THE UNION **LEGEND EXISTING DESCRIPTION** 5TH AND UNION STREET **BOUNDARY** PROPERTY LINE OAKLAND, CALIFORNIA LANDSCAPE RETAINING WALL RAINWATER TIGHTLINE SUBDRAIN LINE LIMITS OF WORK TIGHTLINE STORM DRAIN LINE SANITARY SEWER LINE WATER LINE GAS LINE PRESSURE LINE JOINT TRENCH SET BACK LINE CONCRETE VALLEY GUTTER **~>· ~>** ~>· ~> EARTHEN SWALE CATCH BASIN JUNCTION BOX AREA DRAIN CURB INLET O_{SDMH} STORM DRAIN MANHOLE FIRE HYDRANT SANITARY SEWER MANHOLE STREET SIGN SPOT ELEVATION FLOW DIRECTION DEMOLISH/REMOVE BENCHMARK CONTOURS TREE TO BE REMOVED **ABBREVIATIONS** ASPHALT CONCRETE ACCESSIBLE MANHOLE MONUMENT AREA DRAIN BEGINNING OF CURVE BEARING & DISTANCE BENCHMARK NEW NUMBER NOT TO SCALE (N) NO. NTS O.C. O/ ENGINEER'S STATEMENT-GEOTECHNICAL DESIGN INITIAL STATEMENT OF THE ENGINEER (DIVIDED RESPONSIBILITY) BOTTOM OF WALL/FINISH GRADE ON CENTER CATCH BASIN I HAVE BEEN RETAINED BY HOLLIDAY DEVELOPMENT TO BE CURB AND GUTTER PLANTING AREA IN RESPONSIBLE CHARGE OF THE PORTIONS OF GRADING WORK ENUMERATED BELOW. CENTER LINE PEDESTRIAN CORRUGATED PLASTIC PIPE POST INDICATOR VALVE I WILL ASSUME FULL RESPONSIBILITY AS RESPONSIBILITY IS DEFINED IN SECTION PUBLIC SERVICES EASEMENT (SMOOTH INTERIOR) 2-6.075 OF THE OAKLAND MUNICIPAL CODE FOR CARRYING OUT THE FOLLOWING TO ČLEANOUT PROPERTY LINE THE BEST OF MY KNOWLEDGE AND ABILITY: CLEANOUT TO GRADE POWER POLE PUBLIC UTILITY EASEMENT 1" = 50'CONCRETE (A) ASSURING THAT TESTING AND INSPECTION REQUIRED FOR THE WORK IN CONSTRUCT or -TION POLYMNYL CHLORIDE CONCRETE CORNER PROGRESS AND THE COMPLETED WORK SHALL BE ACCOMPLISHED IN A CUBIC YARD REINFORCED CONCRETE PIPE PROFESSIONAL MANNER TO DETERMINE WHETHER ALL THE WORK IS DIAMETER DROP INLET RIM ELEVATION BEING/WAS DONE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS RAINWATER APPRÓVED BY THE DIRECTOR OF PUBLIC WORKS. DUCTILE IRON PIPE RIGHT OF WAY END OF CURVE (B) NOTIFYING THE APPLICANT, VERBALLY AND IN WRITING (WITH A COPY TO SEE ARCHITECTURAL DRAWINGS **EXISTING GRADE** THE DIRECTOR OF PUBLIC WORKS), OF ANY WORK NOT BEING PERFORMED ELEVATIONS STORM DRAIN STORM DRAIN MANHOLE IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. EDGE OF PAVEMENT EQUIPMENT (C) NOTIFYING THE APPLICANT, VERBALLY AND IN WRITING (WITH A COPY TO EACH WAY SEE LANDSCAPE DRAWINGS S.L.D. SPEC SS SSCO SSMH ST. STA STD STRUCT EXISTING FACE OF CURB THE DIRECTOR OF PUBLIC WORKS), OF ANY WORK NOT MEETING THE SPECIFICATION REQUIREMENTS OF THE APPROVED PLANS AND SPECIFICATIONS. SANITARY SEWER FINISHED FLOOR SANITARY SEWER CLEANOUT FINISHED GRADE SANITARY SEWER MANHOLE (D) NOTIFYING THE APPLICANT, VERBALLY AND IN WRITING, OF THE FIRE HYDRANT FLOW LINE MODIFICATION(S) REQUIRED IN HIS PERFORMANCE AND THE NECESSARY STATION CORRECTIVE MÉASURES TO BE TAKEN TO CURE ALL DEFICIENCIES. FINISHED SURFACE STANDARD STRUCTURAL GAGE OR GAUGE (E) (BY PROJECT CIVIL ENGINEER) TELEPHONE GRADE BREAK HIGH DENSITY CORRUGATED TOP OF CURB HDPE HIGH DI POLYETHYLENE PIPE **TEMPORARY** (F) (BY PROJECT CIVIL ENGINEER) TOP OF PAVEMENT HORIZONTAL TOP OF WALL/FINISH GRADE HIGH POINT HUB & TACK (G) (BY PROJECT CIVIL ENGINEER) VC VCP VERT VERTICAL CURVE VITRIFIED CLAY PIPE (H) (BY PROJECT CIVIL ENGINEER) INVERT ELEVATION VERTICAL JUNCTION BOX IF MY SERVICES ON THE JOB ARE TERMINATED, I WILL, AT SAID TIME OF TERMINATION, JOINT TRENCH JOINT UTILITY POLE SUBMIT TO THE DIRECTOR OF PUBLIC WORKS, A STATEMENT OF PARTIAL COMPLETION WATER METER WELDED WIRE FABRIC ADDRESSING THE PROGRESS AND CONDITIONS OF ALL OF THE APPLICABLE ITEMS ABOVE LANDING AND ATTACH THERETO THE RESULTS OF SUCH INSPECTIONS AND TESTS WHICH HAVE LINEAR FEET BEEN COMPLETED. ESTIMATED EARTHWORK QUANTITIES WITHIN BUILDING **TOTAL CUBIC** BUILDING **CUBIC YARDS** FOOTPRINT YARDS FOOTPRINT 0 458 512 512 54 **IMPORT**

GRADING QUANTITIES REPRESENT BANK YARDAGE. IT DOES NOT INCLUDE

ANY SWELLING OR SHRINKAGE FACTORS AND IS INTENDED TO REPRESENT

TRENCHING, STRUCTURAL FOUNDATIONS OR PIERS, OR POOL EXCAVATION

(IF ANY). NOTE ADDITIONAL EARTHWORKS, SUCH AS KEYWAYS OR BENCHING

MAY BE REQUIRED BY THE GEOTECHNICAL ENGINEER IN THE FIELD AT TIME

IN-SITU CONDITIONS. QUANTITIES DO NOT INCLUDE OVER-EXCAVATION,

OF CONSTRUCTION. CONTRACTOR TO VERIFY QUANTITIES.

PROJECT SITE

VICINITY MAP

ENGINEER'S STATEMENT - CIVIL DESIGN

I HAVE BEEN RETAINED BY HOLLIDAY DEVELOPMENT TO BE IN RESPONSIBLE CHARGE OF THE PORTIONS OF GRADING WORK ENUMERATED BELOW. I WILL ASSUME FULL RESPONSIBILITY AS RESPONSIBILITY IS DEFINED IN SECTION 2-6.075 OF THE OAKLAND MUNICIPAL CODE FOR CARRYING OUT THE FOLLOWING TO THE BEST OF MY KNOWLEDGE AND ABILITY:

- (A) (BY PROJECT GEOTECHNICAL CONSULTANT)
- (B) (BY PROJECT GEOTECHNICAL CONSULTANT)

INITIAL STATEMENT OF THE ENGINEER (DIVIDED RESPONSIBILITY)

- (C) (BY PROJECT GEOTECHNICAL CONSULTANT)
- (D) (BY PROJECT GEOTECHNICAL CONSULTANT)

(E) SUBMITTING AN AMENDED GRADING PLAN (THROUGH THE APPLICANT) TO THE CITY ENGINEER FOR HIS REVIEW AND APPROVAL FOR ANY SIGNIFICANT CHANGES CAUSED BY UNFORESEEN CONDITIONS, ALONG WITH A REPORT SETTING FORTH THE REASONS FOR THESE CHANGES AND THE RECOMMENDED CHANGES TO THE IMPROVEMENT PLANS ENGENDERED AS A RESULT OF THE AMENDED GRADING PLAN.

(F) NOTIFYING THE APPLICANT, VERBALLY AND IN WRITING (WITH A COPY TO THE CITY ENGINEER), OF ANY PORTION OF THE GRADING WORK AFFECTED BY THE AMENDED PLANS AND SHALL RECOMMEND WHETHER OR NOT THE APPLICANT SHOULD PROCEED WITH THE WORK BEFORE THE AMENDED PLANS ARE APPROVED BY THE

(G) SUBMITTING UPON THE APPLICANT'S SATISFACTORY COMPLETION OF WORK UNDER THE PERMIT, A STATEMENT OF COMPLETION PURSUANT TO SECTION 2-6.111 OF THE OAKLAND MUNICIPAL CODE WITH THE RESULTS OF ALL TESTS AND INSPECTIONS ATTACHED THERETO.

(H) STATING IN WRITING, ALONG WITH THE STATEMENT OF COMPLETION, THAT THE INTERIM EROSION CONTROL AND SEDIMENT CONTROL MEASURES APPEAR TO BE ADEQUATE IF PROPERLY MAINTAINED UNTIL THE PERMANENT EROSION CONTROL MEASURES ARE FULLY ESTABLISHED, IF ANY ARE REQUIRED.

IF MY SERVICES ON THE JOB ARE TERMINATED, I WILL, AT SAID TIME OF TERMINATION, SUBMIT TO THE CITY ENGINEER, A STATEMENT OF PARTIAL COMPLETION ADDRESSING THE PROGRESS AND CONDITIONS OF ALL OF THE APPLICABLE ITEMS ABOVE AND ATTACH THERETO THE RESULTS OF SUCH INSPECTIONS AND TESTS WHICH HAVE BEEN COMPLETED.

SIGNED: RAYMOND BARRO REGISTERED CIVIL ENGINEER NO. C68283 (EXP. 09-30-17)

SITE BENCHMARK

SURVEY CONTROL POINT MAG AND SHINER SET IN ASPHALT ELEVATION = 8.68'

REGISTERED CIVIL ENGINEER NO. _____ (EXP. ____

(TO BE STAMPED AND SIGNED BY PROJECT GEOTECHNICAL CONSULTAN



C - 2.0DEMO PLAN C - 2.1GRADING & DRAINAGE PLAN C - 2.2UTILITY SECTIONS C - 2.3PARKING & STRIPING PLAN **DETAILS** C - 3.0DETAILS GRADING SPECIFICATIONS **EROSION CONTROL** ER-2EROSION CONTROL DETAILS SW-1 STORMWATER TREATMENT PLAN SW-2STORMWATER TREATMENT SPECS TOPOGRAPHIC SURVEY SU-1

INDEX

TITLE SHEET

No. 68283

* BUILDING PAD NOTE: ADJUST PAD LEVEL AS REQUIRED. REFER TO STRUCTURAL PLANS FOR SLAB SECTION OR CRAWL SPACE DEPTH TO ESTABLISH PAD LEVEL.

FOR CONSTRUCTION STAKING **SCHEDULING OR QUOTATIONS PLEASE CONTACT GREG BRAZE** AT LEA & BRAZE ENGINEERING (510)887-4086 EXT 103. gbraze@leabraze.com

OWNER'S INFORMATION OWNER: KEVIN BROWN HOLLIDAY DEVELOPMENT 1201 PINE STREET, SUITE 151 OAKLAND, CA 94607

APN: 004-0049-004-00

REFERENCES

- THIS GRADING AND DRAINAGE PLAN IS SUPPLEMENTAL TO: TOPOGRAPHIC SURVEY BY LEA AND BRAZE ENGINEERING ENTITLED: "TOPOGRAPHICAL SURVEY" 123 MAIN ST ANYTOWN, USA DATED: JOB# 2151068
- 2. SITE PLAN BY DAVID BAKER ARCHITECTS, ENTITLED; "SITE PLAN" 461 SECOND STREET #127 SAN FRANCISCO, CA
- 3. SOIL REPORT BY WEST ENVIRONMENTAL SERVICES & TECHNOLOGY, ENTITLED; "SITE INVESTIGATION WORK PLAN" 711 GRAND AVENUE, SUITE 220 SAN RAFAEL, CA DATE: APRIL 2016
- 4. LANDSCAPE PLAN BY MILLER COMPANY LANDSCAPE ARCHITECTS, ENTITLED: "LANDSCAPE PLANS" 1585 FOLSOM STREET SAN FRANCISCO, CA

THE CONTRACTOR SHALL REFER TO THE ABOVE NOTED SURVEY AND PLAN, AND SHALL VERIFY BOTH EXISTING AND PROPOSED ITEMS ACCORDING TO THEM.

BENCHMARK

CITY OF OAKLAND BENCHMARK 8 SW 38-R PIN MONUMENT 5 FEET NORTH OF CENTER LINE OF 10TH STREET. 5 FEET WEST OF CENTER LINE OF MAGNOLIA STREET. ELEVATION = 15.133'(CITY OF OAKLAND DATUM)

EASEMENT NOTE

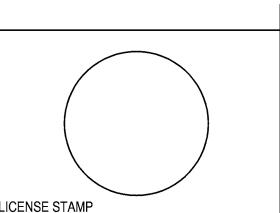
EASEMENTS ARE SHOWN PER TITLE REPORT PREPARED BY CHICAGO TITLE COMPANY, TITLE NO. 15-58206368-KD, DATED SEPTEMBER 3, 2015. EXCEPTION #5-"EASEMENTS OR LESSER

SERVITUDES, IF ANY, AS MAY EXISTS FOR SEWER PURPOSES OVER THE SOUTHERLY PORTION OF PREMISES AS DISCLOSED BY OFF RECORD INFORMATION (CITY OF OAKLAND SEWER MAP. NO. 201)". SAID MAP SHOWS A STORM CONDUIT OVER THE PROPERTY BUT DOES NOT LIST AN EASEMENT.



david baker architects

dbarchitect.com 461 second street loft 127 san francisco california 94107 415 896 6700 fax 415 896 6103



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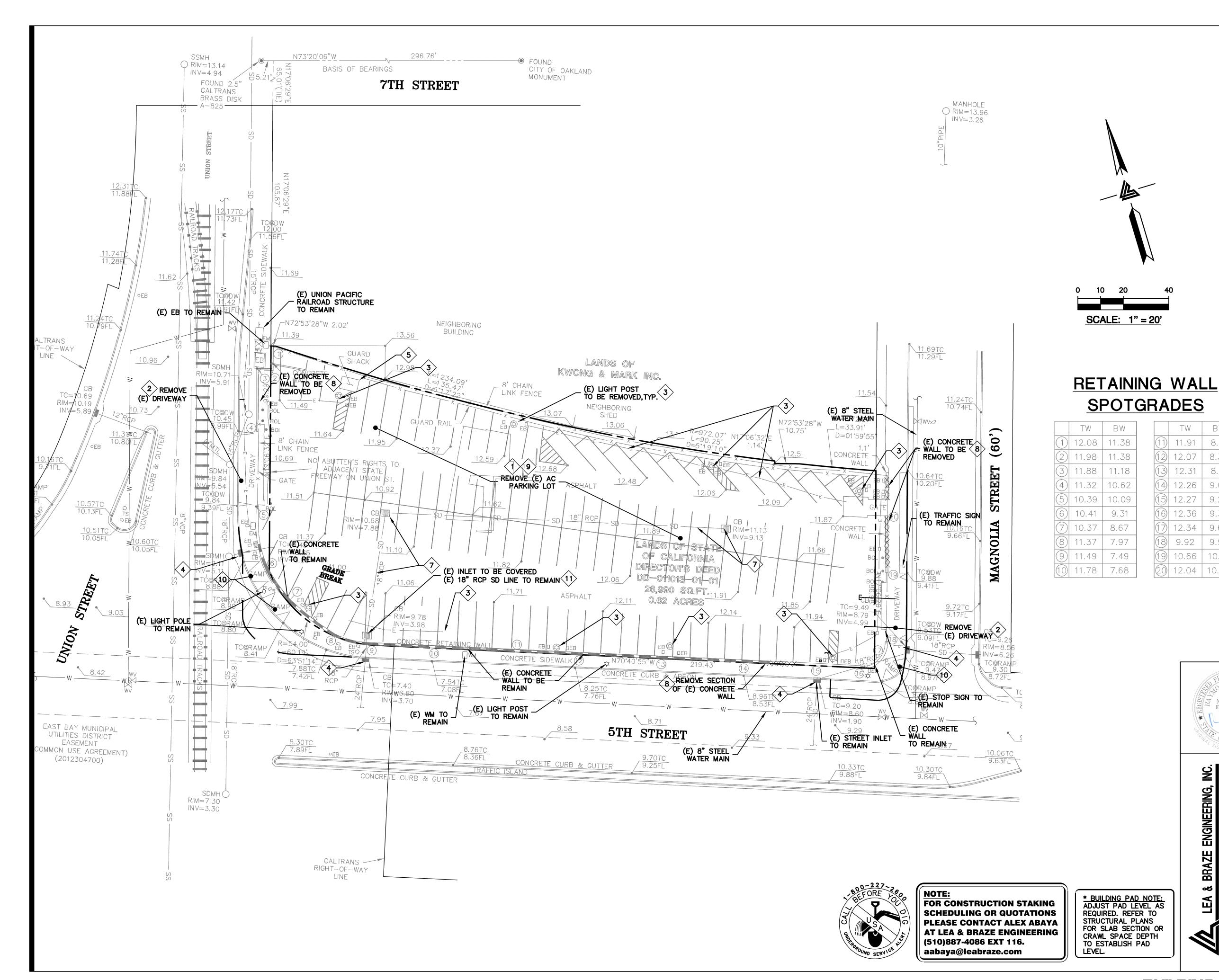
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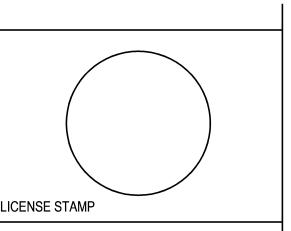
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david baker architects dbarchitect.com

