED IN THE MOLDS FOR UP TO 7 DAYS AND THEN REMOVED FROM THE MOLD AND MOIST CURED. STOP MOIST CURING SPECIMENS FROM 24 TO 72 HOURS BEFORE THE 28 DAY COMPRESSIVE STRENGTH TEST AND ALLOW TO AIR DRY.
- 4.1 ACCEPTANCE: THE CONTRACTOR SHALL RECTIFY ANY CELLULAR CONCRETE MATERIAL REJECTED BY THE ENGINEER THAT DOES NOT MEET THE MINIMUM REQUIRED MATERIAL PROPERTIES OR IS NOT INSTALLED IN ACCORDANCE WITH THIS SPECIFICATION. CORRECTIVE MEASURES ARE SUBJECT TO THE APPROVAL OF THE ENGINEER. ACCEPTED CORRECTED MEASURES WILL BE PERFORMED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER OR EXTENSION OF THE CONTRACT TIME.
- 4.2 PAYMENT: THE QUANTITY OF CELLULAR CONCRETE FOR WHICH PAYMENT WILL BE MADE WILL BE THE QUANTITY INSTALLED THAT IS ACCEPTABLY PLACED. THE ESTIMATED TOTAL VOLUME IN CY OF THE RESPECTIVE CLASSES OF CELLULAR CONCRETE PLACED WILL BE AS SHOWN ON SHEET 3.0 OF THESE DRAWINGS. PLUS OR MINUS CHANGES THAT HAVE BEEN MADE IN ACCORDANCE WITH A WRITTEN ORDER FROM THE ENGINEER BASED ON ACTUAL TUNNEL DIMENSIONS VERIFIED IN THE FIELD BY THE ENGINEER. THE ACTUAL VOLUME OF REQUIRED CELLULAR CONCRETE IS EXPECTED TO VARY FROM THE VOLUME ESTIMATED.
- 4.2.1 THE NET VOLUME OF CELLULAR CONCRETE, VERIFIED AS SPECIFIED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CY FOR EACH RESPECTIVE CLASS OF CELLULAR CONCRETE.
- 4.2.2 PAYMENT SHALL BE FULL COMPENSATION FOR PREPARATION OF WRITTEN SUBMITTALS, COORDINATION OF AND SCHEDULING OF CELLULAR CONCRETE PLACEMENT. SPECIALIZED EQUIPMENT TO MIX. TRANSPORT AND PLACE CELLULAR CONCRETE, GROUNDWATER CONTROL, PUMPING AND AIR RETURN PIPING, AND INCLUDE ASSOCIATED COSTS SUCH AS MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.



12.20.2021 SWL FOR RESUBMITTAL 12.10.2020 SWL FOR PERMITTING DATE BY DESCRIPTION

KB HOMES SOUTH BAY, INC.

**COMMUNICATIONS HILL PHASE 3** 

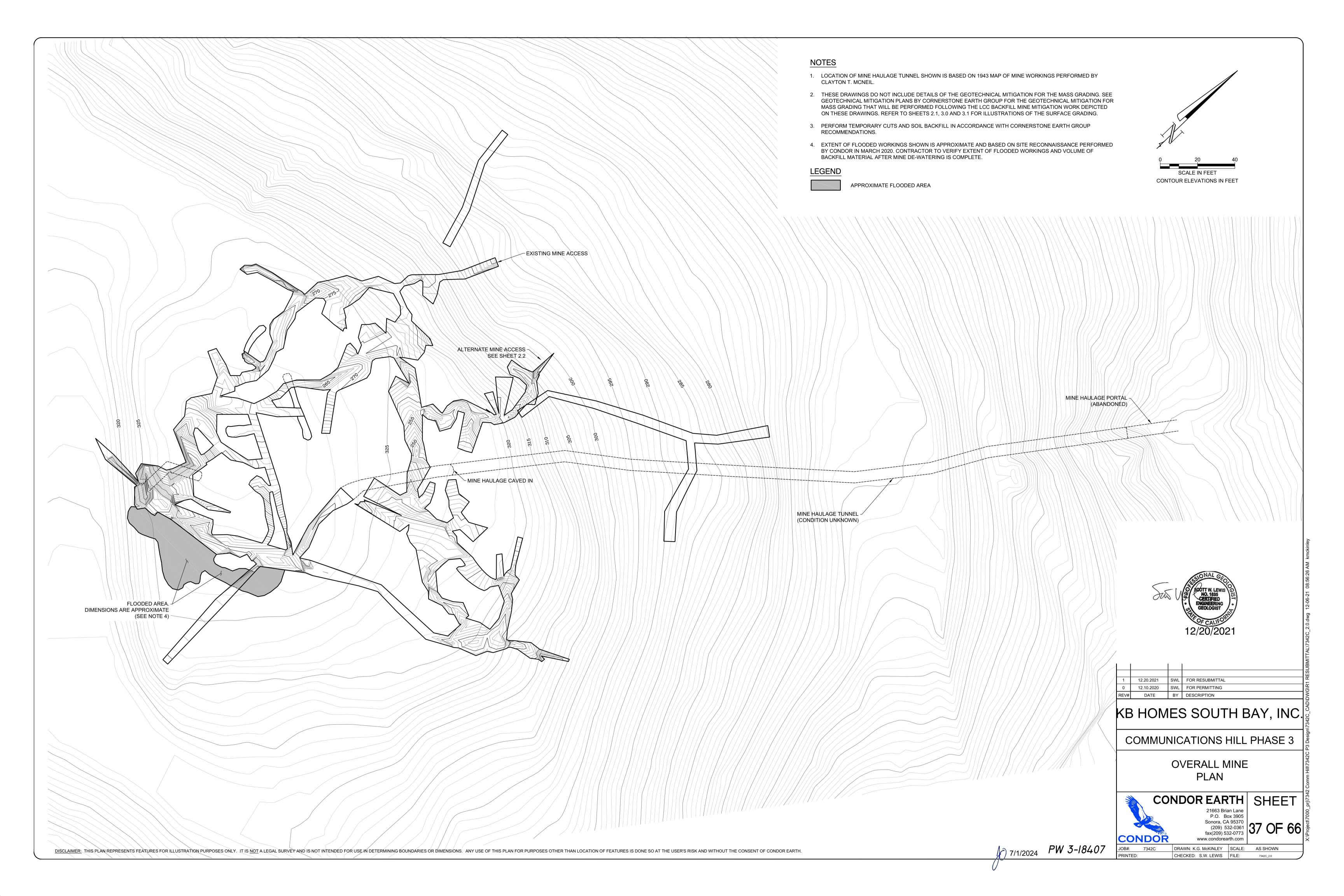
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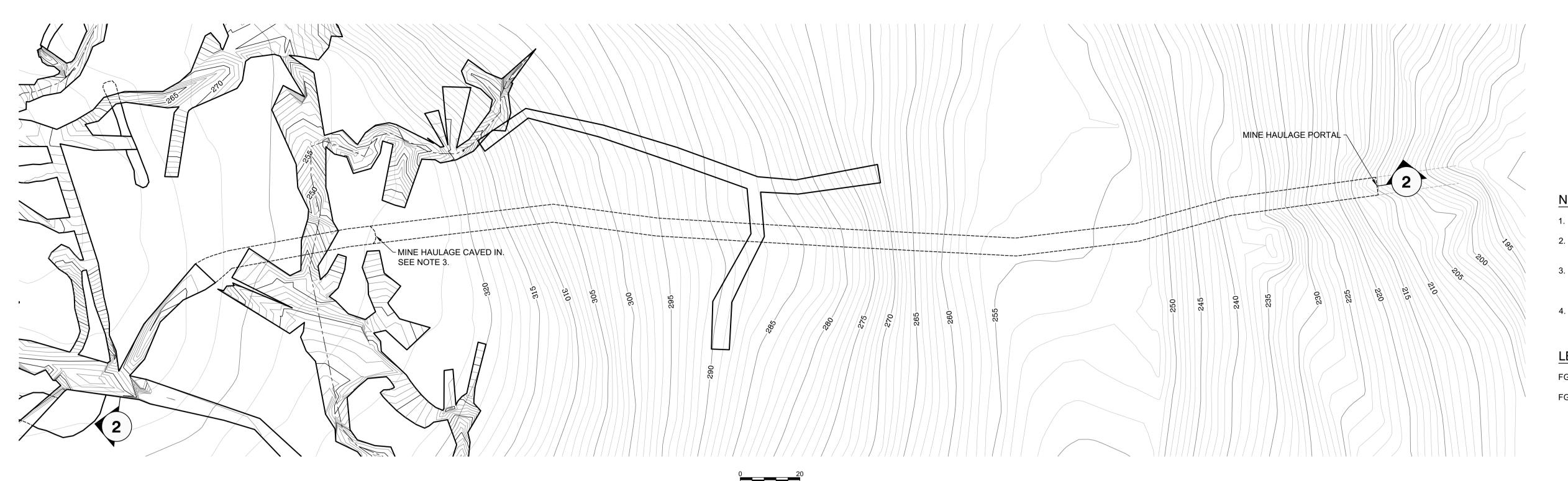
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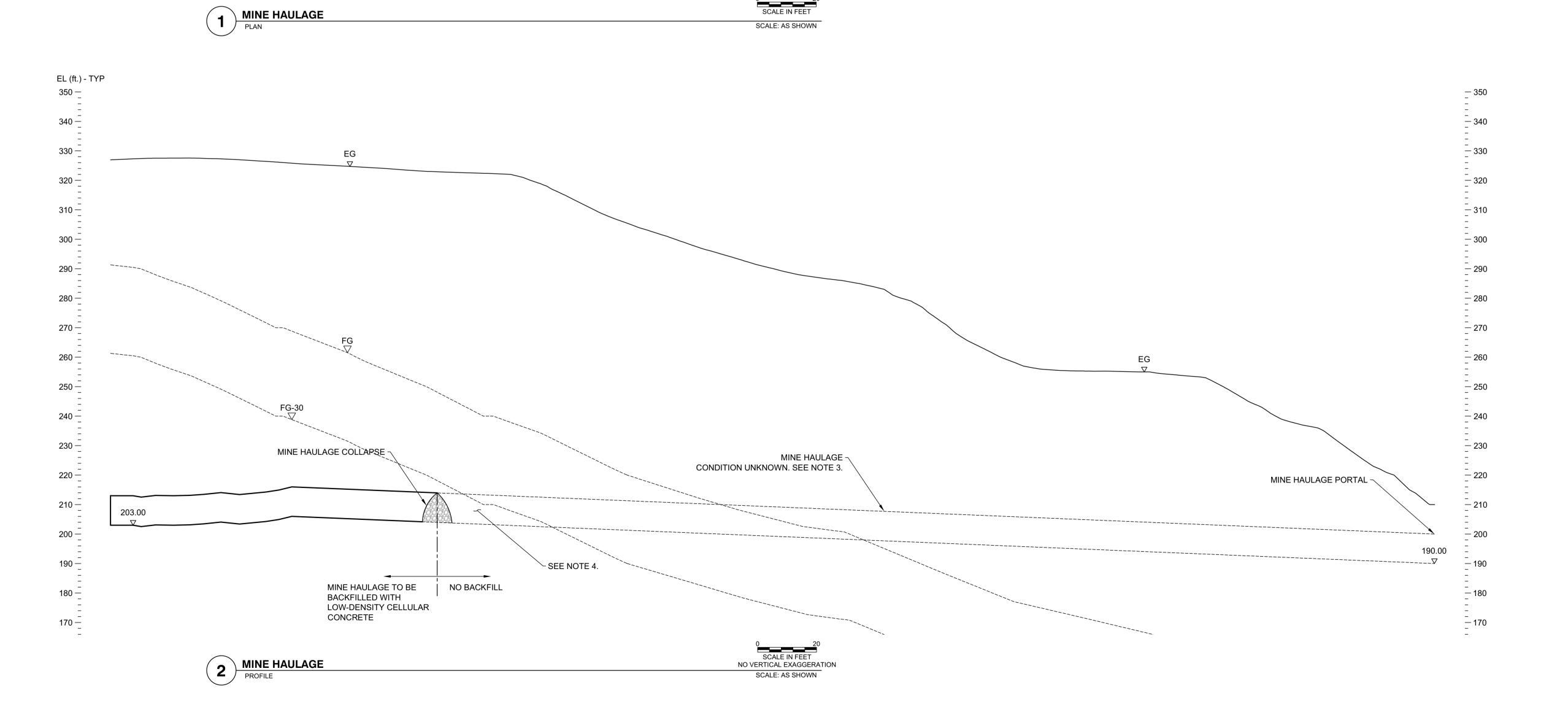
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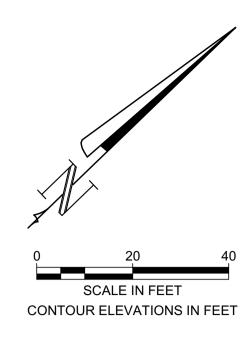
PW 3-18407

DRAWN: K.G. McKINLEY | SCALE: AS SHOWN CHECKED: S.W. LEWIS FILE:







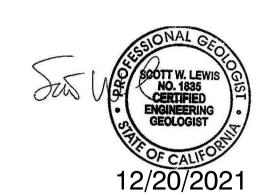


### **NOTES**

- 1. SEE SHEET 2.0 FOR ADDITIONAL NOTES.
- 2. FINISHED GRADES (FG) AND GEOTECHNICAL MITIGATION (FG-30) SHOWN ARE PROVIDED BY OTHERS.
- 3. LOCATION OF THE MINE HAULAGE COLLAPSE COINCIDES WITH GEOLOGIC CONTACT; REMAINDER OF MINE HAULAGE IN WEAK ROCK IS PRESUMED TO BE COLLAPSED.
- 4. ADDITIONAL GEOTECHNICAL OVER-EXCAVATION, AS NEEDED, DIRECTED BY THE OVERALL PROJECT GEOTECHNICAL ENGINEER DURING SURFACE GRADING.

### LEGEND

- FG = FINISH GRADE FOLLOWING MASS GRADING
- FG-30 = TYPICAL DEPTH OF GEOTECHNICAL OVER-EXCAVATION (SEE NOTE 2)



SWL FOR RESUBMITTAL 12.10.2020 SWL FOR PERMITTING DATE BY DESCRIPTION

KB HOMES SOUTH BAY, INC.

COMMUNICATIONS HILL PHASE 3

PLAN AND PROFILE MINE HAULAGE

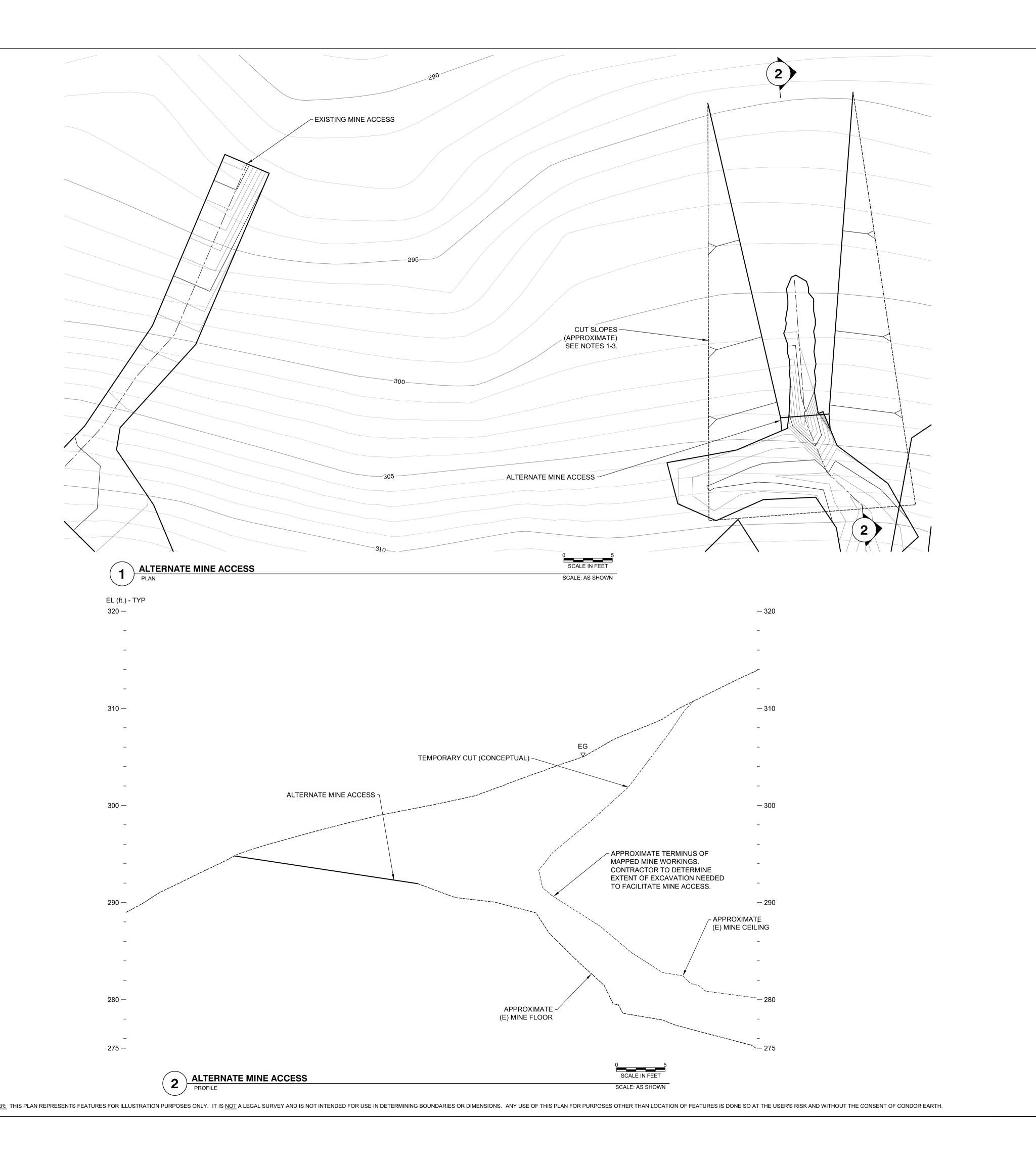
CONDOR EARTH | SHEET CONDOR

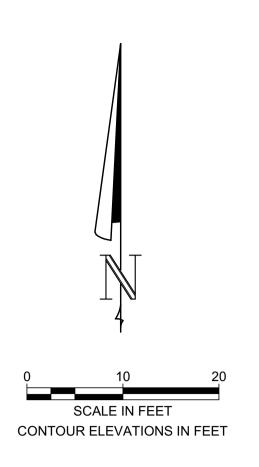
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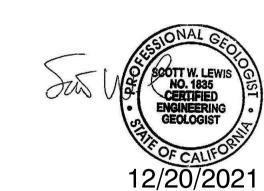
DISCLAIMER: THIS PLAN REPRESENTS FEATURES FOR ILLUSTRATION PURPOSES ONLY. IT IS NOT A LEGAL SURVEY AND IS NOT INTENDED FOR USE IN DETERMINING BOUNDARIES OR DIMENSIONS. ANY USE OF THIS PLAN FOR PURPOSES OTHER THAN LOCATION OF FEATURES IS DONE SO AT THE USER'S RISK AND WITHOUT THE CONSENT OF CONDOR EARTH.





### **NOTES**

- 1. REFER TO EARTHWORK NOTES ON SHEET 1.1 AND ADDITIONAL NOTES ON SHEET 2.0.
- 2. CUT SLOPES SHOWN ARE FOR ILLUSTRATION PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR PERFORMING TEMPORARY EXCAVATION TO ESTABLISH ALTERNATE MINE ACCESS.
- 3. PERFORM TEMPORARY CUTS AND SOIL BACKFILL IN ACCORDANCE WITH CORNERSTONE EARTH GROUP RECOMMENDATIONS.
- 4. EXISTING GRADES SHOWN ARE FROM UNDERGROUND SURVEY PERFORMED IN 2009 AND PROVIDED BY MMH ENGINEERING. ACTUAL CONDITIONS MAY VARY.
- 5. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING SITE CONDITIONS, INCLUDING THE LOCATION OF THE UNDERGROUND WORKINGS, PRIOR TO BEGINNING EXCAVATION.



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### KB HOMES SOUTH BAY, INC.

