UNIVERSITY OF CALIFORNIA
SANTA BARBARA

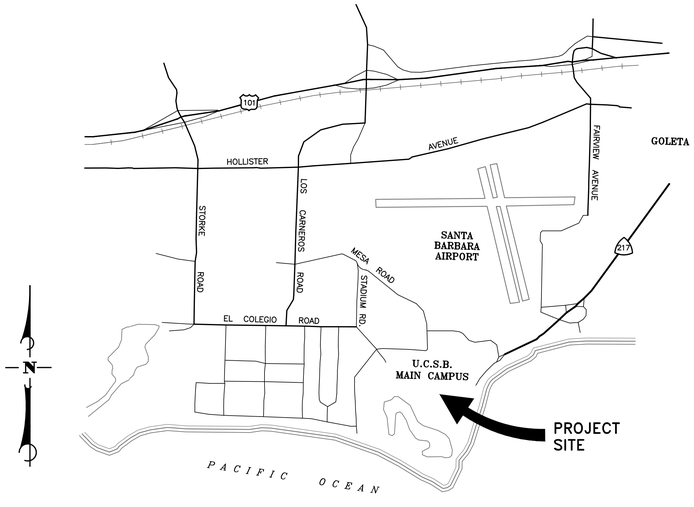
INFRASTRUCTURE RENEWAL PROJECT PHASE 1C

PROJECT NO. FM#170115L/986080

CONSTRUCTION DOCUMENTS

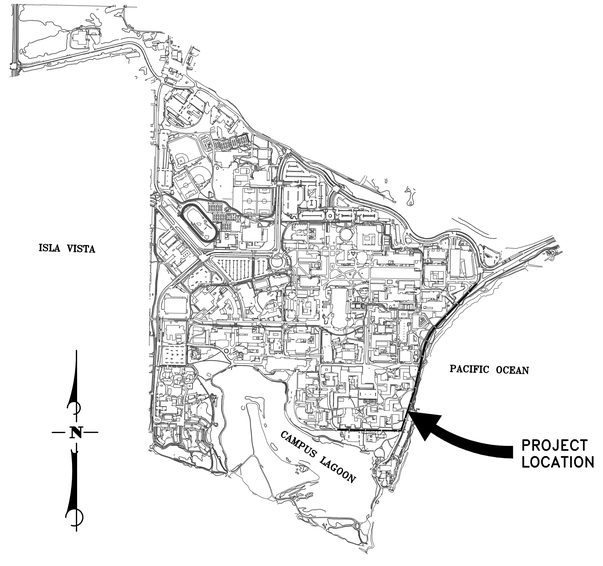
OCTOBER 2016

DRAWING INDEX



VICINITY MAP

N.T.S.



UCSB MAIN CAMPUS MAP

N.T.S.

NO.	DATE	REVISIONS	APPD.

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DESIGN CEP/WFF CHECKED SCW

STEPHEN C. WANG DATE: 10/11/2016
PROJECT ENGINEER
R.C.E. 44,255

REGISTERED PROFESSIONAL ENGINEER STEPHEN C. WANG NO 44255 CIVIL STATE OF CALIFORNIA

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

REVIEWED BY:

SIGNATURE DATE

TITLE SHEET

INFRASTRUCTURE RENEWAL PROJECT PHASE 1C
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

STANTEC PROJECT NO. 2064017271

SHEET TTL 1

U.C.S.B. DWG NO. 10-198

FM 170115L/986080

CCS83/NAVD88 EPOCH 2004 - POSITION LISTING

STATION	NORTHING	EASTING	ELEVATION
1	1981286.261	5997841.465	20.20
2	1981102.174	6000814.386	12.25
3	1981037.331	6002743.383	15.61
4	1980068.096	6004334.805	46.53
5	1979555.330	6005144.332	46.02
6	1978953.332	6006774.395	53.30
7	1979534.841	5997762.902	38.62
8	1979583.380	6000509.266	28.91
9	1979601.769	6002885.858	47.47
10	1978761.426	6003401.192	51.69
11	1978544.240	6004453.732	49.69
12	1977575.854	6002740.574	49.19
13	1977238.006	6003645.853	11.73
14	1977772.512	6004855.806	49.97
15	1977255.159	6006109.263	44.57
16	1976536.697	6002657.460	40.95
17	1976445.482	6005889.582	42.37
18	1974955.019	6005468.437	40.57
19	1979815.797	6007550.888	7.59
20	1983109.301	6001064.849	10.26
MC28	1980014.161	6004261.585	50.73
MC38	VERTICAL ONLY		11.52
MC39	1976793.404	6006023.526	44.13
MC40	1981127.909	6000874.339	12.39
MC41	1975540.656	6004248.142	38.14
MC43	1979443.010	6000525.477	30.64
MC100	1978740.150	6007512.807	39.97
COPR	1978672.567	5994841.014	45.35
RCA2	2008766.713	6043476.822	3984.90
UCSB	1977890.474	6005598.914	88.67

STATION	NORTH LATITUDE	WEST LONGITUDE
1	34-25-20.0536726	119-52-11.0080949
2	34-25-18.7785071	119-51-35.4844941
3	34-25-18.4896186	119-51-12.4469804
4	34-25-09.1931663	119-50-53.2400959
5	34-25-04.2687245	119-50-43.4660314
6	34-24-58.6101866	119-50-23.8800383
7	34-25-02.7166879	119-52-11.5568544
8	34-25-03.7009065	119-51-38.7905795
9	34-25-04.3170505	119-51-10.4306136
10	34-24-56.0994812	119-51-04.0954957
11	34-24-54.1429417	119-50-51.4863550
12	34-24-44.2530591	119-51-11.7186996
13	34-24-41.0765094	119-51-00.8408955
14	34-24-46.5831681	119-50-46.5186731
15	34-24-41.6937113	119-50-31.4466449
16	34-24-33.9600213	119-51-12.4818826
17	34-24-33.6456765	119-50-33.8911346
18	34-24-18.8276783	119-50-38.5905505
19	34-25-07.2809969	119-50-14.8011054
20	34-25-38.6759834	119-51-32.9382685
MC28	34-25-08.6463994	119-50-54.1021369
MC38	34-24-40.9961302	119-51-00.8460747
MC39	34-24-37.1111219	119-50-32.3688125
MC40	34-25-19.0440169	119-51-34.7746162
MC41	34-24-24.3982927	119-50-53.2808030
MC43	34-25-02.3155291	119-51-38.5660895
MC100	34-24-56.6352968	119-50-15.0208869
COPR	34-24-53.6492790	119-52-46.2361130
RCA2	34-29-59.9141720	119-43-11.9321190
UCSB	34-24-47.8848070	119-50-37.6761800

STATION	COMBINED FACTOR
1	0.99994317
2	0.99994358
3	0.99994343
4	0.99994221
5	0.99994237
6	0.99994218
7	0.99994277
8	0.99994321
9	0.99994230
10	0.99994233
11	0.99994248
12	0.99994279
13	0.99994468
14	0.99994269
15	0.99994309
16	0.99994348
17	0.99994342
18	0.99994394
19	0.99994412
20	0.99994312
MC28	0.99994202
MC38	0.99994469
MC39	0.99994324
MC40	0.99994357
MC41	0.99994390
MC43	0.99994317
MC100	0.99994287
COPR	0.99994271
RCA2	0.99974651
UCSB	0.99994080

STATION DESCRIPTIONS

1 2" DIAMETER BRASS CAP MARKED "UCSB CONTROL STATION 1, PLS 6167 PLS 7807" AND CENTER PUNCHED, IN THE CENTERLINE OF A CONCRETE MEDIAN STRIP ON STORKE ROAD, APPROX. 60 FEET S'LY OF THE APPARENT CENTERLINE OF WHITTIER DRIVE.

2 2" DIAMETER BRASS CAP MARKED "UCSB CONTROL STATION 2, PLS 6167 PLS 7807" AND CENTER PUNCHED, IN TOP, NW CORNER OF CONCRETE STORM DRAIN BOX, ON W'LY SIDE OF LOS CARNEROS ROAD, APPROX. 60 FEET S'LY OF APPARENT CENTERLINE OF MESA ROAD.

3 2" DIAMETER BRASS CAP MARKED "UCSB CONTROL STATION 3, PLS 6167 PLS 7807" AND CENTER PUNCHED, IN TOP OF CONCRETE CURB AT THE NW'LY CORNER OF THE MESA ROAD AND STADIUM ROAD INTERSECTION, ON THE W'LY SIDE OF THE ENTRANCE TO S.B. COUNTY FIRE STATION 17, APPROX. 18 FEET W'LY OF THE W'LY END OF A STRIP DRAIN.

4 2" DIAMETER BRASS CAP MARKED "UCSB CONTROL STATION 4, PLS 6167 PLS 7807" AND CENTER PUNCHED, IN SW'LY CORNER OF CONCRETE STORM DRAIN BOX, ON THE SW'LY SIDE OF THE RIGHT TURN LANE FROM MESA ROAD ONTO OCEAN ROAD.

5 2" DIAMETER BRASS CAP MARKED "UCSB CONTROL STATION 5, PLS 6167 PLS 7807" AND CENTER PUNCHED, IN TOP OF CONCRETE CURB AT E'LY END OF STORM DRAIN CATCH BASIN OPENING, ON THE N'LY SIDE OF MESA ROAD, APPROX. 100 FEET E'LY OF THE APPARENT CENTERLINE OF UNIVERSITY PLAZA.

6 2" DIAMETER BRASS CAP MARKED "UCSB CONTROL STATION 6, PLS 6167 PLS 7807" AND CENTER PUNCHED, IN TOP OF CONCRETE CURB ON THE N'LY SIDE OF MESA ROAD, AT THE E'LY END OF A METAL GUARD RAIL, AND OPPOSITE THE CALIFORNIA NANOSYSTEM INSTITUTE BUILDING.

7 2" DIAMETER BRASS CAP MARKED "UCSB CONTROL STATION 7, PLS 6167 PLS 7807" AND CENTER PUNCHED, IN TOP OF CONCRETE CURB ON THE W'LY SIDE OF STORKE ROAD, AT THE APPARENT CENTERLINE OF EL COLEGIO ROAD. APPROX. 12 FEET SE'LY OF A TRAFFIC LIGHT POLE.

8 2" DIAMETER BRASS CAP MARKED "UCSB CONTROL STATION 8, PLS 6167 PLS 7807" AND CENTER PUNCHED, IN TOP OF CONCRETE CURB ON THE WESTERLY SIDE OF LOS CARNEROS ROAD, APPROX. 120 FEET N'LY OF THE APPARENT CENTERLINE OF EL COLEGIO AND APPROX. 10 FEET N'LY OF THE BIKE PATH DIVIDER RAIL PASSING UNDER LOS CARNEROS.

9 2" DIAMETER BRASS CAP MARKED "UCSB CONTROL STATION 9, PLS 6167 PLS 7807" AND CENTER PUNCHED, IN THE TOP OF A CONCRETE CURB NEAR THE SE'LY CORNER OF PARKING LOT 30. THE CURB IS THE NOSE OF A 1 FOOT RADIUS RETURN AT THE W'LY END OF THE DIVIDER OF THE MOST S'LY PARKING STALL AND A TRASH ENCLOSURE. THE STATION IS APPROX. 50 FEET N'LY OF THE NW'LY CORNER OF A RESTROOM BUILDING.

10 2" DIAMETER BRASS CAP MARKED "UCSB CONTROL STATION 10, PLS 6167 PLS 7807" AND CENTER PUNCHED, IN TOP OF CONCRETE CURB AT THE MOST EASTERLY CORNER OF A TRIANGULAR TRAFFIC ISLAND AT THE INTERSECTION OF EL COLEGIO ROAD AND OCEAN ROAD. THE ISLAND IS LOCATED AT THE N'LY QUADRANT OF THE INTERSECTION.

11 2" DIAMETER BRASS CAP MARKED "UCSB CONTROL STATION 11, PLS 6167 PLS 7807" AND CENTER PUNCHED, IN TOP OF CONCRETE CURB ON THE N'LY SIDE OF ACCESS ROAD THAT RUNS E'LY FROM THE OCEAN ROAD TRAFFIC CIRCLE TOWARDS OLD GYM AND KERR HALL. THE STATION IS AT THE INTERSECTION OF THE ACCESS ROAD AND A PAVED BIKE PATH THAT RUNS NORTH-SOUTH. THE PATH SPLITS JUST NORTH OF THE ACCESS ROAD, AND THE STATION IS LOCATED BETWEEN THE TWO BRANCHES OF THE PATH.

12 2" DIAMETER BRASS CAP MARKED "UCSB CONTROL STATION 12, PLS 6167 PLS 7807" AND CENTER PUNCHED, IN TOP OF CONCRETE CURB AT S'LY END OF MEDIAN ISLAND IN CENTER OF OCEAN ROAD AT THE INTERSECTION WITH THE S'LY ENTRANCE TO PARKING LOT 23.

13 2" DIAMETER BRASS CAP MARKED "UCSB CONTROL STATION 13, PLS 6167 PLS 7807" AND CENTER PUNCHED, IN TOP OF CONCRETE CURB ON THE S'LY SIDE OF ASPHALT ACCESS ROAD S'LY OF THE ART MUSEUM AND N'LY OF THE UCSB LAGOON, AT THE NW'LY CORNER OF A CONCRETE SEATING BENCH PAD, AND APPROX. 4 FEET E'LY OF THE E'LY END OF A 3' HIGH CHAIN LINK FENCE.

14 2" DIAMETER BRASS CAP MARKED "UCSB CONTROL STATION 14, PLS 6167 PLS 7807" AND CENTER PUNCHED, ON EDGE OF CONCRETE WALK, APPROX. 1.5 FEET W'LY OF SHARP ANGLE POINT IN A 4' HIGH CHAIN LINK FENCE, NEAR THE NW'LY CORNER OF PARKING LOT 3.

15 2" DIAMETER BRASS CAP MARKED "UCSB CONTROL STATION 15, PLS 6167 PLS 7807" AND CENTER PUNCHED, IN TOP OF CONCRETE CURB AT THE NW'LY END OF HANDICAP RAMP AT THE SW'LY CORNER OF THE INTERSECTION OF UCEN ROAD AND LAGOON ROAD.

16 2" DIAMETER BRASS CAP MARKED "UCSB CONTROL STATION 16, PLS 6167 PLS 7807" AND CENTER PUNCHED, IN N'LY CORNER OF 4' X 4' CONCRETE FIRE HYDRANT PAD, ON THE W'LY SIDE OF THE MANZANITA STUDENT HOUSING CUL-DE-SAC AT THE S'LY END OF OCEAN ROAD.

17 2" DIAMETER BRASS CAP MARKED "UCSB CONTROL STATION 17, PLS 6167 PLS 7807" AND CENTER PUNCHED, IN TOP OF CONCRETE CURB, BETWEEN TWO HANDICAP RAMPS, AT THE NW'LY CORNER OF THE INTERSECTION OF CHANNEL ISLANDS ROAD AND LAGOON ROAD.

18 2" DIAMETER BRASS CAP STAMPED "GOLETA POINT-2000-PLS7308" AND CENTER PUNCHED, IN THE CENTER OF AN OLD CONCRETE SLAB ON THE SE'LY POINT OF THE BLUFF S'LY OF THE UCSB LAGOON. THIS IS STATION NUMBER 2012 AS SHOWN ON THE MAP FILED IN BOOK 170, PAGE 47 OF RECORD OF SURVEYS. THIS IS ALSO A MAPPING CONTROL STATION FROM THE NOVEMBER 2000 CONTROL SURVEY. (SEE SURVEYOR'S NOTE 7 ON SHEET 1. SEE MC35 NOTE BELOW.)

19 3½" DIAMETER DOMED BRASS CAP STAMPED "CITY OF SANTA BARBARA-PLS7308-ASCN3-2000" AND CENTER PUNCHED, INSIDE AN 8" DIAMETER MONUMENT WELL, S'LY OF RUNWAY 33L, AS SHOWN ON THE MAP FILED IN BOOK 170, PAGE 63 OF RECORD OF SURVEYS.

20 3½" DIAMETER DOMED BRASS CAP STAMPED "CITY OF SANTA BARBARA-PLS7308-ASCN7-2000" AND CENTER PUNCHED, AT THE NE'LY CORNER OF AN 8' X 8' CONCRETE PAD, APPROX 110 FEET E'LY OF LOS CARNEROS ROAD, AS SHOWN ON THE MAP FILED IN BOOK 170, PAGE 63 OF RECORD OF SURVEYS.

SURVEYOR'S NOTES

1. MAPPING

TOPOGRAPHIC MAPPING WAS COMPILED AT A SCALE OF 1"=40', WITH A 1 FOOT CONTOUR INTERVAL, USING STANDARD PHOTOGRAMMETRIC METHODS AND PROCEDURES BY ARROWHEAD MAPPING CORPORATION THE AERIAL PHOTOGRAPHY USED FOR THIS MAP IS DATED JUNE 13, 2006.

THIS AERIAL PHOTOGRAPHY COMPLIES WITH THE NATIONAL MAP ACCURACY STANDARDS AS FOLLOWS:
VERTICAL ACCURACY - 90% OF THE POINTS TESTED SHALL BE WITHIN ONE-HALF OF THE CONTOUR INTERVAL, THE REMAINING 10% OF THE POINTS SHALL NOT EXCEED ONE CONTOUR INTERVAL.

HORIZONTAL ACCURACY - 90% OF THE THE POINTS TESTED SHALL BE WITHIN 1/50TH OF AN INCH AT THE MAP SCALE, THE REMAINING 10% OF THE POINTS SHALL NOT EXCEED 1/30TH OF AN INCH AT THE MAP SCALE.

2. BASIS OF BEARINGS AND COORDINATES

BEARINGS SHOWN ON THIS MAP ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM, NAD 83, (CCS83) ZONE 5 GRID (EPOCH 2004.0), DEFINED LOCALLY BY THE UNIVERSITY OF CALIFORNIA, SANTA BARBARA CONTROL NETWORK AS SHOWN ON RECORD OF SURVEY FILED WITH THE COUNTY SURVEYOR IN BOOK 175, PAGES 87 THROUGH 90.

ALL DISTANCES AND COORDINATES SHOWN AS MEASURED OR CALCULATED ARE EXPRESSED IN CCS, NAD 83, ZONE V GRID US SURVEY FOOT UNITS.

THE SITE COMBINATION FACTOR IS 0.99994277 AND THE SITE MAPPING ANGLE IS -1°03'57.07", BOTH CALCULATED AT UCSB CONTROL STATION 7. TO OBTAIN GROUND LEVEL DISTANCES, MULTIPLY GRID DISTANCES BY 1.00005723, WHICH IS THE INVERSE OF THE PROJECT COMBINATION FACTOR. TO OBTAIN TRUE NORTH BEARINGS, ADD THE MAPPING ANGLE TO THE GRID BEARINGS.

SEE CONTROL POINT LISTING

4. ELEVATIONS

ELEVATIONS SHOWN HEREON ARE EXPRESSED IN U.S. SURVEY FEET AND ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), DEFINED LOCALLY BY THE UNIVERSITY OF CALIFORNIA, SANTA BARBARA CONTROL NETWORK AS SHOWN ON RECORD OF SURVEY FILED WITH THE COUNTY SURVEYOR IN BOOK 175, PAGES 87 THROUGH 90.

SEE CONTROL POINT LISTING

MAPPING CONTROL STATION DESCRIPTIONS

MC28 1/2" IRON PIPE WITH PLASTIC PLUG MARKED "PLS CTRL PT." FLUSH IN GROUND, NEAR INTERSECTION OF MESA ROAD AND OCEAN ROAD.

MC35 THIS IS STATION NUMBER 18 OF THIS SURVEY. SEE STATION DESCRIPTION 18.

MC38 1/2" IRON PIPE WITH PLASTIC PLUG MARKED "PLS CTRL PT." FLUSH IN GROUND, JUST OFF THE END OF CONCRETE WALK ON THE NORTHERLY SIDE OF THE UCSB LAGOON.

MC39 PK AND SHINER WITH PAINTED AERIAL PANEL IN CENTERLINE OF LAGOON ROAD, APPROX. DUE EAST OF THE MOST NE'LY CORNER OF SANTA CRUZ HALL.

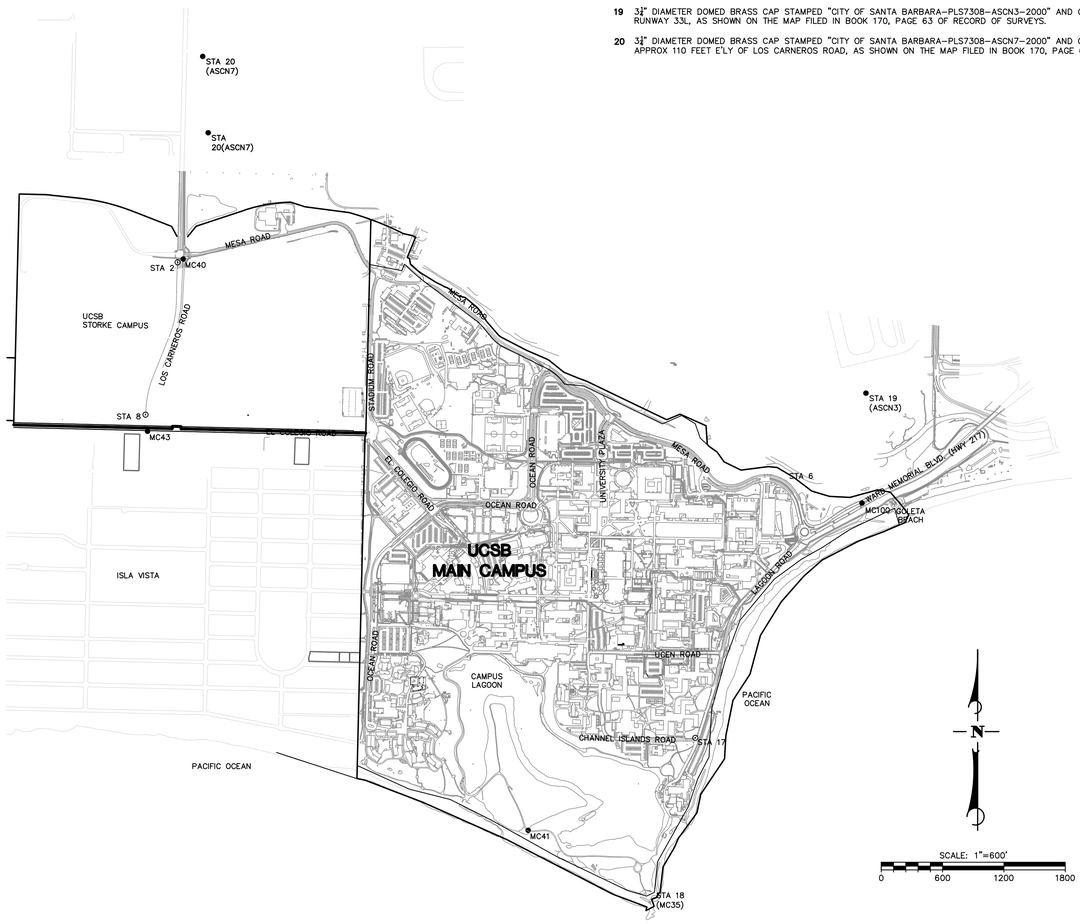
MC40 PK AND SHINER IN ASPHALT BIKE PATH AT THE SW'LY CORNER OF THE INTERSECTION OF MESA ROAD AND LOS CARNEROS ROAD.

MC41 PK AND SHINER WITH PAINTED AERIAL PANEL IN ASPHALT ACCESS ROAD THAT RUNS ALONG THE COASTLINE S'LY OF THE UCSB LAGOON.

MC43 PK AND SHINER NEAR THE APPARENT CENTERLINE INTERSECTION OF LOS CARNEROS ROAD AND EL COLEGIO ROAD.

MC45 CORS "UCSB"

MC100 PK AND SHINER WITH PAINTED AERIAL PANEL IN THE APPARENT CENTERLINE OF WARD MEMORIAL BLVD., APPROX. 33 FEET NE'LY OF THE NE'LY END OF A CONCRETE MEDIAN ISLAND AT THE ENTRANCE TO UCSB CAMPUS.



PRIMARY CONTROL DIAGRAM

NO.	DATE	REVISIONS	APPD.