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2	OF	13 SHEETS

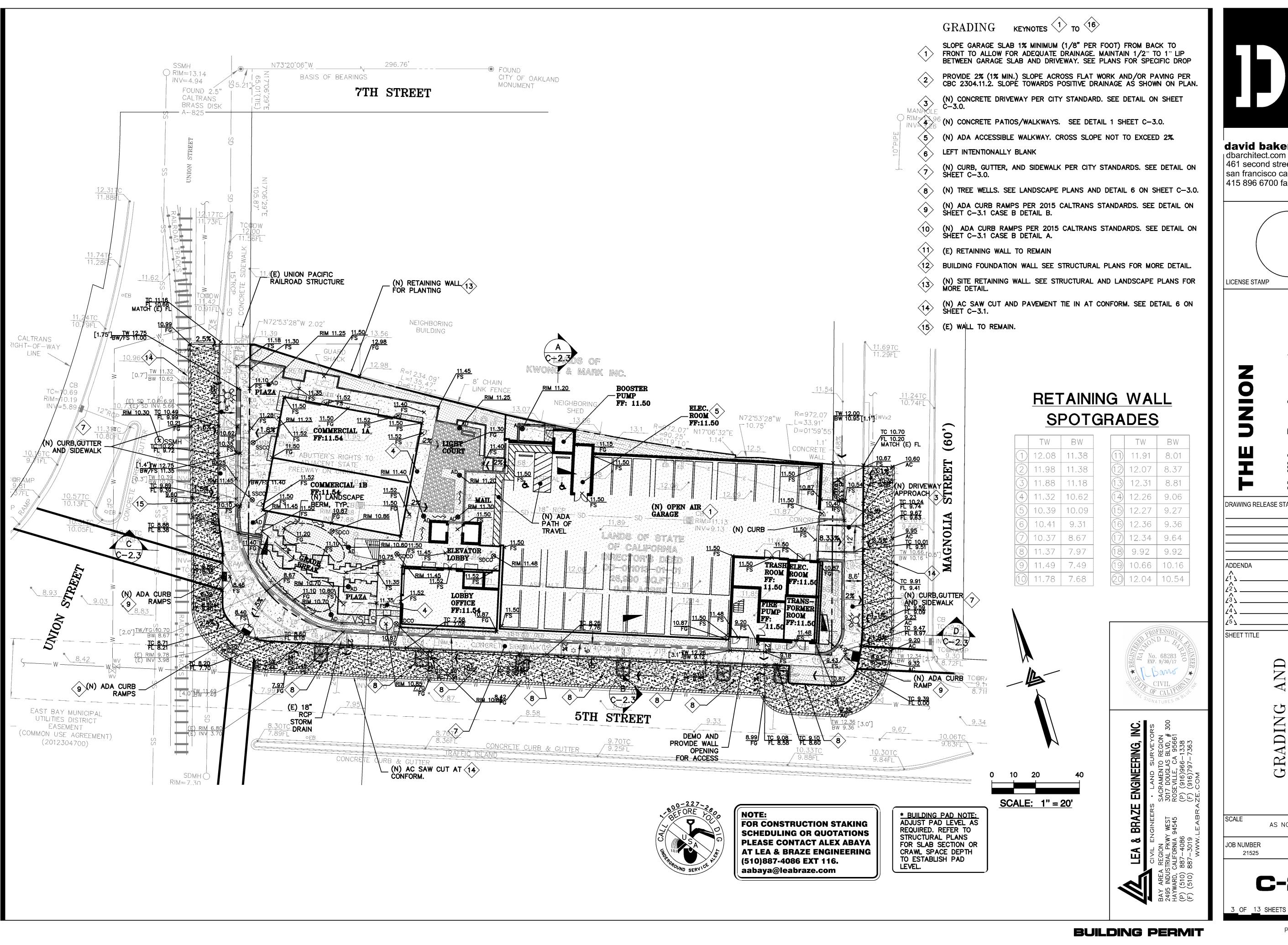
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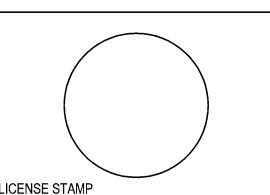
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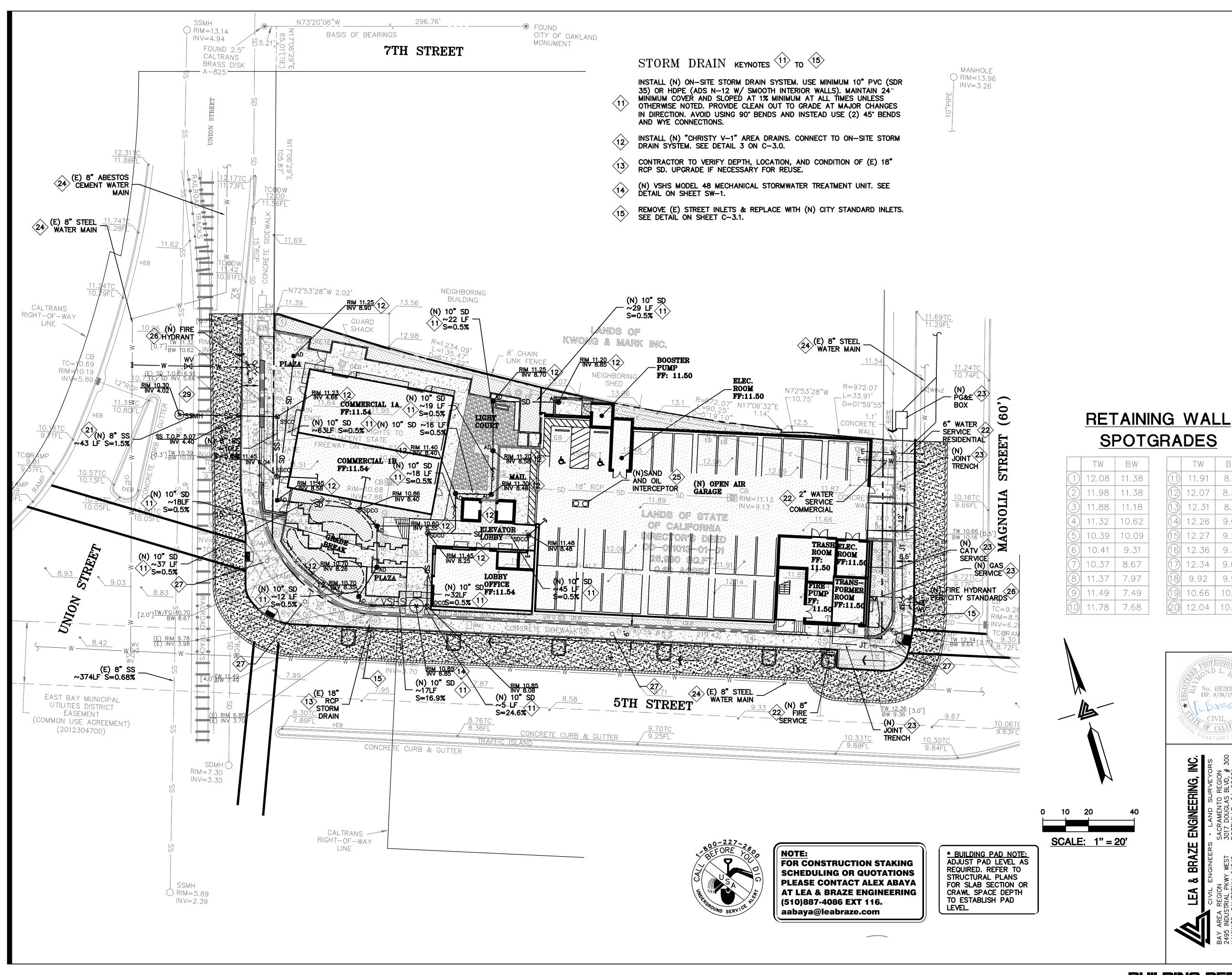
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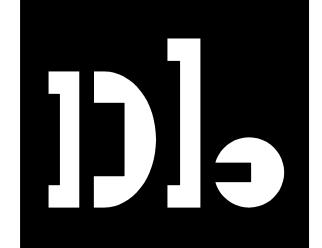
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GRADING DRAINAGE

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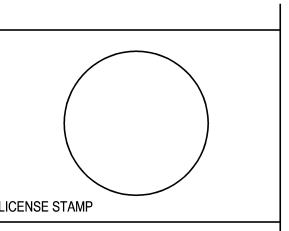
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RELEASE DATE JOB NUMBER 21525 08/24/2016

C-2.2 4 OF 13 SHEETS

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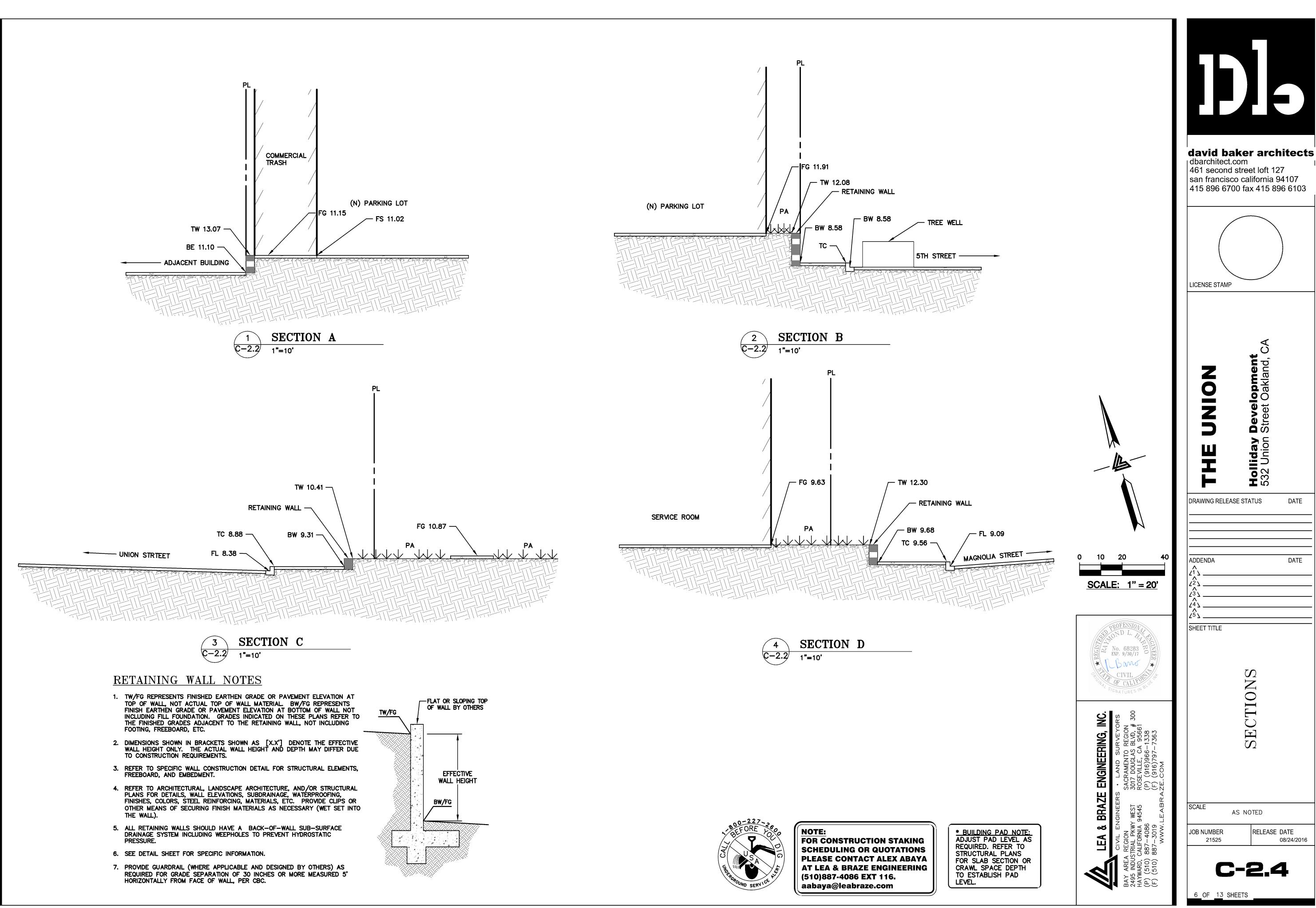
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No. 68283 EXP. 9/30/17



BUILDING PERMIT

PLOT DATE 08-24-16

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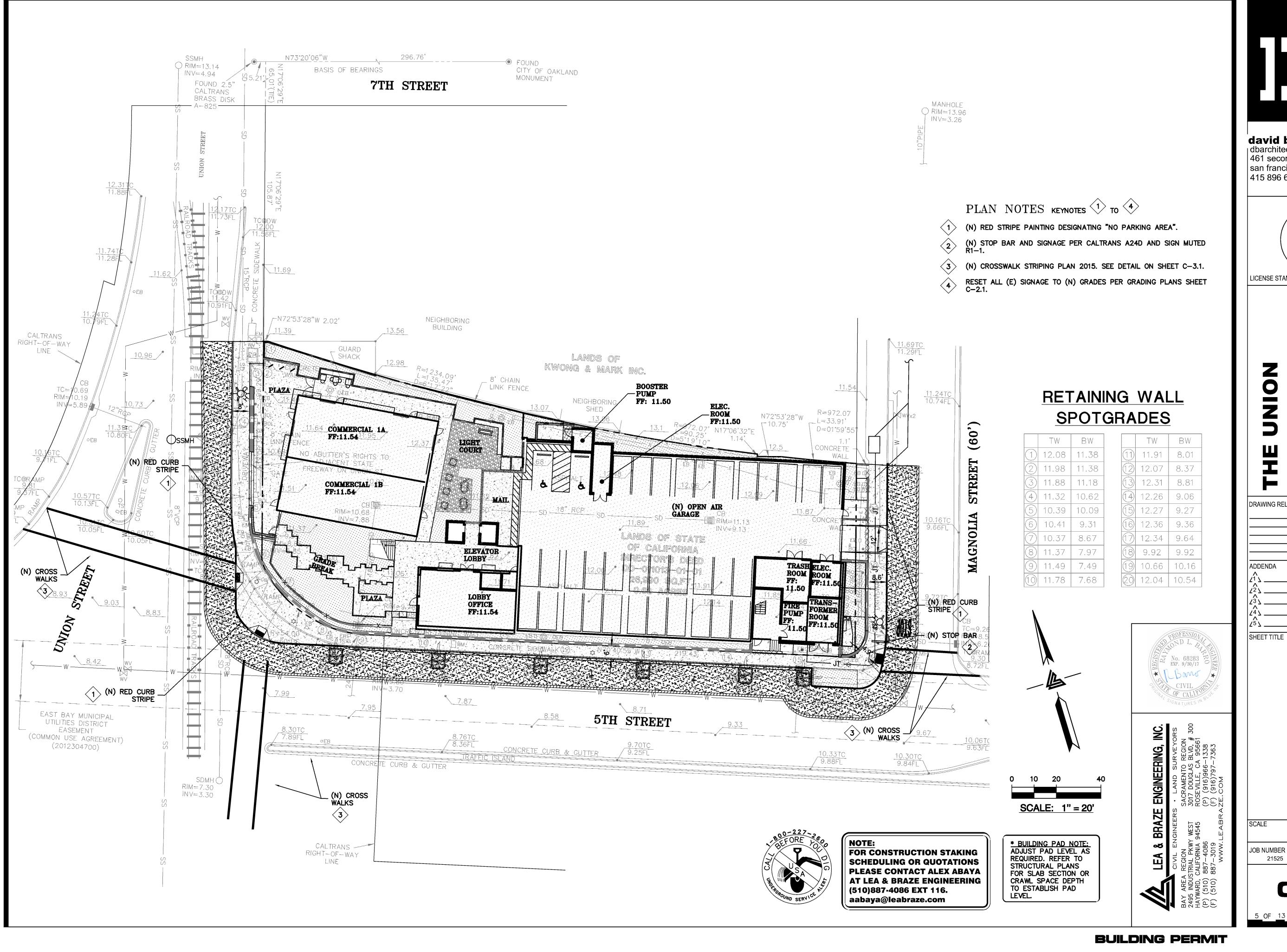
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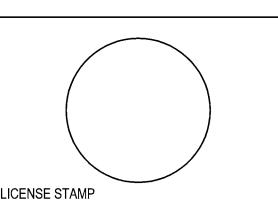
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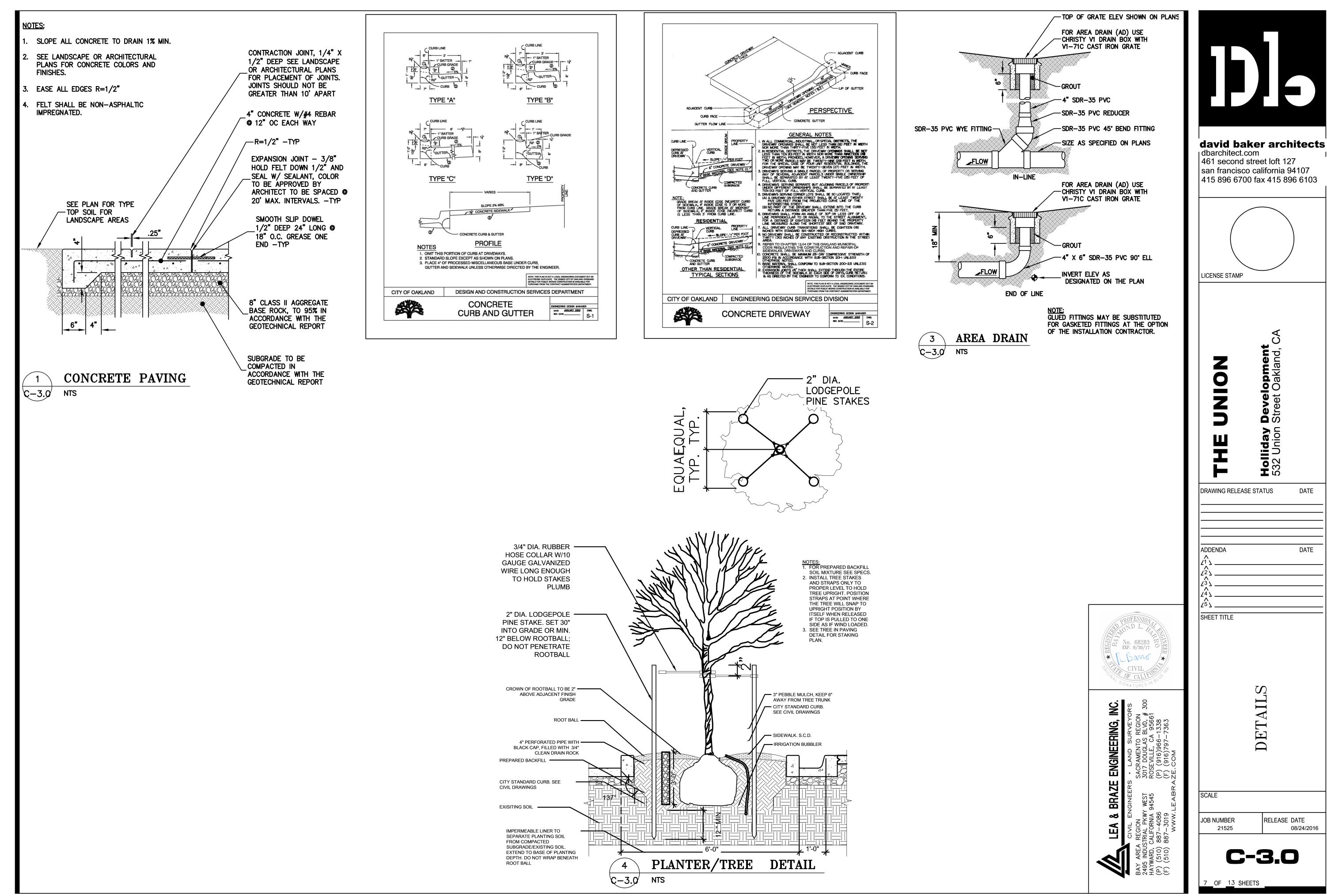
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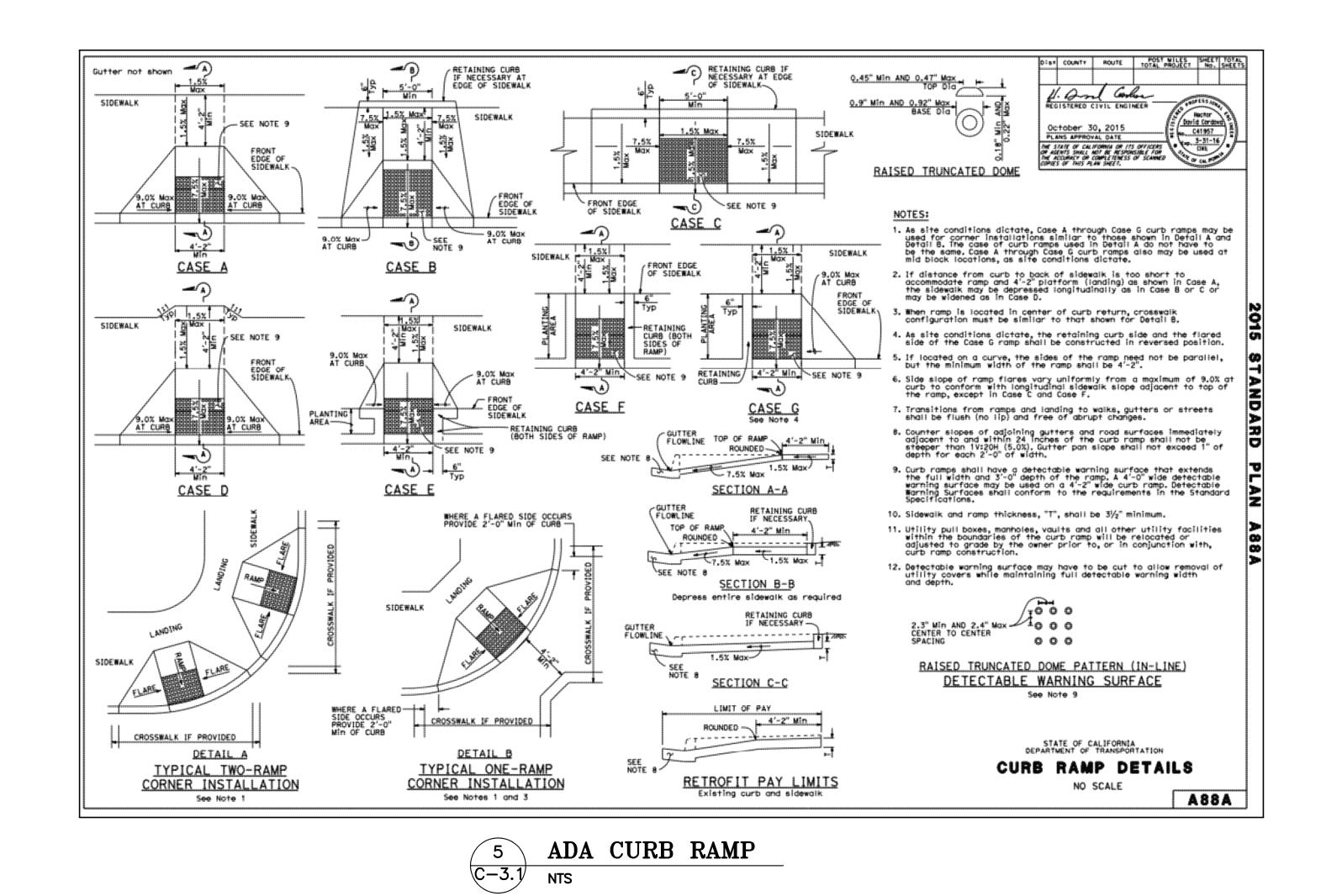
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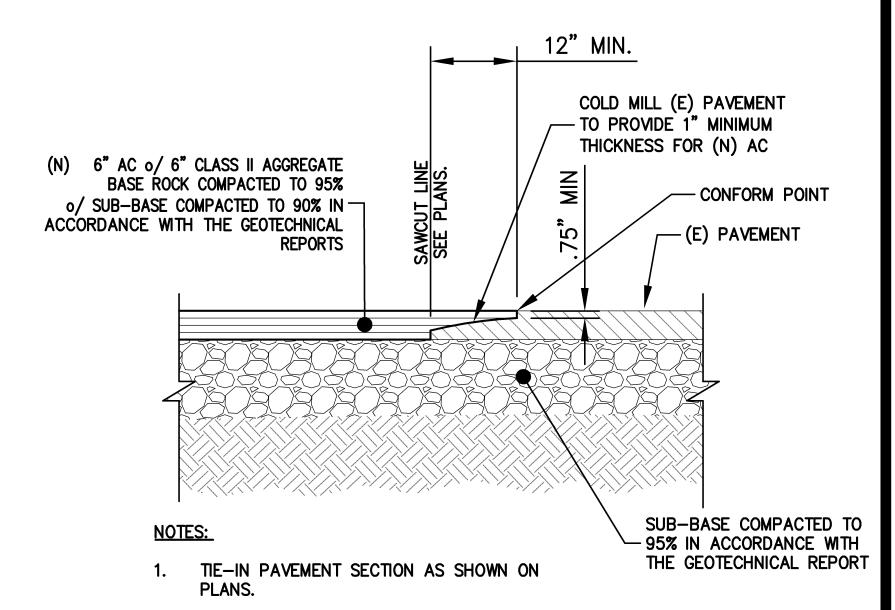
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C-2.3 5 OF 13 SHEETS



BUILDING PERMIT





2. TIE-IN OF ASPHALT CONCRETE SHALL EXTEND

TO AT LEAST THE BOTTOM OF EXISTING

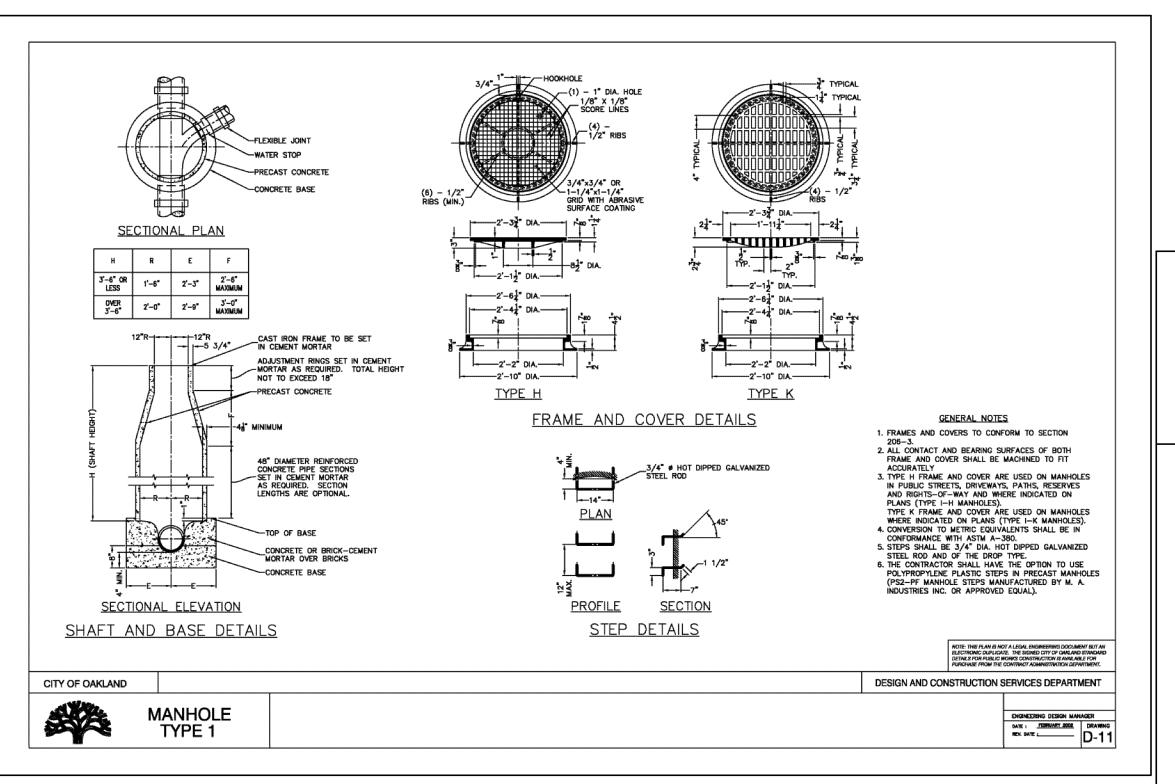
PAVEMENT TIE-IN

ASPHALT CONCRETE.

