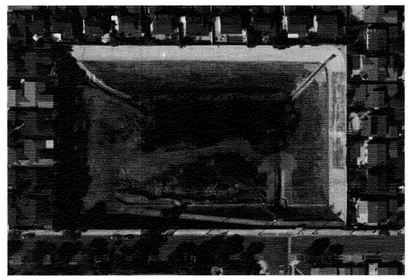
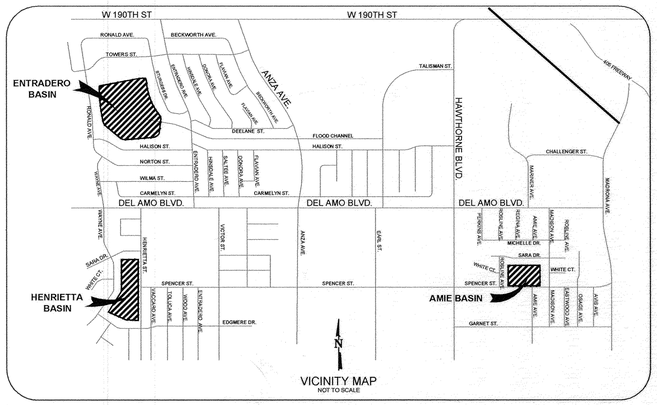
AMIE BASIN PUMP STATION UPGRADES, C.I.P. No. I-132

CALIFORNIA 90503



AMIE BASIN



VICINITY MAP
NOT TO SCALE

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER — CRAIG BILEZERIAN — No. 55339 — Exp. 12/31/14 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — VIKRAM BAPNA — No. C52060 — EXP. 12-31-14 — STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: ALF

DESIGNED: C.P.

PROJECT ENGINEER: VIKRAM BAPNA

DIVISION ENGINEER: JOHN DETTLE

APPROVED:

3/3/14

CRAIG BILEZERIAN — DATE
CITY ENGINEER
R.C.E. NO. 55339 — EXP. 12/31/14

SCALE: AS SHOWN | SHEET 1 OF 22

PLAN NO. SD - 500

PREPARED BY:

CWE

1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 526-7500 OFFICE (714) 526-7004 FAX
www.cwecorp.com

DRAWING NAME: X:\DWG\Proposed\Amie Pump Station Upgrade\SHT01-TI--TITLE SHEET\SHT01-TI--TITLE SHEET.dwg
PLOT DATE: Dec 06, 2013 - 11:30am PLOTTED BY: vprasad

SHEET INDEX

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AMIE BASIN - GRADING PLAN	4	C-2
AMIE BASIN - PUMP STATION PLAN	5	C-3
AMIE BASIN - PUMP STATION PROFILE	6	C-4
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LEGEND

EXISTING	PROPOSED	DESCRIPTION
(FG ELEV)	FG	FINISHED GRADE
(FL ELEV)	FL	FLOW LINE
(FS ELEV)	FS	FINISHED SURFACE
(TC ELEV)	TC	TOP OF CURB
		CATCH BASIN
		SD JUNCTION STRUCTURE
		SEWER MANHOLE
		SEWER CLEANOUT
		FIRE HYDRANT
		GATE VALVE
		STORM DRAIN
S	S	SEWER
W	W	WATER
		SITE LIGHT (LANDSCAPE)
ICV	ICV	IRRIGATION CONTROL VALVES

TG	INDICATES TOP OF GRATE ELEVATION
HP	INDICATES HIGH POINT ELEVATION
INV.	INDICATES INVERT ELEVATION
B.O.P.	INDICATES BOTTOM OF PIPE
T.O.P.	INDICATES TOP OF PIPE
TW	INDICATES TOP OF WALL ELEVATION
BW	INDICATES GRADE AT BASE OF WALL
℄	INDICATES CENTERLINE
	INDICATES CONSTRUCTION NOTE
	INDICATES HANDICAP PARKING SPACE
	INDICATES RETAINING WALL
	INDICATES TRACT BOUNDARY/PROPERTY LINE
	INDICATES GRADING & PERMIT LIMITS

DEMOLITION NOTES

	DESCRIPTION
1.	CUT, CAP AND REMOVE ALL INDICATED EXISTING UTILITIES FROM THE SITE AND DISPOSE OF PROPERLY. PATCH CONCRETE AS REQUIRED.
2.	PROTECT IN PLACE.
4.	REMOVE EXISTING PLANTS.
5.	~~REMOVE PORTION OF EXISTING CONCRETE DITCH AS REQUIRED FOR FOR PROPOSED GRADING PLAN PER SHEET C-2.~~
6.	~~CLEAR AND GRUB TO LIMITS AS SHOWN.~~
7.	EXISTING PUMPS TO BE RETURNED TO CITY.
8.	ABANDON VALVE
9.	SAWCUT EXISTING AC AS REQUIRED PER DETAIL SHEET C-7.
10.	REMOVE AC DEBRIS, CRUSH AND SPREAD ON PARKING AREAS.
11.	REMOVE 10" AND 14" BLIND FLANGES.
15.	REMOVE TEMPORARY 14" PVC PIPE AND FLANGES.
16.	REMOVE TEMPORARY 10" PVC PIPE AND FLANGES.