COMMUNICATIONS HILL PHASE 3

ALTERNATE MINE ACCESS PLAN AND PROFILE



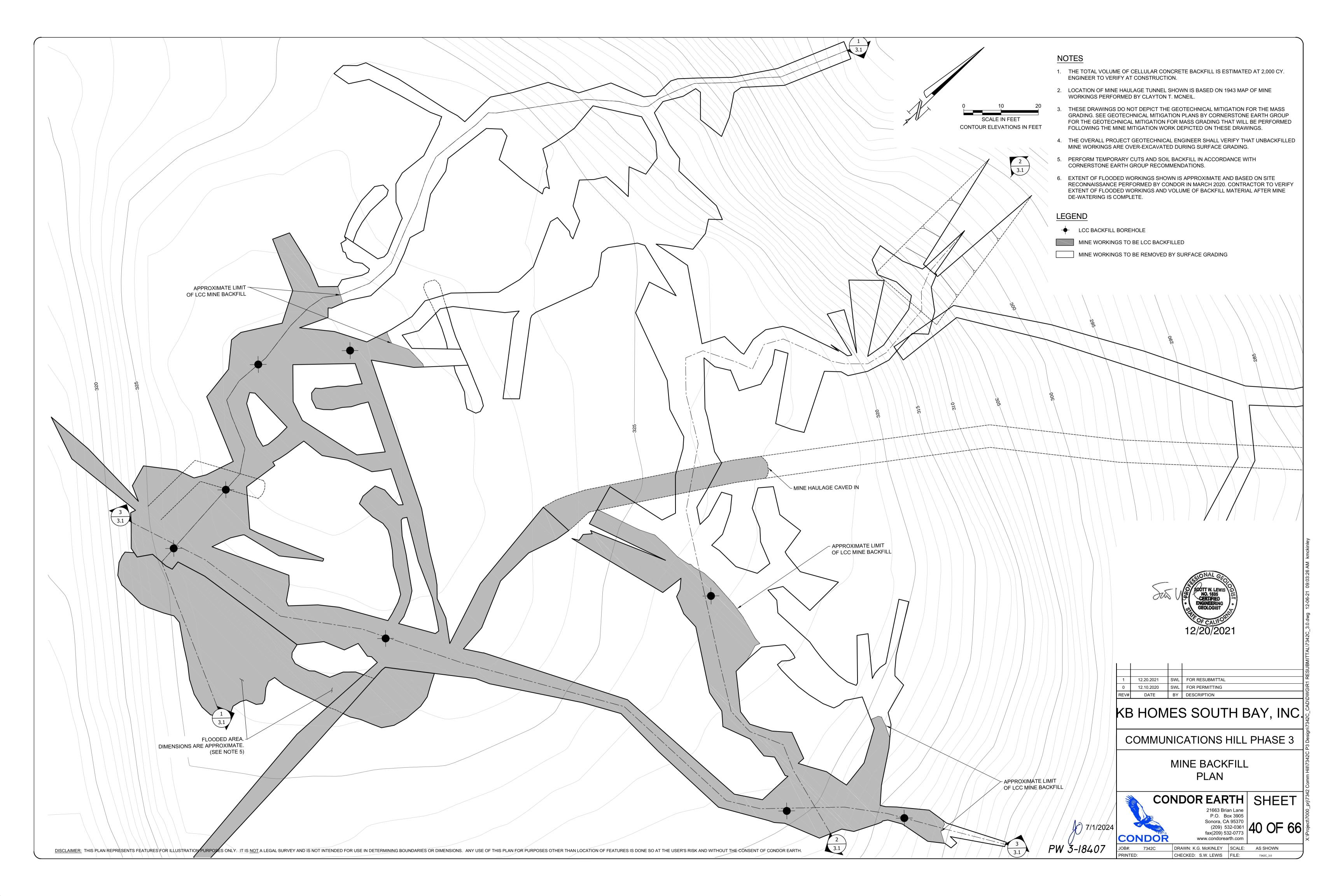
CONDOR EARTH SHEET

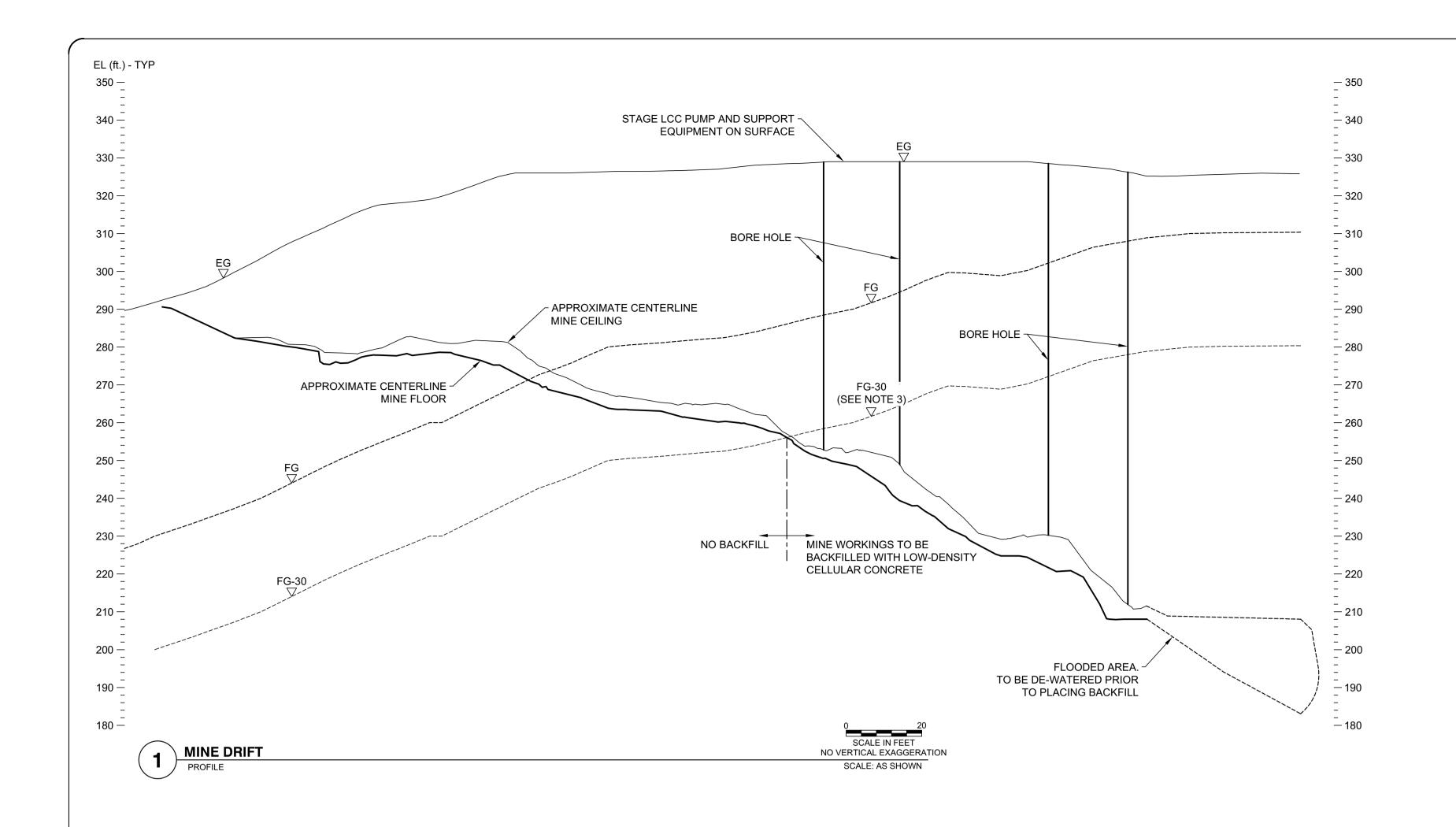
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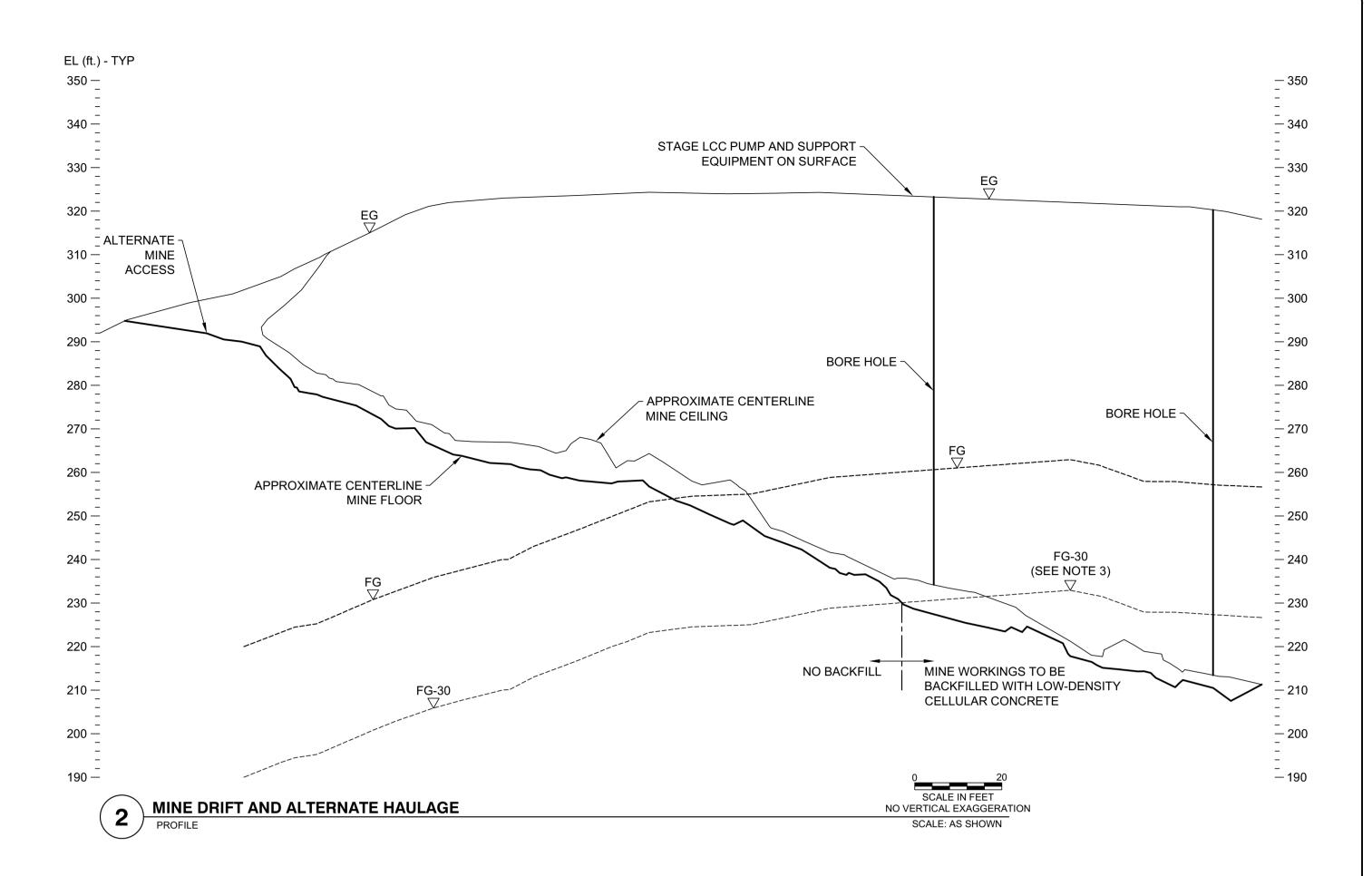
39 OF 66 www.condorearth.com

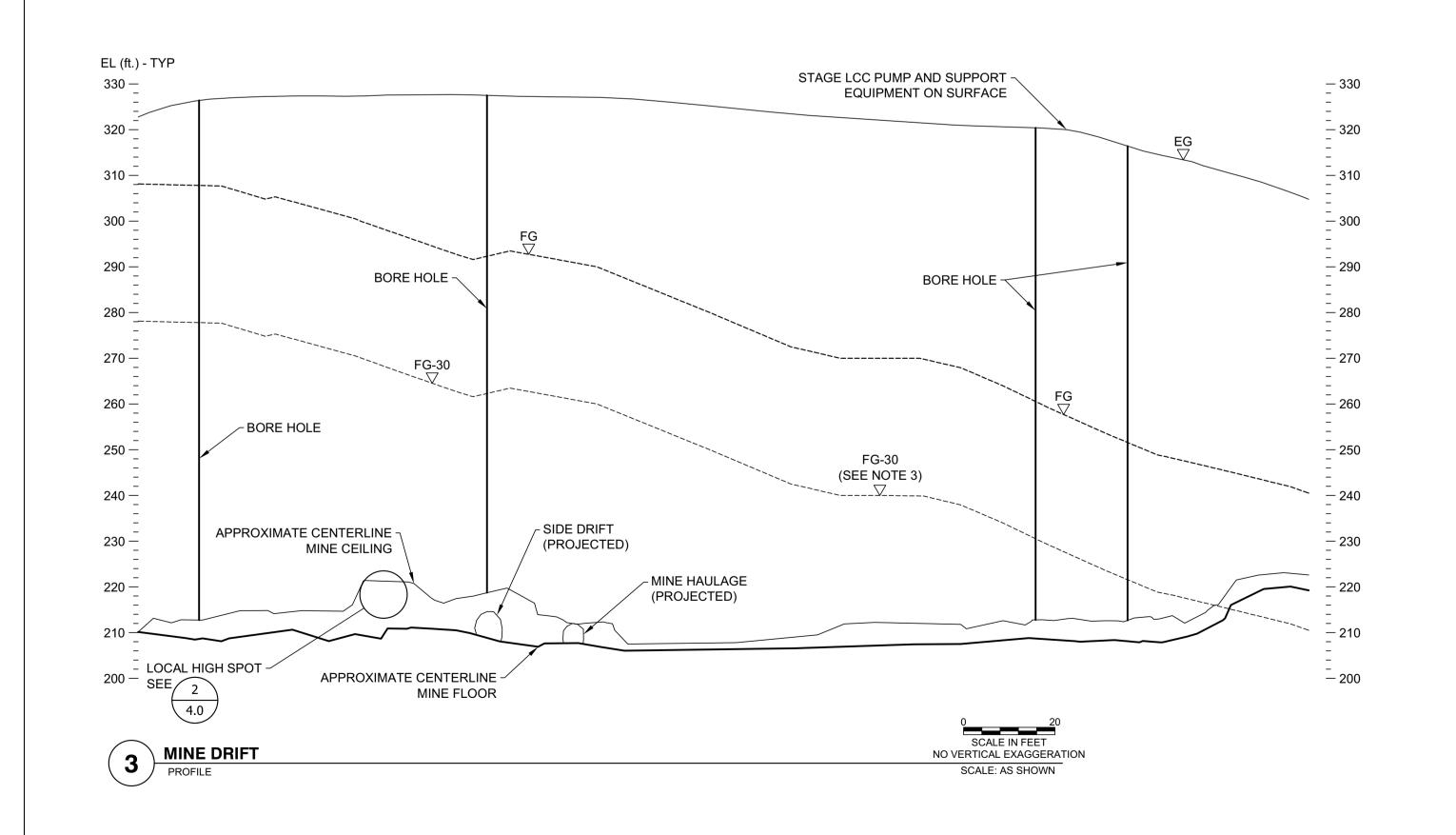
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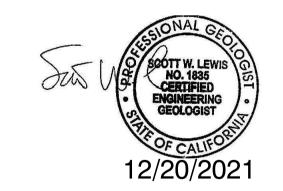
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### KB HOMES SOUTH BAY, INC.

### COMMUNICATIONS HILL PHASE 3

MINE BACKFILL **PROFILES** 

CONDOR EARTH 21663 Brian Lane P.O. Box 3905 CONDOR

WORKINGS PERFORMED BY CLAYTON T. MCNEIL.

NOTES

2. THESE DRAWINGS DO NOT DEPICT THE GEOTECHNICAL MITIGATION FOR THE MASS GRADING. SEE GEOTECHNICAL MITIGATION PLANS BY CORNERSTONE EARTH GROUP FOR THE GEOTECHNICAL MITIGATION FOR MASS GRADING THAT WILL BE PERFORMED FOLLOWING THE MINE MITIGATION WORK DEPICTED ON THESE DRAWINGS.

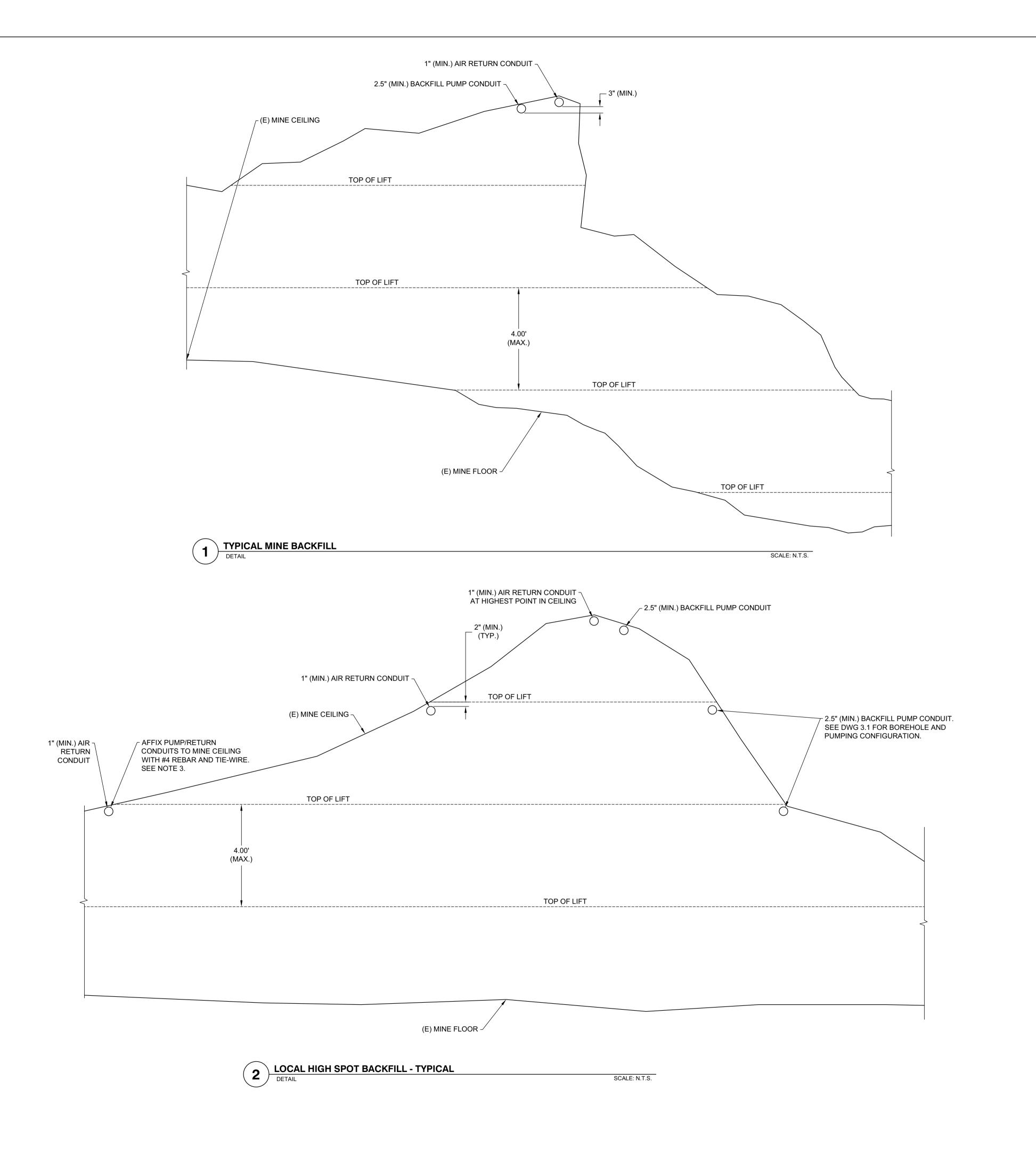
1. LOCATION OF MINE HAULAGE TUNNEL SHOWN IS BASED ON 1943 MAP OF MINE

3. FINISHED GRADES (FG) SHOWN ARE PROVIDED BY OTHERS.

₩ 7/1/2024 PW 3-18407

Sonora, CA 95370 (209) 532-0361 fax(209) 532-0773 www.condorearth.com DRAWN: K.G. McKINLEY SCALE: AS SHOWN CHECKED: S.W. LEWIS FILE:

SHEET

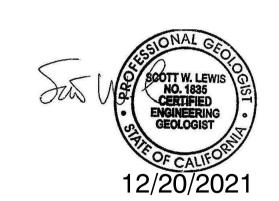


### NOTES

- TYPICAL MINE WORKING SECTIONS ARE FOR ILLUSTRATION PURPOSES ONLY. ACTUAL DIMENSIONS VARY.
- 2. PLACE LOW DENSITY CELLULAR CONCRETE (LCC) FILL IN LIFTS. LIFT THICKNESS SHALL NOT EXCEED 4-FEET (VERTICALLY). ALLOW 12 HOURS (MINIMUM) BETWEEN LIFTS.
- 3. USE #4 REBAR DOWELS TO AFFIX CONDUITS TO MINE CEILING. DOWELS SHALL BE SET INTO 5/8" DIAMETER DRILL HOLES. EMBED DOWELS A MINIMUM OF 4-INCHES AND USE EPOXY (SIMPSON SET-XP OR EQUAL). CONTRACTOR-PROPOSED ALTERNATIVE METHODS SHALL BE CONSIDERED BY THE ENGINEER.

### TYPICAL CONSTRUCTION SEQUENCE

- USE LASER LEVEL TO MARK TOP OF LIFTS (4-FEET MAX).
- 2. INSTALL PUMP/RETURN CONDUITS IN LOCAL HIGH SPOTS AS NECESSARY.
- 3. MIX LCC FILL AT GROUND SURFACE AND PUMP THROUGH BOREHOLE(S).
- 4. MANUALLY MANEUVER PUMP LINES TO COMPLETE LIFT PLACEMENT.
- 5. PUMP LCC FILL INTO LOCAL HIGH SPOTS UNTIL LCC OBSERVED FLOWING FROM RETURN CONDUIT.
- 6. CLEAR PUMP LINES IN BOREHOLES OF LCC FILL TO REUSE.
- 7. ALLOW 12 HOURS (MIN.) CURE TIME FOR LCC FILL PRIOR TO PLACING NEXT LIFT.



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COMMUNICATIONS HILL PHASE 3

**DETAILS** 

CONDOR

CONDOR EARTH SHEET

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DRAWN: K.G. McKINLEY | SCALE: AS SHOWN CHECKED: S.W. LEWIS FILE:

## CONCRETE MASONRY UNIT (CMU) RETAINING WALLS

COMMUNICATIONS HILL, MASS GRADING PHASES III AND IV SAN JOSE, CALIFORNIA

### **DESIGN BASIS:**

DESIGN-LEVEL GEOLOGIC AND GEOTECHNICAL HAZARDS INVESTIGATION, COMMUNICATIONS HILL - PHASE 2, SAN JOSE, CA, CORNERSTONE EARTH GROUP. SEPTEMBER 8, 2014, PROJECT NO. 172-4-3.