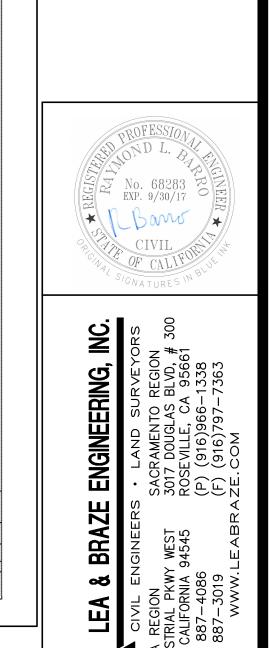
(2)-3 1/2"X3/8" END BARS (10)- 3/8" DIA. CROSS BARS (14)-3 1/2"X3/8" BEARING BARS **⊭**₩¥=====**#**34 (4) PLACES L_{5/16}, - - 3 1/2 (9) SPACES # 4" C-C 3'-0" 3'-4 5/8' <u>GRATE</u> <u>PLAN</u> <u>FRAME</u> <u>PLAN</u> SECTION **PROFILE** STEP DETAILS GENERAL NOTES LOCATION AND DIRECTION OF CONDUITS ENTERING OR LEAVING INLETS TO BE SHOWN ON GENERAL PLANS. GRATE AND FRAME SHALL BE ASSEMBLED AND MADE TO FIT BEFORE DELIVERY. 3. THE GRATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A-123.
4. ALL BEARING BARS AND CROSS BARS OF GRATE SHALL BE RESISTANCE WELDED OR ELECTROFORGED INTO A ONE PIECE CONSTRUCTION. o n A VEE CHANNEL 4" DEEP SHALL JOIN TWO OR MORE CONDUITS ENTERING AN INLET. SECTION A-A CONSTRUCT STEPS IN INLETS WITH A DEPTH OF 4' OR GREATER SECTION B-B CITY OF OAKLAND DESIGN AND CONSTRUCTION SERVICES DEPARTMENT TYPE "B" INLET ENGINEERING DESIGN MANAGER

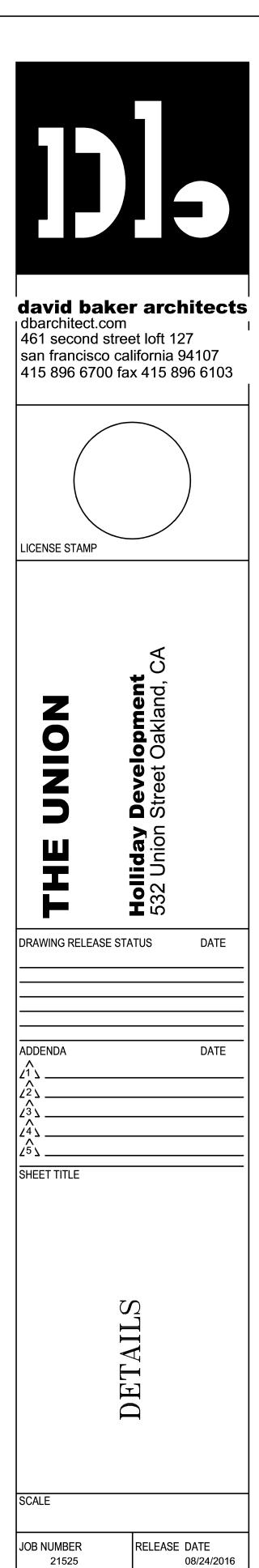
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7 TYPE B INLET DETAIL
C-3.1 NTS

8 MANHOLE DETAIL
C-3.1 NTS

B OF 13 SHEETS

CAUTION:

- CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT FOR LOCATION OF UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION— PHONE (800) 642—2444. CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES PRIOR TO BEGINNING ANY WORK ON THIS SITE.
- THE LOCATION, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS PLAN WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. (A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES). CONTRACTOR SHALL VERIFY LOCATION AND DEPTH PRIOR TO ANY EXCAVATION OR IMPROVEMENT.
- 3. PRIOR TO COMMENCING WORKS, CONTRACTOR TO COORDINATE WITH SFMTA'S TIM LIPP'S (415-819-1068) TO UNDERSTAND ALL RESTRICTIONS AND CLEARANCE REQUIREMENTS FOR WORKING IN THE VICINITY OF MUNICOVERHEAD CONTACT SYSTEM (OCS).

GENERAL SITE NOTES:

- CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING ON THIS WORK AND CONSIDER THE EXISTING CONDITIONS AND SITE CONSTRAINTS IN THE BID. CONTRACTOR SHALL BE IN THE POSSESSION OF AND FAMILIAR WITH ALL APPLICABLE GOVERNING AGENCIES STANDARD DETAILS AND SPECIFICATIONS PRIOR TO SUBMITTING OF A BID.
- CONTRACTOR SHALL FIELD CHECK ALL ELEVATIONS MARKED WITH (E) AND REPORT
- ALL GENERAL NOTES, SHEET NOTES, AND LEGEND NOTES FOUND IN THESE DOCUMENTS SHALL APPLY TYPICALLY THROUGHOUT. IF INCONSISTENCIES ARE FOUND IN THE VARIOUS NOTATIONS, NOTIFY THE ENGINEER IMMEDIATELY IN WRITING DEGISTRATION OF
- THESE DRAWINGS AND THEIR CONTENT ARE AND SHALL REMAIN THE PROPERTY OF LEA AND BRAZE ENGINEERING, INC. WHETHER THE PROJECT FOR WHICH THEY ARE PREPARED IS EXECUTED OR NOT. THEY ARE NOT TO BE USED BY ANY PERSONS ON OTHER PROJECTS OR EXTENSIONS OF THE PROJECT EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO THE ENGINEER.
- ALL WORK SHALL COMPLY WITH APPLICABLE CODES AND TRADE STANDARDS WHICH GOVERN EACH PHASE OF WORK INCLUDING, BUT NOT LIMITED TO, CALIFORNIA MECHANICAL CODE, CALIFORNIA PLUMBING CODE, CALIFORNIA ELECTRICAL CODE, CALIFORNIA FIRE CODE, CALIFARNS STANDARDS AND SPECIFICATIONS, AND ALL
- COMMENCEMENT OF WORK BY THE CONTRACTOR AND/OR ANY SUBCONTRACTOR SHALL INDICATE KNOWLEDGE AND ACCEPTANCE OF ALL CONDITIONS DESCRIBED IN THESE CONSTRUCTION DOCUMENTS, OR EXISTING ON SITE, WHICH COULD AFFECT THEIR WORK.
- DAMAGE TO ANY EXISTING SITE IMPROVEMENTS, UTILITIES AND/OR SERVICES TO REMAIN SHALL BE RESPONSIBLE OF THE CONTRACTOR. CONTRACTOR SHALL REPAIR AND/OR REPLACE IN KIND.
- CONTRACTOR SHALL REPLACE ALL STRUCTURES AND GRATE LIDS FOR VAULTS, CATCH BASINS, ETC..., WITH VEHICULAR—RATED STRUCTURES IN ALL TRAFFIC ACCESSIBLE AREAS.
- 10. THE CONTRACTOR SHALL ADJUST TO FINAL GRADE ALL EXISTING AND/OR NEW MANHOLES, CURB INLETS, CATCH BASIN, VALVES, MONUMENT COVERS, AND OTHER CASTINGS WITHIN THE WORK AREA TO FINAL GRADE IN PAVEMENT AND LANDSCAPE AREAS UNLESS NOTED OTHERWISE.
- 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 TO BE LIMITED TO NORMAL WORKING HOURS AND THAT THE CONTRACTOR SHALL DEFEND INDEMNIFY AND HOLD THE OWNER, THE CONSULTING ENGINEER AND THE CITY HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT. EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE CONSULTING ENGINEER.
- EXISTING PEDESTRIAN WALKWAYS. BIKE PATHS AND ACCESSIBLE ACCESS PATHWAYS SHALL BE MAINTAINED, WHERE FEASIBLE, DURING CONSTRUCTION.
- I. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE. INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND
- 15. THE DUTY OF THE ENGINEERS TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION STIFE
- 16. NEITHER THE FINAL PAYMENT, NOR THE PROVISIONS IN THE CONTRACT, NOR PARTIAL, NOR ENTIRE USE OR OCCUPANCY OF THE PREMISES BY THE OWNER SHALL CONSTITUTE AN ACCEPTANCE OF THE WORK NOT DONE IN ACCORDANCE WITH THE CONTRACT OR RELIEVES THE CONTRACTOR OF LIABILITY IN RESPECT T ANY EXPRESS WARRANTIES OR RESPONSIBILITY FOR FAULTY MATERIAL OR WOODEN ANSWED
- 7. THE CONTRACTOR SHALL REMEDY ANY DEFECTS IN WORK AND PAY FOR ANY DAMAGE TO OTHER WORK RESULTING THERE FROM WHICH SHALL APPEAR WITHIN A PERIOD OF ONE (1) CALENDAR YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT BY ROCKRIDGE GEOTECHNICAL, DATED OCT. 16 2015, JOB #15-984.

EXISTING CONDITIONS:

- EXISTING TOPOGRAPHIC SURVEY FOR OFF-SITE PERFORMED BY LEA AND BRAZE SURVEYING ON 2-07-13 (JOB #2120836) GRADES ENCOUNTERED MAY VARY FROM THOSE SHOWN. CONTRACTOR SHALL REVIEW THE PLANS AND CONDUCT FIELD INVESTIGATIONS AS REQUIRED TO VERIFY EXISTING CONDITIONS AT THE PROJECT
- FOR ALL TOPOGRAPHIC SURVEY BY OTHERS, CLIENT SHALL HOLD HARMLESS LEA & BRAZE ENGINEERING FROM ANY AND ALL OCCURRENCES RESULTING FROM THE ACCURACY/NACCURACY OF THE CLIENT SUPPLIED TOPOGRAPHIC AND BOUNDARY SURVEY (AS PREPARED BY OTHERS).

SITE FENCING NOTES:

- CONTRACTOR SHALL PROVIDE A CONSTRUCTION FENCE AROUND THE ENTIRE AREA OF DEMOLITION AND CONSTRUCTION, INCLUDING ALL STAGING, STORAGE, CONSTRUCTION OFFICE AND LAYDOWN AREAS.
- FENCE LOCATION MAY BE ADJUSTED FROM TIME TO TIME AS CONSTRUCTION PROCEEDS TO EXCLUDE SOME AREAS WHERE CONSTRUCTION WORK IS NOT BEING DONE AND THE AREA IS NOT OBJECTIONABLE IN VISUAL APPEARANCE, AT THE DISCRETION AND APPROVAL OF THE DISTRICT STAFF.
- CONSTRUCTION FENCE SHALL BE A MINIMUM OF A 6' HIGH GALVANIZED CHAIN LINK FENCE WITH GREEN WINDSCREEN FABRIC ON THE OUTSIDE OF THE FENCE.
- CONTRACTOR SHALL REPLACE THE GREEN FABRIC AT LEAST ONCE A YEAR OR AT SUCH A TIME AS IT BECOMES TATTERED AND UNSIGHTLY DUE TO WIND OR

SURVEYOR'S NOTES:

THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC SURVEY ARE APPROXIMATE AND WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. A SONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN DERGROUND UTILITIES. HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF IT'S DELINEATE OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED. BUT WHICH ARE NOT SHOWN ON THIS SURVEY. CONTRACTOR SHALL VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.

HORIZONTAL CONTROL NOTES:

- CONTRACTOR SHALL LAYOUT THE CONTROL FOR THE SITE AS SPECIFIED ON HORIZONTAL CONTROL SHEET. CONTRACTOR SHALL CLEARLY SET AND MARK EACH OF THE CONTROL POINTS. PROTECTING THE POINTS THROUGHOUT
- ALL DIMENSIONS ON THE PLANS ARE IN FEET OR DECIMALS THERE OF UNLESS SPECIFICALLY CALLED OUT AS FEET AND INCHES.
- ALL BUILDINGS, DRIVEWAYS AND PARKING LOTS ARE TO BE PARALLEL AND RIGHT ANGLES TO THE BASIS OF BEARINGS UNLESS IDENTIFIED OR CLEARLY SHOWN AS
- ALL RETURN RADII AND CURB DATA ARE TO FACE OF CURB, UNLESS OTHERWISE SHOWN OR INDICATED.

- **DEMOLITION NOTES:**
- CONTRACTOR IS TO COMPLY WITH ALL GENERAL AND STATE REQUIREMENTS INVOLVING THE REMOVAL AND DISPOSAL OF HAZARDOUS MATERIAL(S).
- 2. THE CONTRACTOR SHALL LOCATE AND CLEARLY MARK (AND THEN PRESERVE THESE MARKERS) FOR THE DURATION OF CONSTRUCTION OF ALL TELEPHONE, DATA, STREET LIGHT, SIGNAL LIGHT AND POWER FACILITIES THAT ARE IN OR NEAR THE AREA OF CONSTRUCTION.
- 3. CONTRACTOR'S BID IS TO INCLUDE ALL VISIBLE SURFACE AND ALL SUBSURFACE FEATURES IDENTIFIED TO BE REMOVED OR ABANDONED IN THESE DOCUMENTS. 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A SITE INSPECTION TO FULLY ACKNOWLEDGE THE EXTENT OF THE DEMOLITION WORK.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL PERMITS NECESSARY FOR ENCROACHMENT, GRADING, DEMOLITION, AND STATE JURISDICTIONS. 6. THE CONTRACTOR SHALL PAY ALL FEES ASSOCIATED WITH DISPOSAL OF MATERIALS.
- 7. BACKFILL ALL DEPRESSIONS AND TRENCHES FROM DEMOLITION OF FOUNDATIONS & UTILITIES TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
- WITHIN LIMITS OF WORK, REMOVE CURBS, GUTTERS, LANDSCAPING, SIGNAGE, TREES, SCRUBS, ASPHALT, UNDERGROUND PIPES, ETC. AS INDICATED ON THE PLANS AND SPECIFICATIONS.
- 9. REMOVAL OF LANDSCAPING SHALL INCLUDE ROOTS AND ORGANIC MATERIALS TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER. . PRIOR TO BEGINNING DEMOLITION WORK ACTIVITIES, CONTRACTOR SHALL INST EROSION CONTROL MEASURES OUTLINED IN THE EROSION PLAN & DETAILS.
- 12. THE CONTRACTOR SHALL MAINTAIN ALL SAFETY DEVICES, AND SHALL BE RESPONSIBLE FOR CONFORMANCE TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS LAWS AND REGULATIONS.
- 13. THE CONTRACTOR SHALL PROTECT FROM DAMAGE ALL EXISTING IMPROVEMENTS FACILITIES AND STRUCTURES WHICH ARE TO REMAIN. ANY ITEMS DAMAGED BY THE CONTRACTOR OR HIS AGENTS OF ANY ITEMS REMOVED FOR HIS USE SHALL BE REPLACED IN EQUAL OR BETTER CONDITION AS APPROVED BY THE ARCHITECT OR
- 14. COORDINATE WITH ELECTRICAL, MECHANICAL, LANDSCAPING AND ARCHITECTURAL DRAWINGS FOR UTILITY SHUT-DOWN / DISCONNECT LOCATIONS. CONTRACTOR IS TO SHUT OFF ALL UTILITIES AS NECESSARY PRIOR TO DEMOLITION. CONTRACTOR IS TO COORDINATE SERVICE INTERRUPTIONS WITH THE DEVELOPER / OWNER. DO NOT INTERRUPT SERVICES ADJACENT OFF-SITE OWNERS. ALSO SEE ARCHITECTURAL PLANS FOR ADDITIONAL DEMOLITION SCOPE OF WORK.
- 15. DEMOLITION INCLUDES REMOVAL OF ALL ITEMS ASSOCIATED WITH THE UTILITY, RETAINING WALL, FENCE, TREE OR BUILDING, INCLUDING BUT NOT LIMITED TO FOOTINGS, VALVES, ROOTS, BACKFILL, ETC. AND SHALL INCLUDE PREPARING THE SITE FOR NEW UTILITIES, BUILDINGS, RETAINING WALLS, ETC.
- 17. THE PLAN IS NOT INTENDED TO BE A COMPLETE CATALOGUE OF ALL EXISTING STRUCTURES AND UTILITIES. THIS PLAN INTENDS TO DISCLOSE GENERAL INFORMATION KNOWN BY THE ENGINEER AND TO SHOW THE LIMITS OF THE AREA WHERE WORK WILL BE PERFORMED. THIS PLAN SHOWS THE EXISTING FEATURES TAKEN FROM A FIELD SURVEY, FIELD INVESTIGATIONS AND AVAILABLE INFORMATION. THIS PLAN MAY OR MAY NOT ACCURATELY REFLECT THE TYPE OR EXTENT OF THE ITEMS TO BE ENCOUNTEINED AS THEY ACTUALLY EXIST. WHERE EXISTING FEATURES ARE NOT SHOWN, IT IS IMPLIED THAT THEY ARE NOT TO BE DEMOLISHED OR REMOVED. THE CONTRACTOR SHALL PERFORM A THOROUGH FIELD INVESTIGATION AND REVIEW OF THE SITE WITHIN THE LIMIT OF WORK SHOWN IN THIS PLAN SET TO DETERMINE THE TYPE, QUANTITY AND EXTENT OF ANY AND ALL ITEMS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING THE EXTENT OF EXISTING STRUCTURES AND UTILITIES AND QUANTITY OR WORK INVOLVED IN REMOVING THESE ITEMS FROM THE SITE.
- 18. ALL ABANDONED BUILDINGS AND FOUNDATIONS, TREE (EXCEPT THOSE SPECIFIED TO REMAIN FOR LANDSCAPING PURPOSES), FENCES, VEGETATION AND ANY SURFACE DEBRIS SHALL BE REMOVED AND DISPOSED OF OFF THE SITE BY THE CONTRACTOR.
- 19. ALL ABANDONED SEPTIC TANKS AND ANY OTHER SUBSURFACE STRUCTURES EXISTING IN PROPOSED DEVELOPMENT AREAS SHALL BE REMOVED PRIOR TO ANY GRADING OR FILL OPERATION. ALL APPURTENANT DRAIN FIELDS AND OTHER CONNECTING LINES MUST ALSO BE TOTALLY REMOVED.
- 20. ALL ABANDONED UNDERGROUND IRRIGATION OR UTILITY LINES SHALL BE REMOVED OR DEMOLISHED. THE APPROPRIATE FINAL DISPOSITION OF SUCH LINES DEPEND UPON THEIR DEPTH AND LOCATION AND THE METHOD OF REMOVAL OR DEMOLITION SHALL BE DETERMINED BY THE SOILS ENGINEER. ONE OF THE FOLLOWING METHODS WILL BE USED:
- A. EXCAVATE AND TOTALLY REMOVE THE UTILITY LINE FROM THE TRENCH.
- C. CAP THE ENDS OF THE UTILITY LINE WITH CONCRETE TO PREVENT THE ENTRANCE OF WATER. THE LOCATIONS AT WHICH THE UTILITY LINE WILL BE CAPPED WILL BE DETERMINED BY THE CITY ENGINEER. THE LENGTH OF THE CAP SHALL NOT BE LESS THAN FIVE FEET, AND THE CONCRETED MIX EMPLOYED SHALL HAVE MINIMUM SHRINKAGE.