CONSTRUCTION NOTES

1.	REPLACE ALL IMPACTED EXISTING VEGETATION OUTSIDE GRADING LIMITS IN KIND.
18.	INSTALL (2) 10" D.I.P. FORCE MAINS AND BACKFILL PER CITY OF TORRANCE STD. No. T-701 (ALL RESTRAINED JOINTS).
22.	~~EXISTING V GUTTER TO BE REMOVED AND REPLACED IN KIND.~~
23.	CONSTRUCT CONCRETE ENCASEMENT OVER FORCE MAIN ELBOWS WITH ALL RESTRAINED JOINTS.
46.	INSTALL 14" D.I.P. FORCE MAIN AND BACKFILL PER CITY OF TORRANCE STD. No.T-701
47.	INSTALL 14" CL 150 D.I.P. PIPE SPOOL - LENGTH TO BE DETERMINED PER FIELD CONDITIONS.
53.	INSTALL 1 - 250HP VFD SUBMERSIBLE PUMP #1 (PART#2) WITH A DESIGN PUMPING RATE = 4,556 GPM AT A TOTAL DYNAMIC HEAD (TDH) = 142 FEET AND CAPABLE OF PASSING 3 INCH DIAMETER SOLIDS.
54.	INSTALL 2 - 150HP VFD SUBMERSIBLE PUMP #2 & 3 (PART#4) WITH A DESIGN PUMPING RATE = 2,087 GPM AT A TOTAL DYNAMIC HEAD (TDH) = 144 FEET AND CAPABLE OF PASSING 3 INCH DIAMETER SOLIDS.

OWNER

CITY OF TORRANCE
ROBERT BESTE, PUBLIC WORKS DIRECTOR
PUBLIC WORKS DEPARTMENT
20500 MADRONA AVENUE
TORRANCE, CA 90503
(310) 781-6900 - PHONE

PROPERTY LOCATION, LEGAL DESCRIPTION, LEGEND, SHEET INDEX

IMPORTANT NOTICE

SECTION 4216/4217 OF THE GOVERNMENT CODE REQUIRES A DIGALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A "PERMIT TO EXCAVATE" WILL BE VALID. FOR YOUR DIGALERT TOLL FREE 811 TWO WORKING DAYS BEFORE YOU DIG.

DIGALERT
DIAL TOLL FREE
811
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

PREPARED BY:
CWE
1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 526-7500 OFFICE (714) 526-7004 FAX
www.cwecorp.com

REV.	DATE	DESCRIPTION	BY	CHECKED
1	9/22/16	ADDED BUBBLES AND CROSSED NOTES	V.P	

REGISTERED PROFESSIONAL ENGINEER CRAIG BILEZERIAN No. 55339 Exp. 12/31/14 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VIKRAM BAPNA No. C52060 EXP. 12-31-14 STATE OF CALIFORNIA

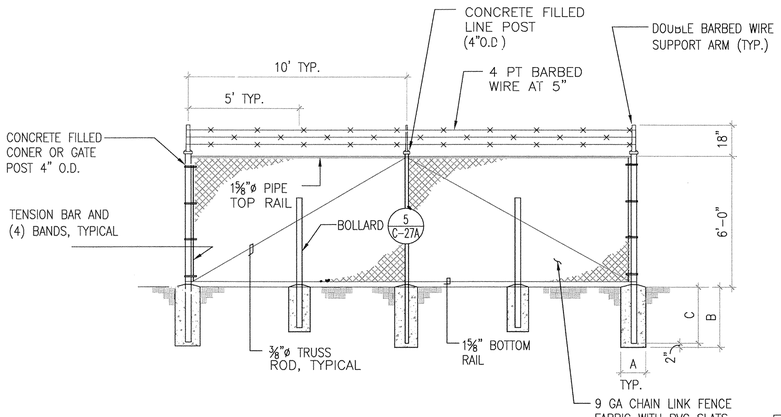
CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: ALF
DESIGNED: C.P.
PROJECT ENGINEER: VIKRAM BAPNA
DIVISION ENGINEER: JOHN DETTLE