UPDATED DESIGN SEISMIC EARTH PRESSURES, MSE AND CONCRETE MASONRY BLOCK WALLS ABOVE 6 FEET IN HEIGHT. COMMUNICATIONS HILL PHASES 3 & 4, SAN JOSE, FEBRUARY 1, 2021, PROJECT NO. 172-4-11.

COMMUNICATIONS HILL, PHASE III AND IV MASS GRADING PLAN, SAN JOSE; HMH ENGINEERS, MARCH 5, 2021

### DESIGN PARAMETERS

### 1. DESIGN LOADINGS:

### A. ACTIVE EARTH PRESSURE

- 45 PCF, LEVEL BACKSLOPE. SEISMIC LOADING of 9H<sup>2</sup> APPLIED TO WALLS OVER 6 FEET IN EXPOSED HEIGHT. SEISMIC LOAD APPLIED AS A RESULTANT FORCE AT 1/3 HEIGHT OF WALL
- 65 PCF. 2:1 BACKSLOPE. SEISMIC LOADING OF 9H<sup>2</sup> APPLIED TO WALLS OVER 6 FEET IN EXPOSED HEIGHT, SEISMIC LOAD APPLIED AS A RESULTANT FORCE AT 1/3 HEIGHT OF WALL
- 60 PCF, 2:1 BACKSLOPE, SELECT BACKFILL, SEISMIC LOADING OF 9H<sup>2</sup> APPLIED TO WALLS OVER 6 FEET IN EXPOSED HEIGHT. SEISMIC LOAD APPLIED AS A RESULTANT FORCE AT 1/3 HEIGHT OF WALL

### B. WIND LOADING:

13.4 PSF. STRENGTH DESIGN

### 2. DESIGN CAPACITIES:

### A. BEARING CAPACITY

- 3,000 PSF(DEAD PLUS LIVE LOADING)
- 4,000 PSF (SEISMIC LOADING)

### **B. PASSIVE EARTH PRESSURE**

- 300 PCF LEVEL FOREGROUND (NEGLECT UPPER 12 INCHES)
- 165 PCF 2:1 SLOPING FOREGROUND (NEGLECT UPPER 12 INCHES)

### C. FRICTION COEFFICENT: 0.3

### 3. MINIMUM FOOTING EMBEDMENT:

- 24 INCHES BELOW GRADE FOR LEVEL FOREGROUND
- 30 INCHES BELOW GRADE FOR 2:1 SLOPING FOREGROUND

### **MASONRY**

- 1. CONCRETE MASONRY UNITS SHALL BE LIGHT WEIGHT, HOLLOW LOAD-BEARING, AND COMPLY WITH ASTM C90.
- 2. CONCRETE MASONRY UNITS SHALL HAVE A DESIGN COMPRESSIVE STRENGTH OF 1,900 PSI.
- 3. MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF MASONRY ASSEMBLAGE (fm) AT 28 DAYS SHALL BE 1,500 PSI
- 4. PLACE UNITS IN RUNNING BOND.
- 5. ALL CELLS SHALL BE FILLED SOLID WITH GROUT.
- 6. CONTROL JOINTS SHALL BE CONSTRUCTED PER DETAILS AT A MAXIMUM SPACING OF 40 FEET
- 7. WALL DRAINAGE SHOULD BE PROVIDED PER GEOTECHNICAL RECOMMENDATIONS.

### GROUT

- 1. GROUT SHALL BE PER ASTM C476
- 2. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2.000 PSI.
- 3. CEMENT SHALL CONFORM TO ASTM C150, TYPE II.
- 4. AN EFFLORESENCE CONTROLLING ADMIXTURE IS RECOMMENDED
- 5. ALL GROUT SHALL BE MECHANICALLY CONSOLIDATED

### **MORTAR**

- 1. MORTAR SHALL BE TYPE S PER ASTM C270
- 2. MORTAR SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 1,800 PSI.
- 3. CEMENT SHALL CONFORM TO ASTM C150 TYPE II.
- 4. MORTAR JOINTS SHALL BE APPROXIMATELY 3/8 INCH THICK.

### EARTHWORK

- 1. EXCAVATION AND SHORING SHALL BE PERFORMED IN ACCORDANCE WITH OSHA, STATE, AND LOCAL JURISDICTIONAL REQUIREMENTS.
- 2. EARTHWORK SHALL BE IN CONFORMANCE WITH THE REFERENCED GEOTECHNICAL REPORT.
- 3. BACKFILLING BEHIND WALLS SHALL BE PERFORMED USING LIGHT. HAND-OPERATED COMPACTION EQUIPMENT.
- (4. ON-SITE SELECT FILL AS DETERMINED BY THE GEOTECHNICAL ENGINEER SHALL BE USED FOR WALL BACKFILL WITHIN THE ZONE
- ABOVE A PROJECTED SURFACE OF 1:1 EXTENDING FROM THE BOTTOM OF THE WALL STEM UP TO THE GROUND SURFACE BEHIND THE WALL.
- ON-SITE SOIL USED AS SELECT FILL SHOULD BE GRANULAR FILL WITH LESS THAN 20 PERCENT PASSING THE NO. 200 SIEVE AND HAVE A PLASTICITY INDEX OF 15 OR LESS.

### CONCRETE

- 1. CONCRETE SHALL CONFORM TO ACI 318.
- 2. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI.
- 3. CEMENT SHALL CONFORM TO ASTM C150, TYPE II OR V.
- 4. AGGREGATES SHALL BE NATURAL SANDS AND ROCK AGGREGATES THAT CONFORM TO ASTM C33.
- 5. MAXIMUM WATER-CEMENT RATIO OF 0.5.
- 6. PRIOR TO CONCRETE PLACEMENT, FOOTING EXCAVATIONS SHALL BE CLEAN OF DEBRIS AND STANDING WATER.
- 7. ROUGHEN AND CLEAN CONCRETE SURFACES ON WHICH MASONRY WALLS ARE TO BE CONSTRUCTED, EXPOSING THE AGGREGATE.

### REINFORCING STEEL

- 1. REINFORCING STEEL SHALL BE ASTM A615, GRADE 60 DEFORMED BARS.
- 2. REINFORCING STEEL SHALL BE DETAILED, FABRICATED, PLACED AND LAPPED PER ACI DETAILING MANUAL 315.
- 3. PROVIDE 3" CLEARANCE FOR CONCRETE AGAINST EARTH, 2" FOR CONCRETE
- EXPOSED TO AIR, AND 1 1/2" FOR ALL INTERIOR EXPOSURE.
- 4. AT CORNERS AND INTERSECTIONS, PLACE 2' x 2' REINFORCING STEEL IN FOOTING MATCHING SIZE AND SPACING.
- 5. REINFORCING SHALL HAVE 48 BAR DIAMETERS MINIMUM FOR LAP SPLICING FOR MASONRY.
- 6. PROVIDE BOND BEAM UNITS FOR HORIZONTAL REINFORCEMENT. BOND BEAMS SHALL BE CONTINUOUS.

### REVIEWED FOR CODE COMPLIANCE

City of San Jose SECI, ES Division, Public Works

Reviewed By: Michael Cardellini Date: 7/15/2024

### WALL LOCATION PLAN CMU-3WALL LOCATION PLAN WALL LOCATION PLAN TYPICAL SECTIONS AND SCHEDULES TYPICAL SECTIONS AND SCHEDULES CMU-7 WALL DETAILS

SHEET INDEX

STATEMENT OF SPECIAL INSPECTIONS

INSPECTION OF THE MATERIALS. INSTALLATION, FABRICATION, ERECTION, OR PLACEMENT OF COMPONENTS AND CONNECTIONS TO CONFIRM COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS ACI 318 AND 530 LATEST EDITION, AND 2019 CALIFORNIA BUILDING CODE IS REQUIRED. ITEMS REQUIRING SPECIAL INSPECTION SHALL BE AS FOLLOWS:

REQUIRED VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC
1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE DESIGN BEARING CAPACITY	-	Х
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	-	Х
3. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS	-	Х
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT, AND COMPACTION OF CONTROLLED FILL	X	-
5. PRIOR TO PLACEMENT OF FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	-	Х
6. PIER DRILLING	Х	-

### REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

REQUIRED VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC
1. INSPECTION OF REINFORCING STEEL AND PLACEMENT	-	Х
2. VERIFY USE OF REQUIRED DESIGN MIX	-	Х
. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS OR STRENGTH TESTS, PERFORM SLUMP TESTS, AND DETERMINE THE EMPERATURE OF THE CONCRETE	×	-
4. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	Х	-
5. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	-	X
6. INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	-	X

### REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION

REQUIRED VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC
1. VERIFICATION OF F'M PRIOR TO AND DURING CONSTRUCTION		Х
2. VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS		Х
3. AS MASONRY CONSTRUCTION BEGINS, VERIFY THE FOLLOWING ARE IN COMPLIANCE:		
A. PROPORTIONS OF SITE-PREPARED MORTAR		Х
B. CONSTRUCTION OF MORTAR JOINTS		Х
C. GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES		Х
D. LOCATION OF REINFORCEMENT, CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES		Х
E. PRESTRESSING TECHNIQUE		X
F. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY		
4. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:		
A. GROUT SPACE		X
B. GRADE, TYPE, AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS, AND PRESTRESSING TENDONS AND ANCHORAGES		Х
C. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES		Х
D. PROPORTIONS OF SITE-PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS		Х
E. CONSTRUCTION OF MORTAR JOINTS		X
5. VERIFY DURING CONSTRUCTION:		
A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS		Х
B. TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION		Х
C. WELDING REINFORCEMENT	Х	
D. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F (4.4°C)) OR HOT WEATHER (TEMPERATURE ABOVE 90°F (32.2°C))		X
E. APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE	х	
F. PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS IS IN COMPLIANCE	Х	
6. OBSERVE PREPARATION AND PERFORM TESTING OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS		Х
(a) FREQUENCY REFERS TO THE FREQUENCY OF INPSECTION WHICH MAY BE CONTIN PERIODICALLY DURING THE LISED TASK, AS DEFINED IN THE TABLE.	UOUS DURING THE T	ASK LISTED OF