- TREE/PLANT PROTECTION NOTES: I. PRIOR TO BEGINNING CONSTRUCTION ON SITE, CONTRACTOR SHALL IDENTIFY, CONFIRM WITH OWNER AND PROTECT EXISTING TREES AND PLANTS DESIGNED AS TO REMAIN. 2.PROVIDE 6 FOOT TALL TREE PROTECTION FENCE WITH DISTINCTIVE MARKING VISIBLE TO CONSTRUCTION EQUIPMENT, ENCLOSING DRIP LINES OF TREES DESIGNED TO
- 3. WORK REQUIRED WITHIN FENCE LINE SHALL BE HELD TO A MINIMUM, AVOID USE OF HEAVY EQUIPMENT WITHIN FENCED AREA AND DO NOT PARK ANY VEHICLES UNDER DRIP LINE OF TREES. DO NOT STORE EQUIPMENT OR MATERIALS WITHIN FENCE LINE. 4.PRIOR TO REMOVING ROOTS AND BRANCHES LARGER THAN 2" IN DIAMETER OF TREES OR PLANTS THAT IS TO REMAIN, CONSULT WITH THE OWNER'S PROJECT
- 5.ANY GRADE CHANGES GREATER THAN 6° WITHIN THE DRIPLINE OF EXISTING TREES SHALL NOT BE MADE WITHOUT FIRST CONSULTING THE LANDSCAPE ARCHITECT / CIVIL ENGINEER.
- 6.PROTECT EXISTING TREES TO REMAIN FROM SPILLED CHEMICALS, FUEL OIL, MOTOR OIL, GASOLINE AND ALL OTHER CHEMICALLY INJURIOUS MATERIALS; AS WELL AS FROM PUDDLING OR CONTINUOUSLY RUNNING WATER. SHOULD A SPILL OCCUR, STOP WORK IN THAT AREA AND CONTACT THE CITY'S ENGINEER / INSPECTOR IMMEDIATELY. CONTRACTOR SHALL BE RESPONSIBLE TO MITIGATE DAMAGE FROM SPILLED MATERIAL AS WELL AS MATERIAL CLEAN UP.
- 7. PROVIDE TEMPORARY IRRIGATION TO ALL TREES AND PLANTS THAT ARE IN OR ADJACENT TO CONSTRUCTION AREAS WHERE EXISTING IRRIGATION SYSTEMS MAY BE AFFECTED BY THE CONSTRUCTION, ALSO PROVIDE TEMPORARY IRRIGATION TO RELOCATE TREES.
- 8. CONTRACTOR SHALL BE RESPONSIBLE FOR ONGOING MAINTENANCE OF ALL TREES AND PLANTS DESIGNED TO REMAIN AND FOR MAINTENANCE OF RELOCATED TREES STOCKPILED DURING CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO REPLACE TREES OR PLANTS THAT DIE DUE TO LACK OF MAINTENANCE.

SANITARY SEWER NOTES:

- INSTALL DETECTABLE METALIZED WARNING TAPE APPROXIMATELY 6"-12" BELOW THE SERVICE IN NON-PAVED AREAS, AND AT THE BOTTOM OF BASEROCK FOR PAVED AREAS. GREEN IMPRINTED WITH "CAUTION— SANITARY SEWER LINE
- ALL SEWER WORK SHALL BE IN CONFORMANCE WITH THE CITY AND COUNTY OF SAN FRANCISCO STANDARD SPECIFICATION SECTION 300.
- PUBLIC AND PRIVATE SANITARY SEWER MAIN AND SERVICE LINE SHALL BE WHERE CONNECTION IS TO BE MADE TO AN EXISTING SEWER OR STRUCTURE, SAID EXISTING SEWER OR STRUCTURE SHALL BE UNCOVERED AND CHECKED FOR LOCATION AND ELEVATION PRIOR TO STAKING NEW SEWER DEPTH AND LOCATION. ANY DISCREPANCY BETWEEN THE PLANS AND THE FIELD INFORMATION SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.
- 5. MINIMUM SLOPE FOR SITE SANITARY SEWER PIPES SHALL BE CURRENT UPC REQUIREMENTS:
 4" 0 2%
- 8" & LARGER 0 0.5% 6. ALL LATERALS SHALL HAVE AN AIRVENT AT THE BACK OF CURB, AS SHOWN ON THE PLANS AND PER THE CITY OF OAKLAND STANDARD PLANS.

GRADING AND EARTHWORK NOTES:

- ALL PAVED AREAS ARE TO SLOPE AT A MINIMUM OF 1 %. ACCESSIBLE STALLS AND LOADING ZONES ARE TO SLOPE AT A MAXIMUM OF 2% IN ANY DIRECTION AND ACCESSIBLE PATHWAYS ARE TO SLOPE AT A MAXIMUM OF 8.33% WITH A MAXIMUM CROSS SLOPE OF 2 %. ANY AREAS ON THE SITE NOT CONFORMING TO THESE BASIC RULES DUE TO EXISTING CONDITIONS OR DISCREPANCIES IN THE DOCUMENTS ARE TO BE REPORTED T OTHER ARCHITECT/ENGINEER PRIOR TO PROCESSINAL WITH EXPANSIVE FOR CURPS AND (OR ELATINGE). PROCEEDING WITH FORMWORK FOR CURBS AND/OR FLATWORK.
- CONTRACTOR SHALL DETERMINE EARTHWORK QUANTITIES BASED ON THE TOPOGRAPHIC SURVEY, THE SOILS INVESTIGATION AND THE PROPOSED SURFACE GRADES AND BASE THE BID ACCORDINGLY. ANY DIFFERENCES BETWEEN THE STATE IN WHICH THE PROJECT SITE IS DELIVERED TO THE CONTRACTOR AND THESE DOCUMENTS SHOULD BE NOTED TO THE CIVIL ENGINEER.
- ALL FILL SHALL BE COMPACTED PER THE CONSTRUCTION SPECIFICATIONS AND THE CONTRACTOR SHALL COORDINATE AND COMPLY WITH THE OWNERS TESTING AGENCY TO TAKE THE APPROPRIATE TEST TO VERIFY COMPACTION VALUES.
- IMPORT SOILS MUST MEET THE REQUIREMENTS OF THE SOILS REPORT AND
- COORDINATE THE PLACEMENT OF ALL SLEEVES FOR LANDSCAPE IRRIGATION (WATER AND CONTROL WIRING) AND STREET LIGHTING PRIOR TO THE PLACEMENT OF ANY ASPHALT, BASEROCK, OR CONCRETE SURFACING. SEE LANDSCAPE AND SITE ELECTRICAL DRAWINGS. NOT ADJUST GRADES ON THIS PLAN WITHOUT PRIOR WRITTEN APPROVAL OF
- SPOT ELEVATIONS ARE TO FINISHED SURFACE.
- 8. TOP OF CONCRETE CURBS ARE 0.50" ABOVE TOP OF PAVING ELEVATIONS, U.N.O. ROUGH GRADING TO BE WITHIN 0.1' AND FINISH GRADES ARE TO BE WITH IN
- AFTER STAKING FOR HORIZONTAL CONTROL CONTRACTOR SHALL FIELD CHECK ALL ELEVATIONS MARKED WITH (E) AND REPORT ANY DISCREPANCIES GREATER THEN 0.05" TO ARCH/ENGR.
- ALL EXISTING UTILITY STRUCTURES WITHIN THE AREA OF WORK SHALL HAVE THE LIDS, GRATES, COVERS, ETC. ADJUSTED TO BE FLUSH WITH FINISHED GRADES, CONTRACTOR SHALL IDENTIFY ALL SUCH ITEMS BY USE OF THESE PLANS AND THOROUGH FIELD INVESTIGATION. 12. GEOTECHNICAL CONSULTANT TO BE NOTIFIED OF DELIVERY OF ALL IMPORTED SOILS TO SITE FOR HIS/HER INSPECTION AND APPROVAL PRIOR TO PLACING BY CONTRACTOR.
- THESE SPECIFICATIONS AND APPLICABLE PLANS PERTAIN TO AND INCLUDE ALL SITE GRADING AND EARTHWORK ASSOCIATED WITH THE PROJECT INCLUDING, BUT NOT LIMITED TO THE FURNISHING OF ALL LABOR, TOOLS AND EQUIPMENT NECESSARY FOR SITE CLEARING AND GRUBBING, SITE PREPARATION, DISPOSAL OF EXCESS OR UNSUITABLE MATERIAL, STRIPPING, KEYING, EXCAVATION, OVER EXCAVATION, RECOMPACTION PREPARATION FOR SOIL RECEIVING FILL, PAVEMENT, FOUNDATION OF SLABS, EXCAVATION, IMPORTATION OF ANY REQUIRED FILL MATERIAL, PROCESSING, PLACEMENT AND COMPACTION OF FILL AND SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING TO CONFORM TO THE LINES, GRADING AND SLOPE SHOWN ON THE PROJECT GRADING PLANS.
- ALL FILL MATERIALS SHALL BE DENSIFIED SO AS TO PRODUCE A DENSITY NOT LESS THAN 90% RELATIVE COMPACTION BASED UPON ASTM TEST DESIGNATION D1557. FIELD DENSITY TEST WILL BE PERFORMED IN ACCORDANCE WITH ASTM TEST DESIGNATION 2922. AND 3017. THE LOCATION AND FREQUENCY OF THE FIELD DENSITY TEST WILL BE AS DETERMINED BY THE SOIL ENGINEER. THE RESULTS OF THESE TEST AND COMPLIANCE WITH THE SPECIFICATIONS WILL BE THE BASIS UPON WHICH SATISFACTORY COMPLETION OF THE WORK WILL BE JUDGED BY THE SOIL ENGINEER. ALL CUT AND FILL SLOPES SHALL BE CONSTRUCTED AS SHOWN ON PLANS, BUT NO STEEPER THAN TWO (2) HORIZONTAL TO ONE (1) VERTICAL.
- HORIZONTAL TO ONE (1) VERTICAL THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SATISFACTORY COMPLETION OF ALL THE EARTHWORK IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. NO DEVIATION FROM THESE SPECIFICATIONS SHALL BE MADE EXCEPT UPON WRITTEN APPROVAL BY THE SOILS ENGINEER. BOTH CUT AND FILL AREAS SHALL BE SURFACE COMPLETED TO THE SATISFACTION OF THE SOILS ENGINEER AT THE CONCLUSION OF ALL GRADING OPERATIONS AND PRIOR TO FINAL ACCEPTANCE. THE CONTRACTOR SHALL NOTIFY THE SOILS ENGINEER AT LEAST TWO (2) WORKING DAYS PRIOR TO DOING ANY SITE GRADING AND EARTHWORK INCLUDING CLEARING.

SITE MAINTENANCE:

- REMOVE ALL DIRT, GRAVEL, RUBBISH, REFUSE, AND GREEN WASTE FROM STREET PAVEMENT AND STORM DRAINS ADJOINING THE SITE. LIMIT CONSTRUCTION ACCESS ROUTES ONTO THE SITE AND PLACE GRAVEL PADS AT THESE LOCATIONS. DO NOT DRIVE VEHICLES AND EQUIPMENT OFF THE PAVED OR GRAVELED AREAS DURING WET WEATHER.
- SWEEP OR VACUUM THE STREET PAVEMENT AND SIDEWALKS ADJOINING THE PROJECT SITE AND THE ON—SITE PAVED AREAS ON A DAILY BASIS, SCRAPE CAKED—ON MUD AND DIRT FROM THESE AREAS BEFORE SWEEPING, CORNERS AND HARD TO REACH AREAS SHALL BE SWEPT MANUALLY.
- CONTRACTOR SHALL: GATHER ALL CONSTRUCTION DEBRIS ON A REGULAR BASIS AND PLACE IT IN A DUMPSTER OR OTHER CONTAINER WHICH IS EMPTIED OR REMOVED ON A REGULAR BASIS. WHEN APPROPRIATE, USE TARPS ON THE GROUND TO COLLECT FALLEN DEBRIS OR SPLATTERS THAT COULD CONTRIBUTE TO STORM WATER RUNOFF POLLUTION.
- 4. IF THE STREET, SIDEWALKS AND/OR PARKING LOT ARE PRESSURE WASHED, DEBRIS MUST BE TRAPPED AND COLLECTED TO PREVENT ENTRY INTO THE STORM DRAIN SYSTEM. NO CLEANING AGENT MAY BE DISCHARGED INTO THE STORM DRAIN. IF ANY CLEANING AGENT OR DEGREASER IS USED, WASHED WATER MUST BE COLLECTED AND DISCHARGED TO THE SANITARY SEWER, SUBJECT TO THE ADDROVAL OF THE OWNERS PRO EST MANAGED OR OTHERWISE NESSEST OF APPROVAL OF THE OWNER'S PROJECT MANAGER, OR OTHERWISE DISPOSED OF THROUGH APPROVED DISPOSAL METHODS.
- CREATE A CONTAINED AND COVERED AREA ON THE SITE FOR THE STORAGE OF BAGS, CEMENT, PAINTS, OILS, FERTILIZERS, PESTICIDES, OR OTHER MATERIAL USED ON THE SITE THAT HAVE THE POTENTIAL OF BEING WIND-BLOWN OR IN THE EVENT OF A MATERIAL SPILL.
- NEVER CLEAN MACHINERY, EQUIPMENT OR TOOLS INTO A STREET, GUTTER OR STORM DRAIN. ENSURE THAT CEMENT TRUCKS, PAINTERS, OR STUCCO/PLASTER FINISHING CONTRACTORS DO NOT DISCHARGE WASH WATER FROM EQUIPMENT, TOOLS OR RINSE CONTAINERS INTO GUTTERS OR DRAINS.
- THE ON-SITE STORM DRAIN FACILITIES SHALL BE CLEANED A MINIMUM OF TWICE A YEAR AS FOLLOWS: IMMEDIATELY PRIOR TO OCTOBER 15TH AND ONCE IN JANUARY. ADDITIONAL CLEANING MAY BE REQUIRED IF FOUND NECESSARY BY THE CITY ENGINEER/INSPECTOR. CONTRACTOR SHALL BE RESPONSIBLE FOR COST ASSOCIATED WITH CLEANING.
- PREVENT DUST FROM LEAVING THE SITE AND ACCUMULATING ON ADJACENT AREAS AS REQUIRED IN THE DUST CONTROL NOTES ON THIS SHEET.
- PREVENT SEDIMENT LADEN STORM RUN-OFF FROM LEAVING THE SITE OR ENTERING STORM DRAIN OR SANITARY SEWER SYSTEMS AS REQUIRED IN THE EROSION AND SEDIMENTATION CONTROL NOTES ON THIS SHEET.
- MAINTAIN EXISTING TREES AND PLANTS THAT ARE TO REMAIN AS REQUIRED BY THE TREE AND PLANT PROTECTION NOTES ON THE SHEET. PAVEMENT SECTION:
- SEE DETAIL SHEETS FOR ALL PAVEMENT SECTIONS
- 2. SEE STRUCTURAL DRAWINGS FOR BUILDING SLAB SECTIONS AND PAD
- 3. SEE GRADING AND DETAIL SHEETS FOR FLATWORK SECTIONS AND BASE REQUIREMENTS.
- EXISTING PAVEMENT SHALL BE TACK COATED PRIOR TO CONSTRUCTING NEW PAVEMENT.
- THE FINAL OR SURFACE LAYER OF ASPHALT CONCRETE SHALL NOT BE PLACED UNTIL ALL ON—SITE IMPROVEMENTS HAVE BEEN COMPLETED, INCLUDING ALL GRADING, AND ALL UNACCEPTABLE CONCRETE WORK HAS BEEN REMOVED AND REPLACED. UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER AND/OR
- ALL PAVING SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF CALTRAN STANDARD SPECIFICATIONS.

- STORM WATER POLLUTIONS PREVENTION REQUIREMENTS:
- STORE, HANDLE, AND DISPOSE OF CONSTRUCTION MATERIALS AND WASTES PROPERLY, SO AS TO PREVENT THEIR CONTACT WITH STORMWATER.
 - CONTROL AND PREVENT THE DISCHARGE OF ALL POTENTIAL POLLUTANTS, INCLUDING SOLID WASTES, PAINTS, CONCRETE, PETROLEUM PRODUCTS, CHEMICALS, WASH WATER OR SEDIMENT, AND NON-STORMWATER DISCHARGES TO STORM DRAINS AND WATER COURSES. USE SEDIMENT CONTROL OR FILTRATION TO REMOVE SEDIMENT FROM DEWATERING EFFLUENT.
 - AVOID CLEANING, FUELING, OR MAINTAINING VEHICLES ON SITE, EXCEPT IN A DESIGNATED AREA IN WHICH RUNOFF IS CONTAINED AND TREATED.
 - DELINEATE CLEARING LIMITS, EASEMENTS, SETBACKS, SENSITIVE OR CRITICAL AREAS, BUFFER ZONES, TREES AND DISCHARGE COURSE WITH FIELD MARKERS
 - PROTECT ADJACENT PROPERTIES AND UNDISTURBED AREAS FROM CONSTRUCTION IMPACTS USING VEGETATIVE BUFFER STRIPS, SEDIMENT BARRIERS OF FILTERS, DIKES, MULCHING, OR OTHER MEASURES AS APPROPRIATE. PERFORM CLEARING AND EARTH MOVING ACTIVITIES DURING DRY WEATHER TO THE MAXIMUM EXTENT PRACTICAL.
 - LIMIT AND TIME APPLICATIONS OF PESTICIDES AND FERTILIZERS TO PREVENT POLLUTED RUNOFF.
 - LIMIT CONSTRUCTION ACCESS ROUTES AND STABILIZE DESIGNATED ACCESS POINTS. AVOID TRACKING DIRT OR MATERIALS OFF-SITE; CLEAN OFF-SITE PAVED AREAS AND SIDEWALKS USING DRY SWEEPING METHODS TO THE MAXIMUM EXTENT PRACTICAL.
 - ALL CONSTRUCTION ON OFF-SITE IMPROVEMENTS SHALL ADHERE TO BEST MANAGEMENT PRACTICES TO PREVENT DELETERIOUS MATERIALS OR POLLUTANTS FROM ENTERING THE CITY OR COUNTY STORM DRAIN SYSTEM.
 - SWEEP ALL GUTTERS AT THE END OF EACH WORKING DAY. GUTTERS SHALL BE KEPT CLEAN AFTER LEAVING CONSTRUCTION SITE. **SUPPLEMENTAL MEASURES:**
 - A. THE PHRASE "NO DUMPING DRAINS TO BAY" OR EQUALLY EFFECTIVE PHRASE MUST BE LABELED ON STORM DRAIN INLETS (BY STENCILING, BRANDING, OR PLAQUES) TO ALERT THE PUBLIC TO THE DESTINATION OF STORM WATER AND TO PREVENT DIRECT DISCHARGE OF POLLUTANTS INTO THE STORM DRAIN.
 - USING FILTRATION MATERIALS ON STORM DRAIN COVERS TO REMOVE SEDIMENTROM DEWATERING EFFLUENT.
 - STABILIZING ALL DENUDED AREAS AND MAINTAINING EROSION CONTROL MEASURES CONTINUOUSLY FROM OCTOBER 15 AND APRIL 15.
 - REMOVING SPOILS PROMPTLY, AND AVOID STOCKPILING OF FILL MATERIALS, WHEN RAIN IS FORECAST. IF RAIN THREATENS, STOCKPILED SOILS AND OTHER MATERIALS SHALL BE COVERED WITH A TARP OR OTHER WATERPROOF MATERIAL.
 - STORING, HANDLING, AND DISPOSING OF CONSTRUCTION MATERIALS AND WASTES SO AS TO AVOID THEIR ENTRY TO THE STORM DRAIN SYSTEMS OR WATER BODY
 - AVOIDING CLEANING, FUELING, OR MAINTAINING VEHICLES ON—SITE, EXCEPT IN AN AREA DESIGNATED TO CONTAIN AND TREAT RUNOFF.

GENERAL UTILITY SYSTEM NOTES: ALL TRENCHES SHALL BE BACKFILLED PER THE GEOTECHNICAL ENGINEER RECCOMMENDATIONS.