APPROVED: 3/3/14
CRAIG BILEZERIAN, CITY ENGINEER, R.C.E. NO. 55339 — DATE EXP. 12/31/14

SCALE: AS SHOWN | SHEET 2 OF 22
PLAN NO. SD - 500

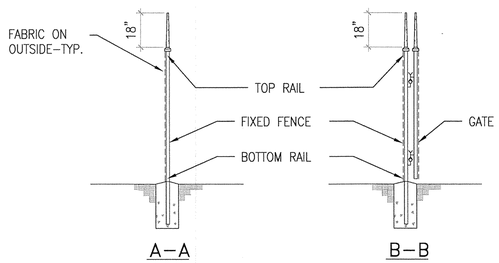
DRAWING NAME: E:\JOBS\Whittwell Amie Pump Station Upgrade\SHT02-C1-CIVIL-GEN INFOR\SHT02-C1-CIVIL-GEN INFOR.dwg
PLOT DATE: Dec 11, 2013 - 9:30am PLOTTED BY: vgrossel



NOTES:

1. BRACE ALL PULL, CORNER AND GATE POSTS AS SHOWN.
2. FENCE FABRIC TO BE 2" MESH ZINC COATED (1.2 OZ/SQ.FT)
3. ALL FENCE POSTS, RAILS AND ACCESSORIES TO BE ZINC COATED (1.2 OZ/SQ.FT)
4. ALL FENCE POSTS TO BE CONCRETE FILLED.

NOTE: SECTION A–A TYPICAL EXCEPT ON ROLLING GATE AND ON FENCE WHICH OVERLAPS ROLLING GATE, WHERE SECTION B–B APPLIES.



SIDE VIEW

POST/RAIL SIZE AND FOOTING SCHEDULE

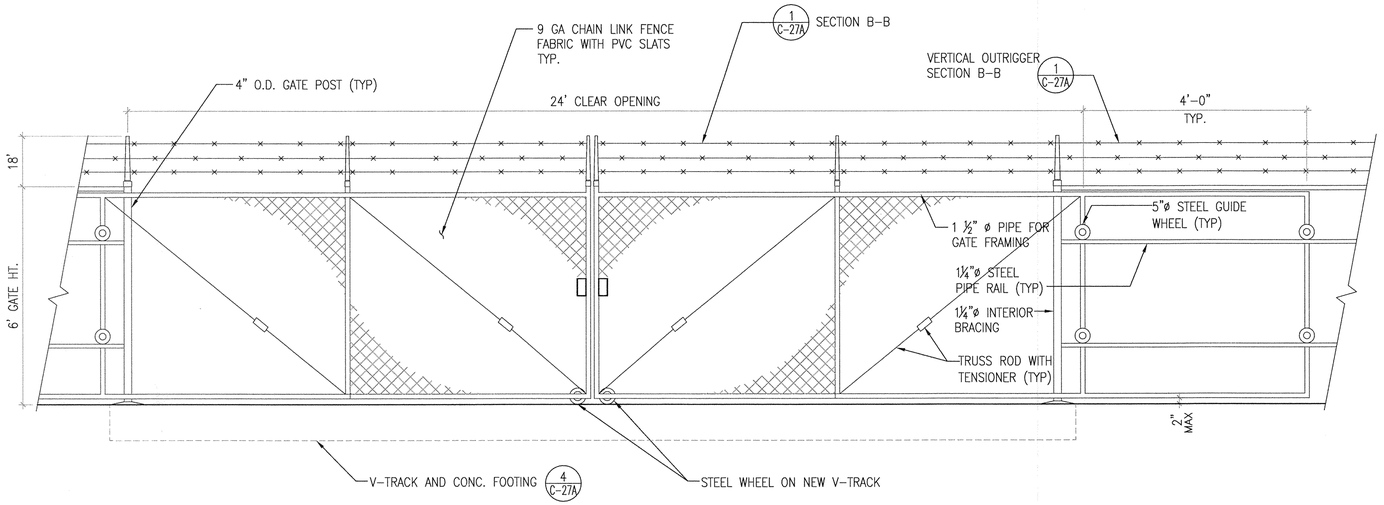
TYPE	PIPE SIZE O.D.	"A" FOOTING DIAMETER	"B" FOOTING DEPTH	"C" POST EMBEDMENT
LINE	4.000"	16"	42"	40"
TERMINAL	4.000"	16"	48"	46"
GATE	4.000"	16"	48"	46"
BOTTOM & BRACE RAILS	1.660"			