Stantec
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Phone: (805) 963-9532 Fax: (805) 966-9801

DESIGN CEP/WFF CHECKED SCW
STEPHEN C. WANG DATE: 10/11/2016
PROJECT ENGINEER
R.C.E. 44,255

UNIVERSITY OF CALIFORNIA, SANTA BARBARA
REVIEWED BY:
SIGNATURE DATE

SURVEY NOTES
INFRASTRUCTURE RENEWAL PROJECT PHASE 1C
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

STANTEC PROJECT NO. 2064017271
SHEET TTL 2
U.C.S.B. DWG NO. 10-198

FM 170115L/986080

42-ENG SAVE DATE: 10/10/2016 11:56:14 AM PLOT BY:Todd Robinson PLOT DATE:10/12/2016 2:06:43 PM PLOT SCALE:1:79.86
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GENERAL NOTES

1. ALL WORK SHALL BE IN CONFORMANCE WITH THESE PLANS AND THE PROJECT SPECIFICATIONS.
2. ALL GRADING TRENCHING AND EARTHWORK SHALL BE DONE UNDER THE OBSERVATION OF THE UNIVERSITY'S REPRESENTATIVE.
3. THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS ARE BASED ON AVAILABLE RECORD SOURCES AND ARE APPROXIMATE ONLY. THE RECORD INFORMATION MAY BE INCOMPLETE AND THE VERTICAL LOCATION OF EXISTING UTILITIES AS SHOWN ON THE PROFILE DRAWINGS ARE ESTIMATED AND MAY BE SUBSTANTIALLY DIFFERENT FROM THE ACTUAL LOCATION. THE CONTRACTOR SHALL EXCAVATE WITH CAUTION AND VERIFY EXISTING UTILITIES FOR THEIR DEPTH AND LOCATIONS PRIOR TO CONSTRUCTION. NO EXTRA PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR REPAIR OF ANY UTILITY DAMAGE BY THE CONTRACTOR'S OPERATIONS.
4. CONTRACTOR SHALL PROTECT ALL EXISTING IMPROVEMENTS NOT DESIGNATED TO BE REMOVED AND/OR NOT REQUIRED TO BE REMOVED FOR CONSTRUCTION; AND IMMEDIATELY REPAIR ANY DAMAGE INCURRED TO EXISTING IMPROVEMENT'S TO THEIR ORIGINAL CONDITION.
5. CONTRACTOR SHALL PREPARE AND PERFORM CONSTRUCTION STAKING BASED ON THE ALIGNMENT AND VERTICAL GRADE AS SHOWN ON THE DRAWING. ANY ALIGNMENT AND VERTICAL GRADE ADJUSTMENTS SHALL BE PRIOR APPROVED BY THE UNIVERSITY'S REPRESENTATIVE.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR THE JOB SITE SAFETY DURING CONSTRUCTION PERIOD FOR BOTH THE CONSTRUCTION AND OFF HOURS.
7. CONTRACTOR SHALL SUBMIT A CONSTRUCTION TRAFFIC CONTROL PLAN TO THE UNIVERSITY'S REPRESENTATIVE FOR AUTOMOBILE, PEDESTRIAN AND BICYCLE TRAFFIC FOR APPROVAL PRIOR TO CONSTRUCTION. CONTRACTOR SHALL PERFORM AND BE RESPONSIBLE FOR COMPLETE TRAFFIC CONTROL DURING THE ENTIRE CONSTRUCTION PERIOD. CONTRACTOR SHALL MAINTAIN BIKE PATH AND WALKWAY OPEN AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR SHALL MAINTAIN ONE VEHICULAR TRAVEL LANE OPEN AT ALL TIMES. CONTRACTOR SHALL DEPLOY FLAGMEN AND OTHER REQUIRED TRAFFIC CONTROL DEVICES TO MAINTAIN TRAFFIC OPEN AND SAFE DURING THE ENTIRE CONSTRUCTION PERIOD. THE ENTIRE TRAVEL LANES SHALL BE OPENED AFTER CONSTRUCTION AND PROMPTLY AFTER 3:30 PM DAILY.
8. CONTRACTOR SHALL REMOVE ALL DEMOLITION/WASTE MATERIALS FROM THE PROJECT SITE AND LEGALLY DISPOSE OF THEM AT A DUMP SITE OFF-CAMPUS.
9. CONTRACTOR SHALL POTHOLE AND VERIFY ALL EXISTING UTILITIES WITHIN PROJECT SITE PRIOR TO CONSTRUCTION AND REPORT ANY CONFLICTS TO THE UNIVERSITY'S REPRESENTATIVE.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR THE EROSION CONTROL. NO SILT OR DEBRIS SHALL DEPART FROM THE PROJECT SITE OR ENTER THE STORM DRAIN SYSTEM AND OCEAN.
11. THE CONTRACTOR SHALL PROVIDE OBSERVATIONS, TESTS AND REPORTS OF ALL EARTHWORK AND PROVIDE COPIES OF THE REPORTS TO THE UNIVERSITY'S REPRESENTATIVE.
12. CONTRACTOR SHALL CONSTRUCT UTILITY TRENCHING IN STRICT CONFORMANCE WITH CAL OSHA SAFETY RULES AND REGULATIONS AND BE RESPONSIBLE FOR SHORING CONSTRUCTION AND SUBMIT DETAILS TO UNIVERSITY'S REPRESENTATIVE FOR RECORD PRIOR TO CONSTRUCTION. CONTRACTOR SHALL MAINTAIN ANY UTILITY TRENCH FREE OF WATER AT ALL TIMES.
13. CONTRACTOR SHALL SUBMIT FINAL STAGING PLAN TO THE UNIVERSITY'S REPRESENTATIVE FOR APPROVAL PRIOR TO CONSTRUCTION. CONTRACTOR SHALL RESTORE STAGING AREA TO PRE-CONSTRUCTION CONDITIONS PRIOR TO THE CONCLUSION OF CONSTRUCTION.
14. ALL EXPOSED GRADED SURFACES SHALL BE IMMEDIATELY RESTORED TO THE PRE-CONSTRUCTION CONDITION AND VEGETATED TO MINIMIZE EROSION; WITH THE EXCEPTION OF SURFACES GRADED FOR THE PLACEMENT OF PAVEMENT. THE PAVEMENT AREA SHALL BE RE-SEEDED IF CONSTRUCTION OF PAVEMENT DOES NOT COMMENCE WITHIN ONE WEEK OF GRADING COMPLETION.
15. CONTRACTOR SHALL PAINT TRAFFIC MARKINGS AND STRIPING. PAINT SHALL BE CONSTRUCTED IN 2 COATS, FIRST COAT SHALL BE COMPLETELY DRY PRIOR TO APPLICATION OF SECOND COAT.
16. CONTRACTOR SHALL PREPARE A CONSTRUCTION FENCING AND SAFETY CONTROL PLAN AND SUBMIT TO THE UNIVERSITY'S REPRESENTATIVE FOR APPROVAL PRIOR TO CONSTRUCTION.
17. LOCATION OF SAWCUT LINE IS SCHEMATIC THROUGHOUT THE DRAWINGS. CONTRACTOR SHALL VERIFY EXTENT OF REMOVAL AREA PER TRENCHING METHODS APPLIED TO CONSTRUCTION AT NO ADDITIONAL COST TO THE UNIVERSITY OR PROJECT.
18. ADJUST VALVE CANS, VAULT FRAMES AND COVERS, MANHOLE FRAME AND COVER TO FINISH GRADE (TYP. FOR ALL UTILITY SURFACE FEATURES FOR THIS PROJECT) AS PART OF THE BASE BID AT NO ADDITIONAL COST TO THE UNIVERSITY OR PROJECT.
19. PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL SUBMIT TWO (2) FINAL SETS OF INTERIM EROSION CONTROL PLANS TO THE UNIVERSITY, PREPARED BY A QUALIFIED ENGINEER, FOR REVIEW AND APPROVAL BY THE UNIVERSITY'S REPRESENTATIVE. THE PLANS SHALL INCORPORATE THE FOLLOWING CRITERIA:
    A. THE PLAN SHALL DELINEATE THE AREAS TO BE DISTURBED BY GRADING OR CONSTRUCTION ACTIVITIES AND SHALL INCLUDE ANY TEMPORARY ACCESS ROADS, STAGING AREAS AND STOCKPILE AREAS. THE NATURAL AREAS ON THE SITE SHALL BE CLEARLY DELINEATED ON THE PROJECT SITE WITH FENCING OR SURVEY FLAGS.
    B. THE FINAL EROSION CONTROL PLANS SHALL SPECIFY THE LOCATION AND DESIGN OF EROSION CONTROL MEASURES TO BE IMPLEMENTED DURING THE RAINY SEASON (NOVEMBER 1 – MAY 1) IF CONSTRUCTION DURING THIS TIME IS APPROVED BY THE UNIVERSITY'S REPRESENTATIVE. THE CONTRACTOR SHALL INSTALL OR CONSTRUCT TEMPORARY SEDIMENT BASINS (INCLUDING DEBRIS BASINS, DESILTING BASINS OR SILT TRAPS), TEMPORARY DRAINS AND SWALES, SAND BAG BARRIERS, SILT FENCING, STABILIZE ANY STOCKPILED FILL WITH GEO-FABRIC COVERS OR OTHER APPROPRIATE COVER, INSTALL GEO-TEXTILES OR MATS ON ALL CUT OR FILL SLOPES AND CLOSE AND STABILIZE OPEN TRENCHES AS SOON AS POSSIBLE. STRAW BALES SHALL NOT BE APPROVED. THESE EROSION MEASURES SHALL BE REQUIRED ON THE PROJECT SITE PRIOR TO OR CONCURRENT WITH THE INITIAL GRADING TRENCHING OPERATIONS AND MAINTAINED THROUGHOUT THE DEVELOPMENT PROCESS TO MINIMIZE EROSION AND SEDIMENT FROM RUNOFF WATERS DURING CONSTRUCTION. ALL SEDIMENT SHALL BE RETAINED ON-SITE UNLESS REMOVED TO AN APPROPRIATE APPROVED DUMPING LOCATION. THE PLAN SHALL ALSO INCLUDE TEMPORARY EROSION CONTROL MEASURES SHOULD GRADING OR SITE PREPARATION CEASE FOR A PERIOD OF MORE THAN 30 DAYS, INCLUDING BUT NOT LIMITED TO: STABILIZATION OF ALL STOCKPILED FILL, ACCESS ROADS, DISTURBED SOILS AND CUT AND FILL SLOPES WITH GEO-TEXTILES AND/OR MATS, SAND BAG BARRIERS, SILT FENCING; TEMPORARY DRAINS AND SWALES AND SEDIMENT BASINS. THE PLANS SHALL ALSO SPECIFY THAT ALL DISTURBED AREAS SHALL BE SEEDED WITH NATIVE GRASS SPECIES AND INCLUDE THE TECHNICAL SPECIFICATIONS FOR SEEDING THE DISTURBED AREAS. THESE TEMPORARY EROSION CONTROL MEASURES SHALL BE MONITORED AND MAINTAINED UNTIL GRADING OR CONSTRUCTION OPERATIONS RESUME.
    C. STORM DRAIN INLETS SHALL BE PROTECTED FROM SEDIMENT-LADEN WATERS BY THE USE OF INLET PROTECTION DEVICES SUCH AS GRAVEL BAG BARRIERS, FILTER FABRIC FENCES, BLOCK AND GRAVEL FILTERS, AND EXCAVATED INLET SEDIMENT TRAPS.
20. CONSTRUCTION HOURS SHALL BE MONDAY THROUGH FRIDAY BETWEEN 9:00AM AND 3:30PM FOR LAGOON ROAD SOUTH OF UCEN ROAD INTERSECTION AND CHANNEL ISLANDS ROAD AND CONTRACTOR SHALL NOT MAKE ANY NOISE OUTSIDE OF CONSTRUCTION HOURS NEAR RESIDENCE HALLS; AND BETWEEN 8:00AM TO 9:00PM FOR LAGOON ROAD NORTH OF UCEN ROAD INTERSECTION.

AIR POLLUTION AND DUST CONTROL REQUIREMENTS

1. DUST GENERATED BY THE DEVELOPMENT ACTIVITIES SHALL BE RETAINED ON-SITE AND KEPT TO A MINIMUM BY FOLLOWING THE DUST CONTROL MEASURES LISTED BELOW. RECLAIMED WATER SHALL BE USED WHENEVER POSSIBLE.
    A. DURING CLEARING, GRADING, EARTH MOVING OR EXCAVATION, WATER TRUCKS OR SPRINKLER SYSTEMS ARE TO BE USED IN SUFFICIENT QUANTITIES TO PREVENT DUST FROM LEAVING THE SITE AND TO CREATE A CRUST, AFTER EACH DAY'S ACTIVITIES CEASE.
    B. AFTER CLEARING, GRADING, EARTH MOVING OR EXCAVATION IS COMPLETED, THE DISTURBED AREA MUST BE TREATED BY WATERING, OR REVEGETATING; OR BY SPREADING SOIL BINDERS UNTIL THE AREA IS PAVED OR OTHERWISE DEVELOPED SO THAT DUST GENERATION WILL NOT OCCUR.
    C. DURING CONSTRUCTION, WATER TRUCKS OR SPRINKLERS SYSTEMS ARE TO BE USED TO KEEP ALL AREAS OF VEHICLE MOVEMENT DAMP ENOUGH TO PREVENT DUST FROM LEAVING THE SITE. AT A MINIMUM, THIS WILL INCLUDE WETTING DOWN SUCH AREAS IN THE LATE MORNING AND AFTER WORK IS COMPLETED FOR THE DAY. INCREASED WATERING FREQUENCY WILL BE REQUIRED WHENEVER THE WIND SPEED EXCEEDS 15 MPH.
2. IMPORTATION, EXPORTATION, AND STOCKPILING OF FILL MATERIAL:

   SOIL STOCKPILED FOR MORE THAN TWO DAYS SHALL BE COVERED, KEPT MOIST, OR TREATED WITH SOIL BINDERS TO PREVENT DUST GENERATION. TRUCKS TRANSPORTING FILL MATERIAL TO AND FROM THE SITE SHALL BE TARPED FROM THE SITE TO DISPOSAL LOCATION.
3. ACTIVATION OF INCREASED DUST CONTROL MEASURES:

   THE CONTRACTOR OR BUILDER SHALL DESIGNATE A PERSON OR PERSONS TO MONITOR THE DUST CONTROL PROGRAM AND TO ORDER INCREASED WATERING, AS NECESSARY, TO PREVENT TRANSPORT OF DUST OFF-SITE. THEIR DUTIES SHALL INCLUDE HOLIDAY AND WEEKEND PERIODS WHEN WORK MAY NOT BE IN PROGRESS. THE NAME AND TELEPHONE NUMBER OF SUCH PERSONS SHALL BE PROVIDED TO THE AIR POLLUTION REPRESENTATIVE PRIOR TO CONSTRUCTION.

CAUTION

CONTRACTOR SHALL POTHOLE AND VERIFY ALL EXISTING UTILITIES, INCLUDING MAINS AND LATERALS, WITHIN PROJECT SITE PRIOR TO CONSTRUCTION AND REPORT ANY CONFLICTS TO THE UNIVERSITY REPRESENTATIVE. CONTRACTOR SHALL PROPOSE ANY HORIZONTAL REALIGNMENT AND/OR VERTICAL ADJUSTMENT FOR UTILITY LINE DESIGN TO THE UNIVERSITY REPRESENTATIVE FOR APPROVAL PRIOR TO CONSTRUCTION AT NO ADDITIONAL COST TO THE UNIVERSITY OR PROJECT.

LEGEND

ABBREVIATIONS

AC	ASPHALTIC CONCRETE
AD	AREA DRAIN
A.D.	ALGEBRAIC DIFFERENCE
AIR-VAC	AIR-VACUUM VALVE
AW	ABANDONED WATERLINE
B.B.	BERRY BUSH
BC	BEGIN OF CURVE
BCR	BEGIN CURB RETURN
BCC	BEGIN COMPOUND CURB
BRC	BEGIN REVERSE CURVE
BVC	BEGIN VERTICAL CURVE
BLDG	BUILDING
BLK	BLOCK
BO	BLOW-OFF
CHW	CHILLED WATER PIPE
C/L	CENTERLINE OR CONSTRUCTION LAYOUT LINE
CLF	CHAIN LINK FENCE
CNC	CONCRETE
C.O.	CLEANOUT
CONC	CONCRETE
COND	CONDITIONER
CONF.	CONFERENCE
DEC	DECIDUOUS TREE
DI	DROP INLET
DIA	DIAMETER
EC	END OF CURVE
ECR	END CURB RETURN
EL.	ELEVATION
ELEC	ELECTRIC
EMH	ELECTRIC MANHOLE
EP	EDGE OF PAVEMENT
EUC	EUCALYPTUS
EV	ELECTRIC VAULT
EVC	END VERTICAL CURVE
EX.	EXISTING
FL	FLOW LINE
FH	FIRE HYDRANT
FNC	FENCE
FS	FINISH SURFACE
FF	FINISH FLOOR
FTG	FOOTING
GB	GRADE BREAK
GV	GAS VALVE
HB	HOSE BIBB
HP	HIGH POINT
INV	INVERT
ICV	IRRIGATION CONTROL VALVE
IRR	IRRIGATION
LT	LEFT
MON	MONITORING
N'LY	NORTHERLY
N'WLY	NORTHWESTERLY
NIC	NOT IN CONTRACT
O.C.	ON CENTER
OHE	OVERHEAD ELECTRIC
OHT	OVERHEAD TELEPHONE
PA	PLANTER
PB	PULL BOX
POC	POINT ON CURVE
PP	POWER POLE
PRC	POINT OF REVERSE CURVE
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
RCP	REINFORCED CONCRETE PIPE
RET	RETAINING
ROW	RIGHT OF WAY
RT	RIGHT
RW	RECLAIMED WATER
RCW	RECLAIMED WATER
S'ELY	SOUTHEASTERLY
SCO	SEWER CLEAN OUT
SD	STORM DRAIN
SDCO	STORM DRAIN CLEANOUT
SDMH	STORM DRAIN MANHOLE
SMH	SEWER MANHOLE
STA.	STATION
STLT	STREET LIGHT
SWS	SOLID WHITE STRIPE
SVS	SERVICES
TC	TOP OF CURB
TG	TOP OF GRATE
TEL	TELEPHONE
TMH	TELEPHONE MANHOLE
TP	TOP OF PAVEMENT
TRANSF	TRANSFORMER
TS	TRAFFIC SIGNAL
TYP.	TYPICAL

ABBREVIATIONS

"X"	TOP OF CURB "X"
UG	UNDERGROUND
UTIL	UTILITY
VCP	VITRIFIED CLAY PIPE
VLV	VALVE
W/	WITH
WLY	WESTERLY
WM	WATER METER
WR	WATER RISER
WS	WATER SERVICE
WUM	WATER UTILITY MARK
WV	WATER VALVE

LINETYPES

- EXISTING FENCE
- EXISTING RETAINING WALL
- SD 18" RCP — EXISTING STORM DRAIN
- W — EXISTING WATER MAIN
- E — EXISTING ELECTRICAL LINE MAIN
- T — EXISTING TELECOMMUNICATION LINE
- E&T — EXISTING ELECTRICAL & TELECOMMUNICATION LINES
- S — EXISTING SANITARY SEWER LINE
- RW — EXISTING RECLAIMED WATERLINE
- G — EXISTING GAS LINE
- TR — EXISTING TRAFFIC SIGNAL CONDUIT
- AW — ABANDONED WATERLINE
- IRR — EXISTING IRRIGATION LINE
- COMM — EXISTING COMMUNICATIONS LINE
- CWS — EXISTING CHILLED WATER LINE SUPPLY
- CWR — EXISTING CHILLED WATER LINE RETURN
- EXISTING RIGHT-OF-WAY
- EXISTING BOUNDARY
- PROPOSED RIGHT OF WAY
- 50 — PROPOSED CONTOURS
- CENTERLINE OR CONSTRUCTION LAYOUT LINE
- SAWCUT LINE
- GB — GRADE BREAK
- C — APPROX. CROWN
- ADD ALTERNATE BOUNDARY

SYMBOLS

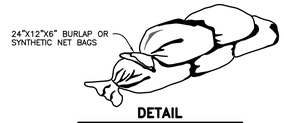
- AREA DRAIN
- CATCH BASIN/DROP INLET
- CLEANOUT
- ELECTRIC PULLBOX
- FIRE HYDRANT
- FLOW DIRECTION
- HANDICAP ACCESS
- HOSE BIBB
- IRRIGATION CONTROL VALVE
- STREET LIGHT
- MANHOLE
- POST OR POLE
- SIGN
- 16.8 SPOT ELEVATION
- 7.9 SPOT ELEVATION
- SPRINKLER HEAD
- STREET LIGHT
- STREET LIGHT
- WATER ASSEMBLY
- WATER VALVE
- POWER POLE
- GUY ANCHOR
- POTHOLE LOCATION
- 149.4 ELEVATION FROM AERIAL SURVEY
- 149.4 ELEVATION FROM FIELD SURVEY
- TREE DRIPLINE
- TREES TO BE REMOVED
- TSP TRAFFIC SIGNAL POLE FOUNDATION
- A.C. PAVEMENT SURFACE
- CONCRETE SURFACE
- COLORED AND SCORED CONCRETE PAVEMENT
- DECOMPOSED GRANITE PATH

GENERAL NOTES

1. CONTRACTOR SHALL CONSTRUCT ADEQUATE EROSION CONTROL MEASURES TO PREVENT SILT AND CONSTRUCTION DEBRIS FROM EXITING THE CONSTRUCTION SITE AND/OR ENTERING THE STORM DRAIN SYSTEM AND OCEAN.
2. ALL EROSION CONTROL DEVICES SHALL BE CONSTRUCTED AND MAINTAINED MEETING UCSB AND CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD STORM WATER BEST MANAGEMENT PRACTICE REQUIREMENTS.
3. CONTRACTOR SHALL ROUTINELY INSPECT AND MAINTAIN ALL EROSION CONTROL DEVICES IN WORKING CONDITION AND MAINTAIN RECORD, IN ACCORDANCE WITH THE UCSB AND CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD REQUIREMENTS.
4. CONTRACTOR SHALL SUBMIT CONSTRUCTION STAGING AND MATERIAL STORAGE DRAWINGS TO THE UNIVERSITY FOR APPROVAL.
5. CONTRACTOR SHALL CONSTRUCT A MINIMUM 50 FEET LONG BY FULL CONSTRUCTION ENTRANCE ROADWAY WIDTH METAL RUMBLE STRIP OR AS AN ALTERNATE 12" COMPACTED THICKNESS OF 2"-3" DIAMETER GRAVEL PAD AT ALL ACCESS POINTS FROM THE JOB SITE TO PREVENT TRACKING OF MUD ONTO UNIVERSITY AND PUBLIC ROADS, UNLESS OTHERWISE APPROVED BY UNIVERSITY'S REPRESENTATIVE.
6. CONTRACTOR SHALL CONSTRUCT A CONCRETE WASHOUT AREA PER UCSB AND CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD FIELD MANUAL. LOCATION TO BE COORDINATED WITH AND APPROVED BY THE UNIVERSITY'S REPRESENTATIVE.

EROSION CONTROL LEGEND

- 1 — EROSION CONTROL CONSTRUCTION NOTE
- ROCK BAG SEDIMENT BARRIER
- FIBER ROLL, ROCK BAG BERM, OR CUTBACK CURB
- ROCK BAG BARRIER



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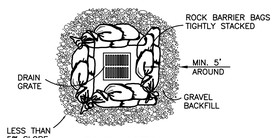
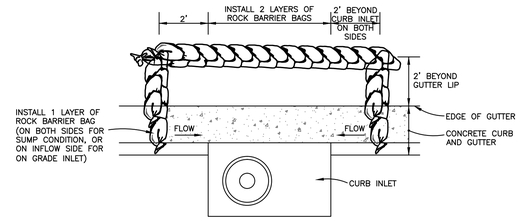


PLAN VIEW

NOTES:

1. FILL ROCK BARRIER BAGS ⅔ FULL OF ¾" ROCK.
2. PLACE BAGS SUCH THAT NO GAPS ARE EVIDENT IN A SINGLE OR DOUBLE LAYER. STAMP ENTIRE LAYER INTO PLACE PRIOR TO STARTING THE NEXT LAYER.
3. ROCK BARRIER BAGS FOR CATCH BASIN SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS. (LESS THAN 5%).

ROCK BAG CATCH BASIN SEDIMENT BARRIER (A)
NOT TO SCALE



ROCK BAG CURB INLET SEDIMENT BARRIER (B)
NOT TO SCALE

NO.	DATE	REVISIONS	APPD.