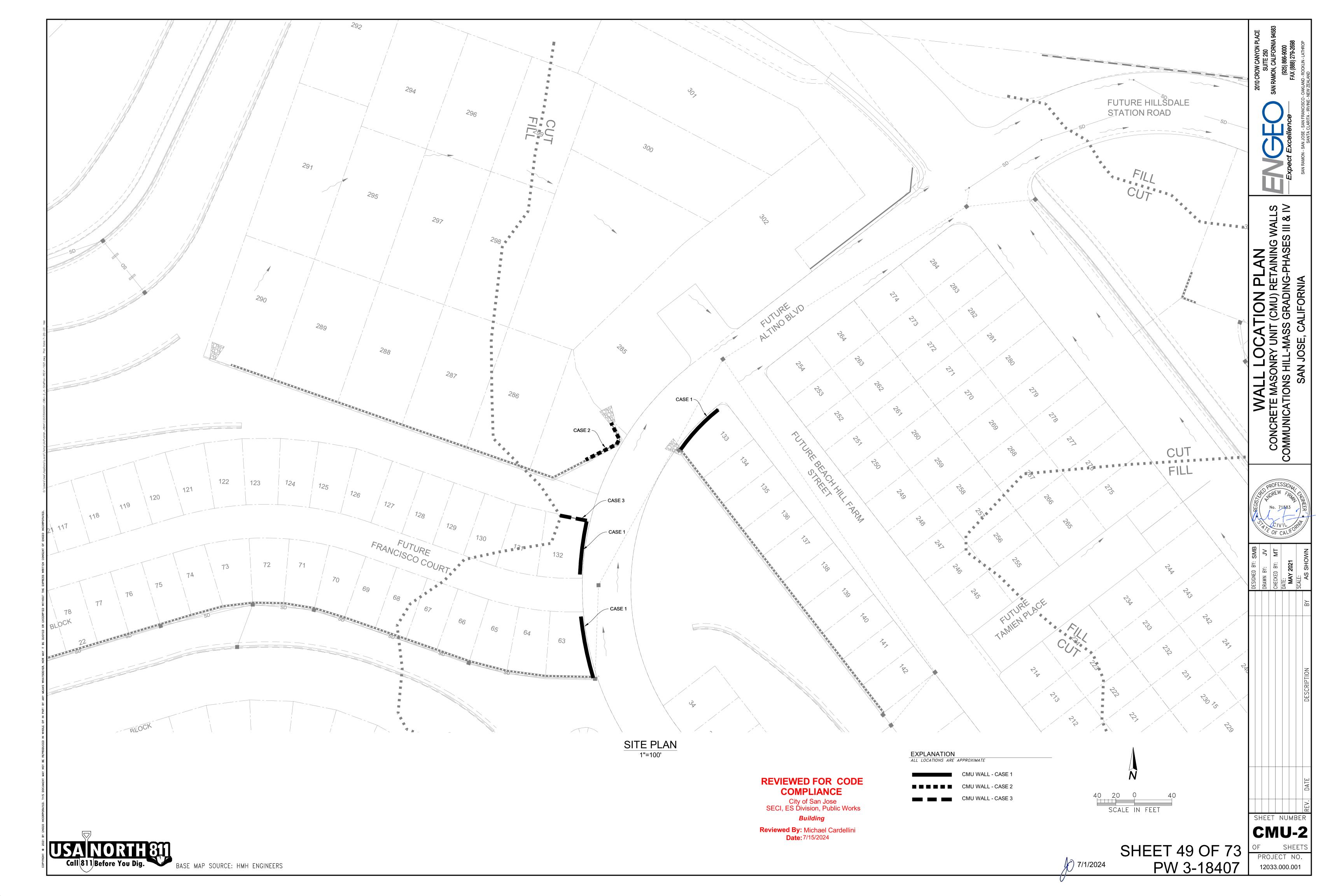
SHEET 48 OF 73 7/1/2024

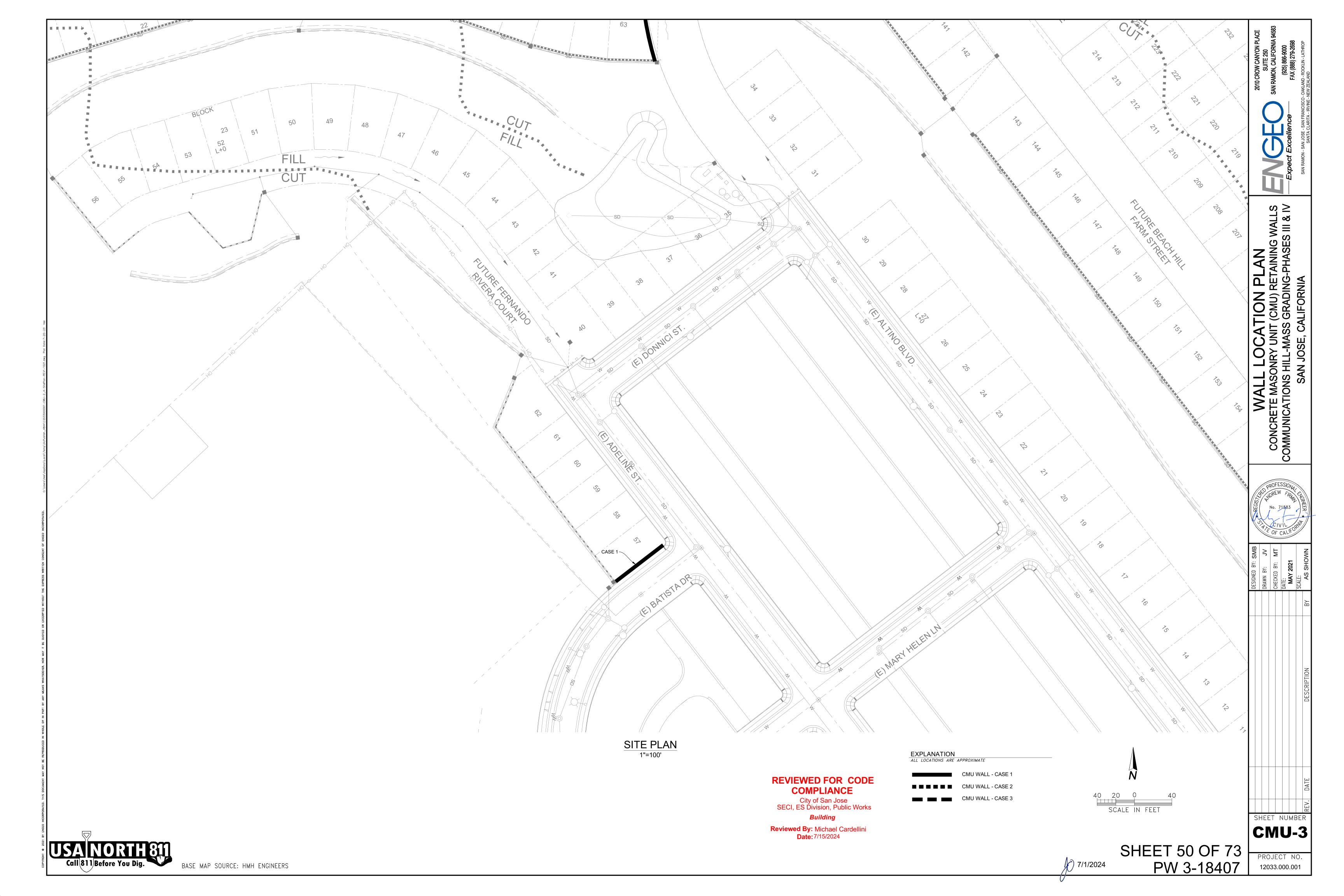
PW 3-18407

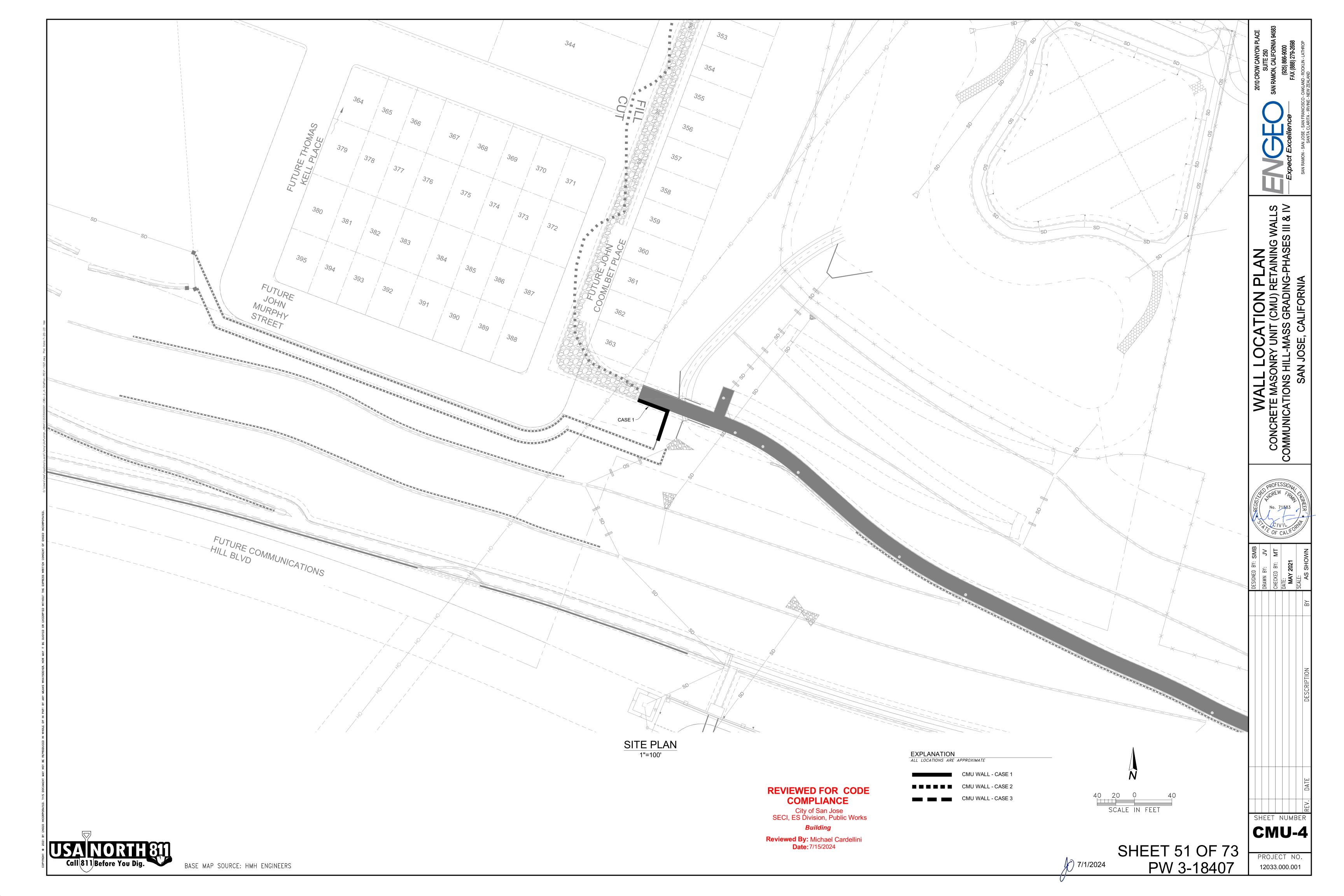
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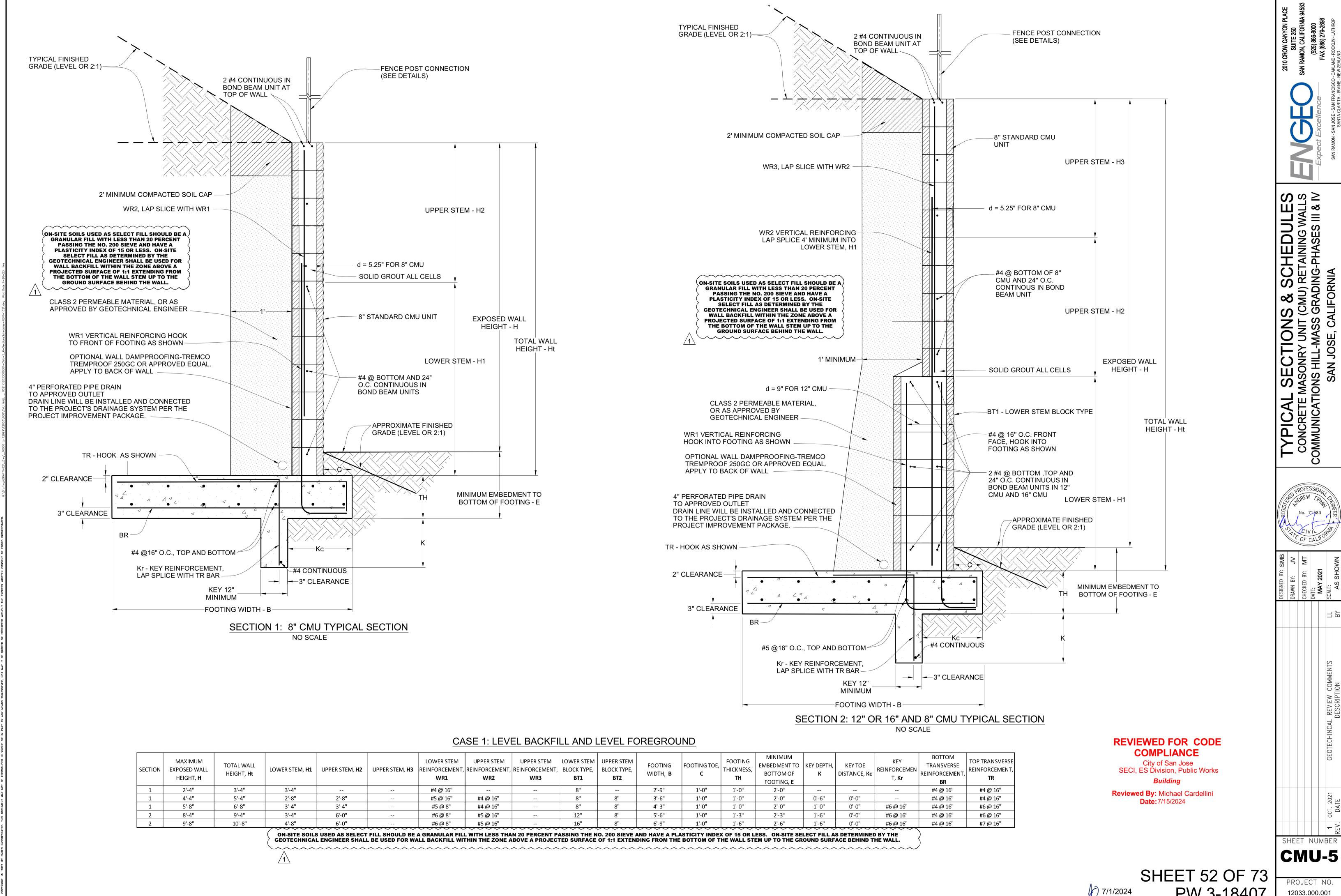
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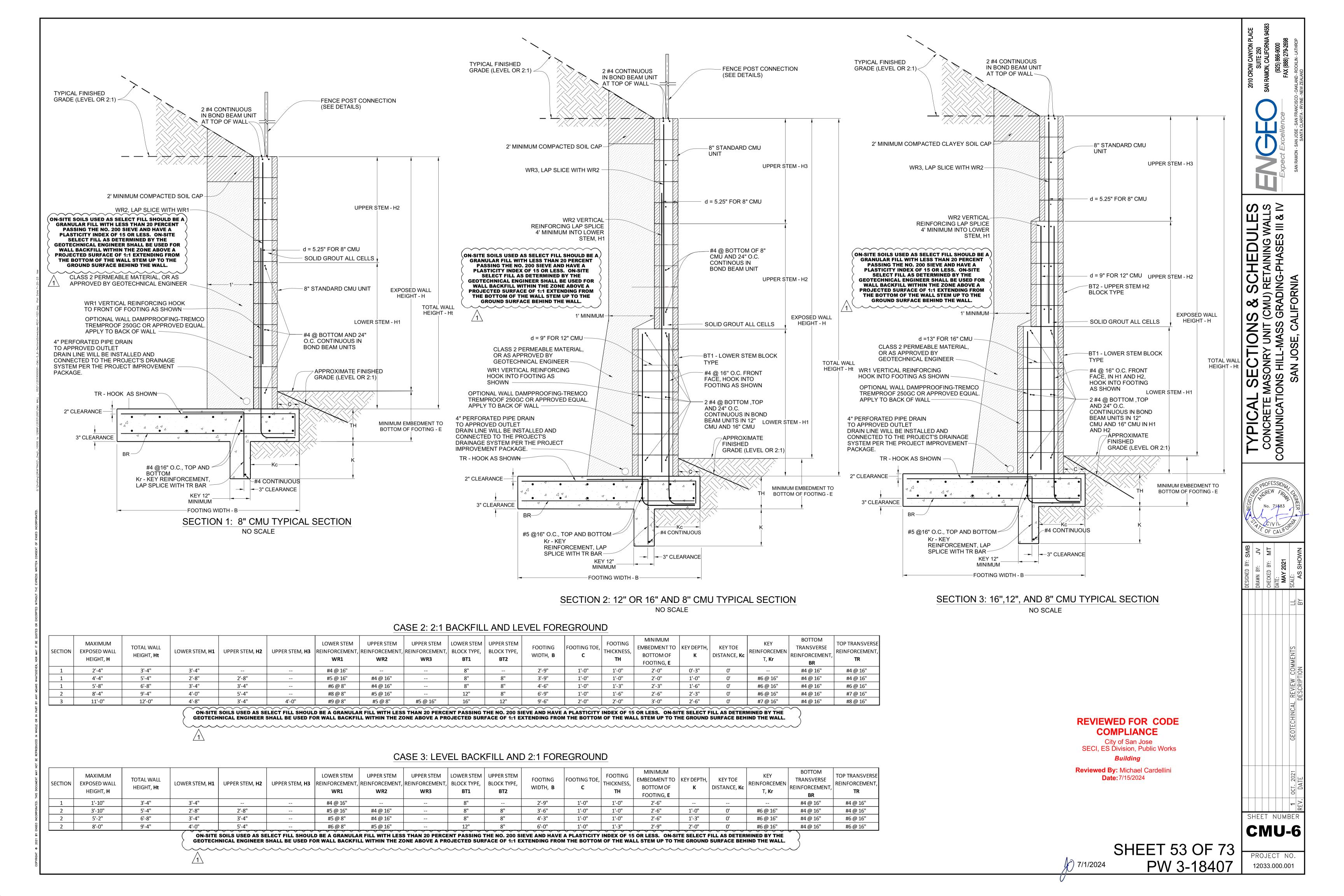




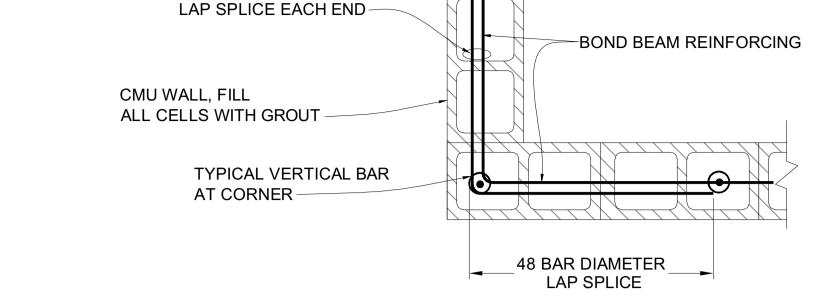
NS & SCHEDULES
INIT (CMU) RETAINING WALLS
ASS GRADING-PHASES III & IV
E, CALIFORNIA TYPICAL SECTIONS
CONCRETE MASONRY UNIT (C

PW 3-18407

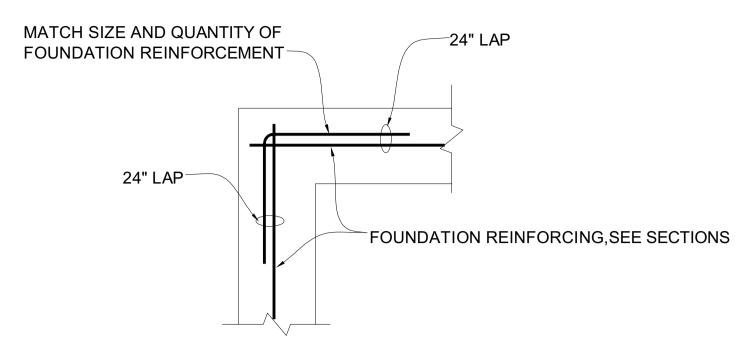
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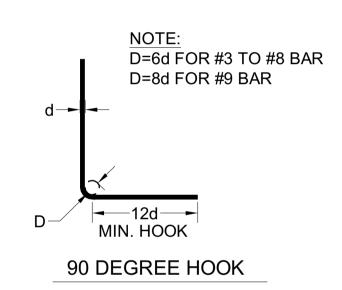
CONTROL JOINT DETAIL

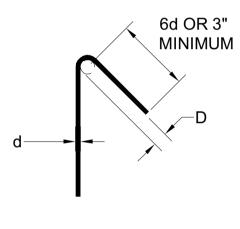


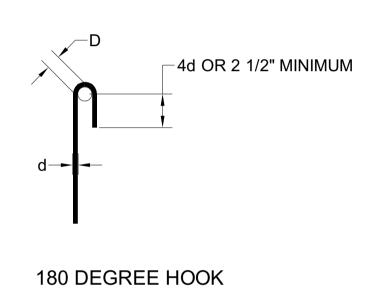
2 CMU WALL CORNER DETAIL
NO SCALE



3 CONCRETE FOUNDATION AT CORNERS DETAIL NO SCALE









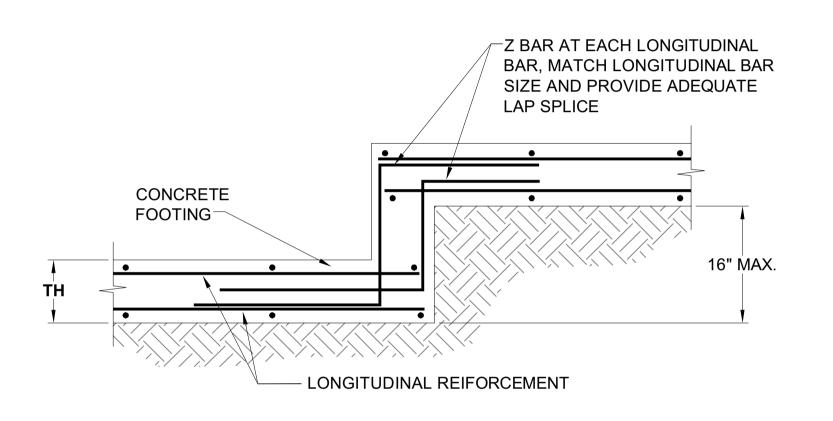
d d d d d d d d d d d d d d d d d d d	
135 DEGREE HOOK	



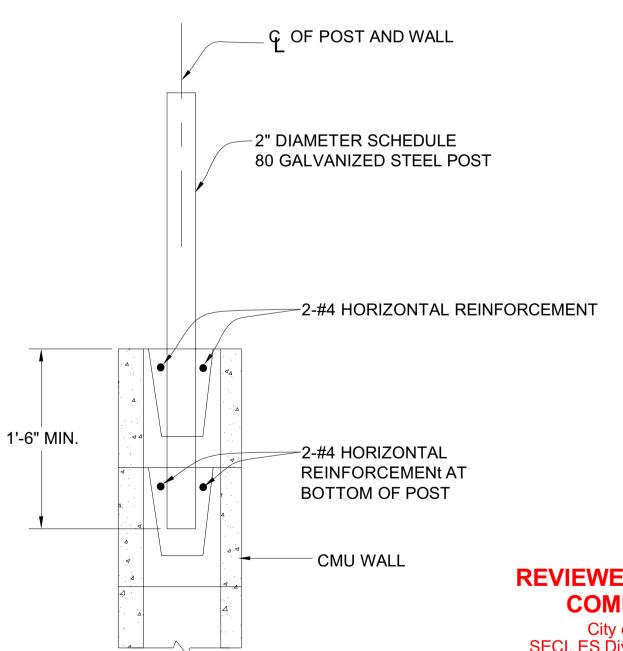
	HOOKS, LAPS & DEVELOPMENT LENGTHS						
	BAR SIZE	STD HOOK DEVELOPMENT LENGTH	CLASS SPLIC (II	ELS	DEVELOF LENG LD (I	TH	
		LDH (IN)	воттом	TOP	воттом	TOP	
	#3	6	22	28	17	22	
	#4	8	29	37	22	29	
3000 PSI NWC	#5	10	36	47	28	36	
	#6	12	43	56	33	43	
3000 P	#7	14	63	81	48	63	
	#8	16	72	93	55	72	
	#9	18	81	105	62	81	
	#10	20	91	118	70	91	
	#11	22	101	131	78	101	
	#3	6	19	24	15	19	
	#4	7	25	32	19	25	
I NWC	#5	9	31	40	24	31	
	#6	10	37	48	29	37	
4000 PSI NWC	#7	12	54	70	42	54	
	#8	14	62	80	48	62	
•	#9	15	70	91	54	70	
	#10	17	79	102	61	79	
	#11	19	87	113	67	87	
	#3	6	17	22	13	17	
	#4	6	22	29	17	22	
SI NWC	#5	8	28	36	22	28	
	#6	9	33	43	26	33	
4500 PSI NWC	#7	11	49	63	37	49	
	#8	12	55	72	43	55	
•	#9	14	63	81	48	63	
	#10	15	70	91	54	70	
	#11	17	78	101	60	78	

NOTES:

- 1. SEE BUILDING CODE AND ACI LATEST VERSION FOR ALL REQUIREMENTS NOT NOTED.
- 2. FOR LIGHTWEIGHT CONCRETE MULTIPLY LDH, LS AND LD VALUES SHOWN BY 1.33.
- 3. "TOP" BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW BARS. ALL OTHER BARS ARE "BOTTOM" BARS.
- 4. WHERE REQUIRED LS CANNOT BE OBTAINED WITH STRAIGHT BARS, EXTEND REINFORCING AS FAR AS POSSIBLE (LDH MINIMUM) AND PROVIDE STANDARD HOOK, WHERE LDH CANNOT BE OBTAINED, CONSULT SEOR.
- 5. VALUES SHOWN ARE FOR GRADE 60 (FY=60 KSI) REINFORCEMENT.
- 6. SPLICE LENGTHS SHOWN ARE FOR CLEAR SPACING NOT LESS THAN 2DB, CONCRETE COVER NOT LESS THAN DB.
- 7. FOR EXPOXY-COATED AND/OR BUNDLED REINFORCEMENT CONSULT
- 8. WHERE BARS OFF DIFFERENT SIZES ARE LAP SPLICED IN TENSION, SPLICE LENGTH SHALL BE THE LARGER OF: LD OF THE LARGER BAR AND LS OF THE SMALLER BAR.







T STEEL POST CONNECTION DETAIL NO SCALE

REVIEWED FOR CODE COMPLIANCE City of San Jose SECI, ES Division, Public Works Reviewed By: Michael Cardellini Date: 7/15/2024

CMU-7

'AILS MU) RETAINING WALLS RADING-PHASES III & IV

SHEET 54 OF 73

5 CONCRETE DEVELOPMENT LENGTHS *NO SCALE* 

7/1/2024 PW 3-18407 PROJECT NO. 12033.000.001

SHEET NUMBER

### 1. BASIS OF DESIGN:

- A. 2019 CALIFORNIA BUILDING CODE.
- B. ASCE 7-16.
- C. DESIGN-LEVEL GEOLOGIC AND GEOTECHNICAL HAZARDS INVESTIGATION, COMMUNICATIONS HILL-PHASE 2, SAN JOSE, CA,
- D. UPDATED DESIGN SEISMIC EARTH PRESSURES. MSE AND CONCRETE MASONRY BLOCK WALLS ABOVE 6 FEET IN HEIGHT COMMUNICATIONS HILL PHASES 3 & 4, SAN JOSE, CA, CORNERSTONE EARTH GROUP, FEBRUARY 1, 2021, PROJECT NO. 172-4-11.
- E. MASS GRADING COORDINATION, SUPPLEMENTAL MSE AND CMU WALL RECOMMENDATIONS; CORNERSTONE EARTH GROUP; EMAIL RECEIVED ON FEBRUARY 1, 2021.
- F. COMMUNICATIONS HILL, PHASE III & IV MASS GRADING PLAN, SAN JOSE, HMH ENGINEERS, MARCH 5, 2021, PROJECT NO. 3636.81
- G. HMH ENGINEERS; COMMUNICATIONS HILL PHASE 3 AND 4 RETAINING WALL COLOR EXHIBIT, SAN JOSE, CALIFORNIA; FEBRUARY 3 2020: PROJECT NO. 3636.80.
- 2. SPECIAL INSPECTION IS REQUIRED. FULL-TIME SPECIAL INSPECTION SHALL BE PERFORMED INCLUDING TESTING AND OBSERVATION OF FOUNDATION AND LEVELING PAD, MSE BLOCK PLACEMENT, GEOGRID PLACEMENT, ENGINEERED FILL APPROVAL AND PLACEMENT AND DRAINAGE PLACEMENT
- MSE WALL CONSTRUCTION SHALL BE PERFORMED BY AN APPROVED MSE WALL CONTRACTOR. APPROVED BY THE ENGINEER. MINIMUM REQUIREMENTS FOR THE CONTRACTOR SHALL INCLUDE TRAINING AND CERTIFICATION OF THE NCMA SRW INSTALLER CERTIFICATION LEVEL 1 AND A MINIMUM OF 5 YEARS OF CONTINUOUS EXPERIENCE AND 100,000 SQUARE FEET OF SRW WALI INSTALLATION WITH THE SYSTEM REQUIRED HEREIN
- 4. EXCAVATION AND SHORING SHALL BE PERFORMED IN ACCORDANCE WITH OSHA, STATE, AND LOCAL JURISDICTIONAL REQUIREMENTS
- 5. EARTHWORK SHALL BE CONDUCTED IN CONFORMANCE WITH THE PROJECT GEOTECHNICAL REPORT

### MSE WALL MATERIALS

- 1. MASONRY WALL UNITS
- SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3,000 POUNDS PER SQUARE INCH (PSI) WITH A MAXIMUM LANDSCAPE PLANS.
- 2. CONNECTING PINS
- A. THE FIBERGLASS PINS SHALL BE 1/2-INCH-DIAMETER RODS. THE FLEXURAL STRENGTH FOR THE CONNECTING PINS SHALL BE AT LEAST 128.000 PSI WITH A SHORT BEAM SHEAR OF 6.400 PSI.
- 3. CAP CONSTRUCTION ADHESIVE
- A. THE ADHESIVE SHALL BE APPROVED EQUIVALENT IN CONFORMANCE WITH ASTM 2339.
- 4. LEVELING BASE
- A. LEVELING PAD SHALL CONSIST OF COMPACTED CRUSHED STONE OR CLASS 2 AGGREGATE BASE, 6 INCHES THICK BY 36 INCHES WIDE.
- 5. UNIT FILL
- A. FILL FOR THE MODULAR UNITS SHALL BE CLASS 2 PERMEABLE MATERIAL OR FREE-DRAINING CRUSHED ROCK OR GRAVEL 3/8 INCH TO 3/4 INCH, WITH NO MORE THAN 5 PERCENT PASSING THE NO. 50 SIEVE AND IN ACCORDANCE WITH ASTM D448 AND IN ACCORDANCE WITH EITHER REQUIREMENTS FROM THE MANUFACTURER OR FROM NCMA DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS. THE GEOTECHNICAL ENGINEER SHOULD APPROVE GRADATION OF THE UNIT FILL. PEA GRAVEL IS NOT
- 6. REINFORCED BACKFILL MATERIAL
- A. REINFORCED BACKFILL MATERIAL SHALL CONSIST OF APPROVED. SELECT ON-SITE SOIL. WITH LESS THAN 20 PERCENT PASSING NO. 200 AND A PLASTICITY INDEX (PI) OF 15 OR LESS, AS DETERMINED BY THE PROJECT GEOTECHNICAL ENGINEER.
- 7. GEOGRID
- A. REINFORCEMENT SHALL CONSIST OF MIRAFI 7XT GEOGRIDS AS SPECIFIED ON SHEET 5. APPROVED EQUIVALENT GEOGRID MATERIALS MAY ALSO BE SUITABLE. MAXIMUM GEOGRID SPACING IS 2' AND NO MORE THAN 2' FROM FINISHED GRADE TO UPPER LAYER OF GEOGRID.
- 8. DRAINAGE SYSTEM
- A. DRAINAGE SYSTEM IMMEDIATELY BEHIND THE WALLS SHOULD BE PROVIDED USING A 4"-DIAMETER PVC PERFORATED PIPE (SCHEDULE SDR 35) EMBEDDED IN CLASS 2 PERMEABLE MATERIAL OR FREE-DRAINING GRAVEL SURROUNDED BY SYNTHETIC FILTER FABRIC. THE WIDTH OF THE DRAIN BLANKET SHOULD BE AT LEAST 12". THE DRAIN BLANKET SHOULD EXTEND TO ABOUT 2' BELOW THE FINISHED GRADES. THE PIPE SHALL BE CONNECTED TO STORM DRAIN SYSTEM OR OTHER OUTLET, AS APPROVED BY CIVIL ENGINEER.
- 9. COMPACTION
  - THE LEVELING BASE SHALL BE COMPACTED WITH A VIBRATORY PLATE OR EQUIVALENT AS APPROVED BY THE ENGINEER OR GEOTECHNICAL ENGINEER. DURING PLACEMENT OF THE INITIAL BLOCKS, THE BACKFILL ON BOTH SIDES (IF ANY) OF THE BLOCKS SHOULD BE COMPACTED SIMULTANEOUSLY TO REDUCE THE POTENTIAL FOR MOVEMENT OF INITIAL BLOCK COURSE(S).
- 10. THE FOLLOWING SOIL DESIGN CRITERIA WAS INCORPORATED. AS RECOMMENDED IN BASIS OF DESIGN REFERENCES 1C THROUGH 1F ABOVE.