- 2. CLEAN OUTS, CATCH BASINS AND AREA DRAINS ARE TO BE ACCURATELY LOCATED BY THEIR RELATIONSHIP TO THE BUILDING, FLATWORK, ROOF DRAINS, AND/OR CURB LAYOUT, NOT BY THE LENGTH OF PIPE SPECIFIED IN THE DRAWINGS (WHICH
- 3. CONTRACTOR SHALL STAKE LOCATION OF ABOVE GROUND UTILITY EQUIPMENT (BACKFLOW PREVENTOR, SATELLITE DISH, TRANSFORMER, GAS METER, ETC.) AND MEET WITH OWNER TO REVIEW LOCATION PRIOR TO INSTALLATION. PLANNING DEPARTMENT MUST SPECIFICALLY AGREE WITH LOCATION PRIOR TO PROCEEDING WITH THE INSTALLATION.
- CONTRACTOR SHALL PREPARE AN ACCURATE COMPOSITE UTILITY PLAN THAT TAKES INTO ACCOUNT THE ACTUAL LOCATION OF EXISTING UTILITIES AS DETERMINED DURING THE DEMOLITION WORK. THE UTILITIES SHOWN ON THE CIVIL DRAWINGS, AND THE SITE POWER, CONDUITS AND LIGHTING SHOWN ON THE ELECTRICAL PLANS. THE FIRE SPRINKLER SYSTEM SHALL BE INCLUDED AS DESIGNED BY THE DESIGN/BUILD UNDERGROUND FIRE SPRINKLER CONTRACTOR.
- 5. CATHODIC PROTECTION MAY BE REQUIRED ON ALL METALLIC FITTINGS AND ASSEMBLIES THAT ARE IN CONTACT WITH SOIL, IF RECOMMENDED BY THE GEOTECHNICAL REPORT. CONTRACTOR IS RESPONSIBLE TO FULLY ENGINEER AN INSTALL THIS SYSTEM AND COORDINATE ANODE AND TEST STATION LOCATIONS WITH THE OWNER'S PROJECT MANAGER.
- COMPLETE SYSTEMS: ALL UTILITY SYSTEMS ARE DELINEATED IN A SCHEMATIC MANNER ON THESE PLANS. CONTRACTOR IS TO PROVIDE ALL FITTINGS, ACCESSORIES, AND WORK NECESSARY TO COMPLETE THE UTILITY SYSTEM SO THAT IT IS FULLY FUNCTIONING FOR THE PURPOSE INTENDED. UNDERGROUND UTILITIES OR STRUCTURES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS AND EXTENT BASED UPON RECORD INFORMATION. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE ON THE ACCURACY OR COMPLETENESS FOR THE INFORMATION SHOWN. THE OWNER, BY ACCEPTING THESE PLANS OR PROCEEDING WITH IMPROVEMENTS PUSIANT THERETO, AGREES TO ASSUME LIABILITY AND TO HOLD THE UNDERSIGNED HARMLESS FOR ANY DAMAGES RESULTING FROM THE EXISTENCE OF UNDERGROUND UTILITIES OR STRUCTURES NOT REPORTED TO THE UNDERSIGNED; NOT INDICATED ON THE PUBLIC RECORDS EXAMINED, LOCATED AT VARIANCE WITH THOSE REPORTED OR SHOWN ON RECORDS EXAMINED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES FROM DAMAGE DURING COMPACTION OF ROADWAY SUBGRADE AND PRIOR TO PLACEMENT OF FINAL PAVEMENT SECTIONS. CONTRACTOR SHALL VERIFY ALL EXISTING INVERT ELEVATIONS FOR STORM DRAIN AND SANITARY SEWER CONSTRUCTION PRIOR TO COMMENCEMENT OF ANY WORK. ALL WORK FOR STORM AND SANITARY SEWER INSTALLATION SHALL BEGIN AT THE DOWNSTREAM CONNECTION POINT. THIS WILL ALLOW FOR ANY NECESSARY ADJUSTMENTS TO BE MADE PRIOR TO THE INSTALLATION OF THE ENTIRE LINE. IF THE CONTRACTOR FAILS TO BEGIN AT THE DOWNSTREAM CONNECTION POINT AND WORKS UP STREAM, HE SHALL PROCEED AT HIS OWN RISK AND BE RESPONSIBLE FOR ANY ADJUSTMENTS NECESSARY. CONTRACTOR SHALL VERIFY LOCATION OF SANITARY SEWER LATERAL WITH OWNER PRIOR TO CONSTRUCTION.
- O. EXISTING UTILITY CROSSINGS OF THE NEW PIPELINE ARE SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. GAS, WATER AND SEWER, SERVICE LATERALS ARE SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY THE TYPE, SIZE, LOCATION, AND DEPTH OF ALL EXISTING UTILITIES (BOTH MAINS AND LATERALS) ARE CORRECT AS SHOWN. NO GUARANTEE IS MADE THAT ALL EXISTING UTILITIES (BOTH MAINS AND LATERALS) ARE SHOWN. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN EXCAVATING AND SHALL PROTECT ALL EXISTING UTILITIES (BOTH MAINS AND LATERALS) FROM DAMAGE DUE TO HIS OPERATION.
- . CONTRACTOR SHALL UNCOVER AND EXPOSE ALL EXISTING UTILITY AND SEWER LINES WHERE THEY ARE TO BE CROSSED ABOVE OR BELOW BY THE NEW FACILITY BEING CONSTRUCTED IN ORDER TO VERIFY THE GRADE AND TO ENSURE THAT THERE IS SUFFICIENT CLEARANCE. VERTICAL SEPARATION REQUIREMENTS:
 A MINIMUM OF SIX (6) INCHES VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN CROSSING UTILITY PIPES, EXCEPT THAT THE MINIMUM VERTICAL CLEARANCE BETWEEN WATER AND SANITARY SEWER PIPELINES SHALL BE 12 INCHES AND ALL
- NEW WATER PIPES SHALL BE TYPICALLY INSTALLED TO CROSS ABOVE/OVER EXISTING SANITARY SEWER PIPELINES.
- WHERE NEW WATER PIPELINES ARE REQUIRED TO CROSS UNDER EXISTING AND/OR NEW SANITARY SEWER PIPELINES, THE MINIMUM VERTICAL SEPARATION SHALL BE 12 INCHES. WATER LINE PIPE ENDS SHALL BE INSTALLED NO CLOSER THEN 10' MINIMUM HORIZONTAL DISTANCE FROM CENTERLINE OF UTILITY CROSSINGS WHERE FEASIBLE.
- 12. A MINIMUM HORIZONTAL SEPARATION BETWEEN NEW PIPELINES AND ANY EXISTING UTILITIES SHALL BE 5" FEET EXCEPT THAT THE MINIMUM HORIZONTAL SEPARATION FOR WATER AND SANITARY SEWER PIPELINES SHALL BE 10' MINIMUM, UNLESS OTHERWISE NOTED. A MINIMUM HORIZONTAL SEPARATION BETWEEN NEW PIPELINES AND JOINT TRENCH SHALL BE 5 FEET.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING APPROPRIATE UTILITIES AND REQUESTING VERIFICATION OF SERVICE POINTS, FIELD VERIFICATION OF LOCATION, SIZE, DEPTH, ETC. FOR ALL THEIR FACILITIES AND TO COORDINATE WORK SCHEDULES.
- 13. MAINTAIN 3-FOOT OF UNDISTURBED EARTH BETWEEN DRY AND WET UTILITIES.
 WHERE 3-FOOT OF UNDISTURBED EARTH CANNOT BE ACHIEVED, PROVIDE SLURRY
 WALL FOR DRY UTILITIES. SLURRY WALL SHALL BE 4-INCH THICK LEAN CONCRETE
 (2,000 PSI) EXTENDING FROM 6" BELOW BOTTOM OF CONDUITS TO THE BOTTOM OF
 STREET PAVING CONCRETE BASE OR BOTTOM OF CONCRETE SIDEWALK. PROVIDE
 6-INCH MIN. CLEARANCE BETWEEN SLURRY WALL AND CONDUITS.

STORM DRAIN NOTES:

- ALL PRIVATE STORM DRAIN PIPE SHALL BE PVC SDR 35, SLOPED AT 2% UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL STORMDRAIN LINE IN THE RIGHT-OF-WAY SHALL BE VITRIFIED CLAY PIPE (VCP). PIPE SHALL BE SIZED AS SPECIFIED ON THE PLANS. ALL DIRECTION CHANGES SHALL BE MADE WITH A WHY CONNECTION OR LONG SWEEP ELBOWS, REGULAR ELBOWS, AND TEE'S
- USE DETECTABLE METALIZED WARNING TAPE APPROXIMATE 6" BELOW THE SURFACE. TAPE SHALL BE A BRIGHT COLOR AND IMPRINTED WITH "CAUTION— STORM DRAIN LINE BELOW, CALPICO TYPE 2 OR EQUAL.
- PAINT THE TOP OF THE CURBS ADJACENT TO EACH CATCH BASIN INSTALLED UNDER THE WORK OR ADJACENT TO THIS SITE WITH THE WORDS "NO DUMPING". WORDING TO BE BLUE 4" HIGH LETTERS ON A PAINTED WHITE
- ALL AREA DRAINS AND CATCH BASINS GRATES WITHIN PEDESTRIAN ACCESSIBLE AREAS SHALL MEET ADA REQUIREMENTS. ALL TRENCHES SHALL BE BACKFILLED PER THE SPECIFICATIONS WITH APPROPRIATE TEST BY THE GEOTECHNICAL ENGINEER TO VERIFY COMPACTION VALUES.
- 6. FOR GRAVITY FLOW SYSTEMS CONTRACTOR SHALL VERIFY (POTHOLE IF NECESSARY) SIZE, MATERIAL, LOCATION AND DEPTH OF ALL SYSTEMS ARE TO BE CONNECTED TO OR CROSSED PRIOR TO TRENCHING OR INSTALLATION OF ANY GRAVITY FLOW SYSTEM.
- COMPLETE SYSTEMS; ALL UTILITY SYSTEMS ARE DELINEATED IN SCHEMATIC MANNER ON THESE PLANS. CONTRACTOR IS TO PROVIDE ALL FITTINGS, ACCESSORIES, AND WORK NECESSARY TO COMPLETE THE UTILITY SYSTEM SO THAT IT IS FULLY FUNCTIONING FOR THE PURPOSE INTENDED.
- TWP (2) FEET OF COVER IN NON-TRAFFIC AREAS SHALL BE POLYVINAL
- PRIVATE STORM DRAIN LINE 6-INCH THROUGH 12-INCH WITH LESS THEN 3 FEET OF COVER IN VEHICULAR TRAFFIC AREAS SHALL BE POLYVINYL CHLORIDE 10. ALL DOWN SPOUTS SHALL DISCHARGE DIRECTLY ON TO ADJACENT IMPERVIOUS SURFACES OR SPLASH BLOCKS UNLESS OTHERWISE NOTED ON PLANS. SEE ARCHITECTURE PLANS FOR EXACT LOCATION OF THE DOWN SPOUTS.
- **DUST CONTROL NOTES:**
- WATER TRUCKS SHALL BE PRESENT AND IN USE AT THE CONSTRUCTION SITE. ALL PORTIONS OF THE SITE SUBJECT TO BLOWING DUST SHALL BE WATERED AS OFTEN AS DEEMED NECESSARY BY THE APPROPRIATE GOVERNMENTAL AGENCY IN ORDER TO ENSURE PROPER CONTROL OF BLOWING DUST FOR THE DURATION OF THE PROJECT.
- WATERING ASSOCIATED WITH ON-SITE CONSTRUCTION ACTIVITY SHALL TAKE PLACE BETWEEN THE ESTABLISHED CONSTRUCTION HOURS AND SHALL INCLUDE AT LEAST ONE LATE-AFTERNOON WATERING TO MINIMIZE THE EFFECTS OF BLOWING DUST.
- ALL PUBLIC STREETS AND MEDIANS SOILED OR LITTERED DUE TO THIS CONSTRUCTION ACTIVITY SHALL BE CLEANED AND SWEPT ON A DAILY BASIS DURING THE WORK WEEK, OR AS OFTEN AS DEEMED NECESSARY BY THE OWNER'S ENGINEER/INSPECTOR, TO THE SATISFACTION OF THE CITY'S DEPARTMENT OF PUBLIC WORKS.
- 4. WATERING ON PUBLIC STREETS OR POWER WASHING SEDIMENTATION ON STREETS SHALL NOT OCCUR, UNLESS CONTRACTOR COLLECTS AND FILTERS THE WASH WATER PRIOR TO ITS ENTERING THE CITY'S STORM DRAIN SYSTEM.
- 5. ON—SITE PAVED ACCESS ROADS, PARKING AREAS AND STAGING AREAS SHALL BE SWEPT DAILY WITH A WATER SWEEPER. 6. WHEEL WASHERS SHALL BE INSTALLED AND USED TO CLEAN ALL TRUCKS AND EQUIPMENT LEAVING THE CONSTRUCTION SITE. IF WHEEL WASHERS CANNOT BE INSTALLED, TIRES OR TRACKS OF ALL TRUCKS AND EQUIPMENT SHALL BE WASHED OFF BEFORE LEAVING THE CONSTRUCTION SITE.
- C. GRADING OR ANY OTHER OPERATIONS THAT CREATES DUST SHALL BE STOPPED IMMEDIATELY IF DUST AFFECTS ADJACENT PROPERTIES. THE CONTRACTOR SHALL PROVIDE SUFFICIENT DUST CONTROL FOR THE ENTIRE PROJECT SITE IN ACCORDANCE WITH THE PROJECT SWPPP AT ALL TIMES. THE SITE SHALL BE SPRINKLERED AS NECESSARY TO PREVENT DUST NUISANCE. IN THE EVENT THAT THE CONTRACTOR NEGLECTS TO USE ADEQUATE MEASURES TO CONTROL DUST. THE CITY RESERVES THE RIGHT TO TAKE WHATEVER MEASURES ARE NECESSARY TO CONTROL DUST AND CHARGE THE COST TO THE CONTRACTOR.
- 8. THE PERMITEE IS RESPONSIBLE FOR DUST CONTROL MEASURES AND FOR OBTAINING ALL REQUIRED PERMITS AND APPROVALS. ALL GRADING OPERATIONS SHALL BE SUSPENDED DURING SECOND (OR WORSE) STAGE SMOG ALERTS.
- 9. ALL TRUCKS HAULING SOIL, SAND, AND OTHER LOOSE MATERIALS SHALL BE COVERED WITH TARPAULINS OR OTHER EFFECTIVE COVERS.
- **EARTHWORK QUANTITY NOTES:**
- THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE QUANTITIES OF ALL FORMS OF EARTHWORK ON THIS PROJECT AND BASING THE BID ON THOSE QUANTITIES WITH FULL KNOWLEDGE THAT ADDITIONAL PROCESSES INCLUDING ENGINEERING AND QUANTITIES ARE ALSO TO BE INCLUDED IN THE BID PER THE FOLLOWING NOTES. THE CONTRACTOR SHALL MAKE AN INITIAL DETERMINATION OF THE QUANTITIES, BASED ON A DETAILED SITE VISIT. THE TOPOGRAPHIC SURVEY, THE GEOTECHNICAL REPORT, THE FINISH GRADES SHOWN ON THESE DRAWINGS, THE SIZE AND EXTENT OF FOOTINGS, THE PREPARATION AND MATERIALS USED FOR BUILDING SLABS, PAVEMENT SECTIONS, AND THE SIZE AND DEPTH OF UTILITY TRENCHES, INCLUDING THE UTILITY CONTRACTORS ANTICIPATED RE-USE OF EXISTING MATERIAL FOR BACKFILL IF ANY.
- THE CONTRACTOR SHALL MEET THE GRADES SHOWN ON THE DRAWINGS, ADJUSTING THE AMOUNT OF IMPORT OR EXPORT AS REQUIRED TO DO SO. NO ASSUMPTIONS SHOULD BE MADE ABOUT THE SITE BALANCING. NO ADJUSTMENTS TO THE GRADE SHALL BE PERMITTED UNLESS SPECIFICALLY APPROVED BY THE ARCH/ENGR IN WITING AFTER THE IMPACT OF FANY GRADE CHANGES (IMPACT TO RAMPS, STAIRS, WORK BY OTHERS, ETC.) HAS BEEN THOROUGHLY REVIEWED BY THE ARCH/ENGR. WHEN PREPARING THE EARTHWORK BIOS, DO NOT ASSUME ANY CHANGES TO THE FINISHED GRADES SHOWN ON THESE DRAWINGS WILL BE PERMITTED.

- RECORD DRAWINGS: THE CONTRACTOR SHALL KEEP UP—TO—DATE AND ACCURATE A COMPLETE RECORD SET OF PRINTS OF THE CONTRACT DRAWINGS SHOWING EVERY CHANGE FROM THE ORIGINAL DRAWINGS MADE DURING THE COURSE OF CONSTRUCTION INCLUDING EXACT FINAL LOCATION, ELEVATION, SIZES, MATERIALS, AND DESCRIPTION OF ALL WORK. RECORDS SHALL BE "REDLINED" ON A SET OF CONSTRUCTION PLAN DRAWINGS. PRINTS SHALL BE SUBMITTED TO THE CITY ENGINEER AND DEVELOPERS CIVIL ENGINEER PRIOR TO FINAL ACCEPTANCE FOR REVIEW AND APPROVAL BY THE CITY/TOWN ENGINEER AND DEVELOPER'S CIVIL ENGINEER.
- SIGNING & STRIPING NOTES: ALL SIGNING AND STRIPING TO BE PER CALTRANS STANDARDS UNLESS NOTED TO BE PER CITY STANDARDS.
- ALL SIGNS FOR MOTORIST DIRECTIONS SHALL BE METAL WITH BEADED REFLECTIVE PAINT. SUPPORTING POSTS SHALL BE 2-1/2" DIAMETER GALVANIZED PIPE CAST INTO A 10" DIAMETER BY 24" DEEP CONCRETE FOOTING BOTTOM OF SIGN SHALL BE 72" ABOVE FINISH GRADE, UNLESS NOTED OTHERWISE.
- 3. WHERE THE FOLLOWING SYMBOLS OCCUR ON THE DRAWINGS PROVIDE THE SPECIFIED SIGNING AND/OR STRIPING.
- A. PROVIDE A VAN ACCESSIBLE STALL WITH BOTH PAVEMENT MARKINGS AND FREE-STANDING SIGN AS IDENTIFIED IN DETAIL: B. PROVIDE CALTRANS TYPE IV(L) (RSP A24A)

3" HEIGHT WHITE LETTER EVERY 25".

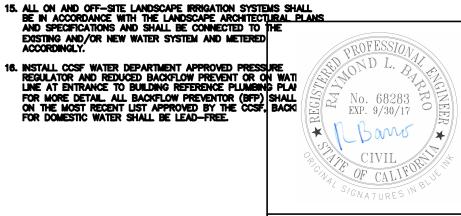
- C. PROVIDE CALTRANS TYPE IV(R) (RSP A24A)
- D. PROVIDE 1' WIDE x 10' LONG WHITE LINE W/ CALTRANS A24D STOP MARKER
- F. LOADING AND UNLOADING ZONE MUST BE PAINTED YELLOW WITH "LOADING / UNLOADING NO PARKING". 3" HEIGHT LETTER EVERY 25'. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES AND SHALL BE PROTECTED WITH ADEQUATE BARRICADES, LIGHTS, SIGNS AND WARNING DEVICES AS PER THE CURRENT STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, IANUAL OF TRAFFIC CONTROLS AND TO THE DIRECTION OF THE CITY'S ISSECTION.

GENERAL UTILITY SYSTEM

- THE UNDERGROUND FIRE PROTECTION SYSTEM SHOWN ON THIS DRAWING IS SCHEMATIC AND IS NOT INTENDED TO BE AN INSTALLATION DRAWING. THE UTILITY DRAWING IN THIS SET OF DOCUMENTS SHALL NOT BE USED AS A BASE SHEET FOR SHOP DRAWINGS WITHOUT WRITTEN APPROVAL FROM THE CIVIL ENGINEER
- THE UNDERGROUND FIRE PROTECTION SYSTEM INSTALLER SHALL PREPARE SHOP DRAWINGS SHOWING ALL INFORMATION REQUIRED BY THE LOCAL FIRE MARSHALL, INCLUDING LOCATION, TYPE AND NUMBER OF ANGLES, THRUST BLOCKS, VALVES, FIRE HYDRANTS, PIC'S, BACKFLOW ASSEMBLIES FLEXIBLE CONNECTIONS, VAULTS, AND FLOW CALCULATIONS TO FIRE HYDRANTS, AND SPRINKLER RISERS PER THE FIRE FLOW REQUIRED BY LOCAL FIRE DEPARTMENT.
- SHOP DRAWINGS SHALL BE SUBMITTED TO THE LOCAL FIRE MARSHALL, THE RATING AGENCY, AND THE CIVIL ENGINEER, ALLOWING TIME TO REVIEW AND ACCEPTANCE, PRIOR TO START
- THE UNDERGROUND FIRE PROTECTION INSTALLER SHALL OBTAIN ALL APPROVALS AND PERMITS PRIOR TO ORDERING MATERIALS, FABRICATING SYSTEMS OR ANY INSTALLATION.
- 5. BOTTOM OF BACKFLOW PREVENTOR OR ASSEMBLY TO BE
- INSTALLED NO GREATER OR LESS THEN 12" FROM FINISH GRADE UNLESS APPROVED BY CIVIL ENGINEER. GENERAL CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS AND EQUIPMENT LOCATIONS. RISER LOCATIONS ARE SHOWN ON ARCHITECTURAL AND PLUMBING DRAWINGS AND ARE TO BE COORDINATED WITH THE ACTUAL FIELD CONDITIONS.
- INSTALL MONITORED TAMPER SWITCHES AT ALL PIV'S AND VALVES ON DECTOR CHECK ASSEMBLIES.
- APPROXIMATELY 6" -12" BELOW THE SURFACE, BLUE, IMPRINTED WITH "CAUTION- FIRE SERVICE LINE BELOW", CALPICO TYPE 2 OR EQUAL.
- 9. MIN. 5 FEET CLEARANCE FROM BACK OF CURB TO FH'S, PIV'S, AND FDC'S.
- 10. UNDERGROUND FIRE PROTECTION SYSTEM INCLUDING HYDRANT ASSEMBLY, P.I.V., F.D.C., FITTING PIPE AND THRUSTBLOCKES TO BE IN ACCORDANCE WITH LOCAL FIRE PROTECTION DISTRICT SPECIFICATIONS, REQUIREMENTS AND NOTES. WATER NOTES:
- WHERE WATER LINES HAVE TO CROSS SANITARY SEWER LINES, DO SO AT A 90 DEGREE ANGLE AND WATER LINES SHALL BE MINIMUM OF 12" ABOVE THE TOP OF THE SANITARY SEWER LINES.
- WATER LINES ARE SHOWN SCHEMATICALLY; CONTRACTOR SHALL IDENTIFY EACH ANGLE AND/OR BEND THAT MAY BE REQUIRED TO ACCOMPLISH THE INTENDED DESIGN.
- 3. USE DETECTABLE METALIZED WARNING TAPE APPROXIMATELY 6"
 BELOW THE SURFACE, TAPE SHALL BE A BRIGHT COLOR AND
 IMPRINTED WITH "CAUTION—WATER LINE BELOW", CALPICO TYPE 2
 OR EQUAL.
- ALL WATER SERVICE CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE CCSF WATER DEPARTMENT STANDARDS. 5. PRIVATE WATER MAIN AND WATER SERVICE LINE 4-INCH THROUGH 12-INCH SHALL BE POLYVINYL CHLORIDE (PVC) AND SHALL MEET AWWA C900, RATED FOR 200 PSI CLASS PIPE WITH EPOXY COATED DUCTILE IRON FITTINGS AND FUSION EPOXY COATED GATE VALVES. ALL JOINTS SHALL FACTORY MANUFACTURED WITH BEL AND SPIGOT ENDS AND RUBBER GASKETS. NONMETALLIC WATER LINES HAVE TRACER WIRE INSTALLED PER COSS STANDARDS. PUBLIC WATER MAIN AND SERVICE LINES HAVE TRACE WIRE INSTALLED PER COSS STANDARDS. PUBLIC WATER MAIN AND SERVICE LINES HAVE THE MAIN AND
- 6. CONNECTION TO THE EXISTING WATER MAIN SHALL BE APPROVED BY THE CCSF WATER DEPARTMENT. THE DEVELOPER SHALL PAY THE ACTUAL COSTS OF CONSTRUCTION. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION PREPARE THE SITE, FURNISH ALL MATERIALS, INSTALL TAPPING TEE VALVE AND ALL THRUST BLOCKS. BACKFILL, RESTORE THE SURFACE, AND CLEANUP. THE CITY WILL PROVIDE THE DEVELOPER WITH A LIST OF APPROVED CONTRACTORS FOR MAKING WET TAPS. NONMETALLIC WATER LINES SHALL HAVE TRACER WIRES INSTALLED.
- ALL WATER LINES 3° OR SMALLER SHALL BE TYPE K COPPER WITH SILVER BRAZED JOINTS. CONTRACTOR TO VERIFY PRESSURES FROM EXISTING LINES ARE ADEQUATE TO SERVICE
- 8. ALL WATER LINES SHALL BE INSTALLED WITH 30" MIN. COVER ON THE STREET AND 24" MIN. COVER WITHIN PROPERTY LINE.