Stantec
111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963-9532 Fax: (805) 966-9801

DESIGN CEP/WFF CHECKED SCW
STEPHEN C. WANG DATE: 10/11/2016
PROJECT ENGINEER
R.C.E. 44,255

REGISTERED PROFESSIONAL ENGINEER STEPHEN C. WANG NO 44255 CIVIL STATE OF CALIFORNIA

UNIVERSITY OF CALIFORNIA, SANTA BARBARA
REVIEWED BY:
SIGNATURE DATE

GENERAL NOTES
INFRASTRUCTURE RENEWAL PROJECT PHASE 1C
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

STANTEC PROJECT NO. 2064017271
SHEET TTL 3
U.C.S.B. DWG NO. 10-198

FM 170115L/986080

PLOT SCALE:1:79.86 PLOT DATE:10/12/2016 4:13:52 PM PLOT BY:Todd Robinson 42-ENG SAVE DATE: 10/12/2016 2:11:10 PM

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GENERAL NOTES

1. CONTRACTOR SHALL SUBMIT FINAL STAGING PLAN TO THE UNIVERSITY'S REPRESENTATIVE FOR APPROVAL PRIOR TO CONSTRUCTION.
2. THE STAGING AREAS SHALL BE FENCED WITH 6' HIGH CHAINLINK FENCE WITH GREEN FABRIC ENCLOSURE.
3. EROSION CONTROL MEASURES (ROCK BAG BARRIER, STRAW WADDLES, ETC.) SHALL BE CONSTRUCTED TO PREVENT SILT AND DEBRIS FROM EXITING THE STAGING AREA.
4. CONTRACTOR SHALL RESTORE STAGING AREA TO PRE-CONSTRUCTION CONDITIONS PRIOR TO THE CONCLUSION OF CONSTRUCTION.
5. ALL POTENTIAL STAGING AREAS SHOWN ARE SHORT TERM STAGING AREAS TO BE USED ONLY WHEN CONSTRUCTING WITHIN THE ADJACENT AREA, UNLESS OTHERWISE NOTED.

CONTRACTOR PARKING AND STAGING NOTES

1. CONTRACTOR SHALL PAY AND PARK IN PARKING LOT 38, AND PROVIDE SHUTTLE TO JOB SITE.
2. CONSTRUCTION MATERIAL STAGING SHALL BE IN PARKING LOT 38.
3. ONLY CONSTRUCTION EQUIPMENT WILL BE ALLOWED IN THE CONSTRUCTION SITE.
4. A SMALL SPACE LOCATED EAST OF PARKING LOT 3 AND NORTH OF BUILDING 387 CAN BE USED FOR CONSTRUCTION TRAILER.

LEGEND

EMERGENCY ROADS, KEEP OPEN AT ALL TIMES

CONSTRUCTION ROADWAY SEGMENT
MAINTAIN MINIMUM ONE VEHICULAR TRAVEL WAY (MIN. 14' WIDE) OPENED AT ALL TIMES DURING CONSTRUCTION HOURS; AND MAINTAIN ENTIRE TRAVEL WAY OPENED OUTSIDE OF CONSTRUCTION HOURS.

NO.	DATE	REVISIONS	APPD.

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DESIGN CEP/WFF CHECKED SCW

STEPHEN C. WANG DATE: 10/11/2016
PROJECT ENGINEER
R.C.E. 44,255

REGISTERED PROFESSIONAL ENGINEER
STEPHEN C. WANG
NO 44255
CIVIL
STATE OF CALIFORNIA

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

REVIEWED BY:

SIGNATURE DATE

STAGING LOCATION PLAN

INFRASTRUCTURE RENEWAL PROJECT PHASE 1C

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

STANTEC PROJECT NO. 2064017271
SHEET TTL 4
U.C.S.B. DWG NO. 10-198

FM 170115L/986080

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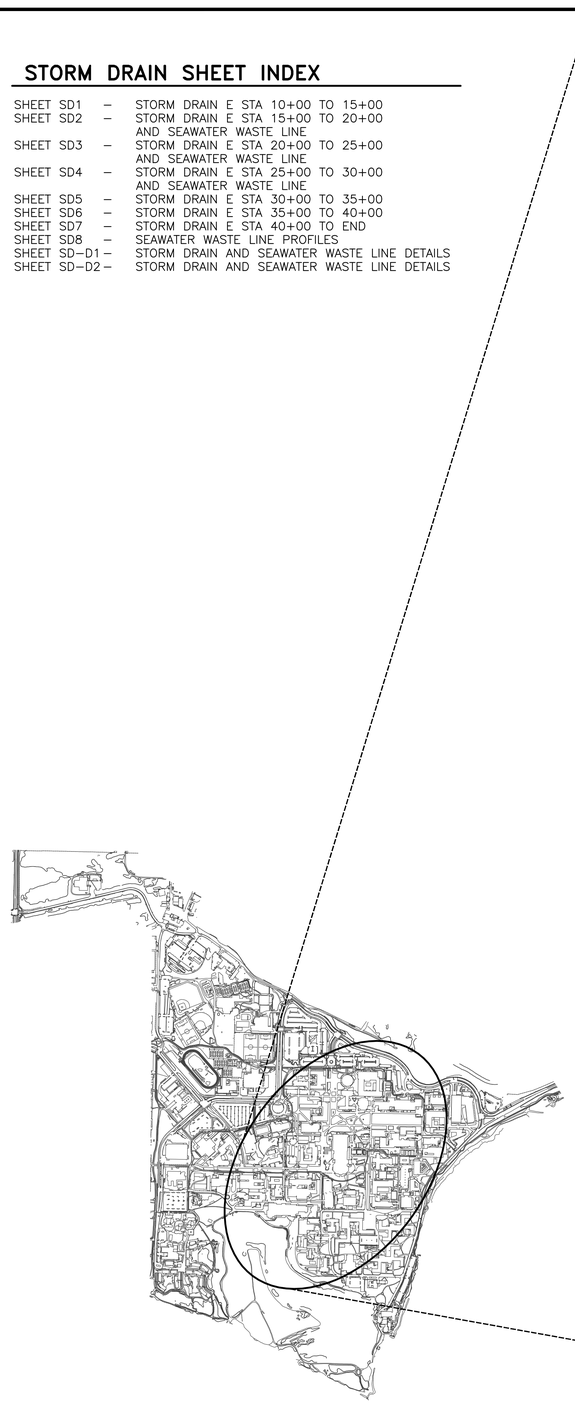
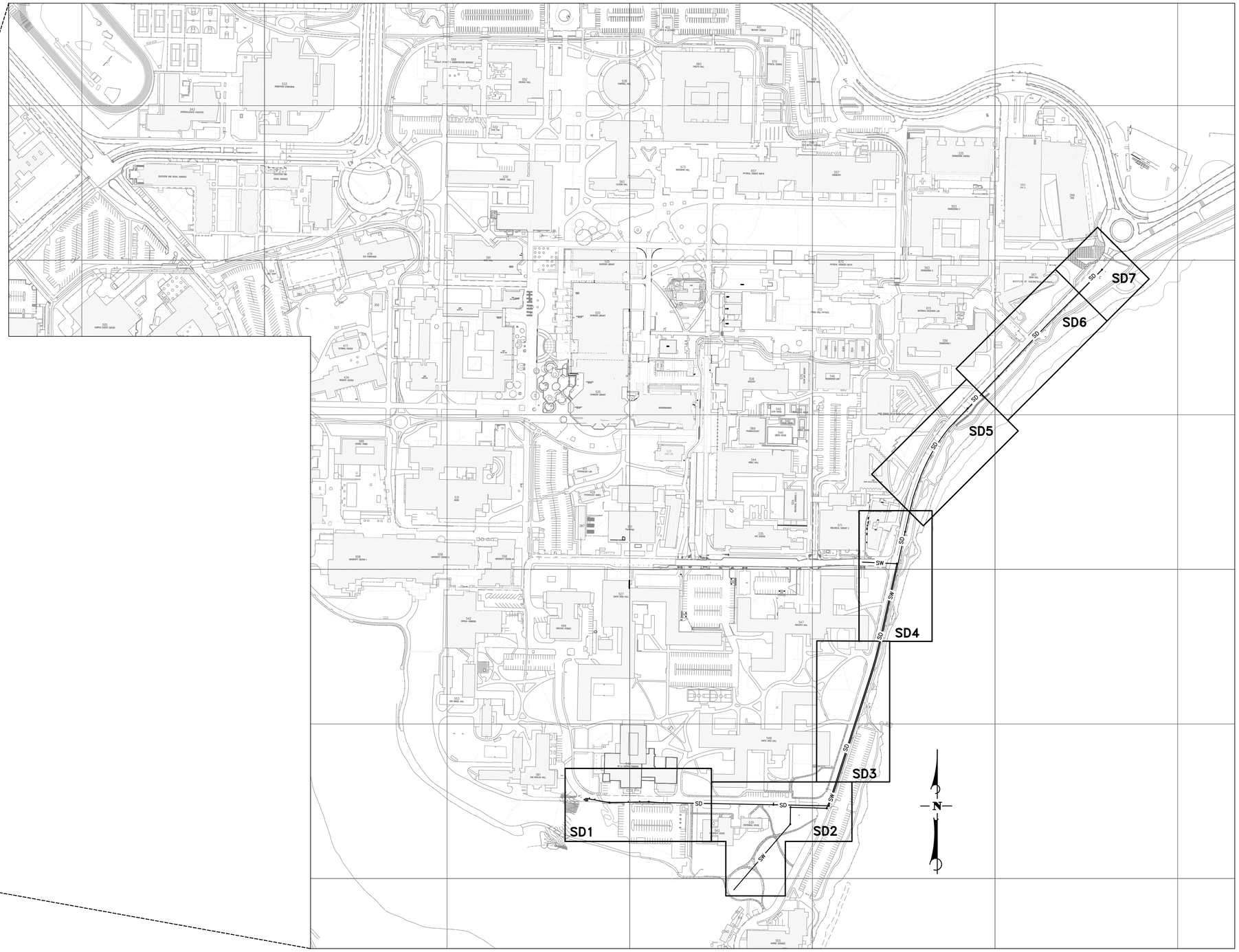
STORM DRAIN SHEET INDEX



UCSB MAIN CAMPUS MAP
N.T.S.



SCALE: 1"=150'
0 150 300 450

NO.	DATE	REVISIONS	APPD.

Stantec
111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963-9532 Fax: (805) 966-9801

DESIGN CEP/WFF CHECKED SCW
STEPHEN C. WANG DATE: 10/11/2016
PROJECT ENGINEER
R.C.E. 44,255

REGISTERED PROFESSIONAL ENGINEER STEPHEN C. WANG NO 44255 CIVIL STATE OF CALIFORNIA

UNIVERSITY OF CALIFORNIA, SANTA BARBARA
REVIEWED BY:
SIGNATURE DATE

KEY MAP
STORM DRAIN AND SEAWATER WASTE LINE
INFRASTRUCTURE RENEWAL PROJECT
PHASE 1C
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

STANTEC PROJECT NO. 2064017271
SHEET SD 0
U.C.S.B. DWG NO. 10–198

FM 170115L/986080

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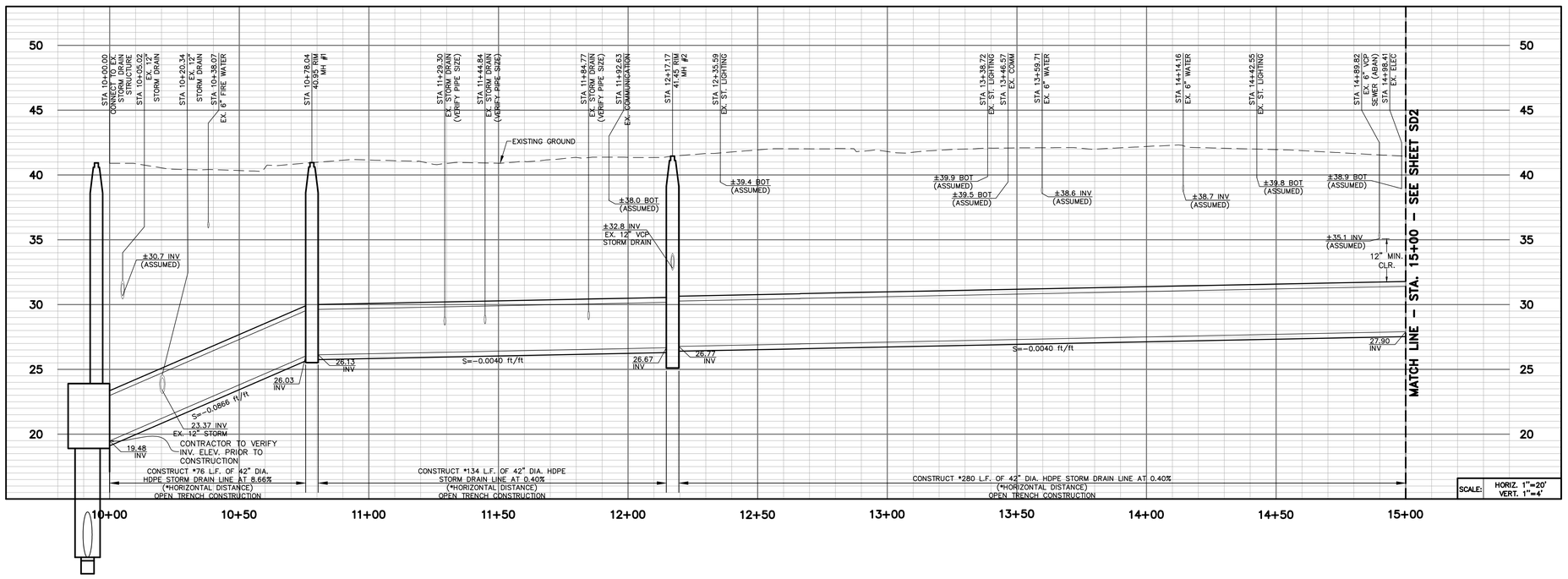
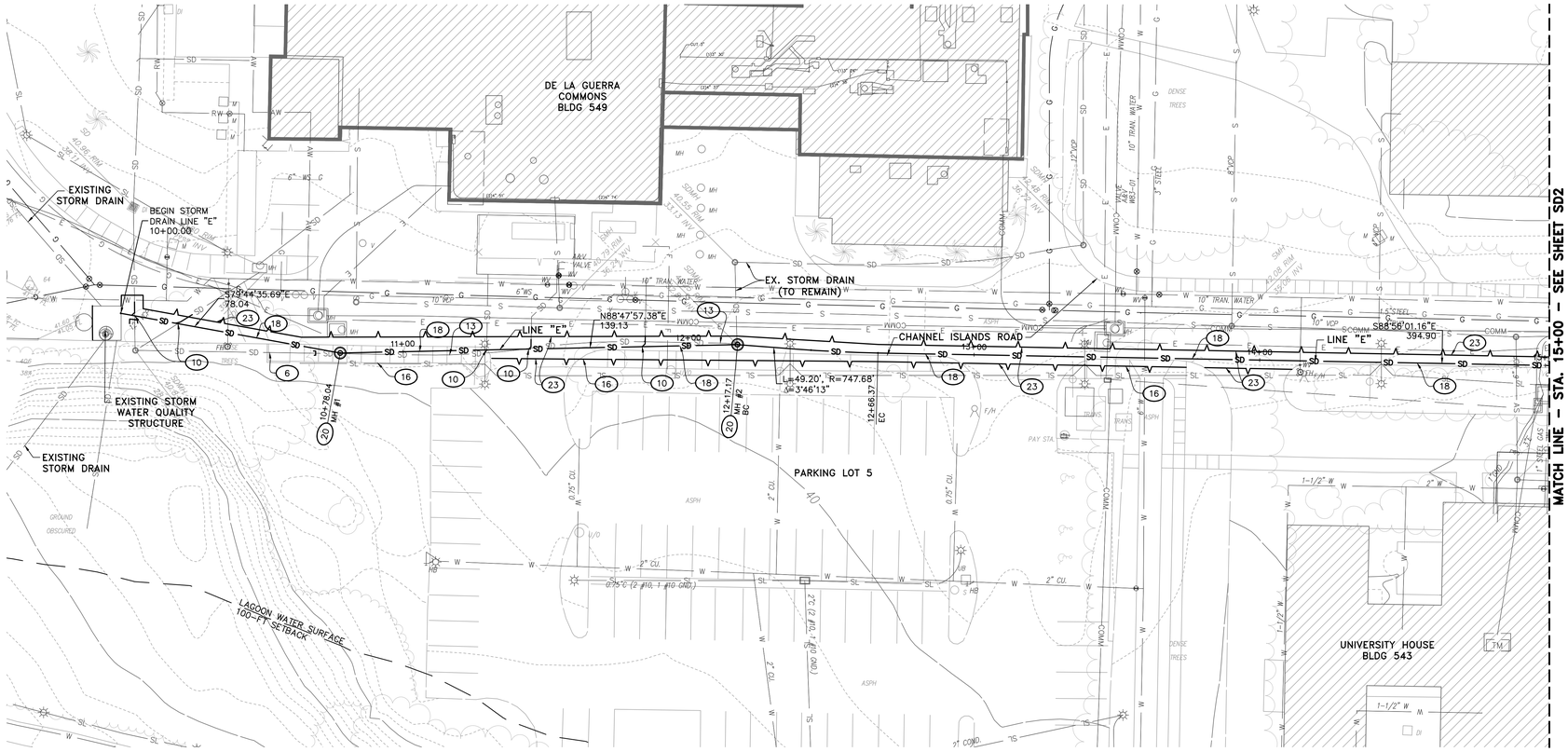




STORM DRAIN CONSTRUCTION NOTES

1. REMOVE PORTION OF EXISTING 24" DIA. STORM DRAIN PIPE. CORE LARGER HOLE IN EXISTING CONCRETE STRUCTURE TO ACCOMMODATE 30" DIA. HIGH DENSITY POLYETHYLENE (HDPE) STORM DRAIN PIPE, AND CONNECT 30" DIA. STORM DRAIN AND GROUT AROUND PIPE AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS OF PIPES AND INLETS PRIOR TO CONSTRUCTION (TYP. FOR ENTIRE PROJECT).
2. CONSTRUCT TRANSITION STRUCTURE PIPE TO PIPE PER STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (S.P.P.W.C.) (2012 EDITION) STANDARD PLAN 340–2, SEE DETAIL "A" ON SHEET SD–D2, TO CONNECT EXISTING 24" DIA. STORM DRAIN TO 30" DIA. STORM DRAIN.
3. CONSTRUCT 30–INCH DIAMETER HDPE STORM DRAIN PER TRENCH DETAIL "A", SHEET SD–D1.
4. CONSTRUCT CONCRETE STORM DRAIN MANHOLE PER S.P.P.W.C. (2012 EDITION) STANDARD PLAN 320.2, SEE DETAIL "B" ON SHEET SD–D2, CONNECT ALL EXISTING AND PROPOSED STORM DRAIN PIPES AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
5. CONSTRUCT 24" DIA. HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
6. REMOVE PORTION OF EXISTING STORM DRAIN PIPE AS NECESSARY FOR CONSTRUCTION AND ABANDON EXISTING STORM DRAIN PIPE IN PLACE. CAP END AND FILL END OF PIPE (MIN. 2' DEEP INTO PIPE) WITH 1–SACK CEMENT SLURRY.
7. REMOVE PORTION OF EXISTING 12" DIA. STORM DRAIN PIPE. CORE LARGER HOLE IN EXISTING CONCRETE STRUCTURE TO ACCOMMODATE 12" DIA. HDPE STORM DRAIN PIPE AT ANGLE SHOWN ON PLAN, AND CONNECT 12" DIA. STORM DRAIN AND GROUT AROUND PIPE AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
8. CONSTRUCT 12" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
9. CONSTRUCT WYE CONNECTION BETWEEN STORM DRAIN PIPES PER MANUFACTURER'S SPECIFICATIONS.
10. REMOVE ADEQUATE LENGTH OF EXISTING STORM DRAIN PIPE TO ADJUST GRADE AND CONNECT WITH WYE CONNECTION TO PROPOSED STORM DRAIN PER DETAIL "D" ON SHEET SD–D1.
11. CONSTRUCT 18" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A", SHEET SD–D1.
12. REMODEL BASE OF STRUCTURE TO SLOPE TO NEW OPENING. GROUT ABANDONED PIPE OPENING WITH CONCRETE AND #4 REBAR AT 18" OC BW AND DOWELED MIN. 12" INTO EXISTING CONCRETE.
13. REMOVE EXISTING STORM DRAIN AND LEGALLY DISPOSE OF OFF–CAMPUS, AND BACKFILL TRENCH.
14. CONSTRUCT 5'X10' ROCK RIP–RAP (MIN. 12" DIA. ROCKS) IN TWO LAYERS WITH NO GROUT AT OUTLET OF STORM DRAIN.
15. CONSTRUCT 6–INCH HIGH CONCRETE CURB AND 18–INCH CONCRETE GUTTER PER DETAIL "C" SHEET SD–D1.
16. SAW CUT AND REMOVE EXISTING CONCRETE SIDEWALK AT SCORE LINE AND HAUL OFF CAMPUS. CONSTRUCT MIN. 6" THICK REINFORCED CONCRETE PAVEMENT OVER MIN. 4" THICK CLASS 2 AGGREGATE BASE PER DETAIL "F", SHEET SD–D1.
17. REMOVE EXISTING STORM DRAIN PIPE AND DISPOSE OF LEGALLY OFF–CAMPUS. PROVIDE TEMPORARY STORM DRAIN LINE DURING CONSTRUCTION AS REQUIRED.
18. CONSTRUCT 42" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
19. CONSTRUCT 36" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
20. CONSTRUCT CONCRETE STORM DRAIN MANHOLE FOR 42" DIA. HDPE STORM DRAIN CONNECTION PER S.P.P.W.C. (2012 EDITION) STANDARD PLAN 320–2 FOR 36" DIA. OR LARGER PIPE, SEE DETAIL "A" ON SHEET SD–D2, CONNECT ALL EXISTING AND PROPOSED STORM DRAIN PIPES AND CONSTRUCT GROUT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
21. REMOVE EXISTING CATCH BASIN AND CONSTRUCT 24"X24" GRATED PRECAST CONCRETE CATCH BASIN BY MID–STATE CONCRETE PRODUCTS OR EQUAL. CONNECT EXISTING LATERALS (IF ANY) AND OUTLET TO PROPOSED STORM DRAIN.
22. CONSTRUCT 18"X18" GRATED PRECAST CONCRETE CATCH BASIN, MID–STATE CONCRETE PRODUCTS OR EQUAL. CONNECT EXISTING LATERALS (IF ANY) AND OUTLET TO PROPOSED STORM DRAIN.
23. SAW CUT AND REMOVE EXISTING ASPHALT CONCRETE PAVEMENT AND SUBGRADE FOR STORM DRAIN TRENCH AND HAUL OFF CAMPUS. CONTRACTOR TO APPLY A HOT RUBBERIZED CRACK FILLER ON CONSTRUCTION JOINT AND APPLY COAT GUARD TOP SEALER WITH 6 POUNDS SAND PER GALLON AT POST–CONSTRUCTION.
24. SAWCUT AND REMOVE EXISTING P.C. CONCRETE PAVEMENT FOR UTILITY CONSTRUCTION AND CONSTRUCT NEW P.C. CONCRETE PAVEMENT PER DETAIL "F" ON SHEET SD–D1.
25. SAWCUT AND REMOVE EXISTING ASPHALT CONCRETE STRUCTURAL SECTION TO ADEQUATE DEPTH TO CONSTRUCT NEW ASPHALT STRUCTURAL SECTION, AND LEGALLY DISPOSE OF OFF–CAMPUS. CONSTRUCT MIN. 6" THICK ASPHALT CONCRETE PAVEMENT (PG 64–10) OVER CLASS 2 AGGREGATE BASE PER DETAIL "E" ON SHEET SD–D1. SEE ▭ AREA FOR ASPHALT CONCRETE PAVEMENT CONSTRUCTION.
26. REMOVE EXISTING 18" DIA. STORM DRAIN COMPLETE AND LEGALLY DISPOSE OF OFF–CAMPUS. CONSTRUCT 12" DIA. WATERTIGHT HDPE STORM DRAIN PER TRENCH DETAIL "A", SHEET SD–D1. DRAIN FROM EXISTING CATCH BASIN TO MANHOLE AT MIN. 0.5% SLOPE.

PLOT SCALE:1:1

42–ENG

FOR REDUCED PLANS
ORIGINAL SCALE IN INCHES
0 1 2 3

NO.	DATE	REVISIONS	APPD.