### **DESIGN SOIL PARAMETERS**

### MSE WALL SOIL MATERIAL BACKFILL

	COHESION (c')	FRICTION ANGLE (φ')	UNIT WEIGHT (γ)	
	(psf)	(degrees)	(pcf)	
REINFORCED SOIL (SELECT, ON-SITE)	0	34	125	
RETAINED SOIL	0	30	125	
FOUNDATION SOIL	0	30	125	
DESIGN DEAK COOLIND ACCE	LEBATION (BCA) OF 0	44C WAS LISED IN T	HE WALL DECICAL WHERE	

A DESIGN PEAK GROUND ACCELERATION (PGA) OF 0.44G WAS USED IN THE WALL DESIGN, WHERE WALL HEIGHT IS GREATER THAN 6 FEET

### **INSTALLATION PROCEDURES:**

- 1. EXCAVATE TO THE GRADES AS REQUIRED.
- 2. PREPARE BASE FOR LEVELING PAD. PLACE LEVELING PAD MATERIAL. STEP LEVELING PAD IN 8-INCH INCREMENTS WHEN FOUNDATION **ELEVATION CHANGES.**
- INSTALL BASE COURSE OVER LEVELING PAD
- 4. PLACE LEVELING PAD MATERIAL BACK OF WALL LEVEL WITH ADJACENT FINISHED GRADE.
- 5. PLACE DRAINAGE PIPE AND DRAINAGE MATERIAL BACK OF WALL
- 6. INSERT FIBERGLASS PINS AND PLACE DRAINAGE MATERIAL
- 7. PLACE WALL BACKFILL AND COMPACT TO PROJECT REQUIREMENTS. USE ONLY HAND OPERATED EQUIPMENT WITHIN 3 FEET OF WALL.
- 8. PLACE GEOGRID OVER THE FIBERGLASS PINS AND EXTEND OVER LEVEL BACKFILL BEHIND FACING UNITS
- 9. PLACE NEXT UNIT
- 10. PULL GRID TAUGHT AND BACKFILL (STAKE AS REQUIRED TO MAINTAIN GRID TENSION). FOR GEOGRID PLACEMENT REFER TO MANUFACTURER'S RECOMMENDATIONS FOR PROPER PLACEMENT

### **PROJECT NOTES:**

DEVELOPER:

KB HOME NORTHERN CALIFORNIA 5000 EXECUTIVE PARKWAY, SUITE 125 SAN RAMON, CALIFORNIA 64583 PHONE: (925) 983-4500 PETER LEZAK

2. SOILS ENGINEER:

CORNERSTONE EARTH GROUP 1220 OAKLAND BOULEVARD, SUITE 220 WALNUT CREEK, CALIFORNIA 94596 PHONE: (925) 988-9500 JOHN R. DYE

3. CIVIL ENGINEER:

1570 OAKLAND ROAD SAN JOSE, CALIFORNIA 95131 PHONE:(408) 487-2200 MANNY MATIAS

4. SCOPE OF WORK: DESIGNS OF MECHANICALLY STABILIZED EARTH (MSE) BLOCK WALLS AT THE LOCATIONS SHOWN ON THE WALL LOCATION PLANS.

### **SHEET INDEX**

SHEET NUMBER	TITLE
MSE-1	NOTES
MSE-2	WALL LOCATION PLAN
MSE-3	WALL LOCATION PLAN
MSE-4	WALL LOCATION PLAN
MSE-5	TYPICAL SECTIONS AND SCHEDULES
MSE-6	WALL DETAILS
MSE-7	WALL DETAILS

REVIEWED FOR CODE COMPLIANCE City of San Jose SECI, ES Division, Public Works

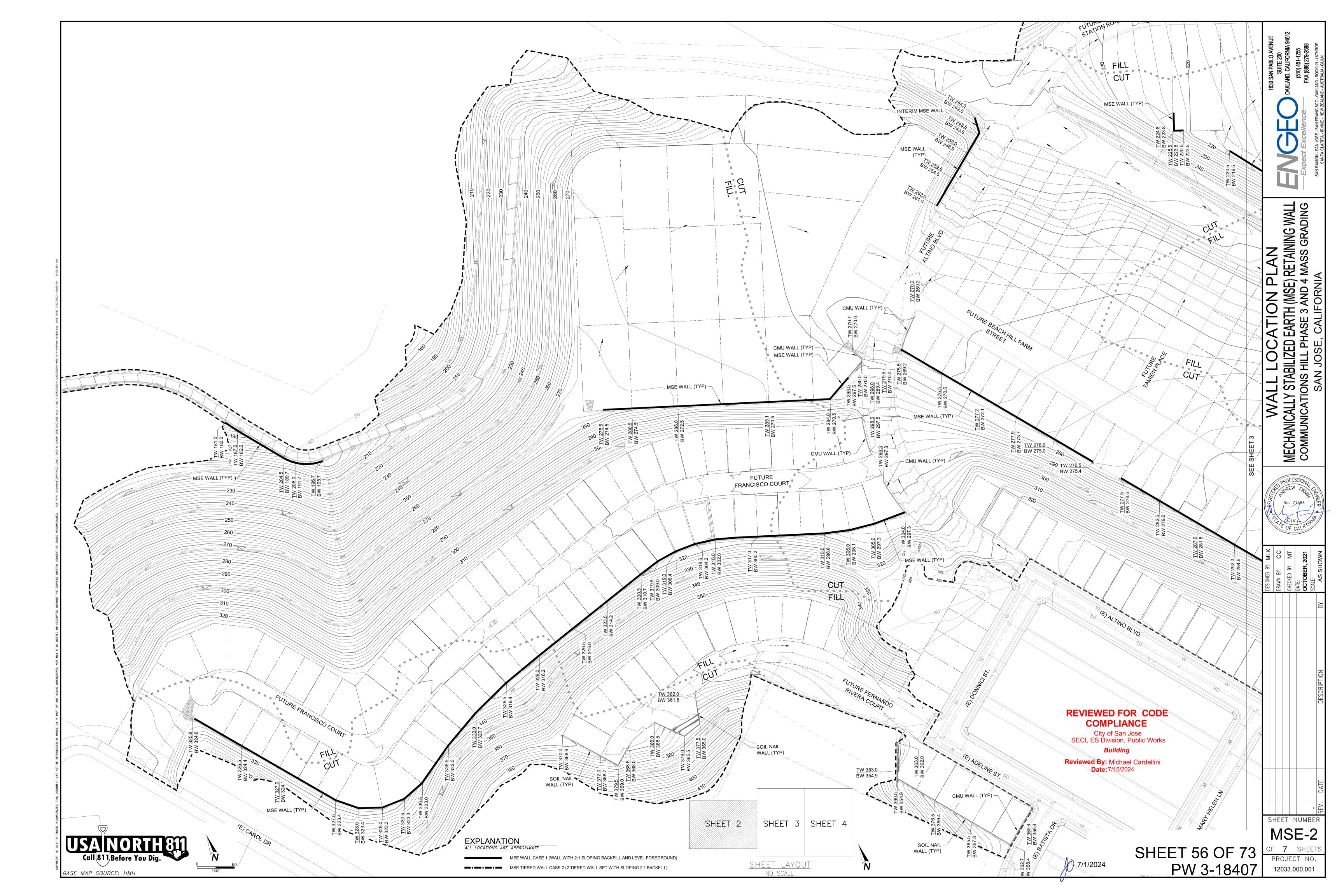
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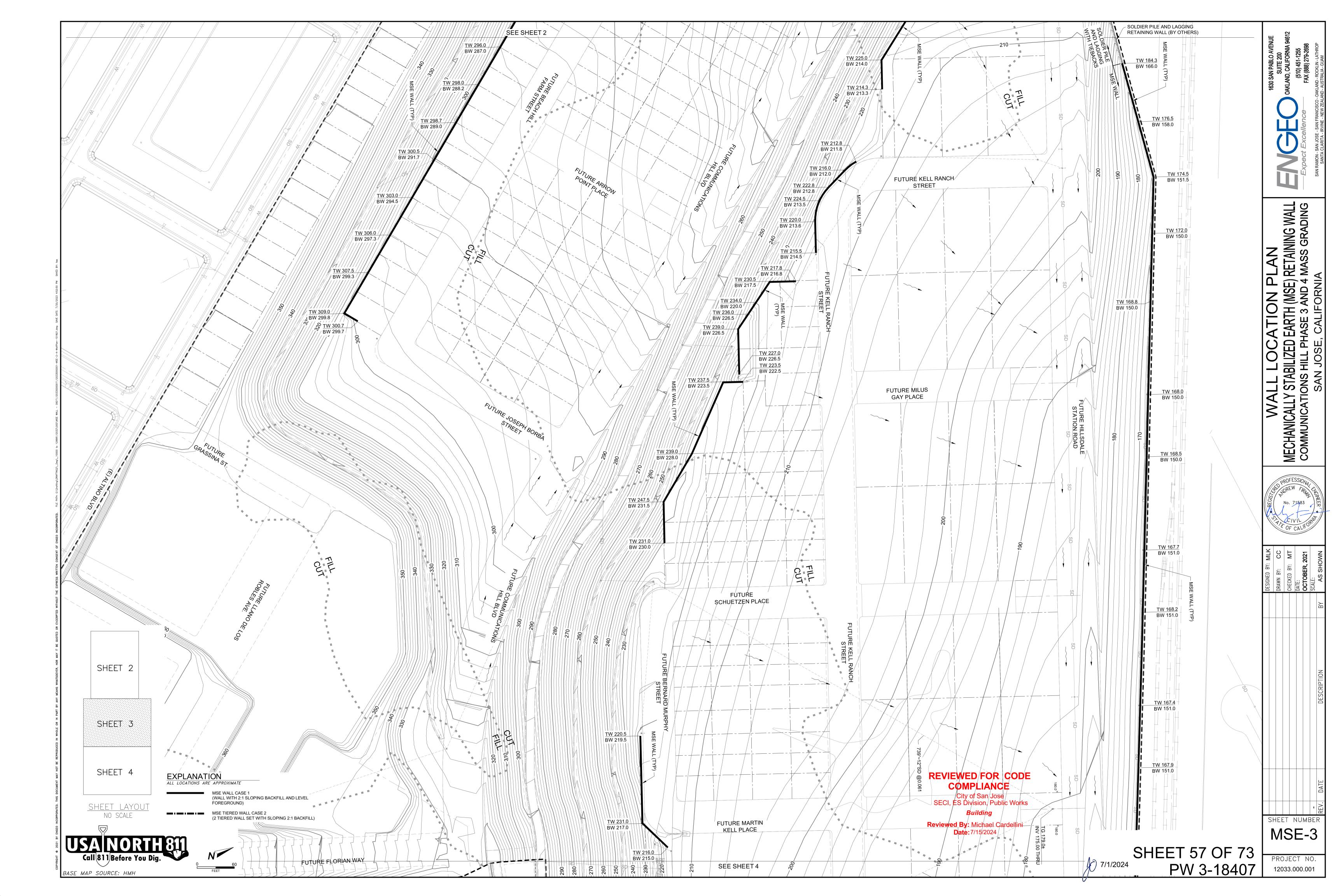
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SHEET NUMBER MSE-1

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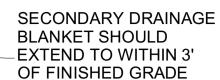


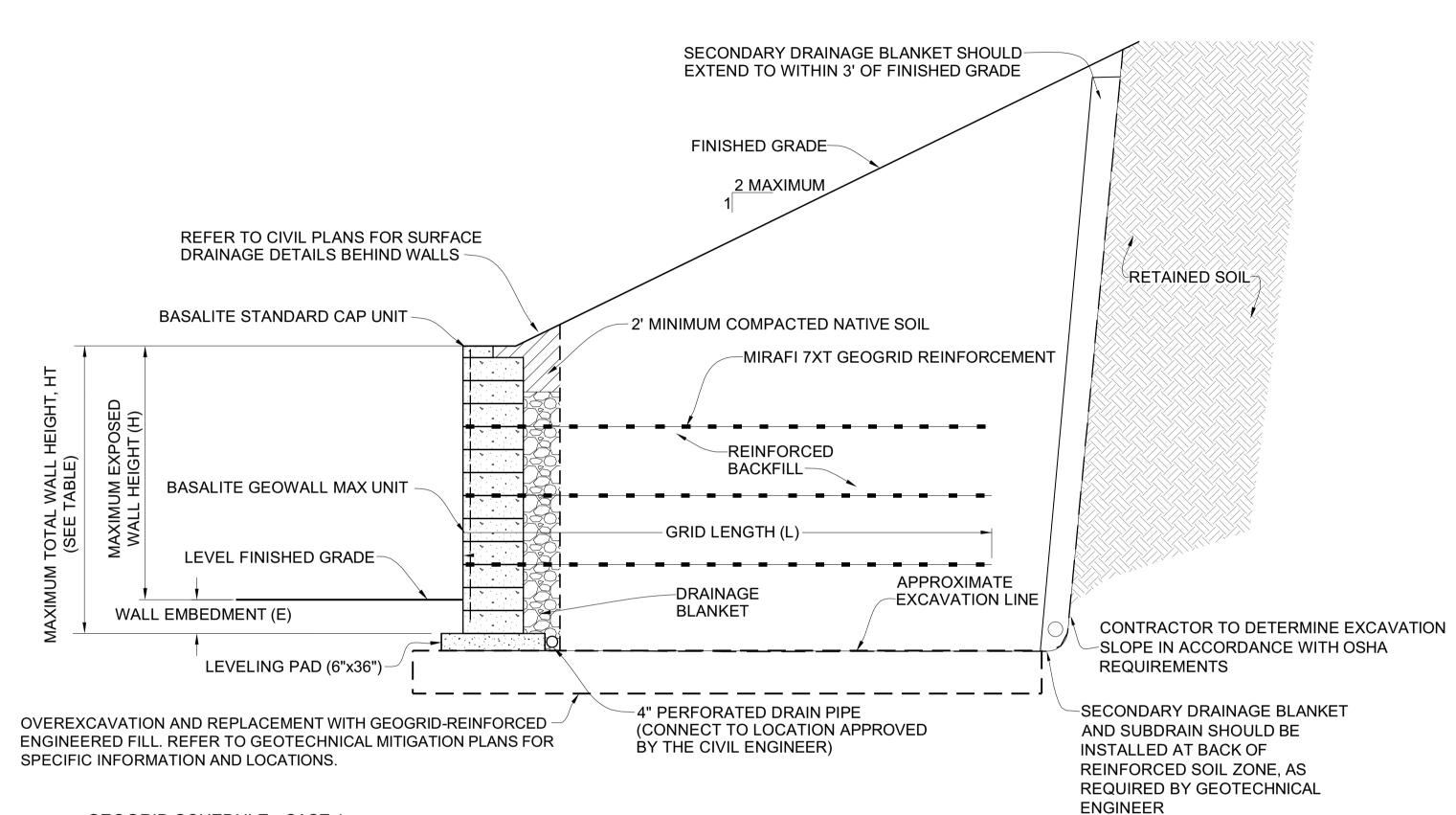




ND SCHEDULES H (MSE) RETAINING WALL 3 AND 4 MASS GRADING

SECTIONS A STABILIZED EAF TIONS HILL PHASI SAN JOSE, CA

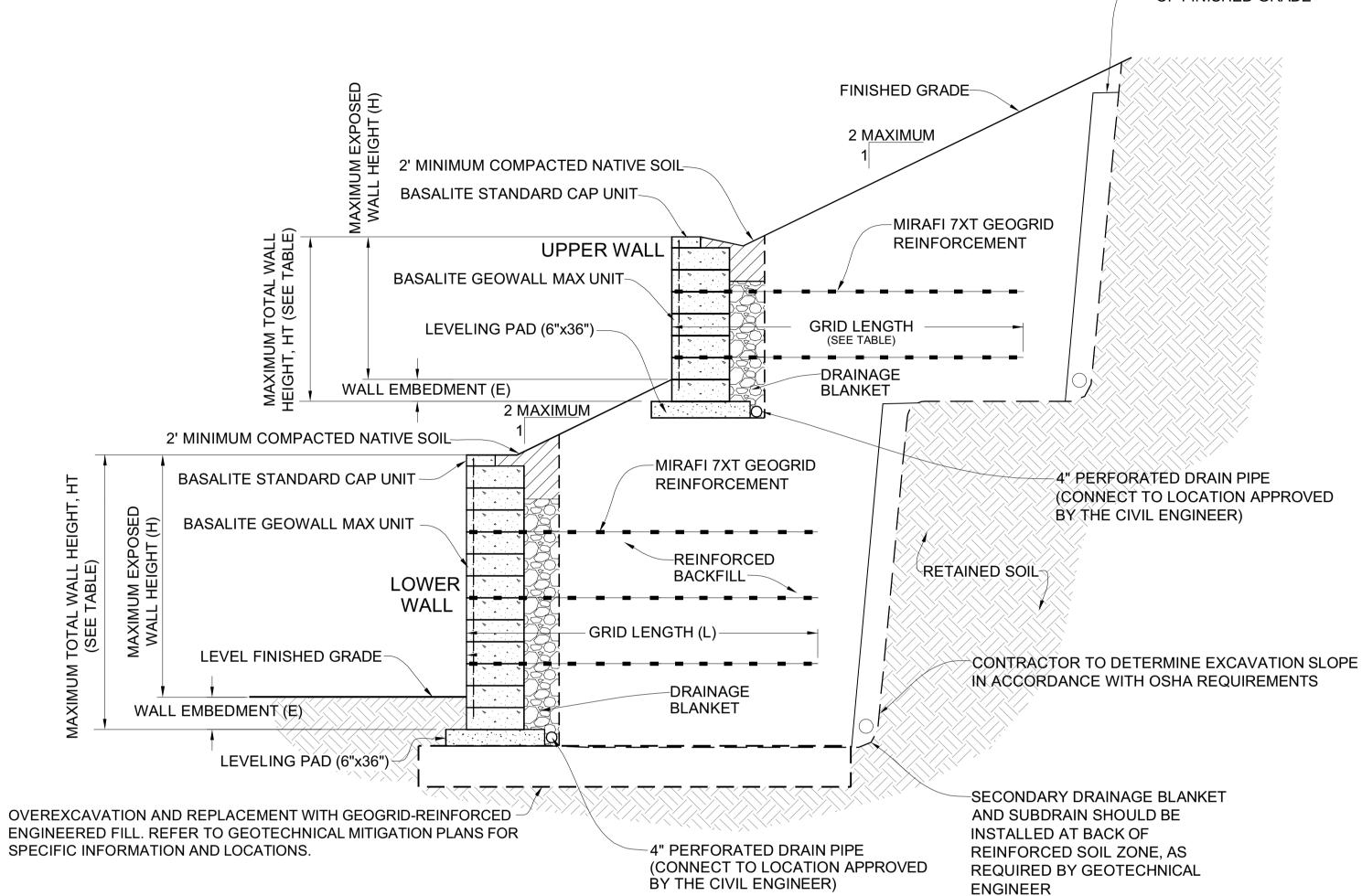




GEOGRID	SCHEDULE .	CASE 1

MAXIMUM TOTAL WALL HEIGHT, HT	MAXIMUM EXPOSED HEIGHT (H)	WALL EMBEDMENT (E)	GEOGRID LENGTH (L)	GEOGRID ELEVATIONS
2'-0"	1'-0"	1'-0"	N/A	N/A
4'-0"	3'-0"	1'-0"	5'-6"	2'
6'-0"	5'-0"	1'-0"	7'-6"	2'/4'
8'-0"	7'-0"	1'-0"	10'-0"	2'/4'/6'
10'-0"	9'-0"	1'-0"	12'-0"	2'/4'/6'/8'
12'-0"	10'-0"	2'-0"	14'-6"	2'/4'/6'/8'/10'
14'-0"	12'-0"	2'-0"	17'-0"	2'/4'/6'/8'/10'/12'
16'-0"	14'-0"	2'-0"	19'-6"	2'/4'/6'/8'/10'/12'/14'
18'-0"	16'-0"	2'-0"	22'-0"	2'/4'/6'/8'/10'/12'/14'/16'
20'-0"	18'-0"	2'-0"	24'-6"	2'/4'/6'/8'/10'/12'/14'/16'/18'
22'-0"	19'-0"	3'-0"	26'-6"	2'/4'/6'/8'/10'/12'/14'/16'/18'/20'
24'-0"	21'-0"	3'-0"	29'-0"	1.33'/2.67'/4'/6'/8'/10'/12'/14'/16'/18'/20'/22'
26'-0"	23'-0"	3'-0"	31'-0"	1.33'/2.67'/4'/6'/8'/10'/12'/14'/16'/18'/20'/22'/24'
28'-0"	25'-0"	3'-0"	33'-0"	1.33'/2.67'/4'/5.33'/6.67'/8'/10'/12'/14'/16'/18'/20'/22'/24'/26'
30'-0"	27'-0"	3'-0"	35'-0"	1.33'/2.67'/4'/5.33'/6.67'/8'/10'/12'/14'/16'/18'/20'/22'/24'/26'/28'