ALL WATER VALVES SHALL BE PER COSF WATER DEPARTMENT

- 10. ALL TEMPORARY AND/OR PERMANENT AIR-RELEASE AND BLOW-OFF VALVES SHALL BE PER CITY STANDARD AND AS DIRECTED BY THE CITY ENGINEER. 1. CONCRETE THRUST BLOCKS SHALL BE INSTALLED AT ALL TEES,
- CROSSES, BENDS (HORIZONTAL AND VERTICAL), AT SIZE CHANGES AND AT FIRE HYDRANTS PER CITY STANDARD. AWWA C600, SECTION 3.8 UNLESS NOTED OTHERWISE. 12. MECHANICALLY RESTRAINED JOINTS SHALL BE INSTALLED AT VERTICAL BENDS IN ACCORDANCE WITH CCSF WATER DEPARTMENT STANDARDS AND AS APPROVED BY THE CITY ENGINEER.
- 13. ALL WATER VALVES SHALL BE CLUSTERED, UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER OR CCSF WATER DEPARTMENT. 14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTING AND DELIVERING WATER SAMPLES FOR ANALYSIS TO A CITY APPROVED LAB.
- EXISTING AND/OR NEW WATER SYSTEM AND METEREI 16. INSTALL CCSF WATER DEPARTMENT APPROVED PRESSURE REGULATOR AND REDUCED BACKFLOW PREVENT OR ON WATILINE AT ENTRANCE TO BUILDING REFERENCE PLUMBING PLAY FOR MORE DETAIL. ALL BACKFLOW PREVENTOR (BFP) SHALL ON THE MOST RECENT LIST APPROVED BY THE CCSF, BACKI FOR DOMESTIC WATER SHALL BE LEAD—FREE.

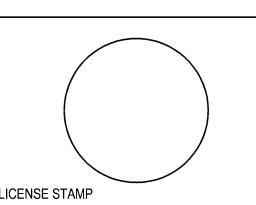


Z ₩.∑ BRAZE ¥5 NOTE:
THESE NOTES ARE INTENDED TO BE USED AS A GENERAL GUIDELINE.
THE REFERENCED SOILS REPORT FOR THE PROJECT AND GOVERNING
AGENCY GRADING ORDINANCE SHALL SUPERSEDE THESE NOTES. THE
SOILS ENGINEER MAY MAKE ON—SITE RECOMMENDATIONS DURING
GRADING OPERATIONS.

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DRAWING RELEASE STATUS ADDENDA DATE

SCALE NO SCALE RELEASE DATE JOB NUMBER 21525 08/24/2016

C-4.0 9 OF 13 SHEETS

PLOT DATE 08-24-16

PURPOSE:

THE PURPOSE OF THIS PLAN IS TO STABILIZE THE SITE TO PREVENT EROSION OF GRADED AREAS AND TO PREVENT SEDIMENTATION FROM LEAVING THE CONSTRUCTION AREA AND AFFECTING NEIGHBORING SITES, NATURAL AREAS, PUBLIC FACILITIES OR ANY OTHER AREA THAT MIGHT BE AFFECTED BY SEDIMENTATION. ALL MEASURES SHOWN ON THIS PLAN SHOULD BE CONSIDERED THE MINIMUM REQUIREMENTS NECESSARY. SHOULD FIELD CONDITIONS DICTATE ADDITIONAL MEASURES, SUCH MEASURES SHALL BE PER CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD'S FIELD MANUAL FOR EROSION AND SEDIMENTATION CONTROL AND THE CALIFORNIA STORM WATER QUALITY ASSOCIATION BEST MANAGEMENT PRACTICES HANDBOOK FOR CONSTRUCTION. LEA & BRAZE ENGINEERING SHOULD BE NOTIFIED IMMEDIATELY SHOULD CONDITIONS CHANGE.

EROSION CONTROL NOTES:

- 1. IT SHALL BE THE OWNER'S/CONTRACTOR'S RESPONSIBILITY TO MAINTAIN CONTROL OF THE ENTIRE CONSTRUCTION OPERATION AND TO KEEP THE ENTIRE SITE IN COMPLIANCE WITH THIS EROSION CONTROL PLAN.
- 2. THE INTENTION OF THIS PLAN IS FOR INTERIM EROSION AND SEDIMENT CONTROL ONLY. ALL EROSION CONTROL MEASURES SHALL CONFORM TO CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD'S FIELD MANUAL FOR EROSION AND SEDIMENTATION CONTROL, THE CALIFORNIA STORM WATER QUALITY ASSOCIATION BEST MANAGEMENT PRACTICES HANDBOOK FOR CONSTRUCTION, AND THE LOCAL GOVERNING AGENCY FOR THIS
- OWNER/CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO, DURING, AND AFTER STORM EVENTS. PERSON IN CHARGE OF MAINTAINING EROSION CONTROL MEASURES SHOULD WATCH LOCAL WEATHER REPORTS AND ACT APPROPRIATELY TO MAKE SURE ALL NECESSARY MEASURES ARE IN PLACE.
- 4. SANITARY FACILITIES SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- 5. 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 WATERCOURSES.
- CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION WILL BE MINIMIZED. COMPLIANCE WITH FEDERAL, STATE AND LOCAL LAWS CONCERNING POLLUTION SHALL BE MAINTAINED AT ALL TIMES.
- 7. CONTRACTOR SHALL PROVIDE DUST CONTROL AS REQUIRED BY THE APPROPRIATE FEDERAL, STATE AND LOCAL AGENCY REQUIREMENTS.
- 8. ALL MATERIALS NECESSARY FOR THE APPROVED EROSION CONTROL MEASURES SHALL BE IN PLACE BY OCTOBER 15TH.
- . EROSION CONTROL SYSTEMS SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE RAINY SEASON, OR FROM OCTOBER 15TH THROUGH APRIL 15TH, WHICHEVER IS LONGER.
- 10. IN THE EVENT OF RAIN, ALL GRADING WORK IS TO CEASE IMMEDIATELY AND THE SITE IS TO BE SEALED IN ACCORDANCE WITH THE APPROVAL EROSION CONTROL MEASURES AND APPROVED EROSION CONTROL PLAN.
- 11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING AND REPAIRING EROSION CONTROL SYSTEMS AFTER EACH STORM.
- 12. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY LOCAL JURISDICTION'S ENGINEERING DEPARTMENT OR BUILDING OFFICIALS.
- 13. MEASURES SHALL BE TAKEN TO COLLECT OR CLEAN ANY ACCUMULATION OR DEPOSIT OF DIRT, MUD, SAND, ROCKS, GRAVEL OR DEBRIS ON THE SURFACE OF ANY STREET, ALLEY OR PUBLIC PLACE OR IN ANY PUBLIC STORM DRAIN SYSTEMS. THE REMOVAL OF AFORESAID SHALL BE DONE BY STREET SWEEPING OR HAND SWEEPING. WATER SHALL NOT BE USED TO WASH SEDIMENTS INTO PUBLIC OR PRIVATE DRAINAGE FACILITIES.
- 14. EROSION CONTROL MEASURES SHALL BE ON-SITE FROM SEPTEMBER 15TH THRU APRIL 15TH.
- 15. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE RAINY SEASON OR FROM OCTOBER 15 THRU APRIL 15, WHICHEVER IS GREATER.
- 16. PLANS SHALL BE DESIGNED TO MEET C3 REQUIREMENTS OF THE MUNICIPAL STORMWATER REGIONAL PERMIT("MRP") NPDES PERMIT CAS 612008.
- 17. THE CONTRACTOR TO NPDES (NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM) BEST MANAGEMENT PRACTICES (BMP) FOR SEDIMENTATION PREVENTION AND EROSION CONTROL TO PREVENT DELETERIOUS MATERIALS OR POLLUTANTS FROM ENTERING THE TOWN OR COUNTY STORM DRAIN
- 18. THE CONTRACTOR MUST INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO THE INCEPTION OF ANY WORK ONSITE AND MAINTAIN THE MEASURES UNTIL THE COMPLETION OF ALL LANDSCAPING.
- 19. THE CONTRACTOR SHALL MAINTAIN ADJACENT STREETS IN A NEAT, CLEAN DUST FREE AND SANITARY CONDITION AT ALL TIMES AND TO THE SATISFACTION OF THE TOWN INSPECTOR. THE ADJACENT STREET SHALL AT ALL TIMES BE KEPT CLEAN OF DEBRIS, WITH DUST AND OTHER NUISANCE BEING CONTROLLED AT ALL TIMES. THE CONTRACTOR BE RESPONSIBLE FOR ANY CLEAN UP ON ADJACENT STREETS AFFECTED BY THE BY THEIR CONSTRUCTION, METHOD OF STREET CLEANING SHALL BE BY DRY SWEEPING OF ALL PAVED AREAS. NO STOCKPILING OF BUILDING MATERIALS WITHIN THE TOWN RIGHT-OF-WAY.
- 20. SEDIMENTS AND OTHER MATERIALS SHALL NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONTRACTOR SHALL INSTALL A STABILIZED CONSTRUCTION ENTRANCE PRIOR TO THE INSPECTION OF ANY WORK ONSITE AND MAINTAIN IT FOR THE DURATION OF THE CONSTRUCTION PROCESS SO AS TO NOT INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC RIGHT-OF-WAY UNTIL THE COMPLETION OF ALL LANDSCAPING.
- 21. THE CONTRACTOR SHALL PROTECT DOWN SLOPE DRAINAGE COURSES, STREAMS AND STORM DRAINS WITH ROCK FILLED SAND BAGS, TEMPORARY SWALES, SILT FENCES, AND EARTH PERMS IN CONJUNCTION OF ALL
- 22. STOCKPILED MATERIALS SHALL BE COVERED WITH VISQUEEN OR A TARPAULIN UNTIL THE MATERIAL IS REMOVED FROM THE SITE. ANY REMAINING BARE SOIL THAT EXISTS AFTER THE STOCKPILE HAS BEEN REMOVED SHALL BE COVERED UNTIL A NATURAL GROUND COVER IS ESTABLISHED OR IT IS SEEDED OR PLANTED TO PROVIDE GROUND COVER PRIOR TO THE FALL RAINY SEASON.
- 23. EXCESS OR WASTE CONCRETE MUST NOT BE WASHED INTO THE PUBLIC RIGHT-OF-WAYOR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
- 24. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION AND DISPERSAL BY WIND

EROSION CONTROL NOTES CONTINUED:

- 24. FUELS, OILS, SOLVENTS AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MUST NOT BE WASHED INTO THE DRAINAGE SYSTEM,
- 25. DUST CONTROL SHALL BE DONE BY WATERING AND AS OFTEN AS REQUIRED BY THE TOWN INSPECTOR.
- 26. SILT FENCE(S) AND/OR FIBER ROLL(S) SHALL BE INSTALLED PRIOR TO SEPTEMBER 15TH AND SHALL REMAIN IN PLACE UNTIL THE LANDSCAPING GROUND COVER IS INSTALLED. CONTRACTOR SHALL CONTINUOUSLY MONITOR THESE MEASURES, FOLLOWING AND DURING ALL RAIN EVENTS, TO PUBLIC OWNED FACILITIES.

EROSION CONTROL MEASURES:

- 1. THE FACILITIES SHOWN ON THIS PLAN ARE DESIGNED TO CONTROL EROSION AND SEDIMENT DURING THE RAINY SEASON, OCTOBER 15TH TO APRIL 15. EROSION CONTROL FACILITIES SHALL BE IN PLACE PRIOR TO OCTOBER 15TH 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.
- 2. SITE CONDITIONS AT TIME OF PLACEMENT OF EROSION CONTROL MEASURES WILL VARY. APPROPRIATE ACTION INCLUDING TEMPORARY SWALES, INLETS, HYDROSEEDING, STRAW BALES, ROCK SACKS, ETC. SHALL BE TAKEN TO PREVENT EROSION AND SEDIMENTATION FROM LEAVING SITE. EROSION CONTROL MEASURES SHALL BE ADJUSTED AS THE CONDITIONS CHANGE AND THE NEED OF CONSTRUCTION SHIFT.
- 3. CONSTRUCTION ENTRANCES SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF GRADING. ALL CONSTRUCTION TRAFFIC ENTERING ONTO THE PAVED ROADS MUST CROSS THE STABILIZED CONSTRUCTION ENTRANCES. 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 BY THE GOVERNING AGENCY.
- 4. ALL EXPOSED SLOPES THAT ARE NOT VEGETATED SHALL BE HYDROSEEDED. IF HYDROSEEDING IS NOT USED OR IS NOT EFFECTIVE BY OCTOBER 15, 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. HYDROSEEDING SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF SECTION 20" EROSION CONTROL AND HIGHWAY PLANTING" OF THE STANDARD SPECIFICATION OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION, AS LAST REVISED. REFER TO THE EROSION CONTROL SECTION OF THE GRADING SPECIFICATIONS THAT ARE A PART OF THIS PLAN SET FOR FURTHER
- 5. 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 SEDIMENT. MINIMUM INLET PROTECTION SHALL CONSIST OF A ROCK SACKS OR AS SHOWN ON THIS PLAN
- 6. 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. A REPRESENTATIVE OF LEA & BRAZE ENGINEERING SHALL PERFORM A FIELD REVIEW AND MAKE RECOMMENDATIONS AS NEEDED. CONTRACTOR IS RESPONSIBLE TO NOTIFY LEA & BRAZE ENGINEERING AND THE GOVERNING AGENCY OF ANY CHANGES.
- 7. THE EROSION CONTROL MEASURES SHALL CONFORM TO THE LOCAL JURISDICTION'S STANDARDS AND THE APPROVAL OF THE LOCAL JURISDICTION'S ENGINEERING DEPARTMENT.
- 8. STRAW ROLLS SHALL BE PLACED AT THE TOE OF SLOPES AND ALONG THE DOWN SLOPE PERIMETER OF THE PROJECT. THEY SHALL BE PLACED AT 25 FOOT INTERVALS ON GRADED SLOPES. PLACEMENT SHALL RUN WITH THE CONTOURS AND ROLLS SHALL BE TIGHTLY END BUTTED. CONTRACTOR SHALL REFER TO MANUFACTURES SPECIFICATIONS FOR PLACEMENT AND INSTALLATION INSTRUCTIONS.

REFERENCES:

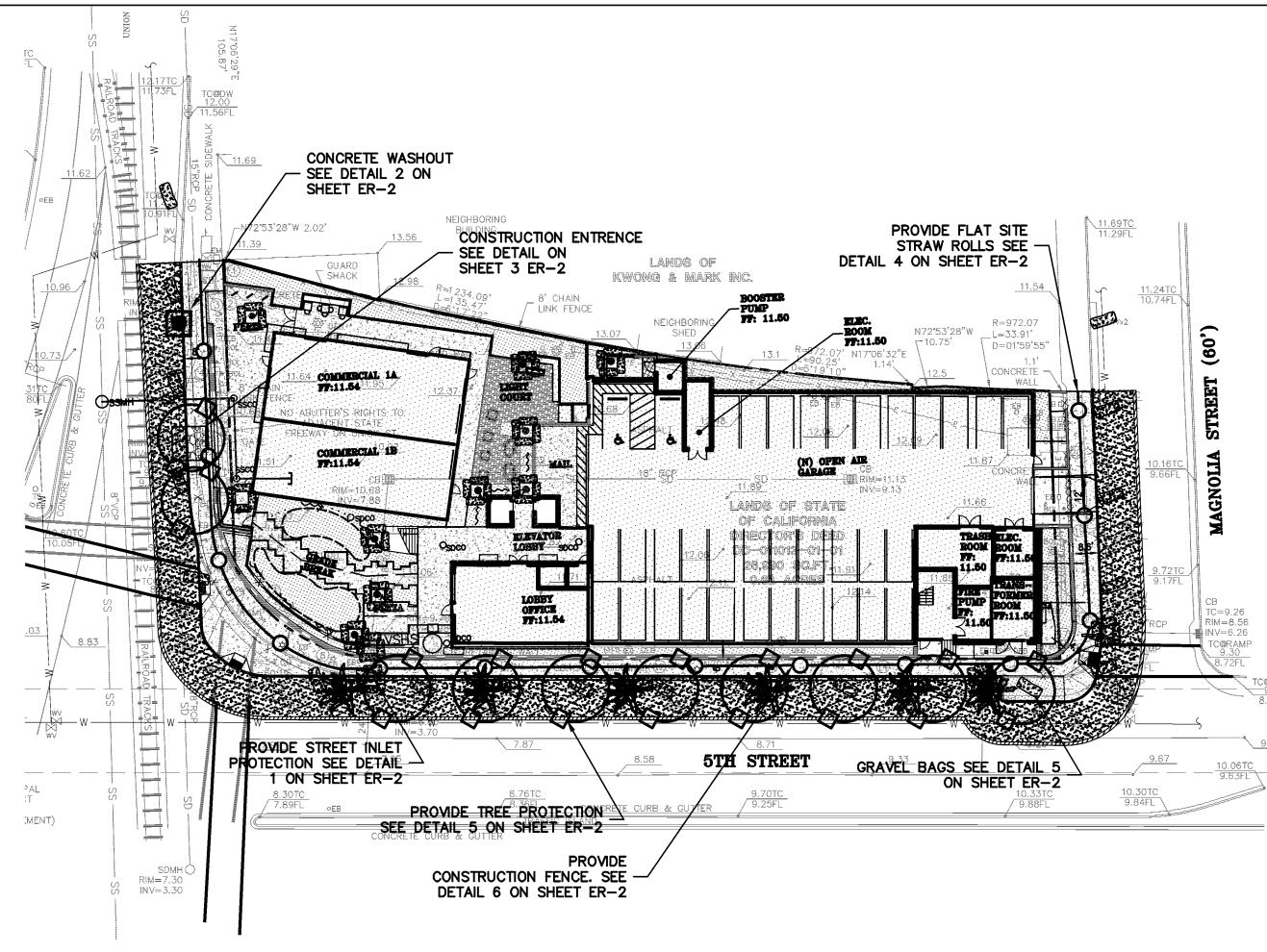
- 1. CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD'S FIELD MANUAL FOR EROSION AND SEDIMENTATION CONTROL
- 2. CALIFORNIA STORM WATER QUALITY ASSOCIATION BEST MANAGEMENT PRACTICES HANDBOOK FOR CONSTRUCTION

PERIODIC MAINTENANCE:

- 1. MAINTENANCE IS TO BE PERFORMED AS FOLLOWS:
- A. DAMAGES CAUSED BY SOIL EROSION OR CONSTRUCTION SHALL BE REPAIRED 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
- E. SEDIMENT REMOVED FROM TRAP SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
- F. RILLS AND GULLIES MUST BE REPAIRED. 2. GRAVEL BAG INLET PROTECTION SHALL BE CLEANED OUT WHENEVER
- 3. STRAW ROLLS SHALL BE PERIODICALLY CHECKED TO ASSURE PROPER FUNCTION AND CLEANED OUT WHENEVER THE SEDIMENT DEPTH REACHED HALF THE HEIGHT OF THE ROLL.

SEDIMENT DEPTH IS ONE HALF THE HEIGHT OF ONE GRAVEL BAG.