Stantec
111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963–9532 Fax: (805) 966–9801

DESIGN CEP CHECKED SCW
STEPHEN C. WANG DATE: 10/11/16
PROJECT ENGINEER
R.C.E. 44,255

REGISTERED PROFESSIONAL ENGINEER
STEPHEN C. WANG
NO 44255
CIVIL
STATE OF CALIFORNIA

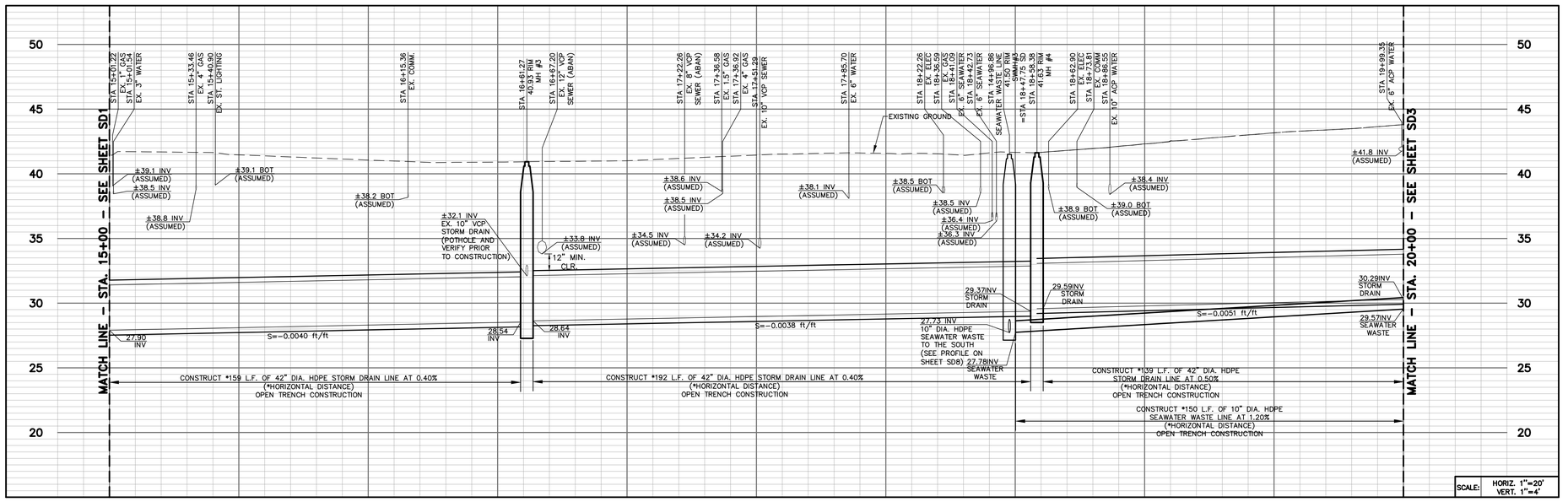
UNIVERSITY OF CALIFORNIA, SANTA BARBARA
REVIEWED BY:
SIGNATURE DATE

LINE "E" STA 10+00 TO STA 15+00
STORM DRAIN PLAN AND PROFILE
INFRASTRUCTURE RENEWAL PHASE 1C
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

STANTEC PROJECT NO. 2064017271
SHEET SD1
U.C.S.B. DWG NO. 10–198

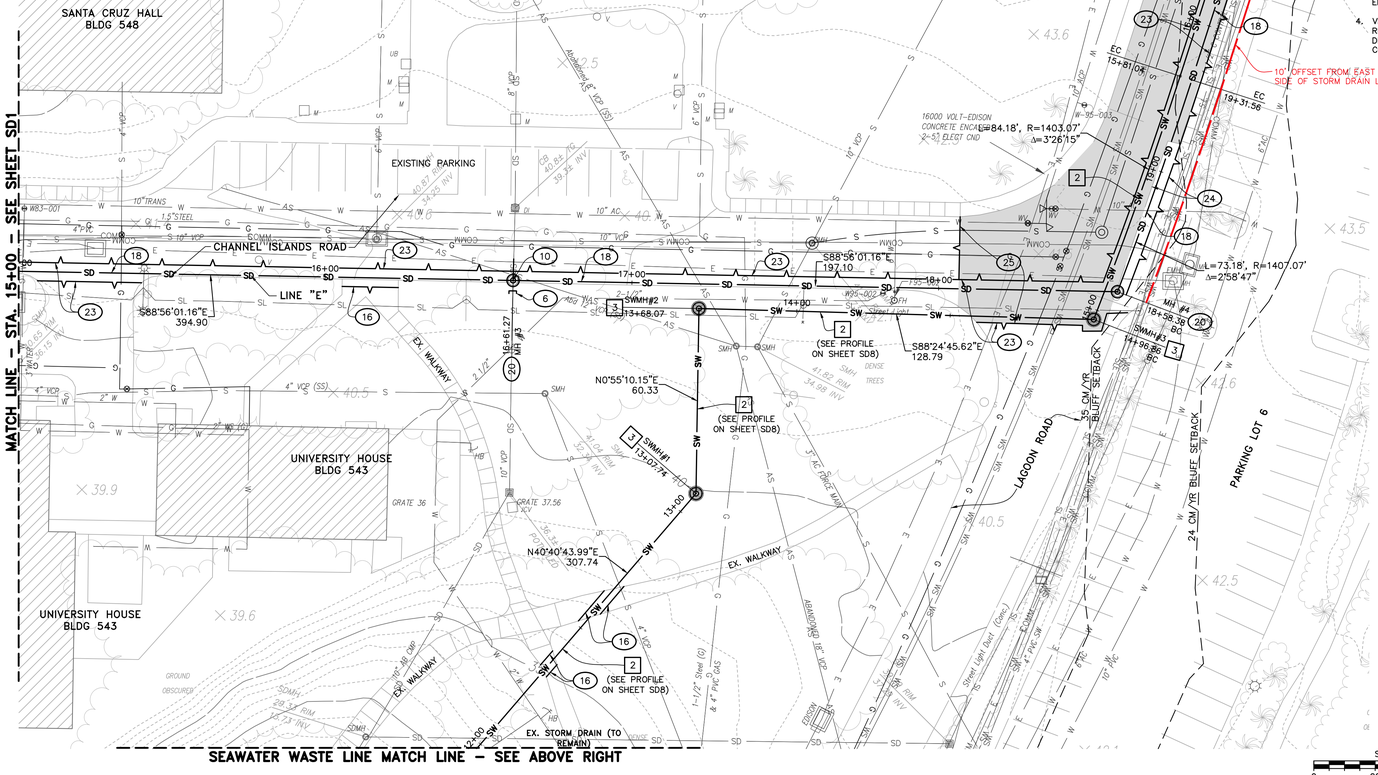
DRAWING:v:\2064\active\2064017271\17271\ucsd\17271 phase 1c cd\storm drain line e.dwg

FM 170115L/986080



STORM DRAIN CONSTRUCTION NOTES

1. REMOVE PORTION OF EXISTING 24" DIA. STORM DRAIN PIPE. CORE LARGER HOLE IN EXISTING CONCRETE STRUCTURE TO ACCOMMODATE 30" DIA. HIGH DENSITY POLYETHYLENE (HDPE) STORM DRAIN PIPE, AND CONNECT 30" DIA. STORM DRAIN AND GROUT AROUND PIPE AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS OF PIPES AND INLETS PRIOR TO CONSTRUCTION (TYP. FOR ENTIRE PROJECT).
2. CONSTRUCT TRANSITION STRUCTURE PIPE TO PIPE PER STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (S.P.P.W.C.) (2012 EDITION) STANDARD PLAN 340–2, SEE DETAIL "A" ON SHEET SD–D2, TO CONNECT EXISTING 24" DIA. STORM DRAIN TO 30" DIA. STORM DRAIN.
3. CONSTRUCT 30–INCH DIAMETER HDPE STORM DRAIN PER TRENCH DETAIL "A", SHEET SD–D1.
4. CONSTRUCT CONCRETE STORM DRAIN MANHOLE PER S.P.P.W.C. (2012 EDITION) STANDARD PLAN 320.2, SEE DETAIL "B" ON SHEET SD–D2, CONNECT ALL EXISTING AND PROPOSED STORM DRAIN PIPES AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
5. CONSTRUCT 24" DIA. HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
6. REMOVE PORTION OF EXISTING STORM DRAIN PIPE AS NECESSARY FOR CONSTRUCTION AND ABANDON EXISTING STORM DRAIN PIPE IN PLACE. CAP END AND FILL END OF PIPE (MIN. 2' DEEP INTO PIPE) WITH 1–SACK CEMENT SLURRY.
7. REMOVE PORTION OF EXISTING 12" DIA. STORM DRAIN PIPE. CORE LARGER HOLE IN EXISTING CONCRETE STRUCTURE TO ACCOMMODATE 12" DIA. HDPE STORM DRAIN PIPE AT ANGLE SHOWN ON PLAN, AND CONNECT 12" DIA. STORM DRAIN AND GROUT AROUND PIPE AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
8. CONSTRUCT 12" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
9. CONSTRUCT WYE CONNECTION BETWEEN STORM DRAIN PIPES PER MANUFACTURER'S SPECIFICATIONS.
10. REMOVE ADEQUATE LENGTH OF EXISTING STORM DRAIN PIPE TO ADJUST GRADE AND CONNECT WITH WYE CONNECTION TO PROPOSED STORM DRAIN PER DETAIL "D" ON SHEET SD–D1.
11. CONSTRUCT 18" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A", SHEET SD–D1.
12. REMODEL BASE OF STRUCTURE TO SLOPE TO NEW OPENING. GROUT ABANDONED PIPE OPENING WITH CONCRETE AND #4 REBAR AT 18" OC BW AND DOWELED MIN. 12" INTO EXISTING CONCRETE.
13. REMOVE EXISTING STORM DRAIN AND LEGALLY DISPOSE OF OFF–CAMPUS, AND BACKFILL TRENCH.
14. CONSTRUCT 5'X10' ROCK RIP–RAP (MIN. 12" DIA. ROCKS) IN TWO LAYERS WITH NO GROUT AT OUTLET OF STORM DRAIN.
15. CONSTRUCT 6–INCH HIGH CONCRETE CURB AND 18–INCH CONCRETE GUTTER PER DETAIL "C" SHEET SD–D1.
16. SAW CUT AND REMOVE EXISTING CONCRETE SIDEWALK AT SCORE LINE AND HAUL OFF CAMPUS. CONSTRUCT MIN. 6" THICK REINFORCED CONCRETE PAVEMENT OVER MIN. 4" THICK CLASS 2 AGGREGATE BASE PER DETAIL "F", SHEET SD–D1.
17. REMOVE EXISTING STORM DRAIN PIPE AND DISPOSE OF LEGALLY OFF–CAMPUS. PROVIDE TEMPORARY STORM DRAIN LINE DURING CONSTRUCTION AS REQUIRED.
18. CONSTRUCT 42" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
19. CONSTRUCT 36" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
20. CONSTRUCT CONCRETE STORM DRAIN MANHOLE FOR 42" DIA. HDPE STORM DRAIN CONNECTION PER S.P.P.W.C. (2012 EDITION) STANDARD PLAN 320–2 FOR 36" DIA. OR LARGER PIPE, SEE DETAIL "A" ON SHEET SD–D2, CONNECT ALL EXISTING AND PROPOSED STORM DRAIN PIPES AND CONSTRUCT GROUT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
21. REMOVE EXISTING CATCH BASIN AND CONSTRUCT 24"X24" GRATED PRECAST CONCRETE CATCH BASIN BY MID–STATE CONCRETE PRODUCTS OR EQUAL. CONNECT EXISTING LATERALS (IF ANY) AND OUTLET TO PROPOSED STORM DRAIN.
22. CONSTRUCT 18"X18" GRATED PRECAST CONCRETE CATCH BASIN, MID–STATE CONCRETE PRODUCTS OR EQUAL. CONNECT EXISTING LATERALS (IF ANY) AND OUTLET TO PROPOSED STORM DRAIN.
23. SAW CUT AND REMOVE EXISTING ASPHALT CONCRETE PAVEMENT AND SUBGRADE FOR STORM DRAIN TRENCH AND HAUL OFF CAMPUS. CONTRACTOR TO APPLY A HOT RUBBERIZED CRACK FILLER ON CONSTRUCTION JOINT AND APPLY COAT GUARD TOP SEALER WITH 6 POUNDS SAND PER GALLON AT POST–CONSTRUCTION.
24. SAWCUT AND REMOVE EXISTING P.C. CONCRETE PAVEMENT FOR UTILITY CONSTRUCTION AND CONSTRUCT NEW P.C. CONCRETE PAVEMENT PER DETAIL "F" ON SHEET SD–D1.
25. SAWCUT AND REMOVE EXISTING ASPHALT CONCRETE STRUCTURAL SECTION TO ADEQUATE DEPTH TO CONSTRUCT NEW ASPHALT STRUCTURAL SECTION, AND LEGALLY DISPOSE OF OFF–CAMPUS. CONSTRUCT MIN. 6" THICK ASPHALT CONCRETE PAVEMENT (PG 64–10) OVER CLASS 2 AGGREGATE BASE PER DETAIL "E" ON SHEET SD–D1. SEE ▭ AREA FOR ASPHALT CONCRETE PAVEMENT CONSTRUCTION.
26. REMOVE EXISTING 18" DIA. STORM DRAIN COMPLETE AND LEGALLY DISPOSE OF OFF–CAMPUS. CONSTRUCT 12" DIA. WATERTIGHT HDPE STORM DRAIN PER TRENCH DETAIL "A", SHEET SD–D1. DRAIN FROM EXISTING CATCH BASIN TO MANHOLE AT MIN. 0.5% SLOPE.



SEAWATER WASTE LINE CONSTRUCTION NOTES

1. REMOVE PORTION OF EXISTING STORM DRAIN PIPE. CORE LARGER HOLE IN EXISTING CONCRETE STRUCTURE TO ACCOMMODATE PROPOSED SEAWATER WASTE PIPE AT ANGLE SHOWN ON PLAN, AND CONNECT PROPOSED SEAWATER WASTE PIPE AND GROUT AROUND PIPE AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
2. CONSTRUCT 10" DIA. WATERTIGHT HDPE SEAWATER WASTE PER TRENCH DETAIL "A" ON SHEET SD–D1.
3. CONSTRUCT 4' DIA. CONCRETE MANHOLE FOR 10" DIA. WATERTIGHT HDPE SEAWATER WASTE PIPE CONNECTION PER S.P.P.W.C. (2012 EDITION) STANDARD PLAN 321–2, SEE DETAIL "B" ON SHEET SD–D2. CONNECT ALL EXISTING AND PROPOSED SEAWATER WASTE PIPES AND CONSTRUCT GROUT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AND CONCRTE.
4. VERIFY EXISTING SEAWATER WASTE PIPE LOCATION, PIPE SIZE, AND INVERT ELEVATION, AND REMOVE EXISTING END CAP AND LEGALLY DISPOSE OF OFF–CAMPUS. CONNECT PROPOSED 10" DIA. WATERTIGHT HDPE SEAWATER WASTE LINE TO EXISTING SEAWATER WASTE LINE WITH HDPE COUPLING AND ALL NECESSARY FITTINGS.

PLOT SCALE:1:1

FOR REDUCED PLANS
ORIGINAL SCALE IN INCHES
0 1 2 3

NO.	DATE	REVISIONS	APPD.

Stantec
111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963-9532 Fax: (805) 966-9801

DESIGN CEP CHECKED SCW
STEPHEN C. WANG DATE: 10/11/16
PROJECT ENGINEER
R.C.E. 44,255

REGISTERED PROFESSIONAL ENGINEER STEPHEN C. WANG NO 44255 CIVIL STATE OF CALIFORNIA

UNIVERSITY OF CALIFORNIA, SANTA BARBARA
REVIEWED BY:
SIGNATURE DATE

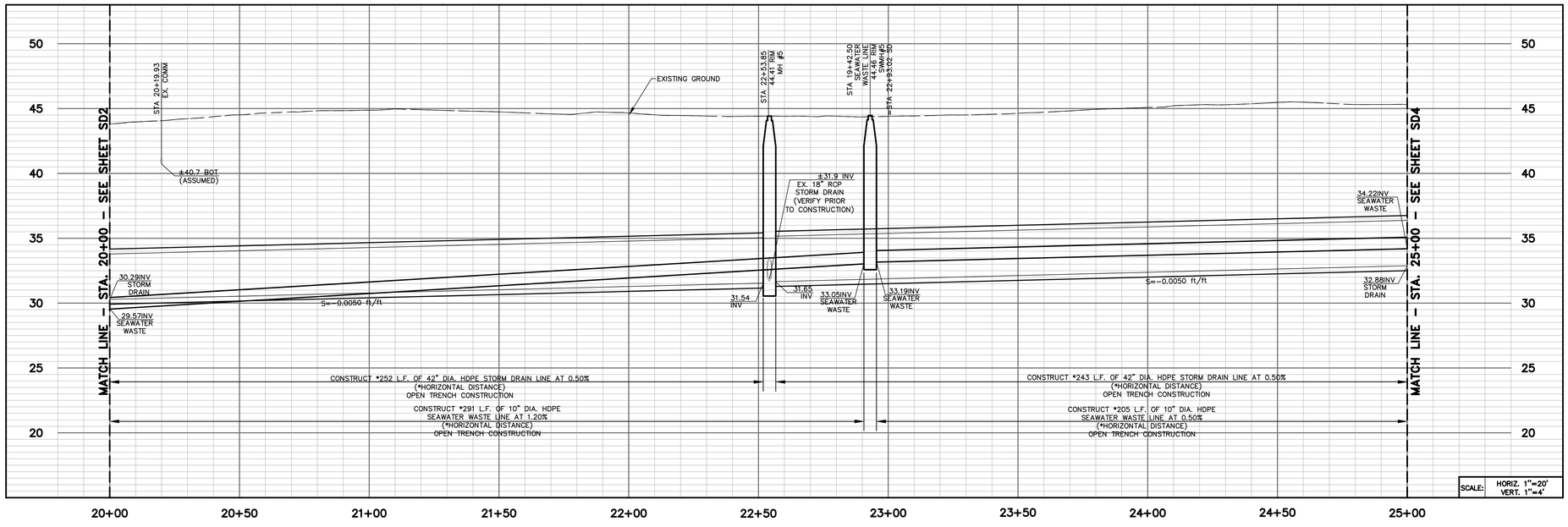
LINE "E" STA 15+00 TO STA 20+00 STORM DRAIN AND SEAWATER WASTE LINE INFRASTRUCTURE RENEWAL PHASE 1C
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

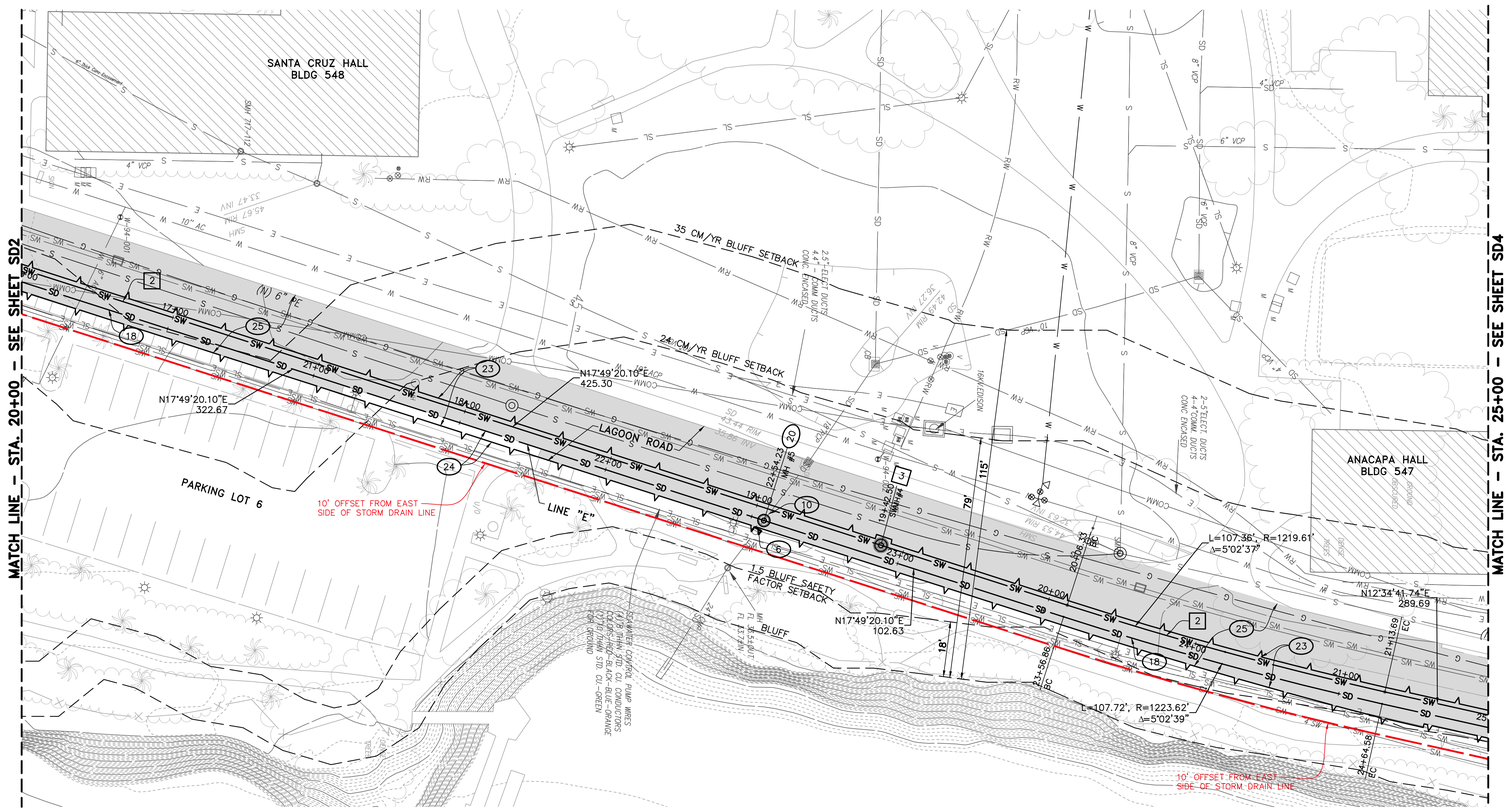
STANTEC PROJECT NO. 2064017271
SHEET SD2
U.C.S.B. DWG NO. 10–198

42–ENG

DRAWING:v:\2064\active\2064017271\17271\ucsd\17271 phase 1c cd\storm drain line e.dwg

FM 170115L/986080





STORM DRAIN CONSTRUCTION NOTES

1. REMOVE PORTION OF EXISTING 24" DIA. STORM DRAIN PIPE. CORE LARGER HOLE IN EXISTING CONCRETE STRUCTURE TO ACCOMMODATE 30" DIA. HIGH DENSITY POLYETHYLENE (HDPE) STORM DRAIN PIPE, AND CONNECT 30" DIA. STORM DRAIN AND GROUT AROUND PIPE AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS OF PIPES AND INLETS PRIOR TO CONSTRUCTION (TYP. FOR ENTIRE PROJECT).
2. CONSTRUCT TRANSITION STRUCTURE PIPE TO PIPE PER STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (S.P.P.W.C.) (2012 EDITION) STANDARD PLAN 340–2, SEE DETAIL "A" ON SHEET SD–D2, TO CONNECT EXISTING 24" DIA. STORM DRAIN TO 30" DIA. STORM DRAIN.
3. CONSTRUCT 30–INCH DIAMETER HDPE STORM DRAIN PER TRENCH DETAIL "A", SHEET SD–D1.
4. CONSTRUCT CONCRETE STORM DRAIN MANHOLE PER S.P.P.W.C. (2012 EDITION) STANDARD PLAN 320.2, SEE DETAIL "B" ON SHEET SD–D2, CONNECT ALL EXISTING AND PROPOSED STORM DRAIN PIPES AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
5. CONSTRUCT 24" DIA. HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
6. REMOVE PORTION OF EXISTING STORM DRAIN PIPE AS NECESSARY FOR CONSTRUCTION AND ABANDON EXISTING STORM DRAIN PIPE IN PLACE. CAP END AND FILL END OF PIPE (MIN. 2' DEEP INTO PIPE) WITH 1–SACK CEMENT SLURRY.
7. REMOVE PORTION OF EXISTING 12" DIA. STORM DRAIN PIPE. CORE LARGER HOLE IN EXISTING CONCRETE STRUCTURE TO ACCOMMODATE 12" DIA. HDPE STORM DRAIN PIPE AT ANGLE SHOWN ON PLAN, AND CONNECT 12" DIA. STORM DRAIN AND GROUT AROUND PIPE AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
8. CONSTRUCT 12" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
9. CONSTRUCT WYE CONNECTION BETWEEN STORM DRAIN PIPES PER MANUFACTURER'S SPECIFICATIONS.
10. REMOVE ADEQUATE LENGTH OF EXISTING STORM DRAIN PIPE TO ADJUST GRADE AND CONNECT WITH WYE CONNECTION TO PROPOSED STORM DRAIN PER DETAIL "D" ON SHEET SD–D1.
11. CONSTRUCT 18" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A", SHEET SD–D1.
12. REMODEL BASE OF STRUCTURE TO SLOPE TO NEW OPENING. GROUT ABANDONED PIPE OPENING WITH CONCRETE AND #4 REBAR AT 18" OC BW AND DOWELED MIN. 12" INTO EXISTING CONCRETE.
13. REMOVE EXISTING STORM DRAIN AND LEGALLY DISPOSE OF OFF–CAMPUS, AND BACKFILL TRENCH.
14. CONSTRUCT 5'X10' ROCK RIP–RAP (MIN. 12" DIA. ROCKS) IN TWO LAYERS WITH NO GROUT AT OUTLET OF STORM DRAIN.
15. CONSTRUCT 6–INCH HIGH CONCRETE CURB AND 18–INCH CONCRETE GUTTER PER DETAIL "C" SHEET SD–D1.
16. SAW CUT AND REMOVE EXISTING CONCRETE SIDEWALK AT SCORE LINE AND HAUL OFF CAMPUS. CONSTRUCT MIN. 6" THICK REINFORCED CONCRETE PAVEMENT OVER MIN. 4" THICK CLASS 2 AGGREGATE BASE PER DETAIL "F", SHEET SD–D1.
17. REMOVE EXISTING STORM DRAIN PIPE AND DISPOSE OF LEGALLY OFF–CAMPUS. PROVIDE TEMPORARY STORM DRAIN LINE DURING CONSTRUCTION AS REQUIRED.
18. CONSTRUCT 42" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
19. CONSTRUCT 36" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
20. CONSTRUCT CONCRETE STORM DRAIN MANHOLE FOR 42" DIA. HDPE STORM DRAIN CONNECTION PER S.P.P.W.C. (2012 EDITION) STANDARD PLAN 320–2 FOR 36" DIA. OR LARGER PIPE, SEE DETAIL "A" ON SHEET SD–D2, CONNECT ALL EXISTING AND PROPOSED STORM DRAIN PIPES AND CONSTRUCT GROUT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
21. REMOVE EXISTING CATCH BASIN AND CONSTRUCT 24"X24" GRATED PRECAST CONCRETE CATCH BASIN BY MID–STATE CONCRETE PRODUCTS OR EQUAL. CONNECT EXISTING LATERALS (IF ANY) AND OUTLET TO PROPOSED STORM DRAIN.
22. CONSTRUCT 18"X18" GRATED PRECAST CONCRETE CATCH BASIN, MID–STATE CONCRETE PRODUCTS OR EQUAL. CONNECT EXISTING LATERALS (IF ANY) AND OUTLET TO PROPOSED STORM DRAIN.
23. SAW CUT AND REMOVE EXISTING ASPHALT CONCRETE PAVEMENT AND SUBGRADE FOR STORM DRAIN TRENCH AND HAUL OFF CAMPUS. CONTRACTOR TO APPLY A HOT RUBBERIZED CRACK FILLER ON CONSTRUCTION JOINT AND APPLY COAT GUARD TOP SEALER WITH 6 POUNDS SAND PER GALLON AT POST–CONSTRUCTION.
24. SAWCUT AND REMOVE EXISTING P.C. CONCRETE PAVEMENT FOR UTILITY CONSTRUCTION AND CONSTRUCT NEW P.C. CONCRETE PAVEMENT PER DETAIL "F" ON SHEET SD–D1.
25. SAWCUT AND REMOVE EXISTING ASPHALT CONCRETE STRUCTURAL SECTION TO ADEQUATE DEPTH TO CONSTRUCT NEW ASPHALT STRUCTURAL SECTION, AND LEGALLY DISPOSE OF OFF–CAMPUS. CONSTRUCT MIN. 6" THICK ASPHALT CONCRETE PAVEMENT (PG 64–10) OVER CLASS 2 AGGREGATE BASE PER DETAIL "E" ON SHEET SD–D1. SEE ▭ AREA FOR ASPHALT CONCRETE PAVEMENT CONSTRUCTION.
26. REMOVE EXISTING 18" DIA. STORM DRAIN COMPLETE AND LEGALLY DISPOSE OF OFF–CAMPUS. CONSTRUCT 12" DIA. WATERTIGHT HDPE STORM DRAIN PER TRENCH DETAIL "A", SHEET SD–D1. DRAIN FROM EXISTING CATCH BASIN TO MANHOLE AT MIN. 0.5% SLOPE.