1 WALL WITH MAXIMUM SLOPING 2:1 BACKFILL AND LEVEL FOREGROUND NO SCALE



### CEOCDID SCHEDIILE CASE 3

WALL LOCATION	MAXIMUM TOTAL WALL HEIGHT, HT	MAXIMUM EXPOSED HEIGHT, H	WALL EMBEDMENT, E	GEOGRID LENGTH, L	GEOGRID ELEVATIONS		
UPPER	6'-0"	3'-0"	3'-0"	12'-6"	2'/4'		
LOWER	4'-0"	3'-0"	1'-0"	10'-6"	2'		
UPPER	8'-0"	5'-0"	3'-0"	15'-6"	2'/4'/6'		
LOWER	7'-0"	6'-0"	1'-0"	17'-6"	2'/4'/6'		
UPPER	12'-0"	9'-0"	3'-0"	18'-0"	2'/4'/6'/8'/10'		
LOWER	10'-0"	9'-0"	1'-0"	25'-0"	2'/4'/6'/8'		
UPPER	16'-0"	13'-0"	3'-0"	22'-0"	2'/4'/6'/8'/10'/12'/14'		
LOWER	14'-0"	12'-0"	2'-0"	32'-0"	1.33'/2.67'/4'/6'/8'/10'/12'		

2 TWO TIERED WALL SET WITH MAXIMUM SLOPING 2:1 BACKFILL AND LEVEL FOREGROUND

**REVIEWED FOR CODE** COMPLIANCE

City of San Jose SECI, ES Division, Public Works Building

7/1/2024

Reviewed By: Michael Cardellini

Date: 7/15/2024

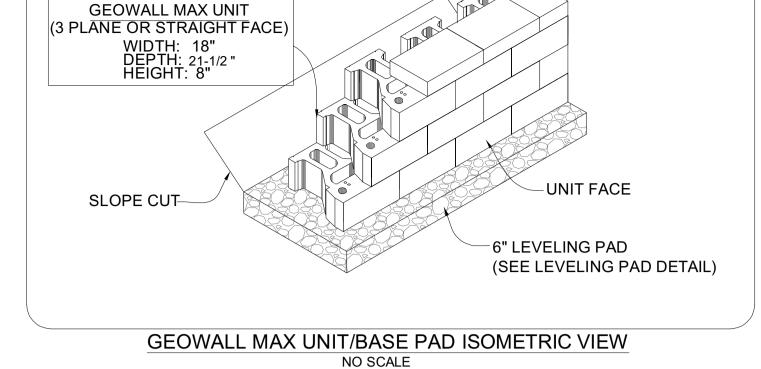
PW 3-18407

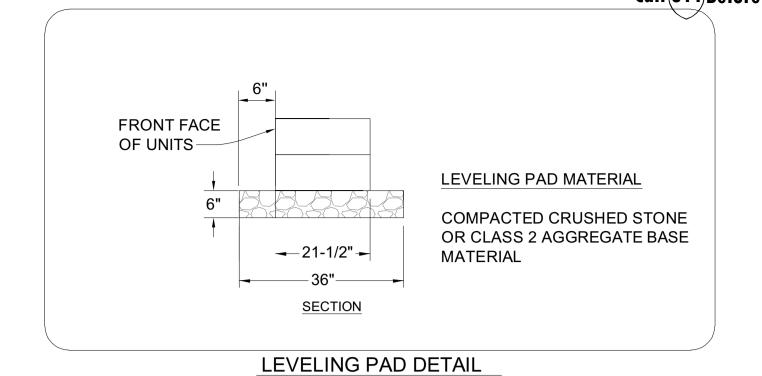
SHEET 59 OF 73

MSE-5 PROJECT NO. MSE-5

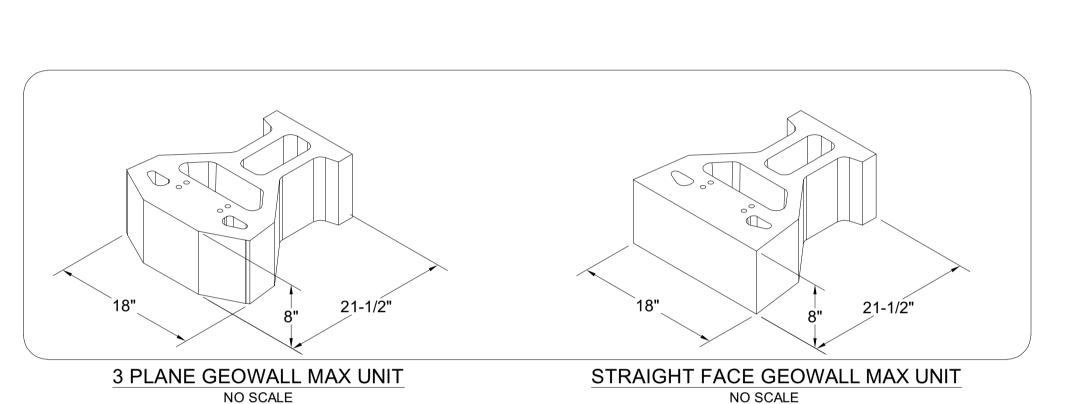
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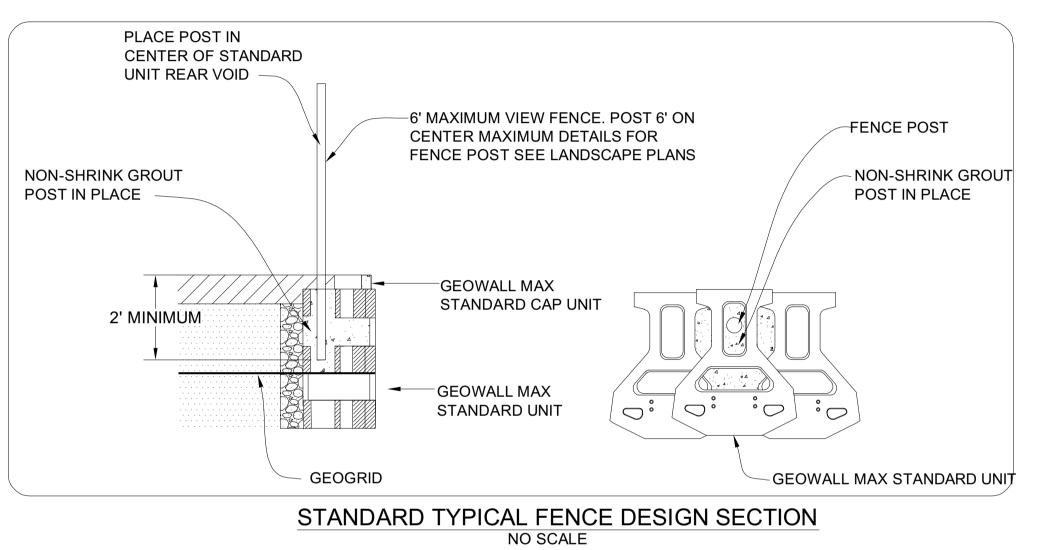
NO SCALE

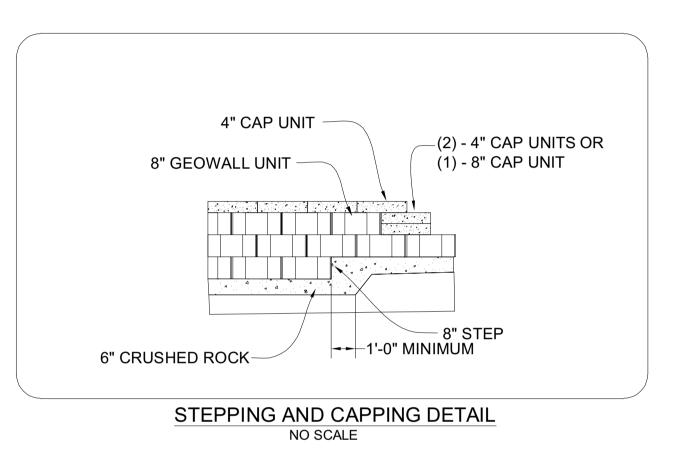


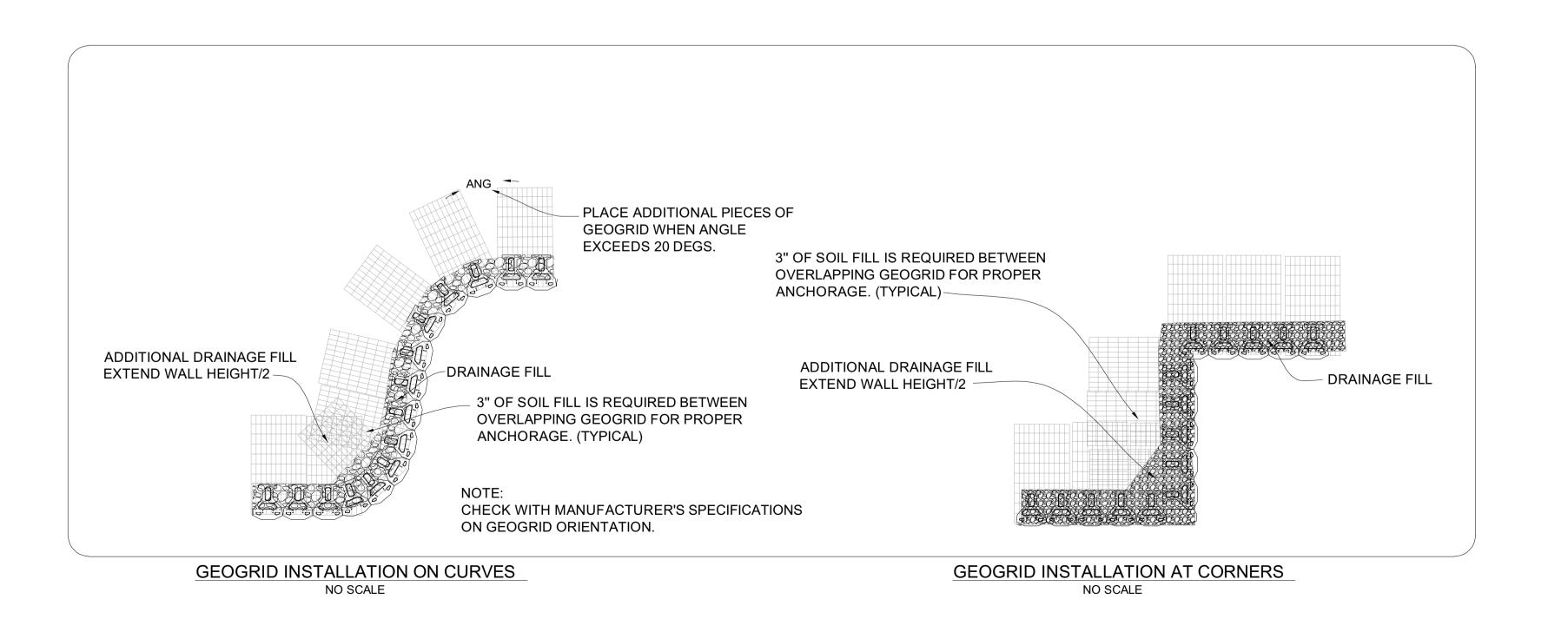


NO SCALE









REVIEWED FOR CODE COMPLIANCE City of San Jose SECI, ES Division, Public Works Building Reviewed By: Michael Cardellini Date: 7/15/2024

MSE-6

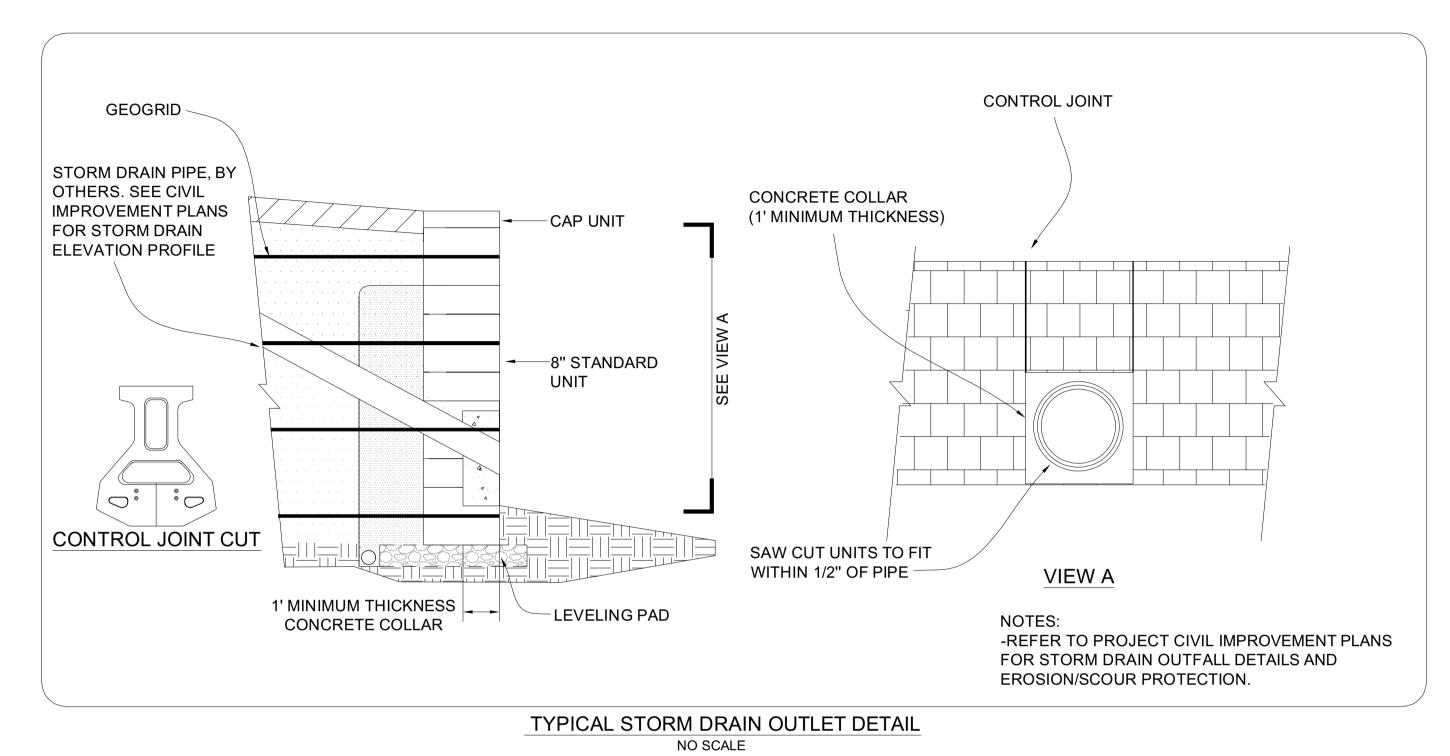
SHEET 60 OF 73
PROJECT NO. 12033.000.001 7/1/2024

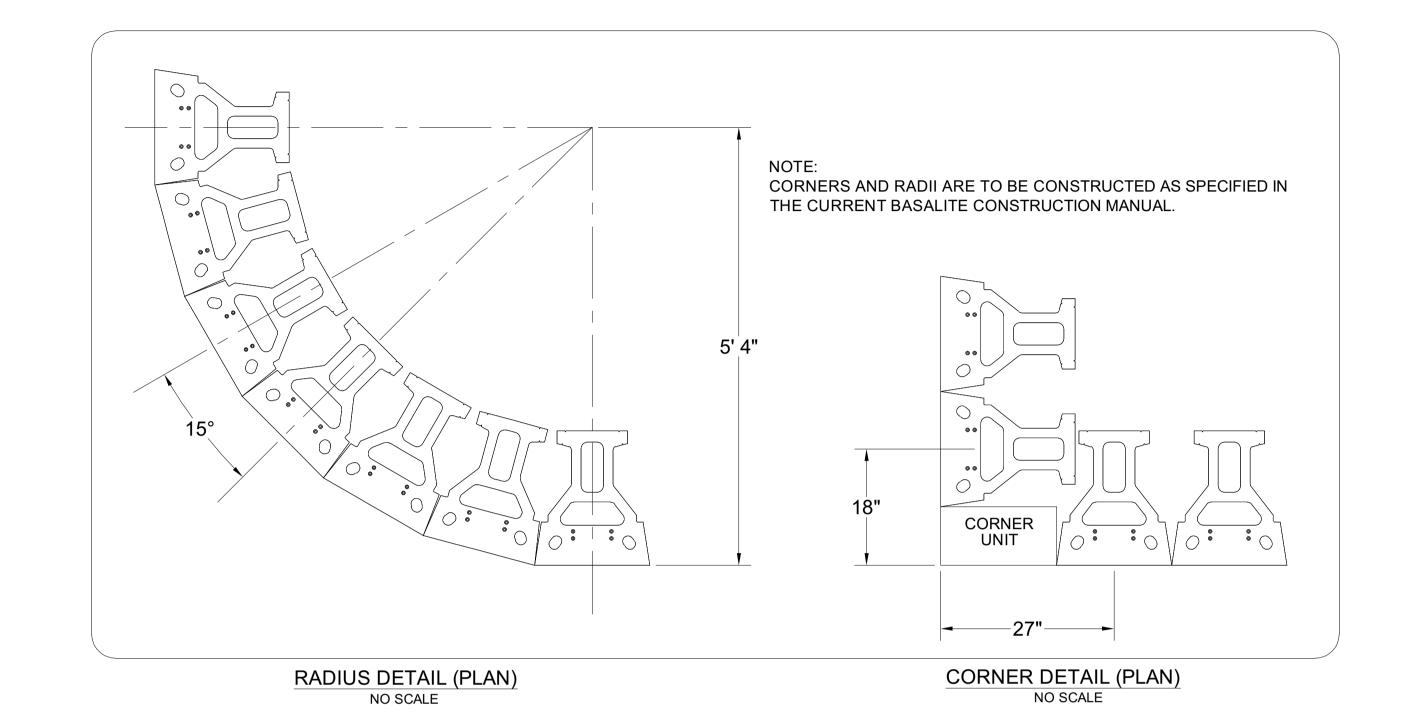
MECHANICALLY

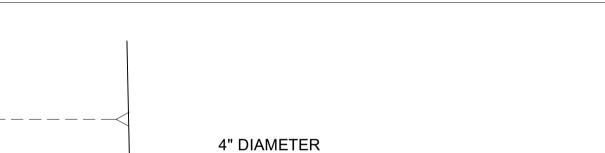
(MSE) RETAINING WALL AND 4 MASS GRADING

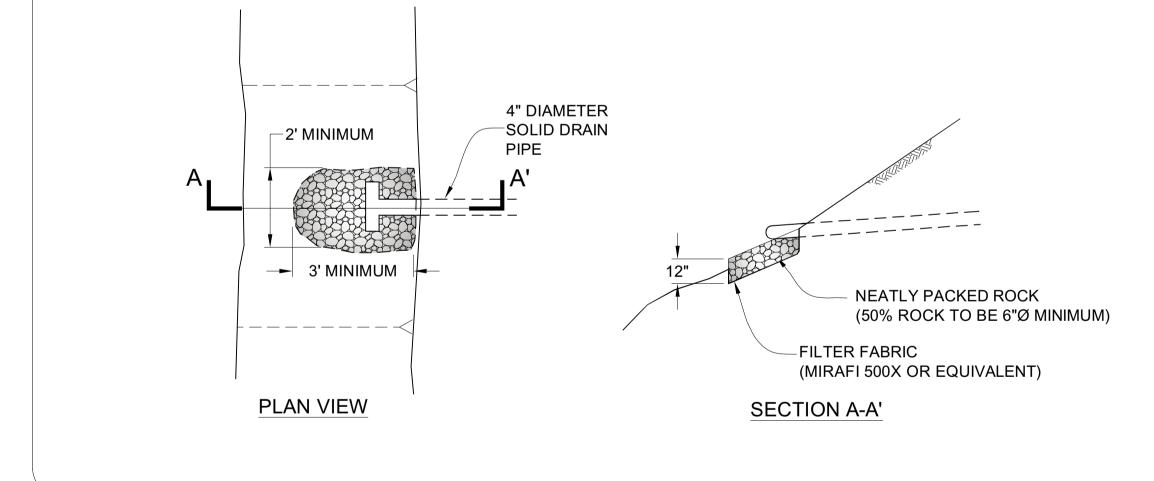
SHEET NUMBER

MSE-7









WALL SUBDRAIN OUTFALL
NO SCALE

REVIEWED FOR CODE COMPLIANCE City of San Jose SECI, ES Division, Public Works

Reviewed By: Michael Cardellini Date: 7/15/2024

SHEET 61 OF 73
PROJECT NO. 12033.000.001 7/1/2024

### **GENERAL NOTES:**

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS PROVIDED AND THE REQUIREMENTS OF THE CALIFORNIA BUILDING CODE (CBC) 2019 AND THE REQUIREMENTS OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED 2018. WHERE CONFLICTS OCCUR, THE SPECIFICATIONS PROVIDED SHALL PREVAIL.
- THE SOIL NAIL WALL STRUCTURES HAVE BEEN DESIGNED IN ACCORDANCE WITH THE SLD (SERVICE LOAD DESIGN) PROCEDURES CONTAINED IN THE FHWA "MANUAL FOR DESIGN AND CONSTRUCTION MONITORING OF SOIL NAIL WALLS" REPORT NO. FHWA-SA-96-069, REPORT NO. FHWA-NHI-14-007, AND THE CALTRANS "SNAILZ" DESIGN PROGRAM. STRUCTURAL DESIGN OF ANY INDIVIDUAL WALL ELEMENTS NOT COVERED IN THE FHWA MANUAL HAVE BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES AND LATEST INTERIM SPECIFICATIONS.
- REFERENCE MATERIALS:
- A. REPORT, "DESIGN-LEVEL GEOLOGIC AND GEOTECHNICAL HAZARDS INVESTIGATION" PREPARED BY CORNERSTONE EARTH GROUP, DATED SEPTEMBER 8, 2014.
- B. EMAIL CORRESPONDENCE FROM CORNERSTONE EARTH GROUP, DATED FEBRUARY 25, 2021. C. PLANS TITLED, "COMMUNICATIONS HILL - PHASE III & IV MASS GRADING PLAN, SAN JOSE, CALIFORNIA", PREPARED
- D. MEMORANDUM, "SUPPLEMENTAL SOLDIER PILE WALL RECOMMENDATIONS" PREPARED BY CORNERSTONE EARTH GROUP, DATED MAY 18, 2021.
- 4. SOIL NAIL DESIGN PARAMETERS (PER CORNERSTONE EARTH GROUP): SOIL NAIL WALL # 1