- 4. SILT FENCE SHALL BE PERIODICALLY CHECKED TO ASSURE PROPER FUNCTION AND CLEANED OUT WHENEVER THE SEDIMENT DEPTH REACHES ONE FOOT IN HEIGHT.
- 5. CONSTRUCTION ENTRANCE SHALL BE REGRAVELED AS NECESSARY FOLLOWING SILT/SOIL BUILDUP.
- 6. ANY OTHER EROSION CONTROL MEASURES SHOULD BE CHECKED AT REGULAR INTERVALS TO ASSURE PROPER FUNCTION

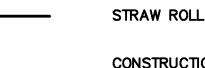


EROSION CONTROL LEGEND



INLET PROTECTION

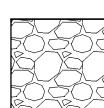
GRAVEL BAG



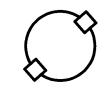
CONSTRUCTION FENCE



CONCRETE WASHOUT



CONSTRUCTION ENTRANCE



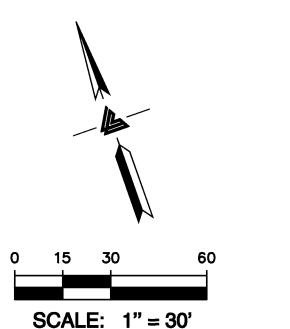
SEAL ALL OTHER INLETS NOT INTENDED

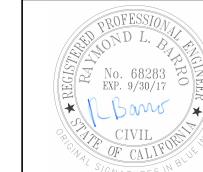
TO ACCEPT STORM WATER AND DIRECT

FLOWS TEMPORARILY TO FUNCTIONAL

SEDIMENTATION BASIN INLETS. -TYP

TREE PROTECTION





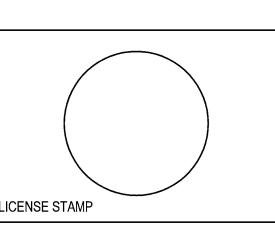
BRA





david baker architects

dbarchitect.com 461 second street loft 127 san francisco california 94107 415 896 6700 fax 415 896 6103



DRAWING RELEASE STATUS ADDENDA DATE SHEET TITLE

> 21525 08/24/2016 **ER-1**

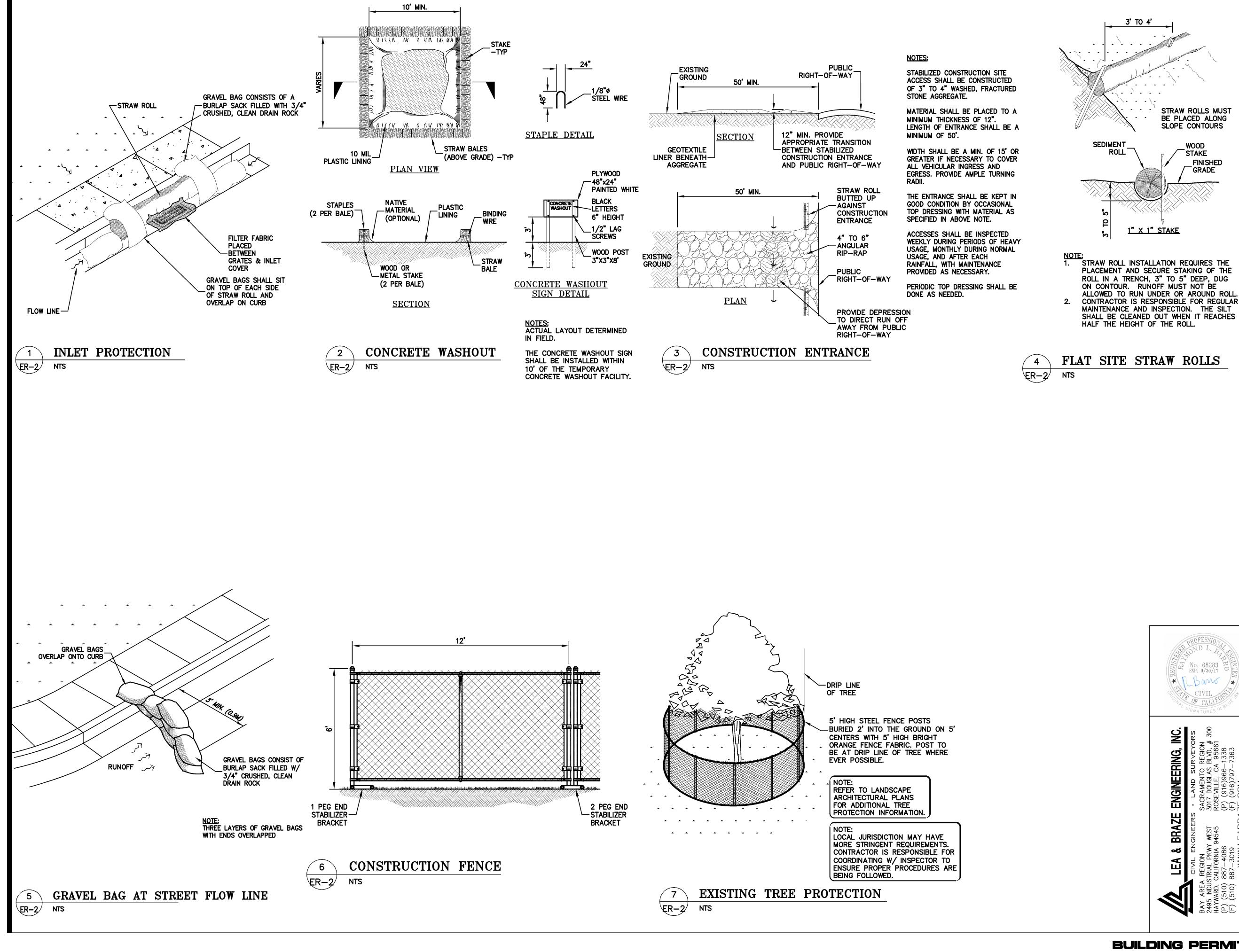
AS NOTED

RELEASE DATE

PLOT DATE 08-24-16

10 OF 13 SHEETS

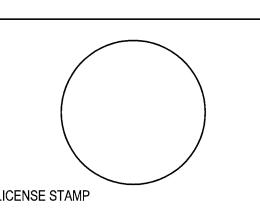
JOB NUMBER





david baker architects dbarchitect.com

461 second street loft 127 san francisco california 94107 415 896 6700 fax 415 896 6103



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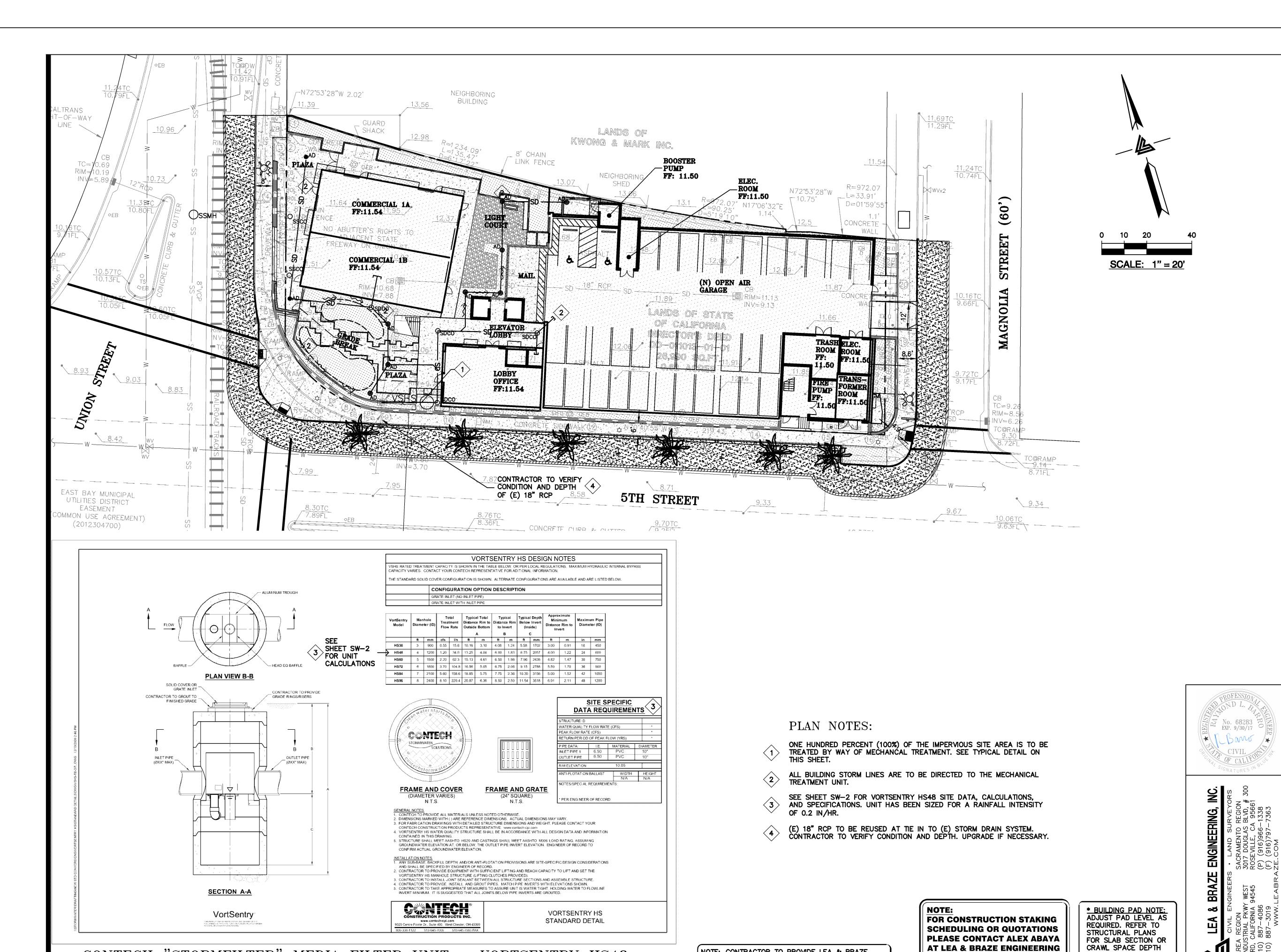
RELEASE DATE JOB NUMBER

ER-2

BUILDING PERMIT

PLOT DATE 08-24-16

08/24/2016



NOTE: CONTRACTOR TO PROVIDE LEA & BRAZE

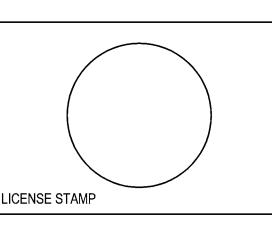
BY CONTECH BEFORE INSTALLING THE UNIT.

ENGINEERING A FINAL COPY OF THE SHOP DRAWINGS

CONTECH "STORMFILTER" MEDIA FILTER UNIT - VORTSENTRY HS48

david baker architects dbarchitect.com

461 second street loft 127 san francisco california 94107 415 896 6700 fax 415 896 6103



DRAWING RELEASE STATUS	[
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STORMWATER TREATMENT PLAN

AS NOTED JOB NUMBER

RELEASE DATE 21525 08/24/2016

SW-1 12 OF 13 SHEETS

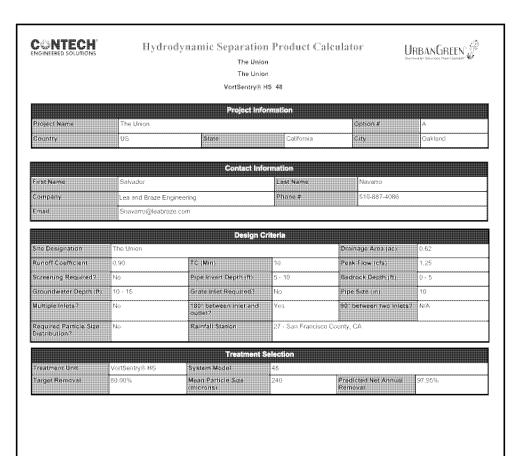
BUILDING PERMIT

TO ESTABLISH PAD

LEVEL.

(510)887-4086 EXT 116.

aabaya@leabraze.com



	ERED SOLUTIONS		The Union The Union		ž	URBANGREEN",
of all Interacty: (trihit) Total Flowrate (cris/th) Operating Rate: (cris/th) % Total Rainfail Removal Efficiency Adjusters 0.0490 0.02 0.00036 15.35% 98.000 0.0500 0.04 0.00071 26.63% 98.000 0.1200 0.07 0.00107 16.48% 98.000 0.1600 0.09 0.00142 12.41% 98.000 0.2000 0.111 0.00178 9.15% 98.000 0.2400 0.13 0.00244 5.51% 98.000 0.2400 0.16 0.00249 2.97% 98.000 0.3200 0.18 0.00245 1.39% 98.000 0.3200 0.18 0.00265 1.39% 98.000 0.4000 0.22 0.00320 1.50% 98.000 0.4400 0.25 0.00392 1.13% 98.000 0.4800 0.27 0.00427 0.85% 98.000 0.5200 0.29 0.00463 0.75% 98.000 0.5600 <th></th> <th></th> <th>VortSentry® F</th> <th>4S 48</th> <th></th> <th></th>			VortSentry® F	4S 48		
of all Interacty: (trihit) Total Flowrate (cris/th) Operating Rate: (cris/th) % Total Rainfail Removal Efficiency Adjusters 0.0490 0.02 0.00036 15.35% 98.000 0.0500 0.04 0.00071 26.63% 98.000 0.1200 0.07 0.00107 16.48% 98.000 0.1600 0.09 0.00142 12.41% 98.000 0.2000 0.111 0.00178 9.15% 98.000 0.2400 0.13 0.00244 5.51% 98.000 0.2400 0.16 0.00249 2.97% 98.000 0.3200 0.18 0.00245 1.39% 98.000 0.3200 0.18 0.00265 1.39% 98.000 0.4000 0.22 0.00320 1.50% 98.000 0.4400 0.25 0.00392 1.13% 98.000 0.4800 0.27 0.00427 0.85% 98.000 0.5200 0.29 0.00463 0.75% 98.000 0.5600 <th>VortSentrv® I</th> <th>IS Estimated Net An</th> <th>nual Solids Load Redu</th> <th>ction BASED ON THE</th> <th>E RATIONAL RAINFA</th> <th>LL METHOD</th>	VortSentrv® I	IS Estimated Net An	nual Solids Load Redu	ction BASED ON THE	E RATIONAL RAINFA	LL METHOD
Cfs/ft/) Cfs/ft/) Oopt14 (39)					Removal Efficiency	Rel. Effcy
0.0660 0.04 0.00071 26.63% 98.009 0.1200 0.07 0.00107 16.48% 98.009 0.1600 0.09 0.00142 12.41% 98.009 0.2000 0.111 0.00178 9.16% 98.009 0.2400 0.13 0.00214 5.51% 98.009 0.2800 0.16 0.00249 2.97% 98.009 0.3200 0.16 0.00249 1.39% 98.009 0.3600 0.20 0.00320 1.50% 98.009 0.4000 0.22 0.00356 0.84% 98.009 0.4400 0.25 0.00392 1.13% 98.009 0.4600 0.27 0.00427 0.85% 98.009 0.5600 0.31 0.00468 0.75% 98.009 0.5600 0.31 0.00488 0.75% 98.009 0.5600 0.34 0.00534 0.77% 98.009 0.6000 0.34 0.00534 0.77% 98.009 0.6000 0.38 0.00570 0.21% 98.009 0.6000 0.38 0.00676 0.21% 98.009 0.7600 0.42 0.00676 0.12% 97.909 0.7600 0.42 0.00676 0.12% 97.909 0.7600 0.45 0.00676 0.12% 97.909 0.7600 0.45 0.00676 0.12% 97.909 0.7600 0.45 0.00676 0.12% 97.909 0.7600 0.45 0.00676 0.12% 97.909 0.7600 0.45 0.00676 0.12% 97.909 0.7600 0.45 0.00690 0.89% 97.100 0.7600 0.67 0.01088 0.93% 93.009 0.0000 0.000 0.0000 0.00% 96.009 0.0000 0.000 0.0000 0.00% 96.009			(cfs/ft³)		(%)	(%)
0.1200					98.00%	15.04%
0.1600					98.00%	26,10%
0.2000 0.11 0.00178 9.16% 98.009 0.2400 0.13 0.00214 5.51% 98.009 0.2800 0.16 0.00249 2.97% 98.009 0.3200 0.16 0.00265 1.39% 98.009 0.3600 0.20 0.00320 1.50% 98.009 0.4000 0.22 0.00356 0.84% 98.009 0.4400 0.25 0.00392 1.13% 98.009 0.4800 0.27 0.00427 0.85% 98.009 0.5200 0.29 0.00463 0.75% 98.009 0.5600 0.31 0.00498 0.72% 98.009 0.5600 0.34 0.00534 0.77% 98.009 0.6000 0.34 0.00534 0.77% 98.009 0.6000 0.38 0.00570 0.21% 98.009 0.6000 0.38 0.00670 0.21% 98.009 0.7200 0.40 0.00676 0.12% 99.009 0.7600 0.42 0.00676 0.12% 97.909 0.7600 0.45 0.00676 0.12% 97.909 0.7600 0.45 0.00676 0.12% 97.909 0.7000 0.56 0.00890 0.89% 97.109 1.0000 0.56 0.00890 0.89% 97.109 0.0000 0.000 0.0000 0.00% 96.009 0.0000 0.000 0.0000 0.00% 96.009						16.15%
0.2400 0.13 0.00214 5.51% 98.009 0.2800 0.16 0.00249 2.97% 98.009 0.3200 0.18 0.00265 1.39% 98.009 0.3600 0.20 0.00320 1.50% 98.009 0.4000 0.22 0.00356 0.84% 98.009 0.4400 0.25 0.00392 1.13% 98.009 0.4500 0.27 0.00427 0.85% 98.009 0.5600 0.31 0.00468 0.75% 98.009 0.5600 0.31 0.00498 0.72% 98.009 0.6000 0.34 0.00534 0.77% 98.009 0.6000 0.36 0.00570 0.21% 98.009 0.6000 0.38 0.00570 0.21% 98.009 0.7200 0.40 0.00675 0.66% 98.009 0.7200 0.40 0.00675 0.66% 98.009 0.7200 0.40 0.00676 0.12% 97.909 0.7200 0.40 0.00676 0.12% 97.909 0.7200 0.45 0.00676 0.12% 97.909 0.7000 0.45 0.00676 0.12% 97.909 0.7000 0.56 0.00890 0.89% 97.109 0.0000 0.67 0.00890 0.89% 97.109 0.0000 0.000 0.0000 0.00% 96.009 0.0000 0.000 0.0000 0.00% 96.009						12.16%
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0.3200 0.18 0.00285 1.39% 98.000 0.3600 0.20 0.00320 1.50% 98.000 0.4000 0.22 0.00356 0.84% 88.000 0.4400 0.25 0.00392 1.13% 98.000 0.4400 0.27 0.00427 0.85% 98.000 0.500 0.29 0.00468 0.75% 98.000 0.5000 0.31 0.00498 0.72% 98.000 0.5000 0.34 0.00534 0.77% 98.000 0.6000 0.34 0.00534 0.77% 98.000 0.6000 0.38 0.00570 0.21% 88.000 0.7200 0.40 0.00605 0.66% 98.000 0.7200 0.40 0.00616 0.56% 98.000 0.7200 0.40 0.00676 0.12% 97.900 0.7000 0.45 0.00676 0.12% 97.900 0.5000 0.45 0.00712 0.51% 97.900 0.5000 0.56 0.00890 0.89% 97.100 0.0000 0.56 0.00890 0.89% 97.100 0.0000 0.000 0.0000 0.000% 96.000 0.0000 0.000 0.0000 0.000% 96.000	0.2400	0,13	0.00214	5.51%	98.00%	5,40%
0.3600 0.20 0.00320 1.50% 98.00° 0.4000 0.22 0.00356 0.84% 98.00° 0.4400 0.25 0.00392 1.13% 98.00° 0.4400 0.27 0.00427 0.85% 98.00° 0.5200 0.29 0.00468 0.75% 98.00° 0.5600 0.31 0.00498 0.72% 98.00° 0.6000 0.34 0.00534 0.77% 98.00° 0.6400 0.36 0.00570 0.21% 98.00° 0.6200 0.38 0.00605 0.66% 98.00° 0.7200 0.40 0.00605 0.66% 98.00° 0.7200 0.40 0.00676 0.12% 97.00° 0.7600 0.42 0.00676 0.12% 97.90° 0.8000 0.45 0.00712 0.51% 97.90° 1.0000 0.56 0.00890 0.89% 97.10° 1.0000 0.56 0.00890 0.89% 97.10° 0.0000 0.000 0.0000 0.00% 96.00° 0.0000 0.000 0.0000 0.00% 96.00°					98.00%	2.91%
0.4000 0.22 0.00356 0.84% 98.009 0.4400 0.25 0.00392 1.13% 98.009 0.4800 0.27 0.00427 0.85% 98.009 0.5200 0.29 0.00468 0.75% 98.009 0.5600 0.31 0.00498 0.72% 98.009 0.6000 0.34 0.00534 0.77% 98.009 0.6000 0.36 0.00570 0.21% 98.009 0.6800 0.38 0.006570 0.21% 98.009 0.7200 0.40 0.00605 0.66% 98.009 0.7200 0.40 0.00676 0.12% 97.509 0.7000 0.45 0.00712 0.51% 97.509 1.0000 0.56 0.00890 0.89% 97.109 1.2000 0.67 0.01068 0.93% 93.009 0.0000 0.000 0.00000 0.00% 96.009 0.0000 0.000 0.00000 0.00% 96.009					98.00%	1.36%
0.4400 0.25 0.00392 1.13% 98.009 0.4800 0.27 0.00427 0.85% 98.009 0.5200 0.29 0.00458 0.75% 98.009 0.5600 0.31 0.00498 0.72% 98.009 0.6000 0.34 0.00534 0.77% 98.009 0.6000 0.38 0.00570 0.21% 98.009 0.6800 0.38 0.00570 0.21% 98.009 0.7200 0.40 0.0001 0.25% 98.009 0.7200 0.40 0.0001 0.25% 97.009 0.7600 0.42 0.00676 0.12% 97.009 0.8000 0.45 0.00712 0.51% 97.009 1.0000 0.66 0.00690 0.89% 97.109 1.2000 0.67 0.01068 0.93% 93.009 0.0000 0.000 0.0000 0.00% 96.009 0.0000 0.000 0.0000 0.00% 96.009				1111	98.00%	1.47%
0.4800 0.27 0.00427 0.85% 98.009 0.5200 0.29 0.00458 0.75% 96.009 0.5600 0.31 0.00498 0.72% 96.009 0.8000 0.34 0.00534 0.77% 98.009 0.6400 0.36 0.00570 0.21% 88.009 0.6800 0.38 0.00570 0.21% 98.009 0.7200 0.40 0.0001 0.20% 98.009 0.7200 0.45 0.00676 0.12% 97.909 0.8000 0.45 0.00712 0.51% 97.909 1.0000 0.66 0.00890 0.89% 97.109 1.2000 0.67 0.01068 0.93% 93.009 0.0000 0.000 0.000 0.0000 0.00% 96.009 0.0000 0.000 0.0000 0.00% 96.009	0.4000	0.22	0.00356	0.84%	98.00%	0.82%
0.5200 0.29 0.00463 0.75% 96,003 0.5600 0.31 0.00498 0.72% 96,003 0.6000 0.34 0.00534 0.77% 98,003 0.6000 0.36 0.00570 0.21% 88,003 0.6800 0.38 0.00570 0.66% 98,003 0.7200 0.40 0.00041 0.20% 90,003 0.7600 0.42 0.00676 0.12% 97,903 0.8000 0.45 0.00712 0.51% 97,903 1.0000 0.56 0.00630 0.89% 97,103 1.2000 0.67 0.01068 0.93% 93,003 0.0000 0.00 0.000 0.0000 0.00% 96,003 0.0000 0.000 0.000 0.0000 0.00% 96,003	0.4400	0.25	0.00392	1.13%	98.00%	1.11%
0.5660 0.31 0.00498 0.72% 98.009 0.6000 0.34 0.00534 0.77% 98.009 0.6400 0.36 0.00570 0.21% 98.009 0.6800 0.38 0.00605 0.66% 98.009 0.7200 0.40 0.00041 0.20% 90.009 0.7600 0.42 0.00676 0.12% 97.909 0.8000 0.45 0.00712 0.51% 97.909 1.0000 0.56 0.00630 0.89% 97.109 1.2000 0.67 0.0106B 0.93% 93.009 0.0000 0.00 0.0000 0.00% 96.009 0.0000 0.000 0.0000 0.00% 96.009	0.4800	0.27	0.00427		98.00%	0.83%
0.6000 0.34 0.00534 0.77% 98.009 0.6400 0.36 0.00570 0.21% 98.009 0.6800 0.38 0.00605 0.66% 98.009 0.7200 0.40 0.00041 0.20% 90.003 0.7600 0.42 0.00676 0.12% 97.909 0.8000 0.45 0.00712 0.51% 97.909 1.0000 0.66 0.00630 0.89% 97.109 1.2000 0.67 0.0108B 0.93% 93.009 0.0000 0.00 0.0000 0.00% 90.009 0.0000 0.000 0.0000 0.00% 96.009	0.5200	0.29	0.00463		98,00%	0.74%
0.6400 0.36 0.00570 0.21% 88.009 0.6800 0.38 0.00605 0.66% 98.009 0.7200 0.40 0.00041 0.20% 90.009 0.7600 0.42 0.00676 0.12% 97.909 0.8000 0.45 0.00712 0.51% 97.909 1.0000 0.66 0.00890 0.89% 97.109 1.2000 0.67 0.0106B 0.93% 93.009 0.0000 0.00 0.000 0.000% 90.009 0.0000 0.00 0.0000 0.00% 96.009 % rain falling a	0.5600	0.31	0.00498	0.72%	98.00%	0.71%
0.6800 0.38 0.00605 0.66% 98.009 0.7200 0.40 0.00041 0.20% 90.009 0.7600 0.42 0.00676 0.12% 97.909 0.8000 0.45 0.00712 0.51% 97.909 1.0000 0.66 0.00890 0.89% 97.109 1.2000 0.67 0.0106B 0.93% 93.009 0.0000 0.00 0.0000 0.00% 90.009 0.0000 0.00 0.0000 0.00% 98.009 % rain falling a	0.6000	0.34	0.00534	0.77%	98.00%	0.75%
0.7200 0.40 0.00041 0.20% 90.007 0.7600 0.42 0.00676 0.12% 97.90% 0.8000 0.45 0.00712 0.51% 97.90% 1.0000 0.56 0.00890 0.89% 97.10% 1.2000 0.67 0.0106B 0.93% 93.00% 0.0000 0.00 0.0000 0.00% 90.00% 0.0000 0.00 0.0000 0.00% 98.00% % rain falling a	0.6400	0.36	0.00570	0.21%	98.00%	0.21%
0.7600 0.42 0.00676 0.12% 97.90% 0.8000 0.45 0.00712 0.51% 97.90% 1.0000 0.66 0.00890 0.89% 97.10% 1.2000 0.67 0.0106B 0.93% 93.00% 0.0000 0.000 0.00% 90.00	0.6800	0.38	0.00605	0.66%	98.00%	0.65%
0.8000 0.45 0.00712 0.51% 97.90% 1.0000 0.56 0.00890 0.89% 97.10% 97.00% 1.2000 0.67 0.0168 0.93% 93.00% 93.00% 0.0000 0.000 0.00% 96.000 0.0000 0.00% 96.000 % rain falling a Removal Efficiency Adjus	0.7200	0.40	0.00041	0.20%	90.00%	0.20%
1,0000 0,56 0,00890 0.89% 97.10° 1,2000 0,67 0,01068 0,93% 93.00° 0,0000 0,00 0,0000 0,00% 90.00° 0,0000 0,00 0,0000 0,00% 98.00° % rain falling a	0.7600	0.42	0.00676	0.12%	97.90%	0.12%
1,2000 0,67 0,01068 0,93% 93,00% 0,0000 0,0000 0,00% 90,00% 0,0000 0,0000 0,00% 98,00% % rain falling a Removal Efficiency Adjus	0.8000	0.45	0.00712	0.51%	97.90%	0.50%
0.0000 0.00 0.0000 0.00% 90.00% 90.00% 0.00% 90.00%	1.0000	0.56	0.00890	0.89%	97.10%	0.86%
0.0000 0.000 0.0000 0.00% 96.009 % rain falling a Removal Efficiency Adjus	1.2000	0.67	0.01068	0.93%	93.00%	0.86%
% rain falling a Removal Efficiency Adjus	0.0000	0.00	0.00000	0.00%	90.00%	0.00%
Removal Efficiency Adjus	0.0000	0.00	0.00000	0.00%	98.00%	0.00%
Removal Efficiency Adjus						97.95%
					% rain falling at >0"/hr:	= 0.00%
Predicted Net Annual Load Removal Ef				Remova	l Efficiency Adjustment2 :	= 0.00%
			•	Predicted Net Annual I	Load Removal Efficiency	97.95%
Design Ratio = (Total Drainage Area × Runoff Coefficient) / VortSentry HS Treatment Volume = The Total Drainage Area and Runoff Coefficient are specified by the site engineer.						
Degrating Rate (cfs/ft3) = Rainfail Intensity ("/hr) x Design Ratio						
lased on 11 years of data from NCDC station 7767, San Fransisco County, CA						
temoval efficiencies are based on Contech Stormwater Solutions laboratory venified removal of F-55, a commercially ava n particle size of 240 microns, containing particles ranging from 100-600 microns.	moval efficiencies are b particle size of 240 micr	ased on Contech Stormy ons, containing particles	vater Solutions laboratory ve ranging from 100-600 micro	erified removal of F-55, a	commercially available	silica gradation w