SEAWATER WASTE LINE CONSTRUCTION NOTES

1. REMOVE PORTION OF EXISTING STORM DRAIN PIPE. CORE LARGER HOLE IN EXISTING CONCRETE STRUCTURE TO ACCOMMODATE PROPOSED SEAWATER WASTE PIPE AT ANGLE SHOWN ON PLAN, AND CONNECT PROPOSED SEAWATER WASTE PIPE AND GROUT AROUND PIPE AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
2. CONSTRUCT 10" DIA. WATERTIGHT HDPE SEAWATER WASTE PER TRENCH DETAIL "A" ON SHEET SD–D1.
3. CONSTRUCT 4' DIA. CONCRETE MANHOLE FOR 10" DIA. WATERTIGHT HDPE SEAWATER WASTE PIPE CONNECTION PER S.P.P.W.C. (2012 EDITION) STANDARD PLAN 321–2, SEE DETAIL "B" ON SHEET SD–D2. CONNECT ALL EXISTING AND PROPOSED SEAWATER WASTE PIPES AND CONSTRUCT GROUT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AND CONCRETE.
4. VERIFY EXISTING SEAWATER WASTE PIPE LOCATION, PIPE SIZE, AND INVERT ELEVATION, AND REMOVE EXISTING END CAP AND LEGALLY DISPOSE OF OFF–CAMPUS. CONNECT PROPOSED 10" DIA. WATERTIGHT HDPE SEAWATER WASTE LINE TO EXISTING SEAWATER WASTE LINE WITH HDPE COUPLING AND ALL NECESSARY FITTINGS.

PLOT SCALE:1:1

42–ENG

FOR REDUCED PLANS
ORIGINAL SCALE IN INCHES
0 1 2 3

NO.	DATE	REVISIONS	APPD.

Stantec
111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963-9532 Fax: (805) 966-9801

DESIGN CEP CHECKED SCW
STEPHEN C. WANG DATE: 10/11/16
PROJECT ENGINEER
R.C.E. 44,255

REGISTERED PROFESSIONAL ENGINEER STEPHEN C. WANG NO 44255 CIVIL STATE OF CALIFORNIA

UNIVERSITY OF CALIFORNIA, SANTA BARBARA
REVIEWED BY:
SIGNATURE DATE

LINE "E" STA 20+00 TO STA 25+00
STORM DRAIN AND SEAWATER WASTE LINE
INFRASTRUCTURE RENEWAL PHASE 1C
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

STANTEC PROJECT NO. 2064017271
SHEET SD3
U.C.S.B. DWG NO. 10–198

DRAWING:v:\2064\active\2064017271\1727\1 phase 1c cal\storm drain line e.dwg

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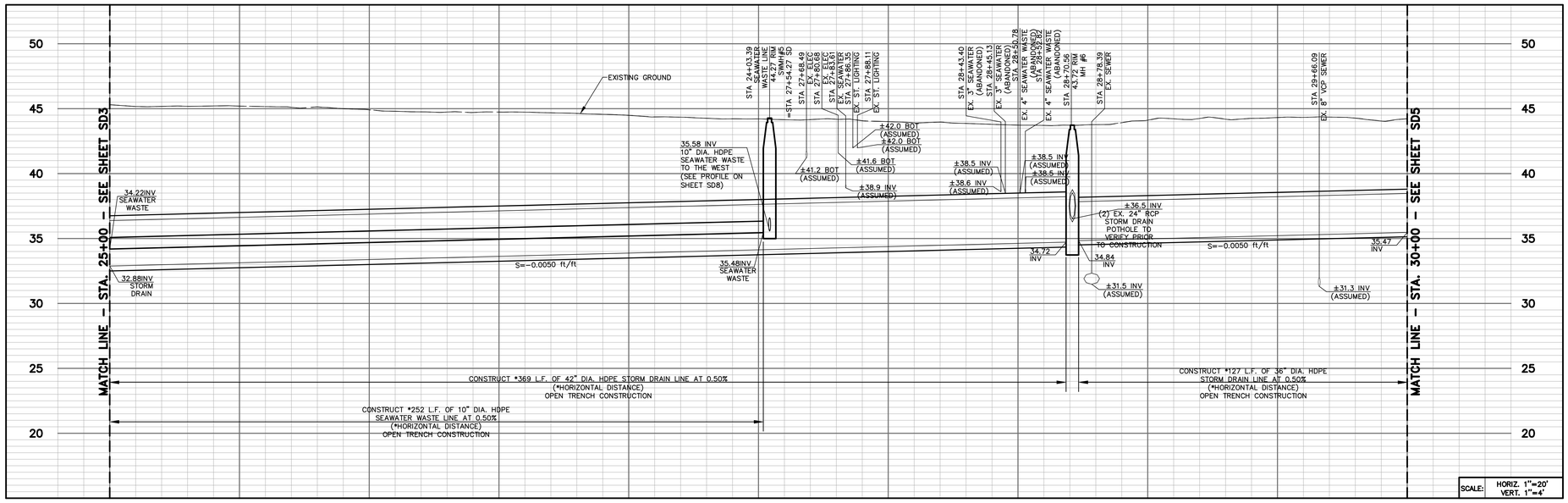

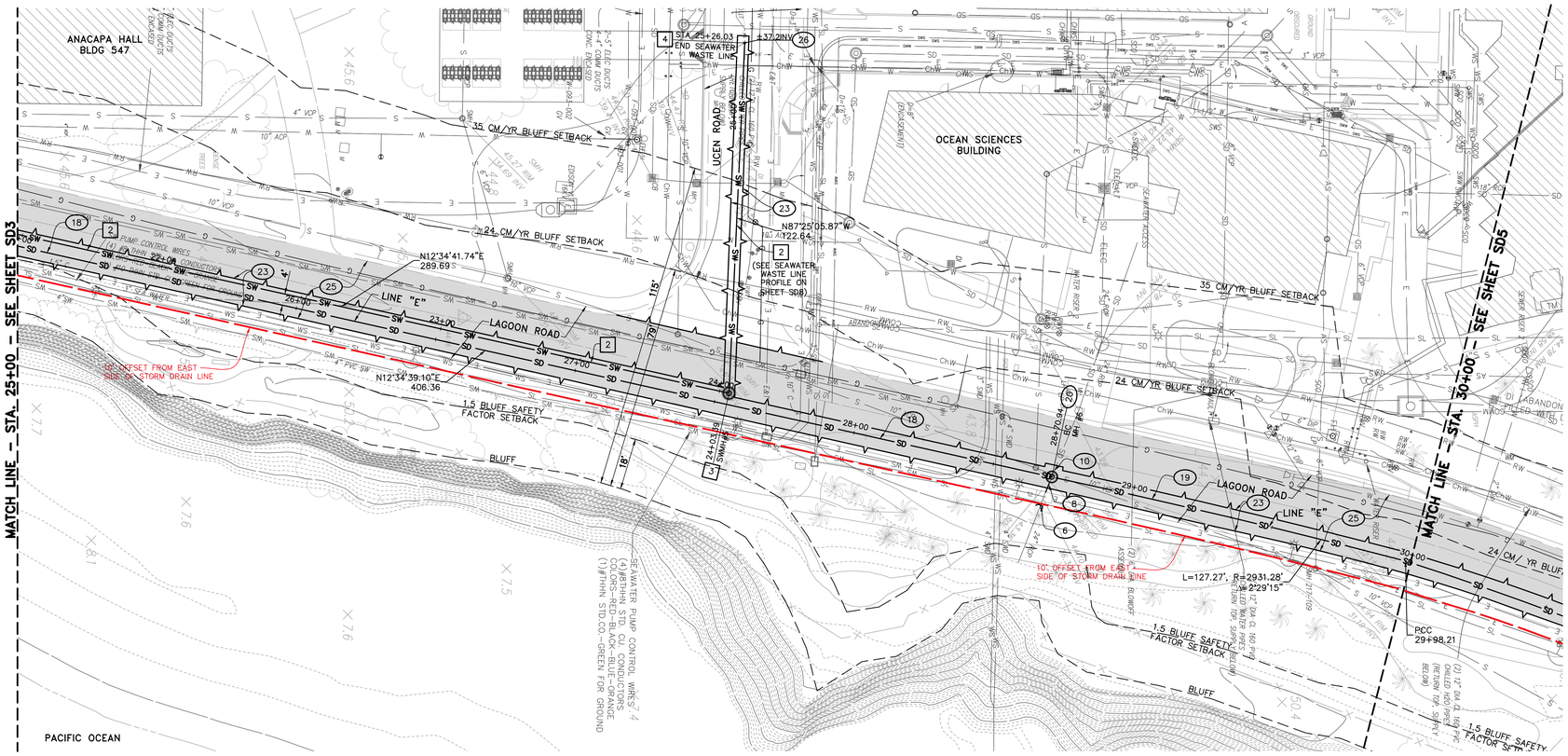

STORM DRAIN CONSTRUCTION NOTES

1. REMOVE PORTION OF EXISTING 24" DIA. STORM DRAIN PIPE. CORE LARGER HOLE IN EXISTING CONCRETE STRUCTURE TO ACCOMMODATE 30" DIA. HIGH DENSITY POLYETHYLENE (HDPE) STORM DRAIN PIPE, AND CONNECT 30" DIA. STORM DRAIN AND GROUT AROUND PIPE AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS OF PIPES AND INLETS PRIOR TO CONSTRUCTION (TYP. FOR ENTIRE PROJECT).
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3. CONSTRUCT 30–INCH DIAMETER HDPE STORM DRAIN PER TRENCH DETAIL "A", SHEET SD–D1.
4. CONSTRUCT CONCRETE STORM DRAIN MANHOLE PER S.P.P.W.C. (2012 EDITION) STANDARD PLAN 320.2, SEE DETAIL "B" ON SHEET SD–D2, CONNECT ALL EXISTING AND PROPOSED STORM DRAIN PIPES AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
5. CONSTRUCT 24" DIA. HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
6. REMOVE PORTION OF EXISTING STORM DRAIN PIPE AS NECESSARY FOR CONSTRUCTION AND ABANDON EXISTING STORM DRAIN PIPE IN PLACE. CAP END AND FILL END OF PIPE (MIN. 2' DEEP INTO PIPE) WITH 1–SACK CEMENT SLURRY.
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9. CONSTRUCT WYE CONNECTION BETWEEN STORM DRAIN PIPES PER MANUFACTURER'S SPECIFICATIONS.
10. REMOVE ADEQUATE LENGTH OF EXISTING STORM DRAIN PIPE TO ADJUST GRADE AND CONNECT WITH WYE CONNECTION TO PROPOSED STORM DRAIN PER DETAIL "D" ON SHEET SD–D1.
11. CONSTRUCT 18" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A", SHEET SD–D1.
12. REMODEL BASE OF STRUCTURE TO SLOPE TO NEW OPENING. GROUT ABANDONED PIPE OPENING WITH CONCRETE AND #4 REBAR AT 18" OC BW AND DOWELED MIN. 12" INTO EXISTING CONCRETE.
13. REMOVE EXISTING STORM DRAIN AND LEGALLY DISPOSE OF OFF–CAMPUS, AND BACKFILL TRENCH.
14. CONSTRUCT 5'X10' ROCK RIP–RAP (MIN. 12" DIA. ROCKS) IN TWO LAYERS WITH NO GROUT AT OUTLET OF STORM DRAIN.
15. CONSTRUCT 6–INCH HIGH CONCRETE CURB AND 18–INCH CONCRETE GUTTER PER DETAIL "C" SHEET SD–D1.
16. SAW CUT AND REMOVE EXISTING CONCRETE SIDEWALK AT SCORE LINE AND HAUL OFF CAMPUS. CONSTRUCT MIN. 6" THICK REINFORCED CONCRETE PAVEMENT OVER MIN. 4" THICK CLASS 2 AGGREGATE BASE PER DETAIL "F", SHEET SD–D1.
17. REMOVE EXISTING STORM DRAIN PIPE AND DISPOSE OF LEGALLY OFF–CAMPUS. PROVIDE TEMPORARY STORM DRAIN LINE DURING CONSTRUCTION AS REQUIRED.
18. CONSTRUCT 42" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
19. CONSTRUCT 36" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
20. CONSTRUCT CONCRETE STORM DRAIN MANHOLE FOR 42" DIA. HDPE STORM DRAIN CONNECTION PER S.P.P.W.C. (2012 EDITION) STANDARD PLAN 320–2 FOR 36" DIA. OR LARGER PIPE, SEE DETAIL "A" ON SHEET SD–D2, CONNECT ALL EXISTING AND PROPOSED STORM DRAIN PIPES AND CONSTRUCT GROUT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
21. REMOVE EXISTING CATCH BASIN AND CONSTRUCT 24"X24" GRATED PRECAST CONCRETE CATCH BASIN BY MID–STATE CONCRETE PRODUCTS OR EQUAL. CONNECT EXISTING LATERALS (IF ANY) AND OUTLET TO PROPOSED STORM DRAIN.
22. CONSTRUCT 18"X18" GRATED PRECAST CONCRETE CATCH BASIN, MID–STATE CONCRETE PRODUCTS OR EQUAL. CONNECT EXISTING LATERALS (IF ANY) AND OUTLET TO PROPOSED STORM DRAIN.
23. SAW CUT AND REMOVE EXISTING ASPHALT CONCRETE PAVEMENT AND SUBGRADE FOR STORM DRAIN TRENCH AND HAUL OFF CAMPUS. CONTRACTOR TO APPLY A HOT RUBBERIZED CRACK FILLER ON CONSTRUCTION JOINT AND APPLY COAT GUARD TOP SEALER WITH 6 POUNDS SAND PER GALLON AT POST–CONSTRUCTION.
24. SAWCUT AND REMOVE EXISTING P.C. CONCRETE PAVEMENT FOR UTILITY CONSTRUCTION AND CONSTRUCT NEW P.C. CONCRETE PAVEMENT PER DETAIL "F" ON SHEET SD–D1.
25. SAWCUT AND REMOVE EXISTING ASPHALT CONCRETE STRUCTURAL SECTION TO ADEQUATE DEPTH TO CONSTRUCT NEW ASPHALT STRUCTURAL SECTION, AND LEGALLY DISPOSE OF OFF–CAMPUS. CONSTRUCT MIN. 6" THICK ASPHALT CONCRETE PAVEMENT (PG 64–10) OVER CLASS 2 AGGREGATE BASE PER DETAIL "E" ON SHEET SD–D1. SEE ▭ AREA FOR ASPHALT CONCRETE PAVEMENT CONSTRUCTION.
26. REMOVE EXISTING 18" DIA. STORM DRAIN COMPLETE AND LEGALLY DISPOSE OF OFF–CAMPUS. CONSTRUCT 12" DIA. WATERTIGHT HDPE STORM DRAIN PER TRENCH DETAIL "A", SHEET SD–D1. DRAIN FROM EXISTING CATCH BASIN TO MANHOLE AT MIN. 0.5% SLOPE.

SEAWATER WASTE LINE CONSTRUCTION NOTES

1. REMOVE PORTION OF EXISTING STORM DRAIN PIPE. CORE LARGER HOLE IN EXISTING CONCRETE STRUCTURE TO ACCOMMODATE PROPOSED SEAWATER WASTE PIPE AT ANGLE SHOWN ON PLAN, AND CONNECT PROPOSED SEAWATER WASTE PIPE AND GROUT AROUND PIPE AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
2. CONSTRUCT 10" DIA. WATERTIGHT HDPE SEAWATER WASTE PER TRENCH DETAIL "A" ON SHEET SD–D1.
3. CONSTRUCT 4' DIA. CONCRETE MANHOLE FOR 10" DIA. WATERTIGHT HDPE SEAWATER WASTE PIPE CONNECTION PER S.P.P.W.C. (2012 EDITION) STANDARD PLAN 321–2, SEE DETAIL "B" ON SHEET SD–D2. CONNECT ALL EXISTING AND PROPOSED SEAWATER WASTE PIPES AND CONSTRUCT GROUT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AND CONCRTE.
4. VERIFY EXISTING SEAWATER WASTE PIPE LOCATION, PIPE SIZE, AND INVERT ELEVATION, AND REMOVE EXISTING END CAP AND LEGALLY DISPOSE OF OFF–CAMPUS. CONNECT PROPOSED 10" DIA. WATERTIGHT HDPE SEAWATER WASTE LINE TO EXISTING SEAWATER WASTE LINE WITH HDPE COUPLING AND ALL NECESSARY FITTINGS.

N

SCALE: 1"=20'
0 20 40 60

PLOT SCALE:1:1
42–ENG

FOR REDUCED PLANS
ORIGINAL SCALE IN INCHES
0 1 2 3

NO.	DATE	REVISIONS	APPD.

Stantec
111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963–9532 Fax: (805) 966–9801

DESIGN CEP CHECKED SCW
STEPHEN C. WANG DATE: 10/11/16
PROJECT ENGINEER
R.C.E. 44,255

REGISTERED PROFESSIONAL ENGINEER STEPHEN C. WANG NO 44255 CIVIL STATE OF CALIFORNIA

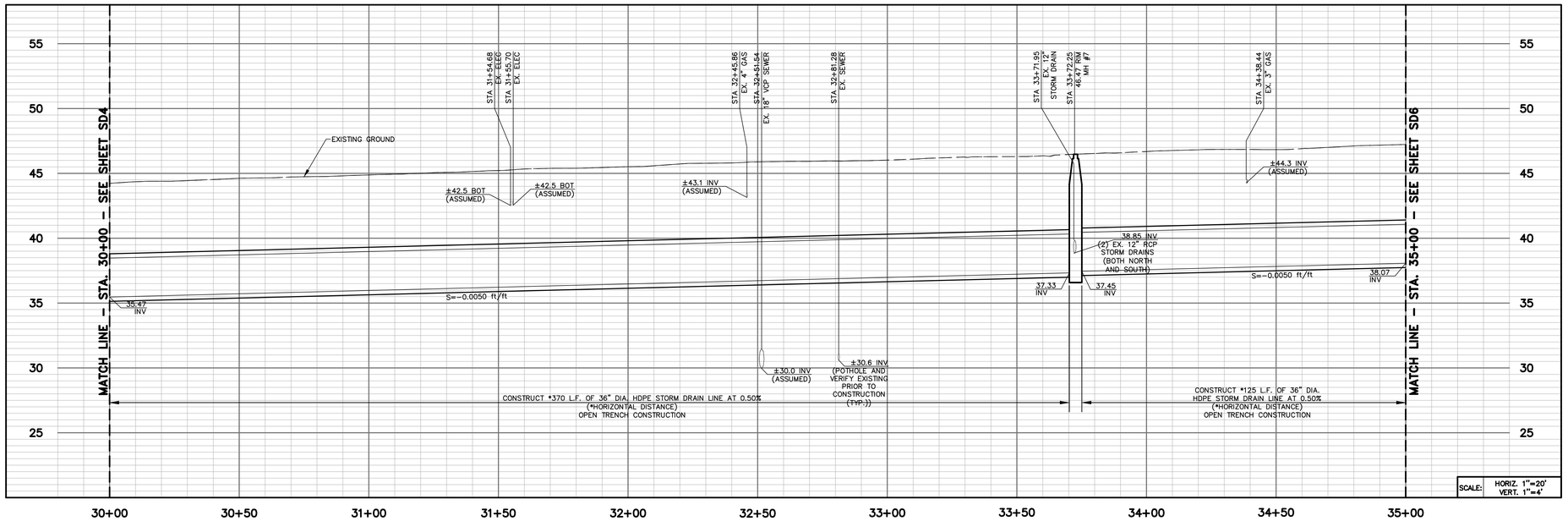
UNIVERSITY OF CALIFORNIA, SANTA BARBARA
REVIEWED BY:
SIGNATURE DATE

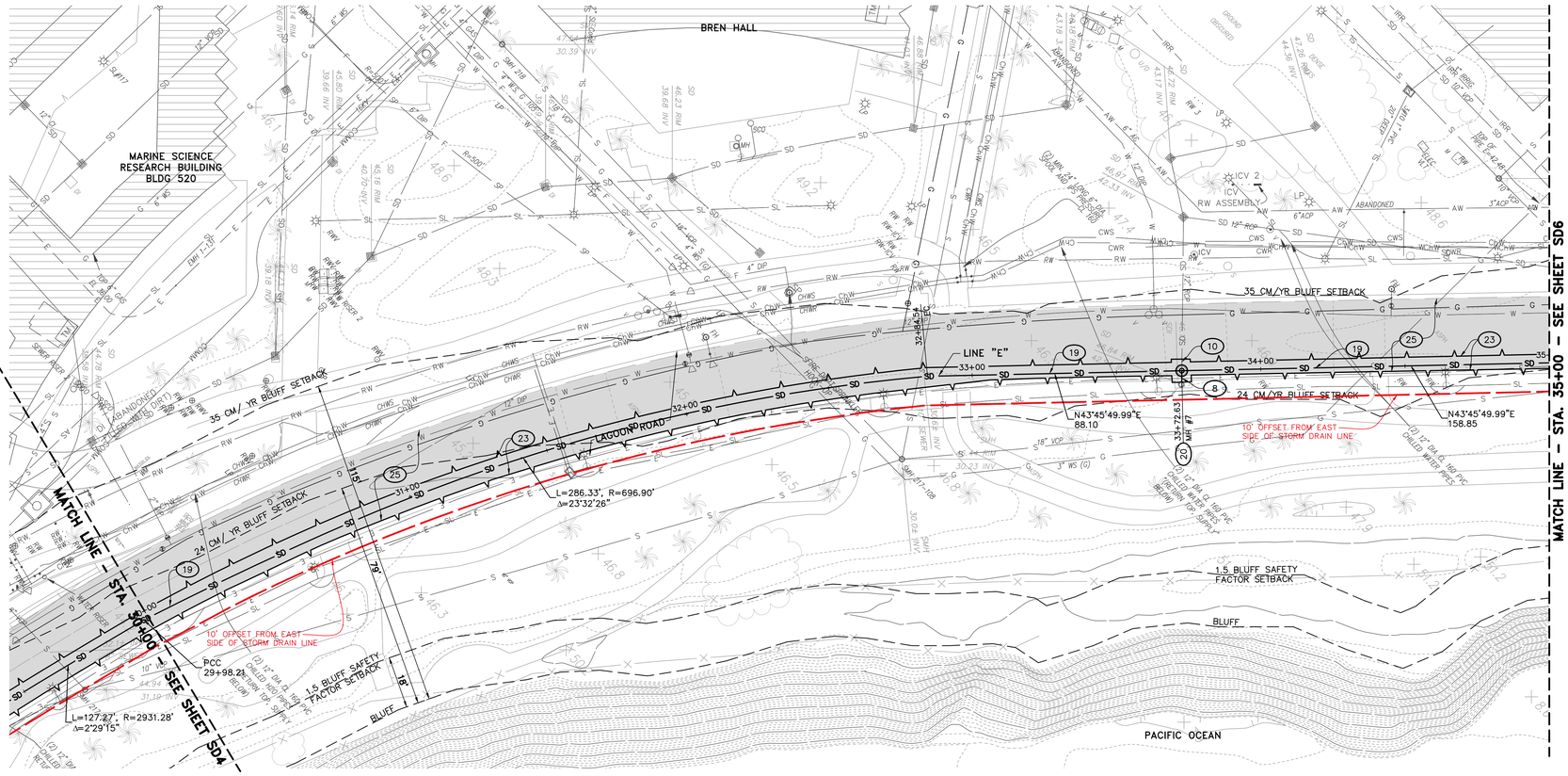
LINE "E" STA 25+00 TO STA 30+00
STORM DRAIN AND SEAWATER WASTE LINE
INFRASTRUCTURE RENEWAL PHASE 1C
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