SOIL/ROCK TYPE	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)	ALLOWABLE SOIL/GROUT BOND* 6"ø (KIPS/FT)
COLLUVIUM/FILL	28	100	130	1.02
FRANCISCAN SANDSTONE SILICA CARBONATE	/ 35	100	135	1.47

5. SOIL NAIL DESIGN PARAMETERS (PER CORNERSTONE EARTH GROUP): SOIL NAIL WALL # 2

SOIL/ROCK TYPE	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)	ALLOWABLE SOIL/GROUT BOND* 6"ø (KIP/FT)	ALLOWABLE SOIL/GROUT BOND* 8"ø (KIP/FT)
COLLUVIUM/FILL	28	100	130	1.02	1.36
FRANCISCAN SANDSTONE		100	135	2.04	2.71

- \* TO BE VERIFIED BY SOIL NAIL TESTING
- 6. SOLDIER PILE DESIGN PARAMETERS (BY CORNERSTONE EARTH GROUP SECTION 12.1):

ACTIVE PRESSURE: 40 PCF (LEVEL BACKSLOPE)\* 50 PCF (3:1 BACKSLOPE)\*

55 PCF (2.5:1 BACKSLOPE)\* 60 PCF (2:1 BACKSLOPE)\*

\*FOR RESTRAINED CONDITIONS: ADD 8H

PASSIVE PRESSURE: 0 PCF (UPPER 2 FT SOIL)

360Z + 1050 PSF - SEE "SUPPLEMENTAL SOLDIER PILE WALL RECOMMENDATIONS" MEMORANDUM

TRAFFIC SURCHARGE: 150 PSF LATERAL PRESSURE

DEPTH TO BEDROCK: SEE GEOTECHNICAL REPORT FOR RECOMMENDATIONS

7. SEISMIC DESIGN PARAMETERS (BY CORNERSTONE EARTH GROUP):

SOIL NAIL: PEAK HORIZONTAL GROUND ACCELERATION: 0.25g (1/2 P.G.A.) SOLDIER PILE: SEISMIC DESIGN LOADING = SEE TABLE 1: RECOMMENDED LATERAL EARTH PRESSURES IN THE "SUPPLEMENTAL WALL RECOMMENDATIONS" MEMORANDUM PREPARED BY CORNERSTONE EARTH GROUP.

8. THIS DESIGN ASSUMES THAT THE WORKMANSHIP EMPLOYED WILL BE OF THE HIGHEST QUALITY AND THAT THE CONTRACTOR WILL BE DIRECTLY RESPONSIBLE TO THE DESIGN ENGINEER. THEREFORE, THIS DESIGN IS ONLY VALID IF CONSTRUCTED BY DRILL TECH DRILLING & SHORING, INC.

### **EXCAVATION NOTES:**

- EXCAVATION SHOULD BE PERFORMED UNDER THE DIRECTION OF THE GENERAL CONTRACTOR AND TO THE GRADES SHOWN IN THE PROJECT CIVIL PLANS.
- 2. EXCAVATION OF THE NEXT LIFT SHALL NOT PROCEED UNTIL NAIL INSTALLATION, SHOTCRETE PLACEMENT, ANCHORAGE PLACEMENT, AND SOIL NAIL TESTING HAS BEEN COMPLETED AND ACCEPTED FOR THE CURRENT LIFT. EXCAVATION SHALL BE LIMITED TO 3 FEET BELOW SUBSEQUENT ROW SOIL NAIL ELEVATIONS.
- 3. THE MAXIMUM VERTICAL UNSUPPORTED CUT SHALL BE 6'-0" UNLESS WRITTEN AUTHORIZATION IS PROVIDED BY DRILL TECH DRILLING AND SHORING INC. (DTDS).
- 4. ALL UTILITIES SHALL BE POTHOLED AND FIELD LOCATED BY THE GENERAL CONTRACTOR PRIOR TO EXCAVATION AND DRILLING. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY CONFLICTS WITH RETAINING WALL ELEMENTS.
- 5. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR SURVEY CONTROL.
- 6. EXCAVATIONS FOR FUTURE HOUSE CONSTRUCTION SHALL NOT BE MADE BENEATH THE TOE OF COMPLETED RETAINING WALLS WITHOUT THE REVIEW AND APPROVAL OF THE DESIGN ENGINEER.
- SOLDIER PILE WALLS SHALL NOT BE BACKFILLED PRIOR TO THE SHOTCRETE FACING ACHIEVING DESIGN STRENGTH. HEAVY COMPACTION EQUIPMENT SHALL NOT BE USED WITHIN 4 FEET OF THE WALL FACE.
- 8. RETAINING WALL BACKFILL MATERIAL SHALL BE NON-EXPANSIVE MATERIAL PLACED AND COMPACTED PER THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER.

### SOLDIER PILE NOTES:

- SOLDIER PILES SHALL BE ASTM A572/ASTM A992 GRADE 50. ALTERNATE PILES FROM THOSE SHOWN IN THESE PLANS MAY BE USED PROVIDED THEY HAVE AN EQUAL OR GREATER SECTION MODULUS AND ARE APPROVED BY THE SHORING ENGINEER IN ADVANCE.
- 2. STRUCTURAL CONCRETE MIX SHALL CONSIST OF 7 SACK MINIMUM CONCRETE WITH f'c = 3600 PSI MIN.
- 3. LEAN MIX CONCRETE SHALL CONSIST OF A 2 SACK MINIMUM CONCRETE.
- 4. PLATES SHALL BE ASTM A36 OR ASTM A572 (50 KSI).
- 5. NELSON STUDS SHALL BE H4L OR S3L FLUX FILLED WELDED TO PLATES AS SHOWN ON THE DRAWINGS. STUDS SHALL BE MADE FROM COLD DRAWN STEEL GRADES C-1010 THROUGH C-1020 PER ASTM A-108 AND SHALL BE WELDED PER THE MANUFACTURERS RECOMMENDATIONS.
- 6. IT IS THE CONTRACTOR'S RESPONSIBILTY TO PREVENT CAVING DURING SOLDIER PILE INSTALLATION. STEEL CASING, POLYMER SLURRY, OR AUGESR CAST PILING SHALL BE USED AS REQUIRED.

### TIE-ROD AND DEADMAN NOTES

- 1. TIE-ROD BAR: GRADE 150 (ASTM A722) XXX" & XXX" DOUBLE CORROSION PROTECTED BAR ENCASED IN CONCRETE. SEE WALL ELEVATIONS FOR LOCATIONS.
- 2. ANCHOR BAR POCKETS: STRUCTURAL TUBING ASTM A500, GRADE C Fy = 50 KSI.
- 3. BEARING PLATE STEEL: ASTM A572, Fy = 50 KSI
- 4. STRUCTURAL CONCRETE: 5.5 SACK MINIMUM CONCRETE, f'c = 3,250 PSI.
- 5. GROUT: f'c = 3,000 PSI MIN. PER AASHTO T106/ASTM C109
- 6. TESTING: PROOF TEST A MINIMUM OF 5% OF TIE-RODS TO 1.33 X DESIGN LOAD. PRE-TENSION EACH TIE-ROD TO 50% DESIGN LOAD

ON INSTALLATION.

- NAIL GROUT: f'c = 3,000 PSI MIN. PER AASHTO T106/ASTM C109 AND PER SECTION 50-1 OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
- 2. NAIL BARS: EPOXY COATED (ASTM A934/A775) OR SHEATHED AND GROUTED GRADE 75 BARS (ASTM A615). EQUIVALENT HOLLOW BAR INJECTION ANCHORS BY DYWIDAG ALSO CAN BE USED .. SEE ELEVATIONS FOR SIZE AND LENGTH OF BARS.
- 3. LAYOUT OF SOIL NAILS IS AS SHOWN. ADJUSTMENTS MAY BE MADE TO ACCOMMODATE FIELD CONDITIONS AS APPROVED BY THE ENGINEER. ADJUSTMENTS OF UP TO ONE FOOT ON ISOLATED NAILS MAY BE MADE WITHOUT NOTIFYING THE ENGINEER. LAYOUT LINES ARE BASED ON THE REFERENCED GRADING PLAN.
- 4. NAILS IN A GIVEN VERTICAL SECTION SHALL BE INSTALLED ACCORDING TO THE DESIGN SCHEDULE AND THE
- 5. TOTAL LENGTH OF THE TEST NAIL ASSEMBLY EQUALS EMBEDMENT LENGTH PLUS EXTRA LENGTH REQUIRED FOR
- 6. TESTING: PROOF TESTING OF THE SOIL NAILS SHALL BE PERFORMED ON A MINIMUM 5 PERCENT OF THE NAILS IN ACCORDANCE WITH THE SPECIFICATIONS. MAXIMUM TEST LOADS ARE SHOWN ON THE SOIL NAIL TEST SCHEDULE. VERIFICATION TESTS SHALL BE PERFORMED AT THE LOCATIONS INDICATED, ALSO IN ACCORDANCE WITH THE SPECIFICATIONS PROVIDED. A VERIFICATION TEST NAIL MAY TAKE PLACE OF A PROOF TEST NAIL FOR THE PURPOSE OF SATISFYING THE ONE TEST PER 20 NAIL REQUIREMENT. ALL TEST NAILS ARE SACRIFICIAL.

### SHOTCRETE NOTES:

- 1. REINFORCED SHOTCRETE: fy = 60,000 PSI (REBAR PER AASHTO M3 I/ ASTM A615) fy = 65,000 PSI (WWF PER ASTM A82/A185)
  - f'c = 3,250 PSI (28-DAY SHOTCRETE COMPRESSIVE STRENGTH)
- 2. CEMENT FOR SHOTCRETE SHALL CONFORM TO AASHTO M85/ASTMC150 TYPE I,II,III, OR V. FINE AGGREGRATE SHALL CONFORM TO AASHTO M6/ASTM C33.
- 3. UNLESS OTHERWISE NOTED ON THE PLANS, MINIMUM SHOTCRETE COVER MEASURED FROM THE FACE OF THE SHOTCRETE TO THE FACE OF ANY REINFORCING BAR SHALL BE 2 INCHES.
- 4. A SHOTCRETE TEST PANEL SHALL BE MADE FOR EACH DAY OF SHOTCRETE APPLICATION. THESE PANELS SHALL BE CORED AND THE CORES SHALL BE TESTED FOR COMPRESSIVE STRENGTH.
- 5. MINIMUM LAP SPLICE OF STEEL REINFORCEMENT SHALL BE AS FOLLOWS: REBAR: 48 BAR DIAMETERS, WELDED WIRE MESH (WWF): 2 SQUARES
- 6. MINIMUM LAP SPLICE FOR GEOCOMPOSITE DRAINAGE SHALL BE 12 INCHES.
- 7. GEOCOMPOSITE DRAIN BOARDS SHALL BE SECURED TO THE SLOPE IN SUCH A MANNER THAT PREVENTS SHOTCRETE FROM GETTING BETWEEN THE CUT SLOPE AND THE GEOCOMPOSITE DRAIN.
- 8. THE INTEGRITY OF THE GEOCOMPOSITE DRAIN TO WEEPHOLE CONNECTION SHALL BE MAINTAINED WHILE

### SPECIAL INSPECTION NOTES:

- 1. SPECIAL INSPECTION IS REQUIRED DURING SOLDIER PILE & SOIL NAIL DRILLING AND PLACEMENT IN ACCORDANCE WITH CBC 1705.8 CAST IN PLACE DEEP FOUNDATIONS (TABLE 1705.8).
- 2. SPECIAL INSPECTION IS REQUIRED DURING SHOTCRETING OPERATIONS IN ACCORDANCE WITH CBC 1705.3 CONCRETE CONSTRUCTION (TABLE 1705.3). INSPECTION SHALL INCLUDE CONTINUOUS INSPECTION DURING SHOTCRETE PLACEMENT TO VERIFY PROPER APPLICATION TECHNIQUES AND PERIODIC INSPECTION OF REINFORCING STEEL
- 3. STRENGTH TESTS FOR SHOTCRETE SHALL BE MADE BY AN APPROVED AGENCY IN ACCORDANCE WITH CBC 1908.10 STRENGTH TESTS. SAMPLES SHALL BE TAKEN AT A MINIMUM ONE PER SHIFT AND NOT LESS THAN ONE PER 50 CUBIC YARDS PLACED.
- 4. THE FOLLOWING SPECIAL INSPECTION ITEMS SHALL BE PERFORMED BY AN AGENCY IN ACCORDANCE WITH THE CBC AND APPROVED BY THE SHORING ENGINEER.
- A. SOLDIER PILE INSTALLATION (BY GEOTECHNICAL ENGINEER). B. SOIL NAILS: INTERMITTENT DURING INSTALLATION, FULL TIME DURING TESTING (BY GEOTECHNICAL
- SHOTCRETE & CONCRETE: INTERMITTENT VISUAL OBSERVATION (BY MATERIALS SPECIAL INSPECTOR AND/OR ENGINEER OF RECORD).
- MATERIALS QUALITY CONTROL/TESTING (BY FULL TIME TESTING AGENCY AND/OR ENGINEER OF RECORD).
- 5. ALL SPECIAL INSEPCTION AND TESTING REPORTS SHALL BE SUBMITTED WEEKLY TO OWNER AND SHORING

RW1 SITE PLAN & NOTES RW2 OVERALL SITE PLAN RW3 SOLDIER PILE WALL - ELEVATION

RW4 SOLDIER PILE WALL - SCHEDULE RW5 SOLDIER PILE WALL - TYPICAL SECTIONS RW6 DEADMAN/TIE-ROD INSTALLATION SEQUENCE RW7 SOLDIER PILE WALL - DETAILS RW8 SOIL NAIL WALL - ELEVATIONS

RW9 SOIL NAIL WALL - TYPICAL SECTIONS

RW10 SOIL NAIL WALL - DETAILS

THE USE OF THESE DRAWINGS AND SPECIFICATIONS SHALL BE RESTRICTED TO THE ORIGINAL USE FOR WHICH THEY WERE

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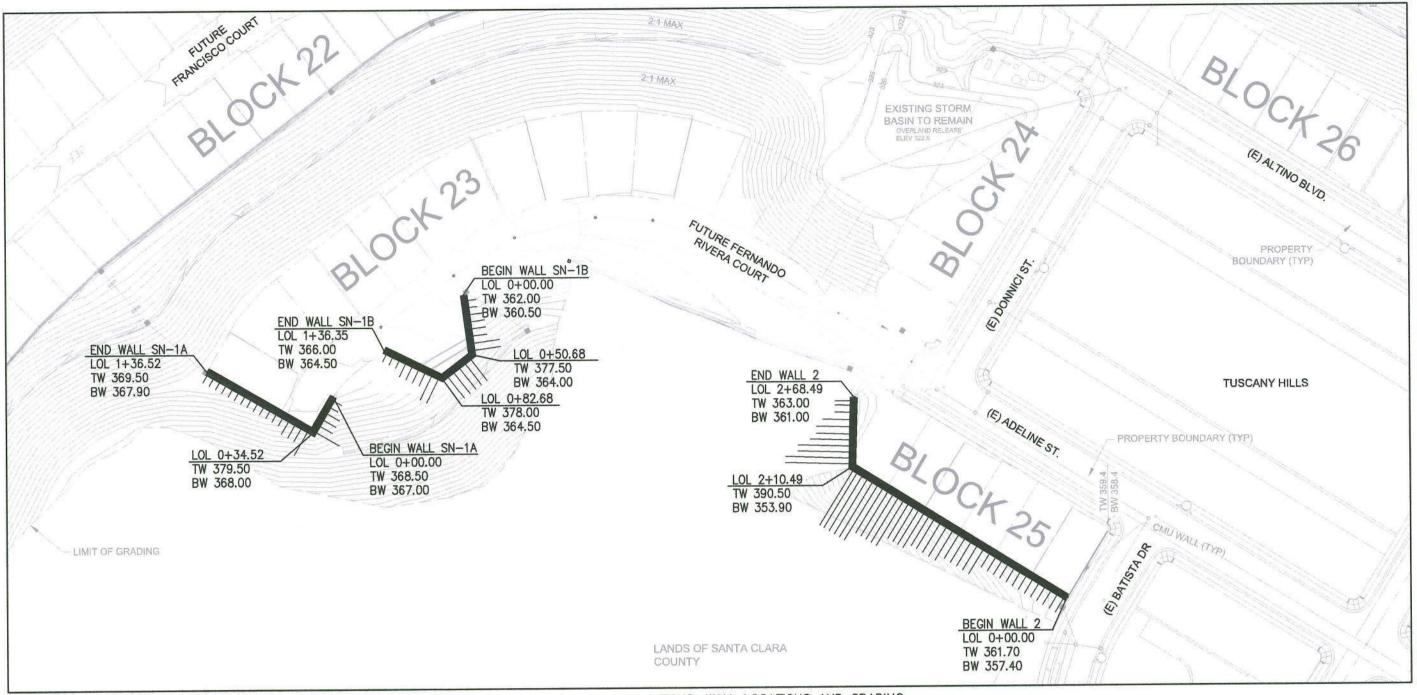
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REVIEWED FOR CODE COMPLIANCE City of San Jose

SECI, ES Division, Public Works

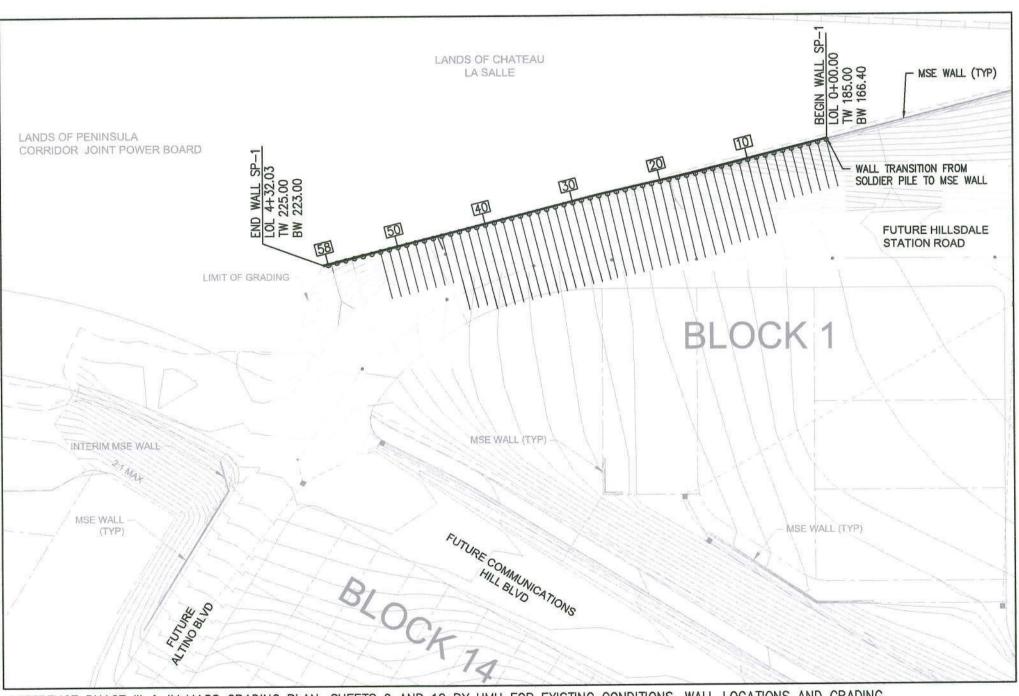
Reviewed By: Michael Cardellini Date: 7/15/2024

## SOIL NAIL & SOLDIER PILE WALLS 3 COM HILL, SAN JOSE, CA

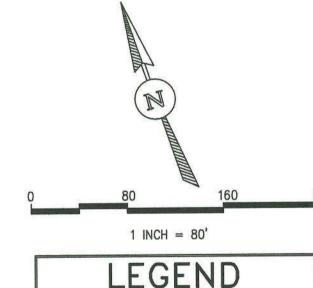


REFERENCE PHASE III & IV MASS GRADING PLAN, SHEETS 10 AND 11 BY H.M.H. FOR EXISTING CONDITIONS, WALL LOCATIONS AND GRADING.

PLAN VIEW - SOIL NAIL WALLS #1 AND #2



REFERENCE PHASE III & IV MASS GRADING PLAN, SHEETS 9 AND 12 BY HMH FOR EXISTING CONDITIONS, WALL LOCATIONS AND GRADING.