CNTECH

SECTION [_____

STORMWATER TREATMENT DEVICE

PART 1 - GENERAL

1.3 DESCRIPTION A. Work Included

The Contractor, and/or a manufacturer selected by the Contractor and approved by the Engineer, shall furnish all labor, materials, equipment and incidentals required and install all precast concrete stormwater treatment systems and appurtenances in accordance with the Drawings and these specifications. Substitutions for the specified product(s) will be considered only if the proposed alternate meets or exceeds the performance criteria as listed in section 2.2 of this specification. Any proposed substitutions must be reviewed by the engineer and submitted to the governing regulatory agency for final approval.

1.2 QUALITY CONTROL INSPECTION

- A. The quality of materials, the process of manufacture, and the finished sections shall be subject to inspection by the Engineer. Such inspection may be made at the place of manufacture, or on the work site after delivery, or at both places, and the sections shall be subject to rejection at any time if material conditions fail to meet any of the specification requirements, even though sample sections may have been accepted as satisfactory at the place of manufacture. Sections rejected after delivery to the site shall be marked for identification and shall be removed from the site at once. All sections which have been damaged beyond repair during delivery will be rejected and, if already installed, shall be repaired to the Engineer's acceptance level, if permitted, or removed and replaced, entirely at the Contractor's expense.
- B. All sections shall be inspected for general appearance, dimensions, soundness, etc. The surface shall be dense, close textured and free of blisters, cracks, roughness and exposure of reinforcement.
- C. Imperfections may be repaired, subject to the acceptance of the Engineer, after demonstration by the manufacturer that strong and permanent repairs result. Repairs shall be carefully inspected before final acceptance. Cement mortar used for repairs shall have a minimum compressive strength of 4,000 psi (28 MPa) at the end of 7 days and 5,000 psi (34 MPa) at the end of 28 days when tested in 3-inch (76 mm) diameter by 6- inch (152 mm) long cylinders stored in the standard manner. Epoxy mortar may be utilized for

1.3 SUBMITTALS Stormwater Treatment Device Specification

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A. <u>Shop Drawings</u>

The Contractor shall be provided with dimensional drawings and, when specified, utilize these drawings as the basis for preparation of shop drawings showing details for construction, reinforcing, joints and any cast-in-place appurtenances. Shop drawings shall be annotated to indicate all materials to be used and all applicable standards for materials, required tests of materials and design assumptions for structural analysis. Shop drawings shall be prepared at a scale of not less than 3/16-inches per foot (1:75). Six (6) hard copies of said shop drawings shall be submitted to the Engineer for review and

PART 2 - PRODUCTS

2.1 MATERIALS AND DESIGN

- A. Concrete for precast stormwater treatment systems shall conform to ASTM C857 and C478 and meet the following additional requirements:
- 1. In all cases the wall thickness shall be no less than the minimum thickness necessary to sustain HS20-44 (MS18) loading requirements as determined by a Licensed Professional Engineer.
- Sections shall have tongue and groove or ship-lap joints with a butyl mastic
- sealant conforming to ASTM C 990. 3. Cement shall conform to ASTM C 150.

to Campbell Foundry Pattern #1009A.

- 3. All sections shall be cured by an approved method. Sections shall not be shipped until the concrete has attained a compressive strength of 4,000 psi (28 MPa) or other designate suitable handling strength.
- 4. Pipe openings shall be sized to accept pipes of the specified size(s) and material(s), and shall be sealed by the Contractor with a hydraulic cement conforming to ASTM C 595M.
- B. All internal components shall be PVC per ASTM D1785, and aluminum alloy 5052-H32 plate in accordance with ASTM B 209.
- C. Brick or masonry used to build the manhole frame to grade shall conform to ASTM C 32 or ASTM C 139 and shall be installed in conformance with all local
- D. Casting for manhole frames and covers shall be in accordance with ASTM A48, CL.35B and AASHTO M105. The manhole frame and cover shall be equivalent
- E. A bitumen sealant in conformance with ASTM C 990 shall be utilized in affixing Stormwater Treatment Device Specification

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CNTECH

the aluminum bays to the concrete vault.

2.1 PERFORMANCE

A. Each stormwater treatment system shall have treatment, sediment storage, and oil storage capacities equal to or greater than that shown in Table 2.1 for the corresponding model as specified on the project plans. For the purpose of determining equivalency, the treatment capacity shall be defined as the flow rate at which the stormwater treatment system removes 80% of an unground silica sample having an average particle size equal to or less than 240 microns. Treatment capacity shall be additionally defined as the maximum flow rate prior to which bypass of any flow occurs.

VortSentry [®] HS	Treatment Capacity		Sedime	nt Storage	Oil Storage	
Model	cfs	l/s	yd³	m³	gal	Liter
HS36	0.55	15.6	0.5	0.4	75.4	285.4
HS48	1.2	34.0	0.9	0.7	137.1	518.9
HS60	2.2	62.3	1.5	1.1	214.2	810.8
HS72	3.7	104.8	2.1	1.6	308.4	1167.6
HS84	5.6	158.6	2.8	2.1	412.0	1559.5
HS96	8.1	229.4	3.7	2.8	544.2	2059.9

Each stormwater treatment system shall provide documented full-scale testing that corroborates the capacities as listed in Table 2.1 and defined above. Said documentation shall include at a minimum testing for removal capabilities and sediment wash-out characteristics at the treatment capacities listed in Table 2.1.

Each stormwater treatment system shall have the capability of bypassing high flow internally as well as controlling flow through the treatment chamber so as to avoid

wash-out of previously captured pollutants under high flow conditions.

Each stormwater treatment system shall include a circular chamber with a tangential inlet to induce a swirling flow pattern within the treatment chamber. The outlet from the treatment chamber shall be located in the center of the chamber so as to maximize the particle flow path within the treatment system.

Each stormwater treatment system shall be of a hydraulic design that includes flow controls designed and certified by a professional engineer using accepted principles of fluid mechanics that raise the water surface inside the tank to a pre-determined level in order to prevent the re- entrainment of trapped floating contaminants.

Each stormwater treatment system shall be designed to not allow surcharge of the upstream piping network during dry weather conditions. Stormwater Treatment Device Specification

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Each stormwater treatment system shall be contained within one concrete manhole

2.3 MANUFACTURER

A. The manufacturer of said system shall have been regularly engaged in the engineering design and production of systems for the physical treatment of stormwater runoff for 15 years.

Each stormwater treatment system shall be a VortSentry® HS system as manufactured by:

Contech Engineered Solutions 9025 Centre Pointe Dr., Suite 400 West Chester, OH 45069 (800) 338-1122

PART 3- EXECUTION 3.1 INSTALLATION

A. Each Stormwater Treatment System shall be constructed according to the sizes shown on the Drawings and as specified herein. Install at elevations and locations shown on the Drawings or as otherwise directed by the Engineer.

B. Place the precast base unit on a granular subbase of minimum thickness of six inches (152 mm) after compaction or of greater thickness and compaction if specified elsewhere. The granular subbase shall be checked for level prior to setting and the precast base section of the trap shall be checked for level at all four corners after it is set. If the slope from any corner to any other corner exceeds 0.5% the base section shall be removed and the granular subbase

- C. Prior to setting subsequent sections place bitumen sealant in conformance with ASTM C 990- 91 along the construction joint in the section that is already in
- D. After setting the precast roof section of the stormwater treatment system, set precast concrete manhole riser sections, to the height required to bring the cast iron manhole covers to grade, so that the sections are vertical and in true alignment with a ¼-inch (6 mm) maximum tolerance allowed. Backfill in a careful manner, bringing the fill up in 6-inch (152 mm) lifts on all sides and compacting the granular bedding to 95% Standard Procter Density per ASTM D698. If leaks appear, clean the inside joints and caulk with lead wool to the satisfaction of the Engineer. Precast sections shall be set in a manner that will result in a watertight joint. In all instances, installation of Stormwater Treatment Systems shall conform to ASTM specification C 891 "Standard Practice for Installation of Underground Precast Utility Structures". Stormwater Treatment Device Specification

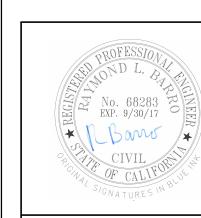
Stormwater Treatment Device Specification

CNTECH

- E. Holes made in the concrete sections for handling or other purposes shall be plugged with a nonshrink grout or by using grout in combination with concrete
- F. Where holes must be cut in the precast sections to accommodate pipes, do all cutting before setting the sections in place to prevent any subsequent jarring which may loosen the mortar joints. The Contractor shall make all pipe

END OF SECTION

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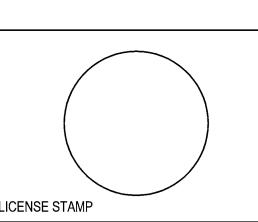
LEA & BRAZE ENGINEERING, IN CIVIL ENGINEERS · LAND SURVEYOR BAY AREA REGION 2495 INDUSTRIAL PKWY WEST HAYWARD, CALIFORNIA 94545 (P) (510) 887-4086 (F) (510) 887-3019 (F) (916)797-7363

NOTE: CONTRACTOR TO PROVIDE LEA & BRAZE ENGINEERING A FINAL COPY OF THE SHOP DRAWINGS BY CONTECH BEFORE INSTALLING THE UNIT.

FOR CONSTRUCTION STAKING **SCHEDULING OR QUOTATIONS** PLEASE CONTACT ALEX ABAYA AT LEA & BRAZE ENGINEERING (510)887-4086 EXT 116. aabaya@leabraze.com

* BUILDING PAD NOTE: ADJUST PAD LEVEL AS REQUIRED. REFER TO STRUCTURAL PLANS FOR SLAB SECTION OR CRAWL SPACE DEPTH TO ESTABLISH PAD LEVEL.

david baker architects dbarchitect.com 461 second street loft 127



san francisco california 94107

415 896 6700 fax 415 896 6103

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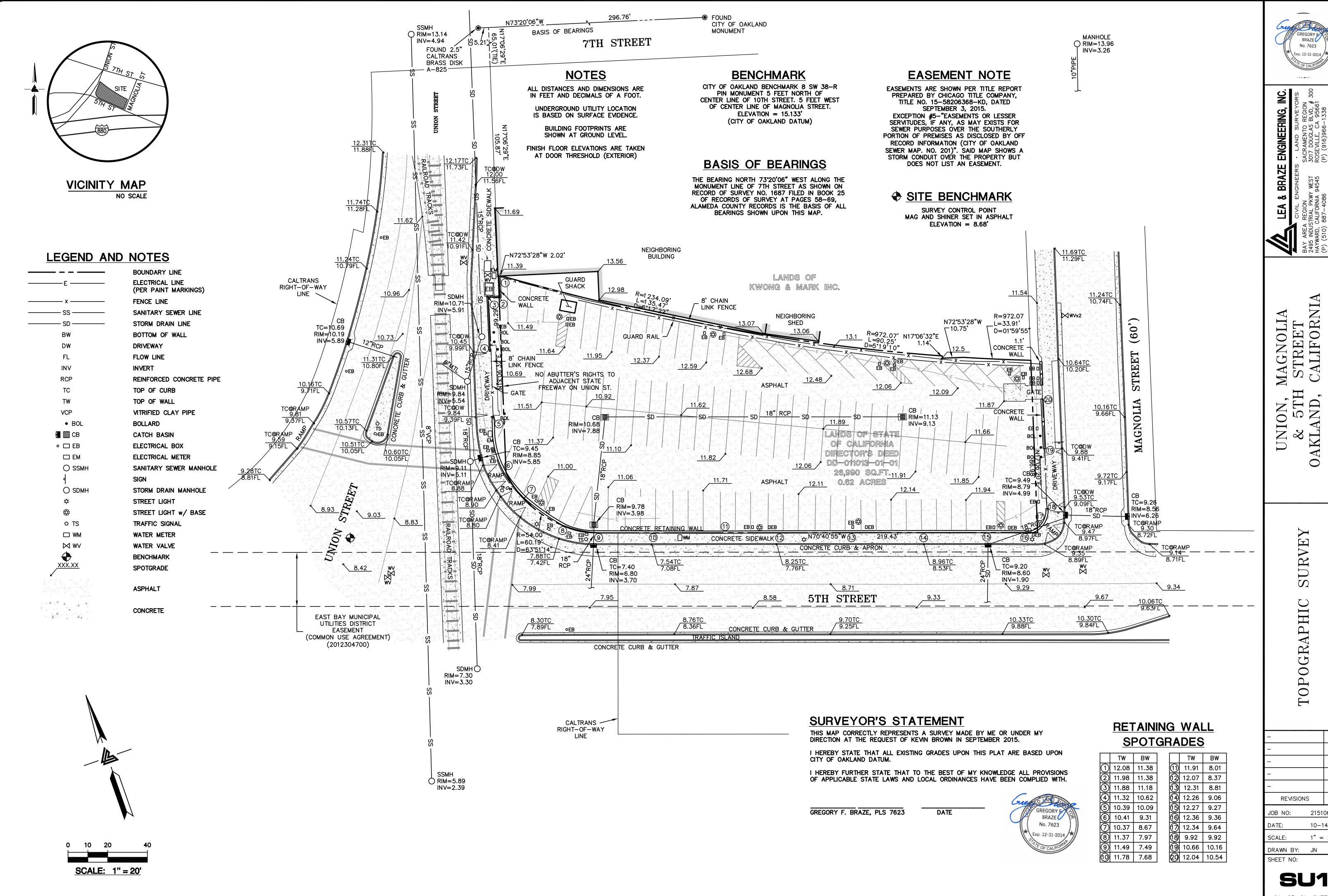
DRAWING RELEASE STATUS DATE ADDENDA

SHEET TITLE

Z STORMWATER
REATMENT PLA
SPECS AND
CALCULATIONS

AS NOTED JOB NUMBER RELEASE DATE 21525 08/24/2016

13 OF 13 SHEETS



2151068

10-14-15 1" = 20'

01 OF 01 SHEETS