STANTEC PROJECT NO. 2064017271
SHEET SD4
U.C.S.B. DWG NO. 10–198

DRAWING:v:\2064\active\2064017271\17271\ucsd\17271 phase 1c cd\storm drain line e.dwg

FM 170115L/986080





STORM DRAIN CONSTRUCTION NOTES

1. REMOVE PORTION OF EXISTING 24" DIA. STORM DRAIN PIPE. CORE LARGER HOLE IN EXISTING CONCRETE STRUCTURE TO ACCOMMODATE 30" DIA. HIGH DENSITY POLYETHYLENE (HDPE) STORM DRAIN PIPE, AND CONNECT 30" DIA. STORM DRAIN AND GROUT AROUND PIPE AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS OF PIPES AND INLETS PRIOR TO CONSTRUCTION (TYP. FOR ENTIRE PROJECT).
2. CONSTRUCT TRANSITION STRUCTURE PIPE TO PIPE PER STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (S.P.P.W.C.) (2012 EDITION) STANDARD PLAN 340–2, SEE DETAIL "A" ON SHEET SD–D2, TO CONNECT EXISTING 24" DIA. STORM DRAIN TO 30" DIA. STORM DRAIN.
3. CONSTRUCT 30–INCH DIAMETER HDPE STORM DRAIN PER TRENCH DETAIL "A", SHEET SD–D1.
4. CONSTRUCT CONCRETE STORM DRAIN MANHOLE PER S.P.P.W.C. (2012 EDITION) STANDARD PLAN 320.2, SEE DETAIL "B" ON SHEET SD–D2, CONNECT ALL EXISTING AND PROPOSED STORM DRAIN PIPES AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
5. CONSTRUCT 24" DIA. HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
6. REMOVE PORTION OF EXISTING STORM DRAIN PIPE AS NECESSARY FOR CONSTRUCTION AND ABANDON EXISTING STORM DRAIN PIPE IN PLACE. CAP END AND FILL END OF PIPE (MIN. 2' DEEP INTO PIPE) WITH 1–SACK CEMENT SLURRY.
7. REMOVE PORTION OF EXISTING 12" DIA. STORM DRAIN PIPE. CORE LARGER HOLE IN EXISTING CONCRETE STRUCTURE TO ACCOMMODATE 12" DIA. HDPE STORM DRAIN PIPE AT ANGLE SHOWN ON PLAN, AND CONNECT 12" DIA. STORM DRAIN AND GROUT AROUND PIPE AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
8. CONSTRUCT 12" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
9. CONSTRUCT WYE CONNECTION BETWEEN STORM DRAIN PIPES PER MANUFACTURER'S SPECIFICATIONS.
10. REMOVE ADEQUATE LENGTH OF EXISTING STORM DRAIN PIPE TO ADJUST GRADE AND CONNECT WITH WYE CONNECTION TO PROPOSED STORM DRAIN PER DETAIL "D" ON SHEET SD–D1.
11. CONSTRUCT 18" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A", SHEET SD–D1.
12. REMODEL BASE OF STRUCTURE TO SLOPE TO NEW OPENING. GROUT ABANDONED PIPE OPENING WITH CONCRETE AND #4 REBAR AT 18" OC BW AND DOWELED MIN. 12" INTO EXISTING CONCRETE.
13. REMOVE EXISTING STORM DRAIN AND LEGALLY DISPOSE OF OFF–CAMPUS, AND BACKFILL TRENCH.
14. CONSTRUCT 5'X10' ROCK RIP–RAP (MIN. 12" DIA. ROCKS) IN TWO LAYERS WITH NO GROUT AT OUTLET OF STORM DRAIN.
15. CONSTRUCT 6–INCH HIGH CONCRETE CURB AND 18–INCH CONCRETE GUTTER PER DETAIL "C" SHEET SD–D1.
16. SAW CUT AND REMOVE EXISTING CONCRETE SIDEWALK AT SCORE LINE AND HAUL OFF CAMPUS. CONSTRUCT MIN. 6" THICK REINFORCED CONCRETE PAVEMENT OVER MIN. 4" THICK CLASS 2 AGGREGATE BASE PER DETAIL "F", SHEET SD–D1.
17. REMOVE EXISTING STORM DRAIN PIPE AND DISPOSE OF LEGALLY OFF–CAMPUS. PROVIDE TEMPORARY STORM DRAIN LINE DURING CONSTRUCTION AS REQUIRED.
18. CONSTRUCT 42" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
19. CONSTRUCT 36" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
20. CONSTRUCT CONCRETE STORM DRAIN MANHOLE FOR 42" DIA. HDPE STORM DRAIN CONNECTION PER S.P.P.W.C. (2012 EDITION) STANDARD PLAN 320–2 FOR 36" DIA. OR LARGER PIPE, SEE DETAIL "A" ON SHEET SD–D2, CONNECT ALL EXISTING AND PROPOSED STORM DRAIN PIPES AND CONSTRUCT GROUT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
21. REMOVE EXISTING CATCH BASIN AND CONSTRUCT 24"X24" GRATED PRECAST CONCRETE CATCH BASIN BY MID–STATE CONCRETE PRODUCTS OR EQUAL. CONNECT EXISTING LATERALS (IF ANY) AND OUTLET TO PROPOSED STORM DRAIN.
22. CONSTRUCT 18"X18" GRATED PRECAST CONCRETE CATCH BASIN, MID–STATE CONCRETE PRODUCTS OR EQUAL. CONNECT EXISTING LATERALS (IF ANY) AND OUTLET TO PROPOSED STORM DRAIN.
23. SAW CUT AND REMOVE EXISTING ASPHALT CONCRETE PAVEMENT AND SUBGRADE FOR STORM DRAIN TRENCH AND HAUL OFF CAMPUS. CONTRACTOR TO APPLY A HOT RUBBERIZED CRACK FILLER ON CONSTRUCTION JOINT AND APPLY COAT GUARD TOP SEALER WITH 6 POUNDS SAND PER GALLON AT POST–CONSTRUCTION.
24. SAWCUT AND REMOVE EXISTING P.C. CONCRETE PAVEMENT FOR UTILITY CONSTRUCTION AND CONSTRUCT NEW P.C. CONCRETE PAVEMENT PER DETAIL "F" ON SHEET SD–D1.
25. SAWCUT AND REMOVE EXISTING ASPHALT CONCRETE STRUCTURAL SECTION TO ADEQUATE DEPTH TO CONSTRUCT NEW ASPHALT STRUCTURAL SECTION, AND LEGALLY DISPOSE OF OFF–CAMPUS. CONSTRUCT MIN. 6" THICK ASPHALT CONCRETE PAVEMENT (PG 64–10) OVER CLASS 2 AGGREGATE BASE PER DETAIL "E" ON SHEET SD–D1. SEE ▭ AREA FOR ASPHALT CONCRETE PAVEMENT CONSTRUCTION.
26. REMOVE EXISTING 18" DIA. STORM DRAIN COMPLETE AND LEGALLY DISPOSE OF OFF–CAMPUS. CONSTRUCT 12" DIA. WATERTIGHT HDPE STORM DRAIN PER TRENCH DETAIL "A", SHEET SD–D1. DRAIN FROM EXISTING CATCH BASIN TO MANHOLE AT MIN. 0.5% SLOPE.

PLOT SCALE:1:1

42–ENG

FOR REDUCED PLANS
ORIGINAL SCALE IN INCHES
0 1 2 3

NO.	DATE	REVISIONS	APPD.

Stantec
111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963–9532 Fax: (805) 966–9801

DESIGN CEP CHECKED SCW
STEPHEN C. WANG DATE: 10/11/16
PROJECT ENGINEER
R.C.E. 44,255

REGISTERED PROFESSIONAL ENGINEER
STEPHEN C. WANG
NO 44255
CIVIL
STATE OF CALIFORNIA

UNIVERSITY OF CALIFORNIA, SANTA BARBARA
REVIEWED BY:
SIGNATURE DATE

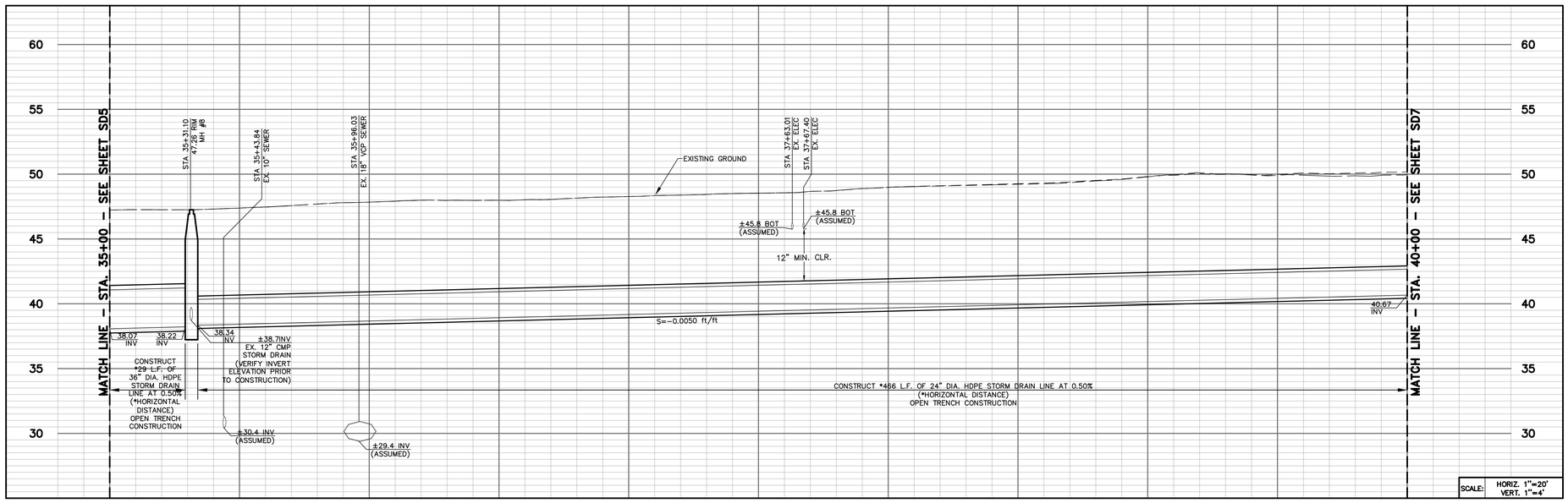
LINE "E" STA 30+00 TO STA 35+00 STORM DRAIN PLAN AND PROFILE INFRASTRUCTURE RENEWAL PHASE 1C

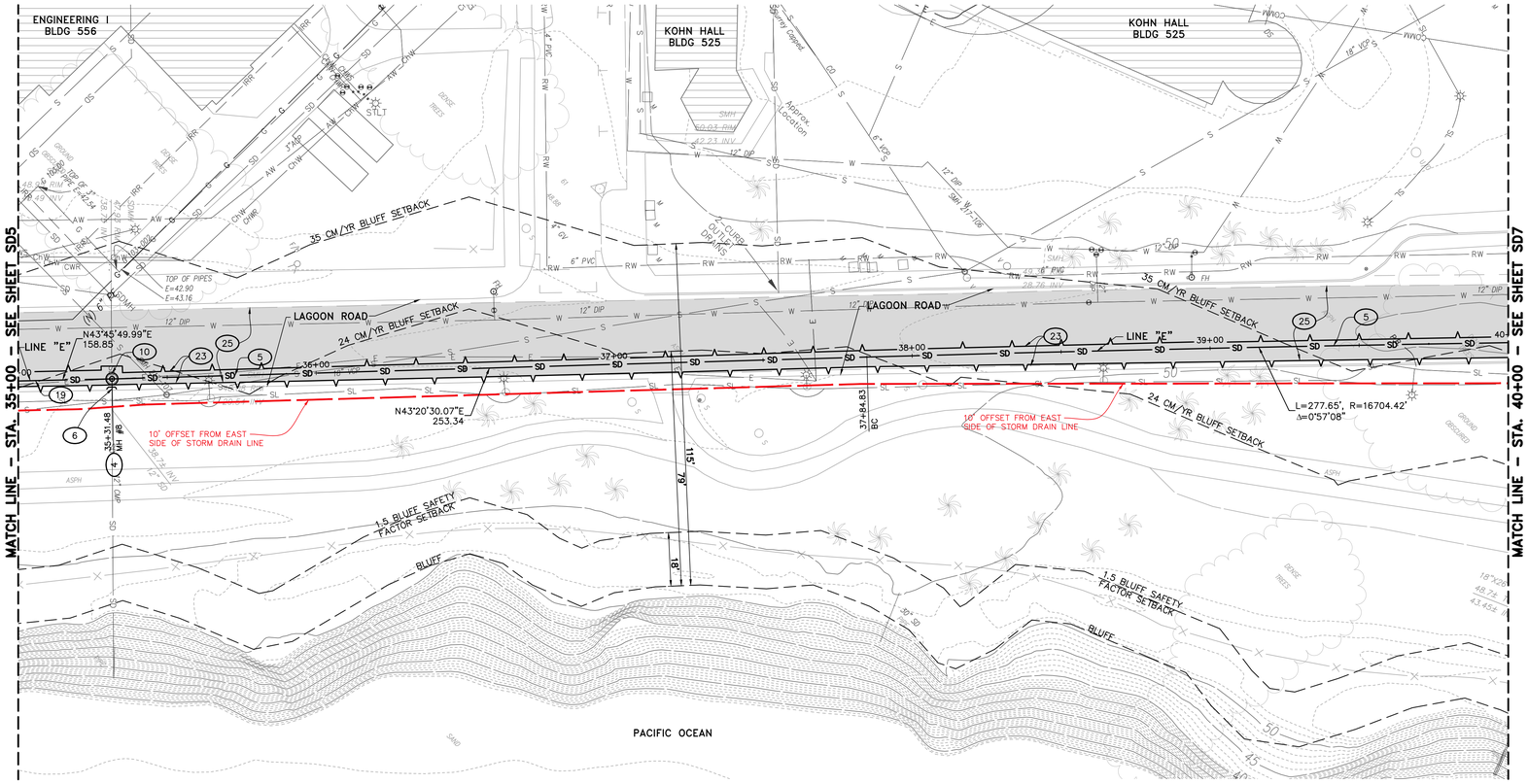
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

STANTEC PROJECT NO. 2064017271
SHEET SD5
U.C.S.B. DWG NO. 10–198

DRAWING:v:\2064\active\2064017271\17271\ucsd\17271 phase 1c cd\storm drain line e.dwg

FM 170115L/986080





STORM DRAIN CONSTRUCTION NOTES

1. REMOVE PORTION OF EXISTING 24" DIA. STORM DRAIN PIPE. CORE LARGER HOLE IN EXISTING CONCRETE STRUCTURE TO ACCOMMODATE 30" DIA. HIGH DENSITY POLYETHYLENE (HDPE) STORM DRAIN PIPE, AND CONNECT 30" DIA. STORM DRAIN AND GROUT AROUND PIPE AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS OF PIPES AND INLETS PRIOR TO CONSTRUCTION (TYP. FOR ENTIRE PROJECT).
2. CONSTRUCT TRANSITION STRUCTURE PIPE TO PIPE PER STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (S.P.P.W.C.) (2012 EDITION) STANDARD PLAN 340-2, SEE DETAIL "A" ON SHEET SD-D2, TO CONNECT EXISTING 24" DIA. STORM DRAIN TO 30" DIA. STORM DRAIN.
3. CONSTRUCT 30-INCH DIAMETER HDPE STORM DRAIN PER TRENCH DETAIL "A", SHEET SD-D1.
4. CONSTRUCT CONCRETE STORM DRAIN MANHOLE PER S.P.P.W.C. (2012 EDITION) STANDARD PLAN 320.2, SEE DETAIL "B" ON SHEET SD-D2, CONNECT ALL EXISTING AND PROPOSED STORM DRAIN PIPES AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
5. CONSTRUCT 24" DIA. HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD-D1.
6. REMOVE PORTION OF EXISTING STORM DRAIN PIPE AS NECESSARY FOR CONSTRUCTION AND ABANDON EXISTING STORM DRAIN PIPE IN PLACE. CAP END AND FILL END OF PIPE (MIN. 2' DEEP INTO PIPE) WITH 1-SACK CEMENT SLURRY.
7. REMOVE PORTION OF EXISTING 12" DIA. STORM DRAIN PIPE. CORE LARGER HOLE IN EXISTING CONCRETE STRUCTURE TO ACCOMMODATE 12" DIA. HDPE STORM DRAIN PIPE AT ANGLE SHOWN ON PLAN, AND CONNECT 12" DIA. STORM DRAIN AND GROUT AROUND PIPE AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
8. CONSTRUCT 12" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD-D1.
9. CONSTRUCT WYE CONNECTION BETWEEN STORM DRAIN PIPES PER MANUFACTURER'S SPECIFICATIONS.
10. REMOVE ADEQUATE LENGTH OF EXISTING STORM DRAIN PIPE TO ADJUST GRADE AND CONNECT WITH WYE CONNECTION TO PROPOSED STORM DRAIN PER DETAIL "D" ON SHEET SD-D1.
11. CONSTRUCT 18" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A", SHEET SD-D1.
12. REMODEL BASE OF STRUCTURE TO SLOPE TO NEW OPENING. GROUT ABANDONED PIPE OPENING WITH CONCRETE AND #4 REBAR AT 18" OC BW AND DOWELED MIN. 12" INTO EXISTING CONCRETE.
13. REMOVE EXISTING STORM DRAIN AND LEGALLY DISPOSE OF OFF-CAMPUS, AND BACKFILL TRENCH.
14. CONSTRUCT 5'X10' ROCK RIP-RAP (MIN. 12" DIA. ROCKS) IN TWO LAYERS WITH NO GROUT AT OUTLET OF STORM DRAIN.
15. CONSTRUCT 6-INCH HIGH CONCRETE CURB AND 18-INCH CONCRETE GUTTER PER DETAIL "C" SHEET SD-D1.
16. SAW CUT AND REMOVE EXISTING CONCRETE SIDEWALK AT SCORE LINE AND HAUL OFF CAMPUS. CONSTRUCT MIN. 6" THICK REINFORCED CONCRETE PAVEMENT OVER MIN. 4" THICK CLASS 2 AGGREGATE BASE PER DETAIL "F", SHEET SD-D1.
17. REMOVE EXISTING STORM DRAIN PIPE AND DISPOSE OF LEGALLY OFF-CAMPUS. PROVIDE TEMPORARY STORM DRAIN LINE DURING CONSTRUCTION AS REQUIRED.
18. CONSTRUCT 42" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD-D1.
19. CONSTRUCT 36" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD-D1.
20. CONSTRUCT CONCRETE STORM DRAIN MANHOLE FOR 42" DIA. HDPE STORM DRAIN CONNECTION PER S.P.P.W.C. (2012 EDITION) STANDARD PLAN 320-2 FOR 36" DIA. OR LARGER PIPE, SEE DETAIL "A" ON SHEET SD-D2, CONNECT ALL EXISTING AND PROPOSED STORM DRAIN PIPES AND CONSTRUCT GROUT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
21. REMOVE EXISTING CATCH BASIN AND CONSTRUCT 24"X24" GRATED PRECAST CONCRETE CATCH BASIN BY MID-STATE CONCRETE PRODUCTS OR EQUAL. CONNECT EXISTING LATERALS (IF ANY) AND OUTLET TO PROPOSED STORM DRAIN.
22. CONSTRUCT 18"X18" GRATED PRECAST CONCRETE CATCH BASIN, MID-STATE CONCRETE PRODUCTS OR EQUAL. CONNECT EXISTING LATERALS (IF ANY) AND OUTLET TO PROPOSED STORM DRAIN.
23. SAW CUT AND REMOVE EXISTING ASPHALT CONCRETE PAVEMENT AND SUBGRADE FOR STORM DRAIN TRENCH AND HAUL OFF CAMPUS. CONTRACTOR TO APPLY A HOT RUBBERIZED CRACK FILLER ON CONSTRUCTION JOINT AND APPLY COAT GUARD TOP SEALER WITH 6 POUNDS SAND PER GALLON AT POST-CONSTRUCTION.
24. SAWCUT AND REMOVE EXISTING P.C. CONCRETE PAVEMENT FOR UTILITY CONSTRUCTION AND CONSTRUCT NEW P.C. CONCRETE PAVEMENT PER DETAIL "F" ON SHEET SD-D1.
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26. REMOVE EXISTING 18" DIA. STORM DRAIN COMPLETE AND LEGALLY DISPOSE OF OFF-CAMPUS. CONSTRUCT 12" DIA. WATERTIGHT HDPE STORM DRAIN PER TRENCH DETAIL "A", SHEET SD-D1. DRAIN FROM EXISTING CATCH BASIN TO MANHOLE AT MIN. 0.5% SLOPE.

PLOT SCALE:1:1

42-ENG

FOR REDUCED PLANS
ORIGINAL SCALE IN INCHES
0 1 2 3

NO.	DATE	REVISIONS	APPD.