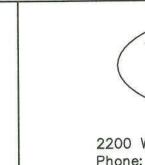


	1 INCH = 80'										
	LEGEND										
+	SOIL NAIL										
<b>⊕</b>	PROOF TEST SOIL NAIL										
A	VERIFICATION TEST SOIL NAIL										
46	SOLDIER PILE #										
•	TIE-ROD/DEADMAN										
LOL	LAYOUT LINE STATION										
TW	TOP OF WALL										
BW	BOTTOM OF WALL										
FG	FINISHED GRADE										
EG	EXISTING GRADE										

2	PLAN	VIEW	 SOLDIER	PILE	WAL
	SCALE: 1"	= 80'			

VISION:	DATE:	DESCRIPTION/REASON:	DESIGN BY: A. RIVERA	SCALE: AS SHOWN
			CHECKED BY: D. BLAKE	JOB NUMBER: 17003
			DATE: NOVEMBER 2, 2021	PROJECT NUMBER: PW 3-18407

12/20/21/





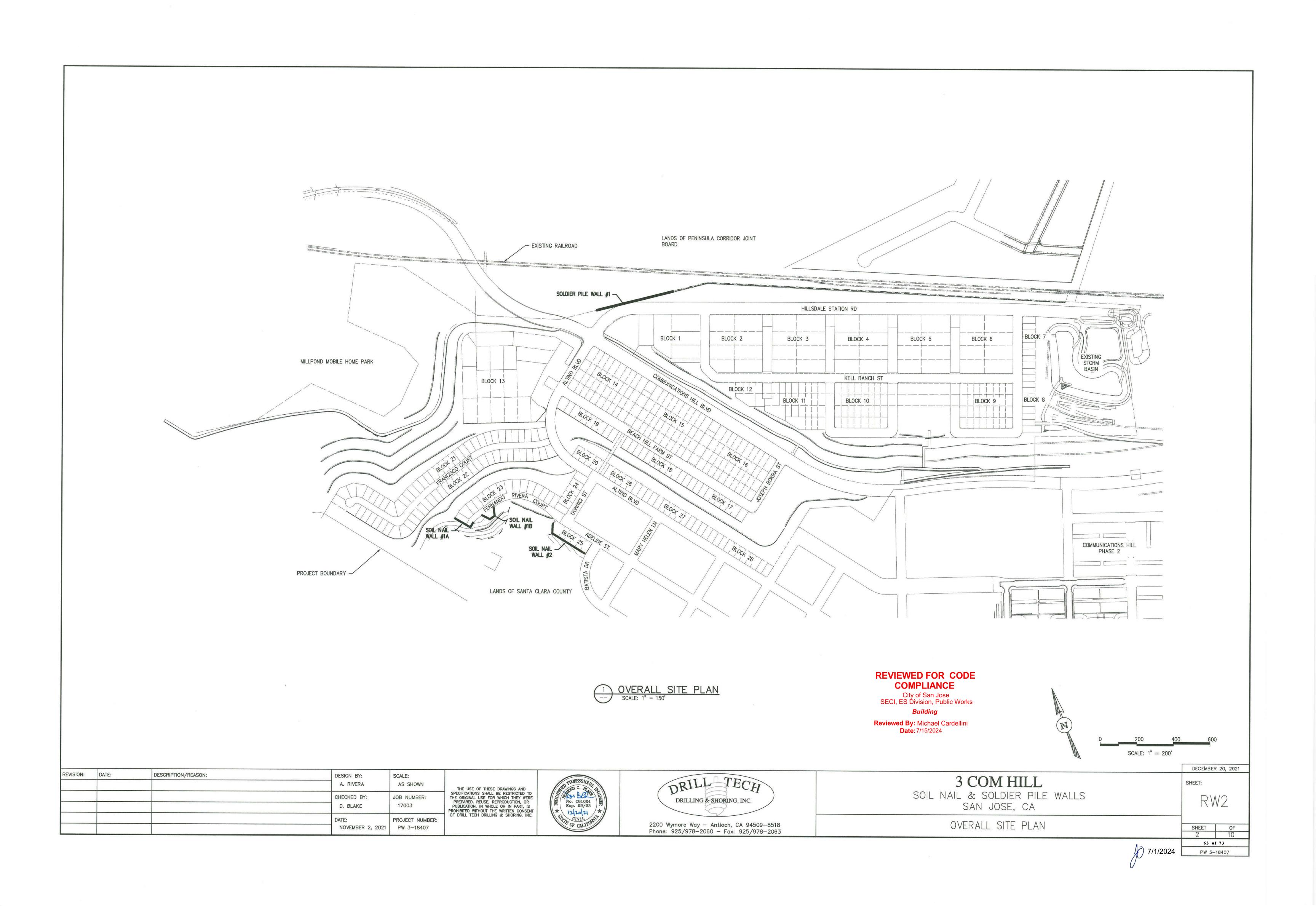
3 COM HILL SOIL NAIL & SOLDIER PILE WALLS SAN JOSE, CA

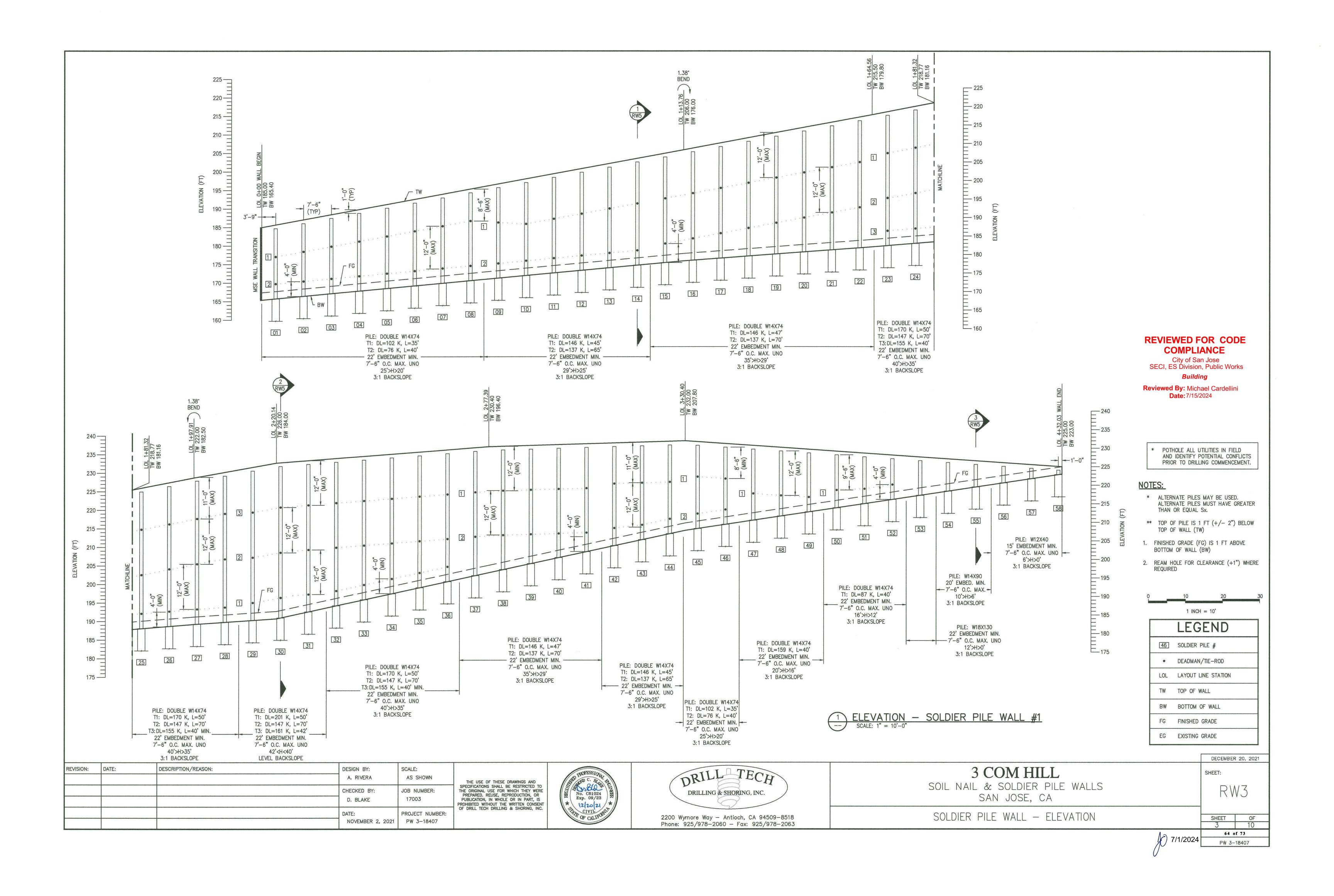
SITE PLAN & NOTES

DECEMBER 20, 2021

62 of 73 7/1/2024 PW 3-18407

SHEET:





	XXXX D. IXXIII.BBI.		SOLDIER PIL	LE SCHEDULE		Age and Panting of the A	**************************************		TIE-RO	D SCHEDULE	[ROW 1]			TIE-RO	DD SCHEDULE [	[ROW 2]			TIE-RO	DD SCHEDULE	[ROW 3]	
		DU 5 0/75 4	HOLE DIA.	TOTAL PILE	TOP OF PILE		EMBEDMENT	erev [er]	DESIGN LOAD	D.A.D. 017E	ODADE [KCI]	LENOTH (ET)	בובע [בד]	DESIGN LOAD	DAD CIZE	ODADE [KCI]	LENOTH (ET)	FLEV [ET]	DESIGN LOAD	DAD CIZE	CDADE [KCI]	LENOTH (ET)
LOL	PILE ID	PILE SIZE *	(IN)	[1-2+3]	** ELEV. (FT)	WALL ELEV. (FT) [2]	DEPTH (FT) [3]	ELEV. [FT]	(KIPS)	BAR SIZE	GRADE [KSI]	LENGIH (FI)	ELEV. [FT]	(KIPS)	BAR SIZE	GRADE [KSI]	LENGTH (FT)	ELEV. [FT]	(KIPS)	BAR SIZE	GRADE [KSI]	LENGIH (FI)
0+03.75	01	(2) W14X74	36	40.94	184.69	165.75	22	177.07	102	1-3/8	GR. 150	35	169.75	76	1-1/4	GR. 150	40					
0+11.25	02	(2) W14X74	36	41.63	186.08	166.45	22	178.45	102	1-3/8	GR. 150	35	170.45	76	1-1/4	GR. 150	40					
0+18.75	03	(2) W14X74	36	42.31	187.46	167.15	22	179.83	102	1-3/8	GR. 150	35	171.15	76	1-1/4	GR. 150	40					
0+26.25	04	(2) W14X74	36	43.00	188.85	167.85	22	181.22	102	1-3/8	GR. 150	35	171.85	76	1-1/4	GR. 150	40	MOSSEME COMPANIES HE HE WOULD				
0+33.75	05	(2) W14X74	36	43.69	190.23	168.54	22	182.60	102	1-3/8	GR. 150	35	172.54	76	1-1/4	GR. 150	40					
0+41.25	06	(2) W14X74	36	44.37	191.61	169.24	22	183.99	102	1-3/8	GR. 150	35	173.24	76	1-1/4	GR. 150	40					
0+48.75	07	(2) W14X74	36	45.06	193.00	169.94	22	185.37	102	1-3/8	GR. 150	35	173.94	76	1-1/4	GR. 150	40			ļ		
0+56.25	08	(2) W14X74	36	45.74	194.38	170.64	22	186.76	102	1-3/8	GR. 150	35	174.64	76	1-1/4	GR. 150	40		La contraction of the contractio			
0+63.75	09	(2) W14X74	36	46.43	195.77	171.34 172.04	22	186.35 185.97	146 146	1-3/4	GR. 150 GR. 150	45 45	175.30 176.04	137	1-3/4	GR. 150 GR. 150	65 65					
0+71.25 0+78.75	10	(2) W14X74 (2) W14X74	36 36	47.11 47.80	197.15 198.54	172.74	22	187.35	146	1-3/4	GR. 150	45	176.74	137	1-3/4	GR. 150	65	W-1-2-W-1-2				
0+86.25	12	(2) W14X74	36	48.49	199.92	173.44	22	188.74	146	1-3/4	GR. 150	45	177.44	137	1-3/4	GR. 150	65					
0+93.75	13	(2) W14X74	36	49.17	201.31	174.14	22	190.14	146	1-3/4	GR. 150	45	178.14	137	1-3/4	GR. 150	65				+	
1+01.25	14	(2) W14X74	36	49.86	202.69	174.83	22	191.50	146	1-3/4	GR. 150	45	178.83	137	1-3/4	GR. 150	65					
1+08.75	15	(2) W14X74	36	50.54	204.08	175.53	22	192.88	146	1-3/4	GR. 150	47	180.68	137	1-3/4	GR. 150	70					
1+16.25	16	(2) W14X74	36	51.28	205.44	176.16	22	194.25	146	1-3/4	GR. 150	47	182.04	137	1-3/4	GR. 150	70					
1+23.75	17	(2) W14X74	36	52.12	206.87	176.75	22	195.68	146	1-3/4	GR. 150	47	183.47	137	1-3/4	GR. 150	70					
1+31.25	18	(2) W14X74	36	52.96	208.27	177.31	22	197.08	146	1-3/4	GR. 150	47	184.87	137	1-3/4	GR. 150	70		A NEW YORK OF THE STREET			
1+38.75	19	(2) W14X74	36	53.81	209.68	177.87	22	198.48	146	1-3/4	GR. 150	47	186.27	137	1-3/4	GR. 150	70					
1+46.25	20	(2) W14X74	36	54.65	211.08	178.43	22	199.89	146	1-3/4	GR. 150	47	187.68	137	1-3/4	GR. 150	70					
1+53.75	21	(2) W14X74	36	55.49	212.48	178.99	22	201.29	146	1-3/4	GR. 150	47	189.08	137	1-3/4	GR. 150	70					
1+61.25	22	(2) W14X74	36	56.33	213.88	179.55	22	202.69	146	1-3/4	GR. 150	47	190.48	137	1-3/4	GR. 150	70					
1+68.75	23	(2) W14X74	36	57.18	215.32	180.14	22	205.11	170	1-3/4	GR. 150	50	193.00	147	1-3/4	GR. 150	70	184.14	155	1-3/4	GR. 150	40
1+76.25	24	(2) W14X74	36	58.03	216.78	180.75	22	206.57	170	1-3/4	GR. 150	50	194.35	147	1-3/4	GR. 150	70	184.75	155	1-3/4	GR. 150	40
1+83.75	25	(2) W14X74	36	58.90	218,25	181.35	22	208.03	170	1-3/4	GR. 150	50	195.81	147	1-3/4	GR. 150	70	185.35	155	1-3/4	GR. 150	40
1+91.25	26	(2) W14X74	36	59.74	219.70	181.96	22	209.49	170	1-3/4	GR. 150	50	197.37	147	1-3/4	GR. 150	70	185.96	155	1-3/4	GR. 150	40
1+98.75	27	(2) W14X74	36	60.59	221.15	182.56	22	210.96	170	1-3/4	GR. 150	50	198.73	147	1-3/4	GR. 150	70	186.56	155	1-3/4	GR. 150	40
2+06.25	28	(2) W14X74	36	61.44	222.44	183.00	22	212.26	170	1-3/4	GR. 150	50	200.00	147	1-3/4	GR. 150	70	187.00	155	1-3/4	GR. 150	40
2+13.75	29	(2) W14X74	36	62.28	223.85	183.57	22	212.67	201	2-1/4	GR. 150	50	200.48	147	1-3/4	GR. 150	70	188.29	161	1-3/4	GR. 150	42
2+21.25	30	(2) W14X74	36	62.84	225.09	184.24	22	214.02	201	2-1/4	GR. 150	50	201.83	147	1-3/4	GR. 150	70	189.64	161	1-3/4	GR. 150	42
2+28.75	31	(2) W14X74	36	61.80	225.66	185.86	22	214.63	201	2-1/4 1-3/4	GR. 150 GR. 150	50 50	202.59	147	1-3/4	GR. 150 GR. 150	70	190.56 191.49	161	1-3/4	GR. 150 GR. 150	42
2+36.25 2+43.75	32	(2) W14X74 (2) W14X74	36 36	60.75 59.70	226.24 226.81	187.49 189.11	22	215.21 215.78	170 170	1-3/4	GR. 150	50	203.75	147	1-3/4	GR. 150	70	193.11	155	1-3/4	GR. 150	40
2+51.25	34	(2) W14X74	36	58.65	227.39	190.74	22	216.36	170	1-3/4	GR. 150	50	204.32	147	1-3/4	GR. 150	70	194.74	155	1-3/4	GR. 150	40
2+58.75	35	(2) W14X74	36	57.60	227.97	192.36	22	216.93	170	1-3/4	GR. 150	50	204.90	147	1-3/4	GR. 150	70	196.36	155	1-3/4	GR. 150	40
2+66.25	36	(2) W14X74	36	56.56	228.54	193.99	22	217.51	170	1-3/4	GR. 150	50	205.48	147	1-3/4	GR. 150	70	197.99	155	1-3/4	GR. 150	40
2+73.75	37	(2) W14X74	36	55.51	229.12	195.61	22	218.09	146	1-3/4	GR. 150	47	206.08	137	1-3/4	GR. 150	70					
2+81.25	38	(2) W14X74	36	54.29	229.52	197.23	22	218.52	146	1-3/4	GR. 150	47	206.51	137	1-3/4	GR. 150	70					
2+88.75	39	(2) W14X74	36	52.90	229.74	198.84	22	218.74	146	1-3/4	GR. 150	47	206.73	137	1-3/4	GR. 150	70					
2+96.25	40	(2) W14X74	36	51.51	229.97	200.46	22	218.97	146	1-3/4	GR. 150	47	206.96	137	1-3/4	GR. 150	70					
3+03.75	41	(2) W14X74	36	50.13	230.20	202.07	22	219.20	146	1-3/4	GR. 150	47	207.19	137	1-3/4	GR. 150	70					
3+11.25	42	(2) W14X74	36	48.74	230.42	203.68	22	220.42	146	1-3/4	GR. 150	45	208.42	137	1-3/4	GR. 150	65					
3+18.75	43	(2) W14X74	36	47.35	230.65	205.29	22	220.65	146	1-3/4	GR. 150	45	209.29	137	1-3/4	GR. 150	65					
3+26.25	44	(2) W14X74	36	45.97	230.87	206.91	22	220.87	146	1-3/4	GR. 150	45	210.91	137	1-3/4	GR. 150	65					
3+33.75	45	(2) W14X74	36	44.47	230.87	208.41	22	222.37	102	1-3/8	GR. 150	35	212.41	76	1-1/4	GR. 150	40					
3+41.25	46	(2) W14X74	36	42.83	230.25	209.42	22	221.75	102	1-3/8	GR. 150	35	213.42	76	1-1/4	GR. 150	40					
3+48.75	47	(2) W14X74	36	41.19	229.74	210.54	22	217.74	159	1-3/4	GR. 150	40							ļ	Annual de Strategie		
3+56.25	48	(2) W14X74	36	39.55	229.22	211.67	22	217.20	159	1-3/4	GR. 150	40						and the second second second				
3+63.75	49	(2) W14X74	36	37.92	228.70	212.79	22	216.79	159	1-3/4	GR. 150	40										
3+71.25	50	(2) W14X74	36	36.28	228.19	213.91	22	218.69	87	1-1/4	GR. 150	40										
3+78.75	51	(2) W14X74	36	34.64	227.67	215.03	22	219.03	87	1-1/4	GR. 150	40	<u></u>	-								
3+86.25 3+03.75	52	(2) W14X74	36	33.00	227.15	216.15 217.27	22	220.15	87	1-1/4	GR. 150	40					-					
3+93.75 4+01.25	53 54	W18X130 W14X90	36 36	31.36 27.72	226.64 226.12	217.27	20	No			<del>                                     </del>					1		<del>auma enamente de la m</del> en	<del> </del>		-	
4+01.25	55	W14X90 W14X90	36	26.09	225.60	219.52	20															
4+16.25	56	W12X40	36	19.45	225.09	220.64	15											*****				
4+23.75	57	W12X40	36	17.81	224.57	221.76	15													William Control		Marian de la companya
4+31.03	58	W12X40	36	16.22	224.07	222.85	15															

### REVIEWED FOR CODE **COMPLIANCE**

City of San Jose SECI, ES Division, Public Works Building

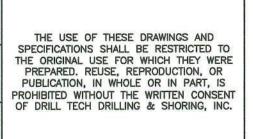
Reviewed By: Michael Cardellini Date: 7/15/2024

### NOTES:

- \* ALTERNATE PILES MAY BE USED. ALTERNATE PILES MUST HAVE GREATER THAN OR EQUAL Sx.
- \*\* TOP OF PILE IS 1 FT (+/- 2") BELOW TOP OF WALL (TW)
- FINISHED GRADE (FG) IS 1 FT ABOVE BOTTOM OF WALL (BW)

REAM HOLE FOR CLEARANCE (+1") WHERE REQUIRED

REVISION:	DATE:	DESCRIPTION/REASON:	DESIGN BY: A. RIVERA	SCALE: AS SHOWN	
			CHECKED BY: D. BLAKE	JOB NUMBER: 17003	T
			DATE: NOVEMBER 2, 2021	PROJECT NUMBER: PW 3-18407	







	3	C	OM HI	LL	
SOIL	NAIL	&	SOLDIER	PILE	WALLS
		SAI	V JOSE, (	CA	

SOLDIER PILE WALL - SCHEDULE

SHEET: RW4

DECEMBER 20, 2021

SHEET OF 10 7/1/2024 65 of 73 PW 3-18407