Stantec
111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963-9532 Fax: (805) 966-9801

DESIGN CEP CHECKED SCW

STEPHEN C. WANG DATE: 10/11/16
PROJECT ENGINEER
R.C.E. 44,255

REGISTERED PROFESSIONAL ENGINEER
STEPHEN C. WANG
NO 44255
CIVIL
STATE OF CALIFORNIA

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

REVIEWED BY:

SIGNATURE DATE

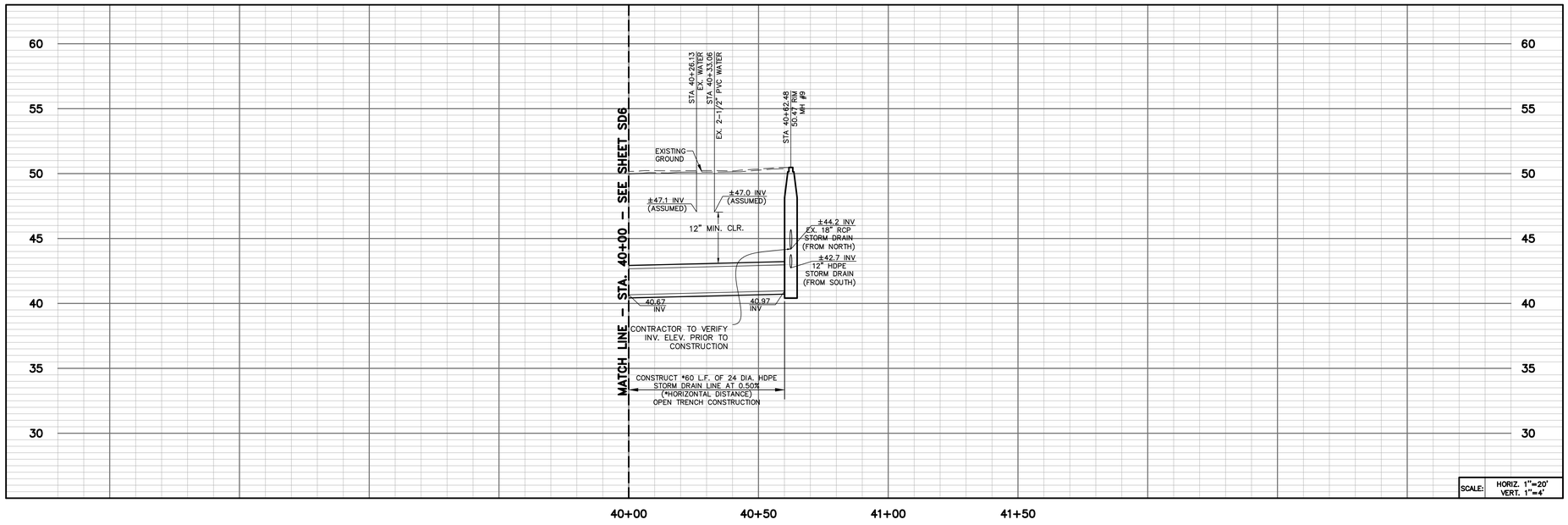
LINE "E" STA 35+00 TO STA 40+00 STORM DRAIN PLAN AND PROFILE INFRASTRUCTURE RENEWAL PHASE 1C

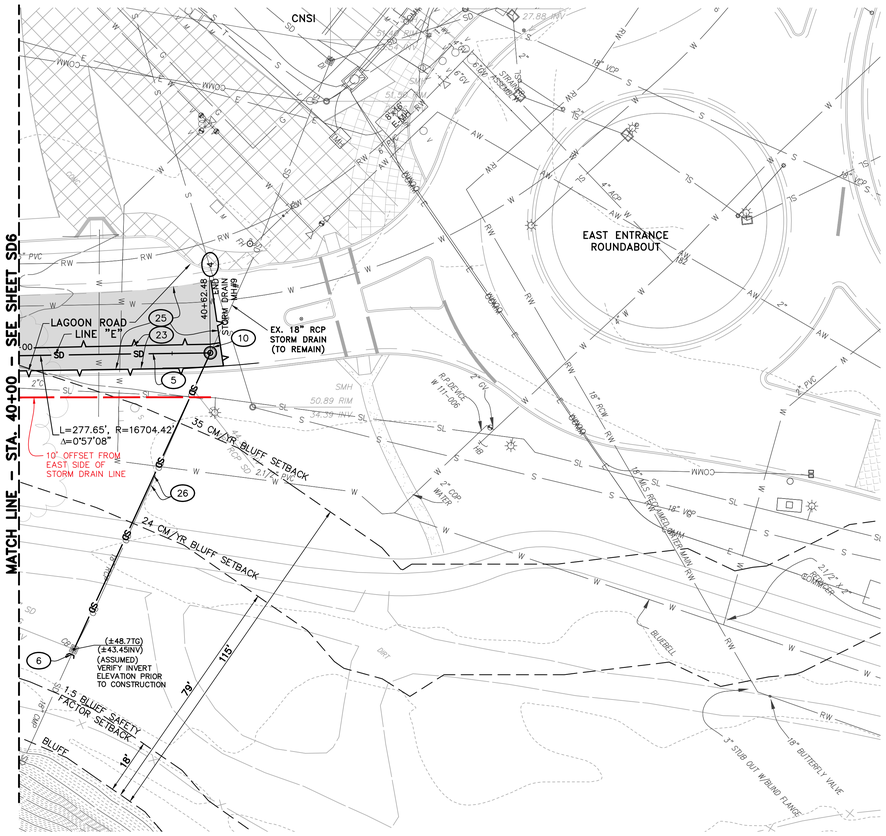
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

STANTEC PROJECT NO. 2064017271
SHEET SD6
U.C.S.B. DWG NO. 10-198

DRAWING:v:\2064\active\2064017271\17271\ucsd\17271 phase 1c col\storm drain line e.dwg

FM 170115L/986080





STORM DRAIN CONSTRUCTION NOTES

1. REMOVE PORTION OF EXISTING 24" DIA. STORM DRAIN PIPE. CORE LARGER HOLE IN EXISTING CONCRETE STRUCTURE TO ACCOMMODATE 30" DIA. HIGH DENSITY POLYETHYLENE (HDPE) STORM DRAIN PIPE, AND CONNECT 30" DIA. STORM DRAIN AND GROUT AROUND PIPE AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS OF PIPES AND INLETS PRIOR TO CONSTRUCTION (TYP. FOR ENTIRE PROJECT).
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3. CONSTRUCT 30–INCH DIAMETER HDPE STORM DRAIN PER TRENCH DETAIL "A", SHEET SD–D1.
4. CONSTRUCT CONCRETE STORM DRAIN MANHOLE PER S.P.P.W.C. (2012 EDITION) STANDARD PLAN 320.2, SEE DETAIL "B" ON SHEET SD–D2, CONNECT ALL EXISTING AND PROPOSED STORM DRAIN PIPES AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
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7. REMOVE PORTION OF EXISTING 12" DIA. STORM DRAIN PIPE. CORE LARGER HOLE IN EXISTING CONCRETE STRUCTURE TO ACCOMMODATE 12" DIA. HDPE STORM DRAIN PIPE AT ANGLE SHOWN ON PLAN, AND CONNECT 12" DIA. STORM DRAIN AND GROUT AROUND PIPE AND CONSTRUCT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
8. CONSTRUCT 12" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
9. CONSTRUCT WYE CONNECTION BETWEEN STORM DRAIN PIPES PER MANUFACTURER'S SPECIFICATIONS.
10. REMOVE ADEQUATE LENGTH OF EXISTING STORM DRAIN PIPE TO ADJUST GRADE AND CONNECT WITH WYE CONNECTION TO PROPOSED STORM DRAIN PER DETAIL "D" ON SHEET SD–D1.
11. CONSTRUCT 18" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A", SHEET SD–D1.
12. REMODEL BASE OF STRUCTURE TO SLOPE TO NEW OPENING. GROUT ABANDONED PIPE OPENING WITH CONCRETE AND #4 REBAR AT 18" OC BW AND DOWELED MIN. 12" INTO EXISTING CONCRETE.
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15. CONSTRUCT 6–INCH HIGH CONCRETE CURB AND 18–INCH CONCRETE GUTTER PER DETAIL "C" SHEET SD–D1.
16. SAW CUT AND REMOVE EXISTING CONCRETE SIDEWALK AT SCORE LINE AND HAUL OFF CAMPUS. CONSTRUCT MIN. 6" THICK REINFORCED CONCRETE PAVEMENT OVER MIN. 4" THICK CLASS 2 AGGREGATE BASE PER DETAIL "F", SHEET SD–D1.
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18. CONSTRUCT 42" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
19. CONSTRUCT 36" DIA. WATERTIGHT HDPE STORM DRAIN AND ALL NECESSARY FITTINGS PER TRENCH DETAIL "A" ON SHEET SD–D1.
20. CONSTRUCT CONCRETE STORM DRAIN MANHOLE FOR 42" DIA. HDPE STORM DRAIN CONNECTION PER S.P.P.W.C. (2012 EDITION) STANDARD PLAN 320–2 FOR 36" DIA. OR LARGER PIPE, SEE DETAIL "A" ON SHEET SD–D2, CONNECT ALL EXISTING AND PROPOSED STORM DRAIN PIPES AND CONSTRUCT GROUT ELASTOMERIC SEAL (ASTM F477) AROUND PIPE AT CONNECTION.
21. REMOVE EXISTING CATCH BASIN AND CONSTRUCT 24"X24" GRATED PRECAST CONCRETE CATCH BASIN BY MID–STATE CONCRETE PRODUCTS OR EQUAL. CONNECT EXISTING LATERALS (IF ANY) AND OUTLET TO PROPOSED STORM DRAIN.
22. CONSTRUCT 18"X18" GRATED PRECAST CONCRETE CATCH BASIN, MID–STATE CONCRETE PRODUCTS OR EQUAL. CONNECT EXISTING LATERALS (IF ANY) AND OUTLET TO PROPOSED STORM DRAIN.
23. SAW CUT AND REMOVE EXISTING ASPHALT CONCRETE PAVEMENT AND SUBGRADE FOR STORM DRAIN TRENCH AND HAUL OFF CAMPUS. CONTRACTOR TO APPLY A HOT RUBBERIZED CRACK FILLER ON CONSTRUCTION JOINT AND APPLY COAT GUARD TOP SEALER WITH 6 POUNDS SAND PER GALLON AT POST–CONSTRUCTION.
24. SAWCUT AND REMOVE EXISTING P.C. CONCRETE PAVEMENT FOR UTILITY CONSTRUCTION AND CONSTRUCT NEW P.C. CONCRETE PAVEMENT PER DETAIL "F" ON SHEET SD–D1.
25. SAWCUT AND REMOVE EXISTING ASPHALT CONCRETE STRUCTURAL SECTION TO ADEQUATE DEPTH TO CONSTRUCT NEW ASPHALT STRUCTURAL SECTION, AND LEGALLY DISPOSE OF OFF–CAMPUS. CONSTRUCT MIN. 6" THICK ASPHALT CONCRETE PAVEMENT (PG 64–10) OVER CLASS 2 AGGREGATE BASE PER DETAIL "E" ON SHEET SD–D1. SEE ▭ AREA FOR ASPHALT CONCRETE PAVEMENT CONSTRUCTION.
26. REMOVE EXISTING 18" DIA. STORM DRAIN COMPLETE AND LEGALLY DISPOSE OF OFF–CAMPUS. CONSTRUCT 12" DIA. WATERTIGHT HDPE STORM DRAIN PER TRENCH DETAIL "A", SHEET SD–D1. DRAIN FROM EXISTING CATCH BASIN TO MANHOLE AT MIN. 0.5% SLOPE.

PLOT SCALE:1:1

42–ENG

FOR REDUCED PLANS
ORIGINAL SCALE IN INCHES
0 1 2 3

NO.	DATE	REVISIONS	APPD.

Stantec
111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963–9532 Fax: (805) 966–9801

DESIGN CEP CHECKED SCW
STEPHEN C. WANG DATE: 10/11/16
PROJECT ENGINEER
R.C.E. 44,255

REGISTERED PROFESSIONAL ENGINEER STEPHEN C. WANG NO 44255 CIVIL STATE OF CALIFORNIA

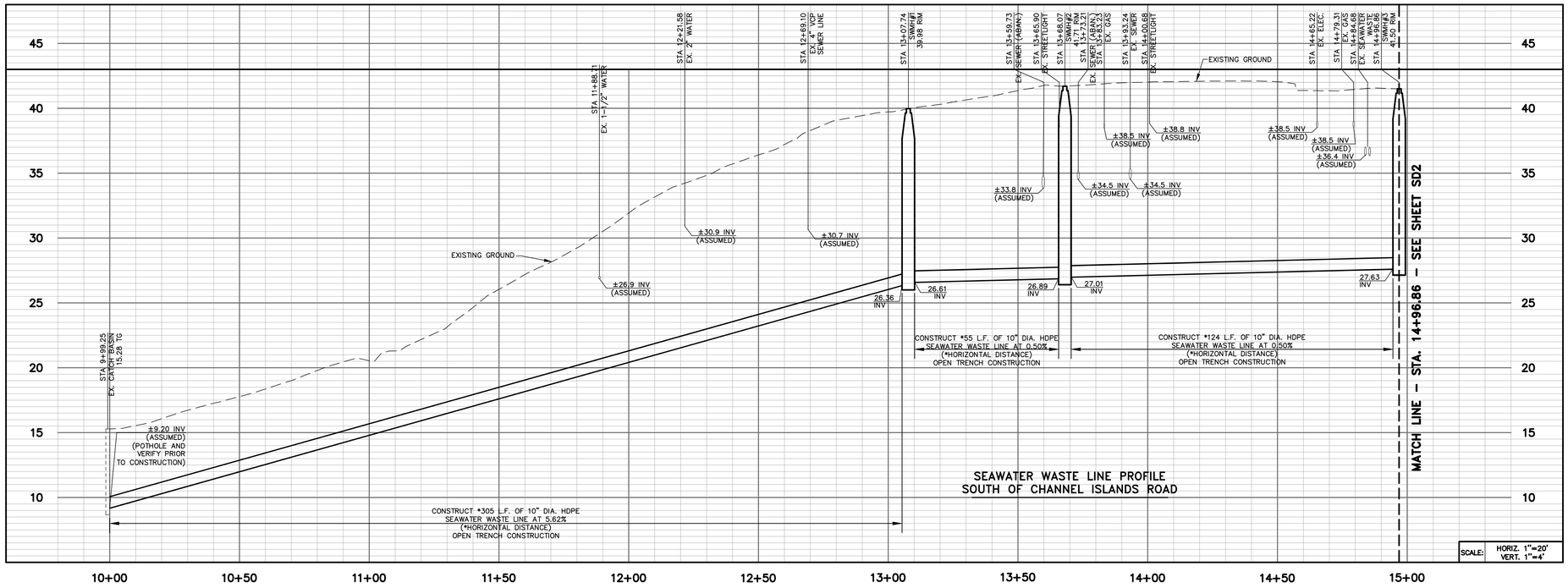
UNIVERSITY OF CALIFORNIA, SANTA BARBARA
REVIEWED BY:
SIGNATURE DATE

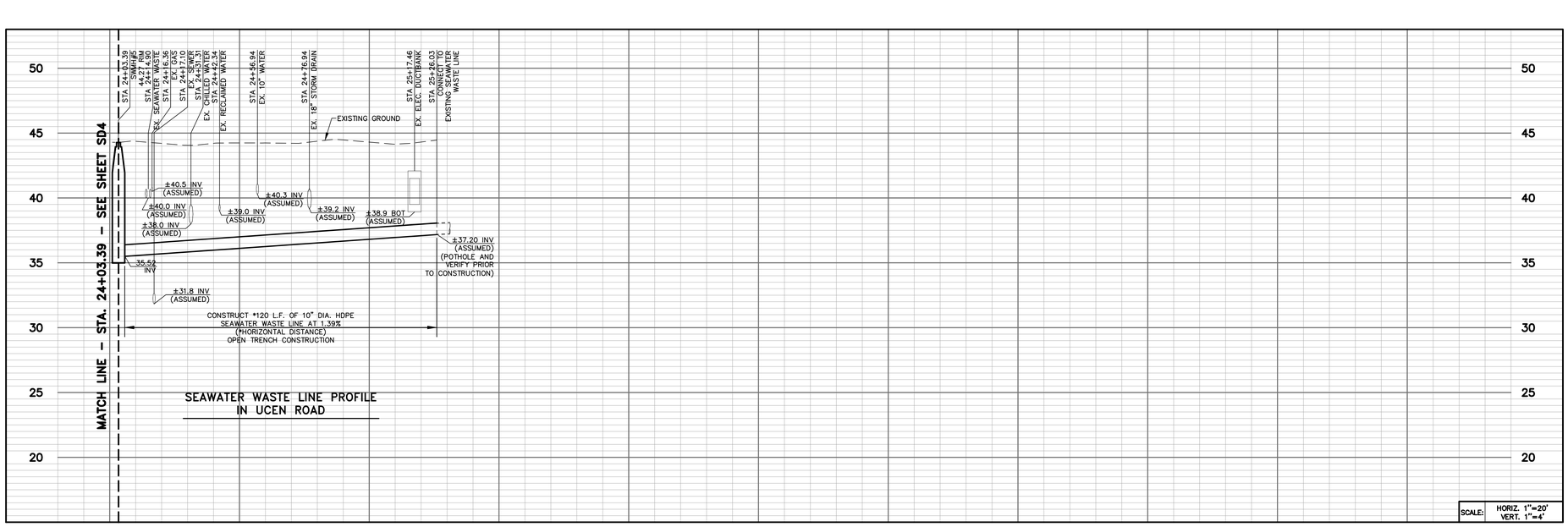
LINE "E" STA 40+00 TO END
STORM DRAIN PLAN AND PROFILE
INFRASTRUCTURE RENEWAL PHASE 1C
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

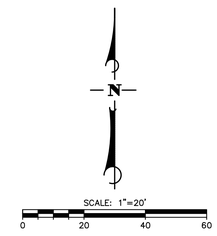
STANTEC PROJECT NO. 2064017271
SHEET SD7
U.C.S.B. DWG NO. 10–198

DRAWING:v:\2064\active\2064017271\17271\ucsd\17271 phase 1c cd\storm drain line e.dwg

FM 170115L/986080







PLOT SCALE:1:1

42-ENG

FOR REDUCED PLANS
ORIGINAL SCALE IN INCHES
0 1 2 3

NO.	DATE	REVISIONS	APPD.

Stantec
111 East Victoria Street, Santa Barbara, CA 93101
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DESIGN CEP/WFF CHECKED SCW

STEPHEN C. WANG DATE: 10/11/16
PROJECT ENGINEER
R.C.E. 44,255

REGISTERED PROFESSIONAL ENGINEER
STEPHEN C. WANG
NO 44255
CIVIL
STATE OF CALIFORNIA

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

REVIEWED BY:

SIGNATURE DATE

SEAWATER WASTE LINE PROFILES

INFRASTRUCTURE RENEWAL PHASE 1C

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

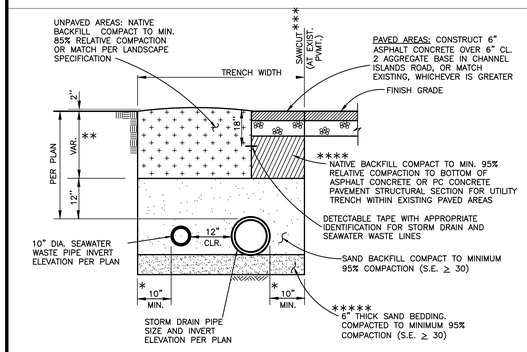
STANTEC PROJECT NO. 2064017271

SHEET SD8

U.C.S.B. DWG NO. 10-198

DRAWING:v:\2064\active\2064017271\17271\cad\17271 phase 1c cd\storm drain line e.dwg

FM 170115L/986080



* USE 12" MIN. FOR 24" DIA. OR LARGER PIPE.

** MAINTAIN MIN. 12" VERTICAL CLEARANCE FOR ALL UTILITY CROSSINGS.

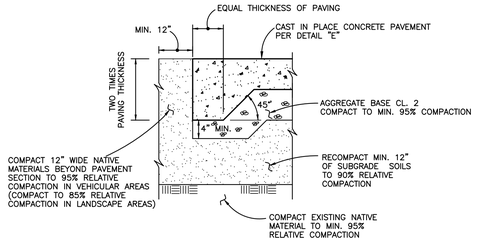
*** CONTRACTOR TO APPLY A HOT RUBBERIZED CRACK FILLER ON CONSTRUCTION JOINT AND APPLY COAT GUARD TOP SEALER WITH 6 POUNDS SAND PER GALLON POST CONSTRUCTION.

**** CONTRACTOR COULD CONSTRUCT 1-SACK CEMENT SLURRY AS BACKFILL MATERIAL IN LIEU OF NATIVE MATERIAL SHOWN ABOVE FOR UTILITY TRENCH WITHIN EXISTING PAVED AREAS AT NO ADDITIONAL COST TO THE PROJECT OR UNIVERSITY

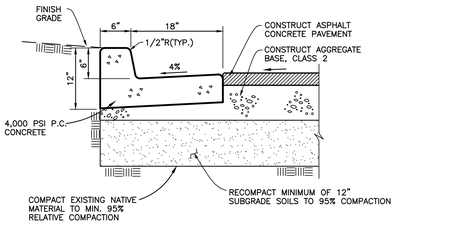
***** FOR STORM DRAIN PIPES AT 10' DEPTH OR GREATER PIPE, BEDDING COULD BE CRUSHED ROCK OF 1/2" GRADATION PER ASTM C131 TEST, GRADING B AND COMPACTED TO MIN. 90% RELATIVE COMPACTION

(FOR STORM DRAIN AND SEAWATER WASTE LINES)

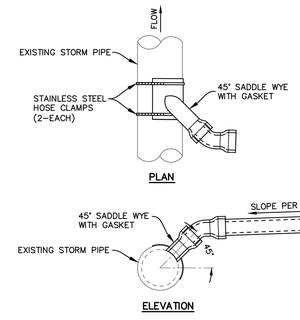
TYPICAL UTILITY TRENCH SECTION | NOT TO SCALE | A



TYPICAL DEEPENED EDGE DETAIL | NOT TO SCALE | B



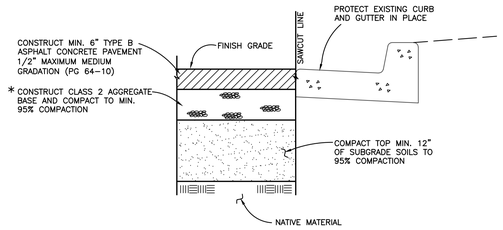
6" CONCRETE CURB AND 18" CONCRETE GUTTER | NOT TO SCALE | C



NOTES:

1. CONNECTION TO EXISTING STORM PIPE SHALL BE MADE BY CORE CUTTING A HOLE THE SIZE OF THE PROPOSED PIPE FOR A SADDLE TYPE OF CONNECTION.
2. CONNECTION TO EXISTING STORM PIPE SHALL BE MADE AT A 45° ANGLE.

CUT-IN WYE CONNECTION | NOT TO SCALE | D

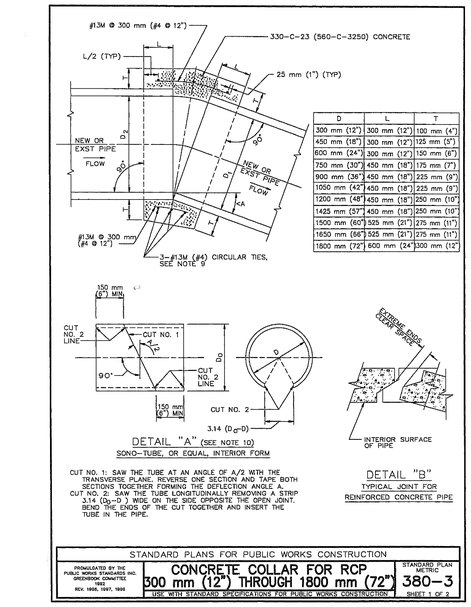


* NOTES:

1. CONSTRUCT MIN. 9" THICK CLASS 2 AGGREGATE BASE UNDER PAVEMENT AREA BETWEEN SOUTH OF EAST ENTRANCE ROUNDABOUT TO UCEN ROAD INTERSECTION (INCLUDING ENTIRE INTERSECTION)
2. CONSTRUCT MIN. 6" THICK CLASS 2 AGGREGATE BASE UNDER PAVEMENT AREA BETWEEN SOUTH SIDE OF UCEN ROAD INTERSECTION TO CHANNEL ISLANDS ROAD INTERSECTION (INCLUDING ENTIRE INTERSECTION).

(ALONG LAGOON ROAD)

ASPHALT CONCRETE PAVEMENT STRUCTURAL SECTION | NOT TO SCALE | E



D	L	T
300 mm (12")	300 mm (12")	100 mm (4")
450 mm (18")	300 mm (12")	125 mm (5")
600 mm (24")	300 mm (12")	150 mm (6")
750 mm (30")	450 mm (18")	175 mm (7")
900 mm (36")	450 mm (18")	225 mm (9")
1050 mm (42")	450 mm (18")	225 mm (9")
1200 mm (48")	450 mm (18")	250 mm (10")
1425 mm (57")	450 mm (18")	250 mm (10")
1500 mm (60")	525 mm (21")	275 mm (11")
1650 mm (66")	525 mm (21")	275 mm (11")
1800 mm (72")	600 mm (24")	300 mm (12")

CUT NO. 1: SAW THE TUBE AT AN ANGLE OF A/2 WITH THE TRANSVERSE PLANE, REVERSE ONE SECTION AND TAPE BOTH SECTIONS TOGETHER FORMING THE DEFLECTION ANGLE A.
CUT NO. 2: SAW THE TUBE LONGITUDINALLY REMOVING A STRIP 3.14 ($D_{(T-D)}$) WIDE ON THE SIDE OPPOSITE THE OPEN JOINT. BEND THE ENDS OF THE CUT TOGETHER AND INSERT THE TUBE IN THE PIPE.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE PUBLIC WORKS STANDARDS, INC. GREENBOOK COMMITTEE
1992
REV. 1996, 1997, 1999

CONCRETE COLLAR FOR RCP
300 mm (12") THROUGH 1800 mm (72")
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN METRIC
380-3
SHEET 1 OF 2

NOTES

1. A CONCRETE COLLAR IS REQUIRED WHERE THE CHANGE IN GRADE EXCEEDS 10%.
2. FOR CURVE JOINTS (SEE DETAIL B, SHEET 1)
   IF THE EXTREME ENDS OF THE PIPE LEAVE A CLEAR SPACE THAT IS GREATER THAN 25 mm (1"), BUT IS LESS THAN 75 mm (3") A CONCRETE COVER IS REQUIRED IN ACCORDANCE WITH SSPWC 306-1.2.4.
   IF THE EXTREME ENDS OF THE PIPE LEAVE A CLEAR SPACE THAT IS EQUAL TO OR GREATER THAN 75 mm (3"), BUT LESS THAN 150 mm (6"), A CONCRETE COLLAR IS REQUIRED. IF THE CLEAR SPACE IS 150 mm (6") OR GREATER, A TRANSITION STRUCTURE IS REQUIRED.
3. CONCRETE COLLAR SHALL NOT BE USED FOR A SIZE CHANGE ON THE MAIN LINE.
4. CONNECTOR PIPES
   A. WHERE PIPES OF DIFFERENT DIAMETERS ARE JOINED WITH A CONCRETE COLLAR, L AND T SHALL BE THOSE OF THE LARGER PIPE, D=D_1 OR D_2, WHICHEVER IS GREATER.
   B. WHEN D_1 IS EQUAL TO OR LESS THAN D_2, JOIN INVERTS AND WHEN D_1 IS GREATER THAN D_2, JOIN SOFFITS.
5. FOR PIPE LARGER THAN 1800 mm (72") SPECIAL COLLAR DETAILS ARE REQUIRED.
6. FOR PIPE SIZE NOT LISTED USE NEXT SIZE LARGER.
7. REINFORCEMENT SHALL CONFORM TO ASTM A 615 M (A 615) GRADE 300 (40).
8. WHERE REINFORCING IS REQUIRED THE DIAMETER OF THE CIRCULAR TIES SHALL BE D+(2X WALL THICKNESS) + T.
9. REINFORCING SHALL BE USED WHERE THE PIPE DIAMETER IS GREATER THAN 525 mm (21") AND ON ALL PIPES WHERE THE SPACES BETWEEN THE EXTREME OUTER ENDS IS 75 mm (3") OR LARGER.

CIRCULAR TIES:

PIPE DIAMETER	NO. OF CIRCULAR TIES
525 mm (21") OR LESS	3
600 mm (24") TO 750 mm (30")	3
825 mm (33") TO 1425 mm (57")	4
1500 mm (60") TO 1800 mm (72")	5

WHERE THE SPACE BETWEEN PIPE ENDS EXCEEDS 75 mm (3"), THE NUMBER OF CIRCULAR TIES SHALL BE INCREASED TO MAINTAIN AN APPROXIMATE SPACING OF 150 mm (6") O.C.

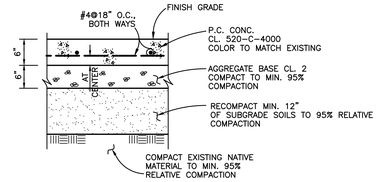
10. WHERE THE PIPE IS 525 mm (21") OR LESS IN DIAMETER AN INTERIOR FORM OF UNSEALED SONO-TUBE OR EQUAL SHALL BE USED TO PROVIDE A SMOOTH INTERIOR JOINT. THE PAPER FORM MAY BE LEFT IN PLACE (SEE DETAIL A). WHEN THE PIPE IS 600 mm (24") OR LARGER A REMOVABLE INTERIOR FORM SHALL BE USED OR THE INTERIOR JOINT SHALL BE COMPLETELY FILLED WITH MORTAR AND NEATLY POINTED.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

CONCRETE COLLAR FOR RCP
300 mm (12") THROUGH 1800 mm (72")

STANDARD PLAN METRIC
380-3
SHEET 2 OF 2

CONCRETE COLLAR FOR RCP 300 MM (12") THROUGH 1800 MM (72") | NOT TO SCALE | H



NOTES:

1. FOR DEEPENED EDGE AT CONCRETE EDGE ADJACENT TO LANDSCAPING, SEE DETAIL "B" ON THIS SHEET.
2. CONSTRUCT MIN. 12" LONG #4 DOWEL AT 18" O.C. BETWEEN EXISTING P.C. CONCRETE PAVEMENT TO REMAIN AND PROPOSED P.C. CONCRETE PAVEMENT.

CONCRETE STRUCTURAL SECTION | NOT TO SCALE | F

CAUTION

CONTRACTOR SHALL POTHOLE AND VERIFY ALL EXISTING UTILITIES, INCLUDING MAINS AND LATERALS, WITHIN PROJECT SITE PRIOR TO CONSTRUCTION AND REPORT ANY CONFLICTS TO THE UNIVERSITY REPRESENTATIVE. CONTRACTOR SHALL PROPOSE ANY HORIZONTAL REALIGNMENT AND/OR VERTICAL ADJUSTMENT FOR UTILITY LINE DESIGN TO THE UNIVERSITY REPRESENTATIVE FOR APPROVAL PRIOR TO CONSTRUCTION AT NO ADDITIONAL COST TO THE UNIVERSITY OR PROJECT.

NO.	DATE	REVISIONS	APPD.

Stantec
111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963-9532 Fax: (805) 966-9801

DESIGN CEP/WFF CHECKED SCW
STEPHEN C. WANG DATE: 10/11/2016
PROJECT ENGINEER
R.C.E. 44,255

REGISTERED PROFESSIONAL ENGINEER STEPHEN C. WANG NO 44255 CIVIL STATE OF CALIFORNIA

UNIVERSITY OF CALIFORNIA, SANTA BARBARA
REVIEWED BY:
SIGNATURE DATE

DETAILS
STORM DRAIN AND SEAWATER WASTE LINE INFRASTRUCTURE RENEWAL PROJECT PHASE 1C
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

STANTEC PROJECT NO. 2064017271
SHEET SD-D1
U.C.S.B. DWG NO. 10-198

FM 170115L/986080

PLOT SCALE:1:79.86 PLOT DATE:10/12/2016 4:24:24 PM PLOT BY:Todd Robinson 42-ENG SAVE DATE: 10/11/2016 12:39:58 PM
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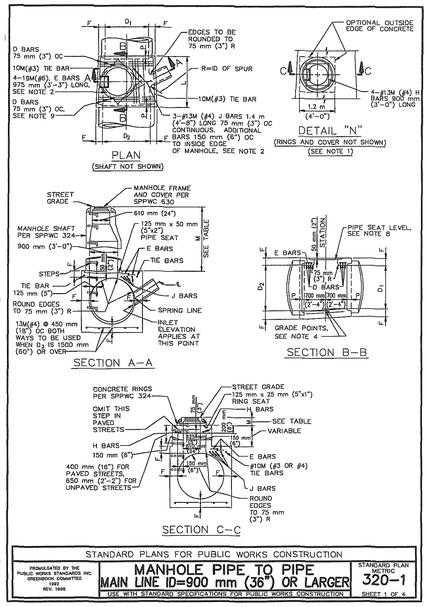

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE PUBLIC WORKS STANDARDS, INC. GREENBOOK COMMITTEE 1992 REV. 1998

MANHOLE PIPE TO PIPE
MAIN LINE ID=900 mm (36") OR LARGER
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN METRIC 320-1
SHEET 1 OF 4

TABLE OF VALUES FOR F	
D_2	F
900 mm (36")	165 mm (6 1/2")
975 mm (39")	180 mm (7")
1050 mm (42")	190 mm (7 1/2")
1125 mm (45")	195 mm (7 3/4")
1200 mm (48")	205 mm (8")
1275 mm (51")	215 mm (8 1/2")
1350 mm (54")	230 mm (9")
1425 mm (57")	235 mm (9 1/4")
1500 mm (60")	240 mm (9 1/2")
1575 mm (63")	255 mm (10")
1650 mm (66")	260 mm (10 1/4")
1725 mm (69")	270 mm (10 3/4")
1800 mm (72")	280 mm (11")
1850 mm (78")	300 mm (11 3/4")
2100 mm (84")	320 mm (12 1/2")
2250 mm (90")	335 mm (13 1/4")
2400 mm (96")	355 mm (14")
2550 mm (102")	395 mm (15 1/2")
2700 mm (108")	405 mm (16")
2850 mm (114")	420 mm (16 1/2")
3000 mm (120")	430 mm (17")
3150 mm (126")	430 mm (17")
3300 mm (132")	445 mm (17 1/2")
3450 mm (138")	445 mm (17 1/2")
3600 mm (144")	455 mm (18")

TABLE OF VALUES FOR M (SEE NOTE 1)				
SECTION	PAVED STREET		UNPAVED STREET	
	MAX	MIN	MAX	MIN
A-A		867 mm (2'-10 1/2")		1060 mm (3'-6")
C-C	282 mm (11")	217 mm (8 1/2")	410 mm (16")	380 mm (15")

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

MANHOLE PIPE TO PIPE
MAIN LINE ID = 900 mm (36") OR LARGER

STANDARD PLAN METRIC 320-1
SHEET 2 OF 4

NOTES

1. WHEN DEPTH M FROM STREET GRADE TO THE TOP OF THE BOX IS LESS THAN 867 mm (2'-10 1/2") FOR PAVED STREETS OR 1060 mm (3'-6") FOR UNPAVED STREETS, CONSTRUCT MONOLITHIC SHAFT PER SECTION C-C AND DETAIL "N". SHAFT FOR ANY DEPTH OF MANHOLE MAY BE CONSTRUCTED PER SECTION C-C. WHEN DIAMETER D_1 IS 1200 mm (48") OR LESS, CENTER OF SHAFT MAY BE LOCATED PER NOTE 2.
2. CENTER OF MANHOLE SHAFT SHALL BE LOCATED OVER CENTER LINE OF STORM DRAIN WHEN DIAMETER D ≥S 1200 mm (48") OR LESS, IN WHICH CASE PLACE E BARS SYMMETRICALLY AROUND SHAFT AT 45° WITH CENTERLINE AND OMIT J BARS.
3. L AND P SHALL HAVE THE FOLLOWING VALUES UNLESS OTHERWISE SHOWN ON THE PROJECT DRAWINGS:
   A. D_2=2400 mm (96") OR LESS, L=1.7 m (5'-6"), P=130 mm (5")
   B. D_2 OVER 2400 mm (96"), L=1.8 m (6'-0"), P=210 mm (8")
   L MAY BE INCREASED OR LOCATION OF MANHOLE SHIFTED TO MEET PIPE ENDS. WHEN L GREATER THAN THAT SHOWN ABOVE IS SPECIFIED, D BARS SHALL BE CONTINUED 150 mm (6") OC.
4. STATIONS OF MANHOLES SHOWN ON PLANS APPLY AT CENTERLINE OF SHAFT. ELEVATIONS ARE SHOWN AT CENTERLINE OF SHAFT AND REFER TO THE PROLONGED INVERT GRADE LINES.
5. REINFORCEMENT SHALL CONFORM TO ASTM A 615M, GRADE 300 (ASTM A 615, GRADE 40), AND SHALL TERMINATE 40 mm (1 1/2") CLEAR OF CONCRETE SURFACES UNLESS OTHERWISE SHOWN.
6. FLOOR OF MANHOLE SHALL BE STEEL TROWELED TO SPRING LINE.
7. BODY OF MANHOLE SHALL BE POURED IN ONE CONTINUOUS OPERATION EXCEPT THAT A CONSTRUCTION JOINT WITH A LONGITUDINAL KEYWAY MAY BE PLACED AT SPRING LINE.
8. THICKNESS OF THE DECK SHALL VARY WHEN NECESSARY TO PROVIDE A LEVEL SEAT BUT SHALL NOT BE LESS THAN THE TABULAR VALUES FOR F SHOWN ON SHEET 2.
9. D BARS SHALL BE #13M (#4) FOR D ≥=975 mm (39") OR LESS, #16M (#5) FOR D_2= 1050 mm (42") TO 2100 mm (84") INCLUSIVE AND #19M (#6) FOR D_2= 2250 mm (90") OR OVER.
10. CENTERLINE OF INLET PIPE SHALL INTERSECT INSIDE FACE OF CONE AT SPRING LINE UNLESS OTHERWISE SHOWN.
11. STEPS SHALL CONFORM TO SPPWC 635 OR 636. UNLESS OTHERWISE SHOWN, STEPS SHALL BE UNIFORMLY SPACED 350 mm (14") TO 375 mm (15") OC. THE LOWEST STEP SHALL NOT BE MORE THAN 600 mm (24") ABOVE THE INVERT.
12. THE FOLLOWING CRITERIA SHALL BE USED FOR THIS MANHOLE:
    A. MAIN LINE = 900 mm (36") INSIDE DIAMETER OR LARGER, EXCEPT IF THE MAIN LINE RCP DOWNSTREAM OF MANHOLE IS 900 mm (36") TO 1050 mm (42") INSIDE DIAMETER AND THE MAIN LINE RCP UPSTREAM IS 825 mm (33") OR LESS SPPWC 321 SHALL BE USED.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

MANHOLE PIPE TO PIPE
MAIN LINE ID = 900 mm (36") OR LARGER

STANDARD PLAN METRIC 320-1
SHEET 3 OF 4

B. THE OUTSIDE DIAMETER OF THE LATERAL MUST BE LESS THAN OR EQUAL TO 1/2 THE INSIDE DIAMETER OF THE MAIN LINE. IF THE UPSTREAM AND DOWNSTREAM DIAMETERS OF THE MANHOLE ARE NOT THE SAME, THE GOVERNING INSIDE DIAMETER OF THE MAIN LINE SHALL BE CONSIDERED TO BE THAT WHERE THE EXTENDED CENTERLINE OF THE LATERAL ENTERS THE MANHOLE.
C. IN NO INSTANCE SHALL THE INSIDE DIAMETER OF THE LATERAL TO THE MANHOLE BE GREATER THAN 750 mm (30").

13. MANHOLE FRAME AND COVER SHALL CONFORM TO SPPWC 630 UNLESS OTHERWISE SHOWN.
14. MANHOLE SHAFT SHALL CONFORM TO SPPWC 324 UNLESS OTHERWISE SHOWN.
15. WHERE A MANHOLE SHAFT – 900 mm (36") WITHOUT REDUCER IS SPECIFIED REFER TO SPPWC 326.
16. WHERE A PRESSURE MANHOLE SHAFT – WITH ECCENTRIC REDUCER IS SPECIFIED REFER TO SPPWC 328.
17. WHERE A PRESSURE MANHOLE SHAFT – 914 mm (36") WITHOUT REDUCER IS SPECIFIED REFER TO SPPWC 329.
18. THE FOLLOWING SPPWC ARE INCORPORATED HEREIN:
    324 MANHOLE SHAFT – WITH ECCENTRIC REDUCER
    326 MANHOLE SHAFT – 900 mm (36") WITHOUT REDUCER
    328 MANHOLE SHAFT – WITH ECCENTRIC
    328 PRESSURE MANHOLE SHAFT – WITH ECCENTRIC
    329 PRESSURE MANHOLE SHAFT 914 mm (36") WITHOUT REDUCER
    630 610 mm (24") MANHOLE FRAME AND COVER
    633 914 mm (36") MANHOLE FRAME AND COVER
    635 STEEL STEP
    636 POLYPROPYLENE PLASTIC STEP

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

MANHOLE PIPE TO PIPE
MAIN LINE ID = 900 mm (36") OR LARGER

STANDARD PLAN METRIC 320-1
SHEET 4 OF 4

MANHOLE PIPE TO PIPE MAIN LINE 36" OR LARGER

NOT TO SCALE | A

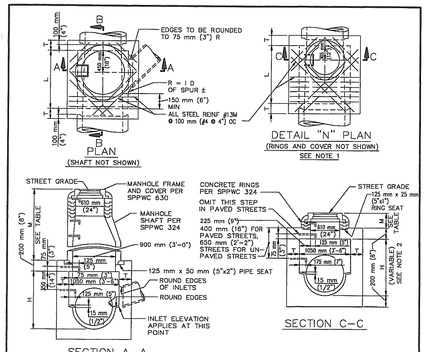

TABLE OF VALUES FOR M (SEE NOTE 1)				
SECTION	PAVED STREET		UNPAVED STREET	
	MAX	MIN	MAX	MIN
A-A		867 mm (2'-10 1/2")		1060 mm (3'-6")
C-C	282 mm (11")	217 mm (8 1/2")	410 mm (16")	380 mm (15")

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE PUBLIC WORKS STANDARDS, INC. GREENBOOK COMMITTEE 1992 REV. 1998

MANHOLE PIPE TO PIPE (ONE OR BOTH MAIN LINE ID'S 825 mm (33") OR SMALLER)
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN METRIC 321-1
SHEET 1 OF 3

NOTES

1. WHEN DEPTH M FROM STREET GRADE TO THE TOP OF THE BOX IS LESS THAN 867 mm (2'-10 1/2") FOR PAVED STREETS OR 1060 mm (3'-6") FOR UNPAVED STREETS, CONSTRUCT SHAFT PER SECTION C-C AND DETAIL "N". DEPTH M MAY BE REDUCED TO AN ABSOLUTE LIMIT OF 150 mm (6") WHEN LARGER VALUES OF M WOULD REDUCE H IN SECTION C-C TO 1060 mm (3'-6") OR LESS.
2. H (IN SECTION A-A AND B-B) SHALL NOT BE LESS THAN 1.2 m (4'-0"), BUT MAY BE INCREASED PROVIDED THAT THE VALUE OF M SHALL NOT BE LESS THAN THE MINIMUM SPECIFIED AND THAT THE REDUCER SHALL BE USED. FOR H (IN SECTION C-C) SEE NOTE 1.
3. L SHALL BE 1.2 m (4'-0") UNLESS OTHERWISE SHOWN. L MAY BE INCREASED OR LOCATION OF MANHOLE SHIFTED TO MEET PIPE ENDS, BUT ANY CHANGE IN LOCATION OF THE SPUR MUST BE APPROVED BY THE ENGINEER.
4. T SHALL BE 200 mm (8") FOR VALUES OF H UP TO AND INCLUDING 2.4 m (8'-0") AND 250 mm (10") FOR VALUES OF H OVER 2.4 m (8'-0").
5. STATIONS OF MANHOLES SHOWN ON PLANS APPLY AT CENTERLINE OF SHAFT. ELEVATIONS ARE SHOWN AT CENTERLINE OF SHAFT AND REFER TO THE PROLONGED INVERT GRADE LINES. SEE NOTE 3.
6. REINFORCEMENT SHALL CONFORM TO ASTM A 615M, GRADE 300 (ASTM A 615, GRADE 40), AND SHALL TERMINATE 40 mm (1 1/2") CLEAR OF CONCRETE SURFACES UNLESS OTHERWISE SHOWN.
7. FLOOR OF MANHOLE SHALL BE STEEL TROWELED TO SPRING LINE.
8. BODY OF MANHOLE SHALL BE POURED IN ONE CONTINUOUS OPERATION EXCEPT THAT A CONSTRUCTION JOINT WITH A LONGITUDINAL KEYWAY MAY BE PLACED AT SPRING LINE.
9. THICKNESS OF THE DECK SHALL VARY WHEN NECESSARY TO PROVIDE A LEVEL SEAT BUT SHALL NOT BE LESS THAN 200 mm (8").
10. STEPS SHALL CONFORM TO SPPWC 635 OR 636. UNLESS OTHERWISE SHOWN, STEPS SHALL BE UNIFORMLY SPACED 350 mm (14") TO 375 mm (15") OC. THE LOWEST STEP SHALL NOT BE MORE THAN 600 mm (24") ABOVE THE LEDGE AT THE SIDE OF THE MANHOLE.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

MANHOLE PIPE TO PIPE (ONE OR BOTH MAIN LINE ID'S 825 mm (33") OR SMALLER)

STANDARD PLAN METRIC 321-1
SHEET 2 OF 3

11. THE FOLLOWING CRITERIA SHALL BE USED FOR THIS MANHOLE:
    A. MAIN LINE = 825 mm (33") INSIDE DIAMETER OR LESS. (EXCEPTION – IF THE MAIN LINE RCP DOWNSTREAM OF THE MANHOLE IS 900 mm (36") TO 1050 mm (42") INSIDE DIAMETER AND THE MAIN LINE RCP UPSTREAM IS 825 mm (33") OR LESS.) SPPWC 320 OR 322 IS NOT APPLICABLE WHERE THE MAIN LINE CONDUIT IS LESS THAN 900 mm (36") IN DIAMETER.
    B. SEE SECTION A – A. THE MAXIMUM SIZE LATERAL THAT MAY BE CONNECTED TO THIS MANHOLE IS SUCH THAT THE DISTANCE FROM THE OUTSIDE (TOP) OF THE LATERAL TO THE BOTTOM OF THE 200 mm (8") THICK TOP OF THE MANHOLE CHAMBER, MEASURED VERTICALLY FROM THE END OF THE RCP, SHALL BE A MINIMUM OF 150 mm (6").
    C. IF THE SIZE OF THE LATERAL IS SUCH THAT THE ABOVE-SPECIFIED MINIMUM DISTANCES CANNOT BE MAINTAINED, THEN ONE OF THE FOLLOWING ALTERNATE SOLUTIONS MUST BE USED.
       1. PROVIDE A SPECIAL STRUCTURE.
       2. PROVIDE TWO STANDARD STRUCTURES, CONSISTING OF THIS MANHOLE PLACED UPSTREAM OR DOWNSTREAM FROM THE APPLICABLE JUNCTION STRUCTURE OR TRANSITION STRUCTURE.
12. MANHOLE FRAME AND COVER SHALL CONFORM TO SPPWC 630 UNLESS OTHERWISE SHOWN.
13. MANHOLE SHAFT SHALL CONFORM TO SPPWC 324 UNLESS OTHERWISE SHOWN.
14. WHERE A MANHOLE SHAFT – 900 mm (36") WITHOUT REDUCER IS SPECIFIED REFER TO SPPWC 336.
15. WHERE A PRESSURE MANHOLE SHAFT – WITH ECCENTRIC REDUCER IS SPECIFIED REFER TO SPPWC 328.
16. WHERE A PRESSURE MANHOLE SHAFT – 914 mm (36") WITHOUT REDUCER IS SPECIFIED REFER TO SPPWC 329.
17. THE FOLLOWING SPPWC ARE INCORPORATED HEREIN:
    324 MANHOLE SHAFT – WITH ECCENTRIC REDUCER
    326 MANHOLE SHAFT – 900 mm (36") WITHOUT REDUCER
    328 PRESSURE MANHOLE SHAFT – WITH ECCENTRIC
    329 PRESSURE MANHOLE SHAFT – 914 mm (36") WITHOUT REDUCER
    630 610 mm (24") MANHOLE FRAME AND COVER
    633 914 mm (36") MANHOLE FRAME AND COVER
    635 STEEL STEP
    636 POLYPROPYLENE PLASTIC STEP

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

MANHOLE PIPE TO PIPE (ONE OR BOTH MAIN LINE ID'S 825 mm (33") OR SMALLER)

STANDARD PLAN METRIC 321-1
SHEET 3 OF 3

MANHOLE PIPE TO PIPE (ONE OR BOTH MAIN LINE ID'S 33" OR SMALLER)

NOT TO SCALE | B

CAUTION

CONTRACTOR SHALL POTHOLE AND VERIFY ALL EXISTING UTILITIES, INCLUDING MAINS AND LATERALS, WITHIN PROJECT SITE PRIOR TO CONSTRUCTION AND REPORT ANY CONFLICTS TO THE UNIVERSITY REPRESENTATIVE. CONTRACTOR SHALL PROPOSE ANY HORIZONTAL REALIGNMENT AND/OR VERTICAL ADJUSTMENT FOR UTILITY LINE DESIGN TO THE UNIVERSITY REPRESENTATIVE FOR APPROVAL PRIOR TO CONSTRUCTION AT NO ADDITIONAL COST TO THE UNIVERSITY OR PROJECT.

NO.	DATE	REVISIONS	APPD.

Stantec
111 East Victoria Street, Santa Barbara, CA 93101
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DESIGN CEP/WFF CHECKED SCW
STEPHEN C. WANG DATE: 10/11/2016
PROJECT ENGINEER
R.C.E. 44,255

REGISTERED PROFESSIONAL ENGINEER STEPHEN C. WANG NO 44255 CIVIL STATE OF CALIFORNIA

UNIVERSITY OF CALIFORNIA, SANTA BARBARA
REVIEWED BY:
SIGNATURE DATE

DETAILS
STORM DRAIN AND SEAWATER WASTE LINE INFRASTRUCTURE RENEWAL PROJECT PHASE 1C
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

STANTEC PROJECT NO. 2064017271
SHEET SD-D2
U.C.S.B. DWG NO. 10-198

FM 170115L/986080

42-ENG SAVE DATE: 10/11/2016 12:39:58 PM PLOT BY:Todd Robinson PLOT DATE:10/12/2016 4:22:20 PM PLOT SCALE:1:79.86
DRAWING:v:\2064\active\2064017271\17271\acad\17271 phase 1c cd\storm drain details.dwg