NOTE: TERMINAL POSTS INCLUDE END, CORNER, AND PULL POSTS

CHAIN LINK FENCE DETAIL

NOT TO SCALE

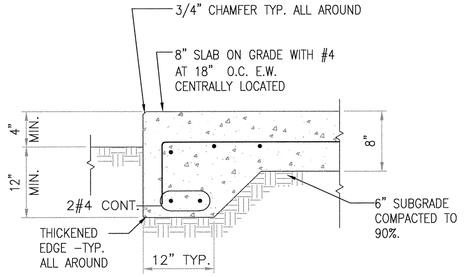
1 C-27A



HORIZONTAL SLIDING GATE

NOT TO SCALE

2 C-27A



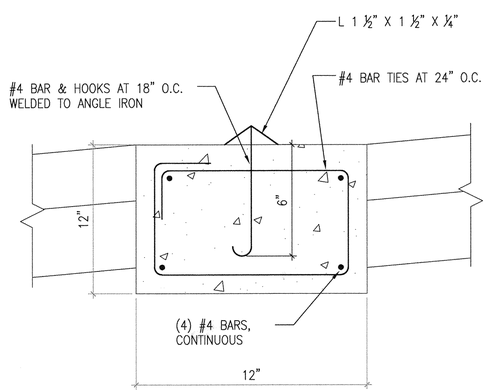
NOTES:

1. PROVIDE EMBEDS FOR EQUIPMENT HOLD DOWN AS RECOMMENDED BY SUPPLIER.
2. SEE PLAN FOR DIMENSIONS.
3. PROVIDE 1% CROSS SLOPE ON PAD
4. PAD SHALL BE MIN. 4" ABOVE GRADE.
5. CONCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH @ 28 DAYS OF 3,000 Psi.
6. PROVIDE SMOOTH STEEL TROWEL FINISH.
7. REBAR SHALL CONFORM TO ASTM A615 GRADE 60.

CONCRETE EQUIPMENT PAD

NOT TO SCALE

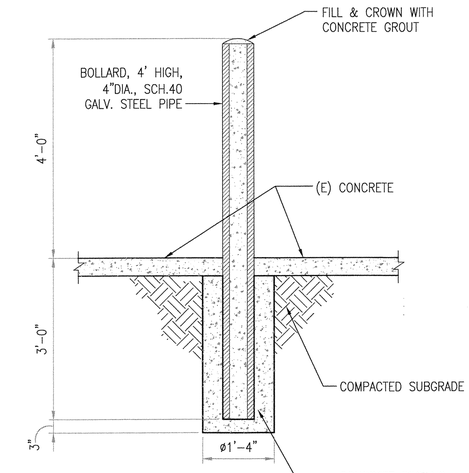
3 C-27A



CONCRETE "V" TRACK SLAB

NOT TO SCALE

4 C-27A



BOLLARD

NOT TO SCALE

5 C-27A

AMIE BASIN - DETAILS : C-27A

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp: 06/30/13 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER JAMES P. REDMOND No. C41082 Exp: 12/31/13 CIVIL STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: ALF
DESIGNED: C.P.
PROJECT ENGINEER: VIKRAM BAPNA
DIVISION ENGINEER: JOHN DETTLE

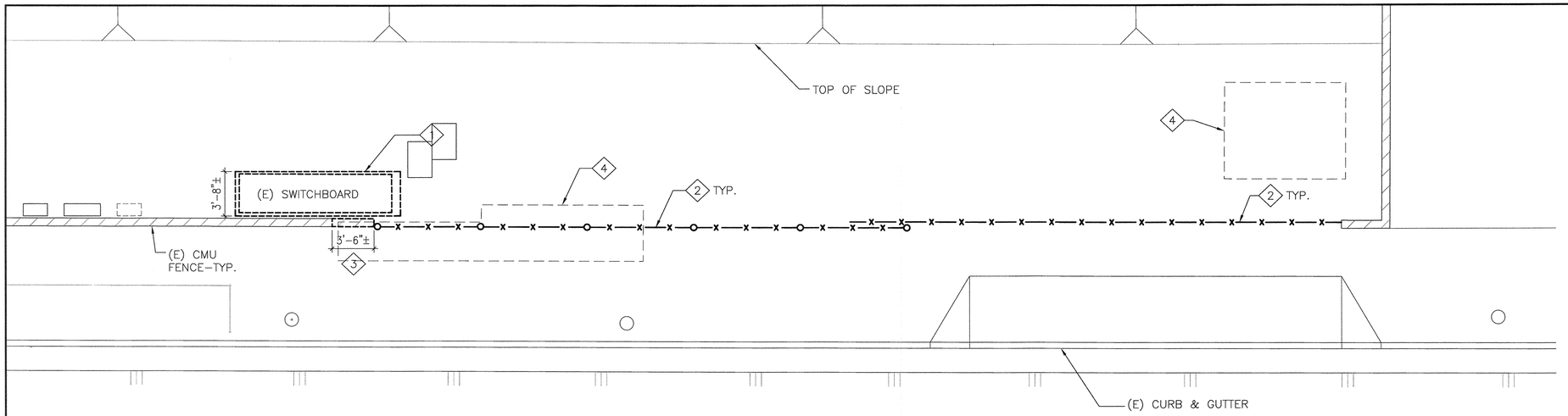
APPROVED:
5/28/13
TOUFIC J. SEMAAN — DATE
ACTING CITY ENGINEER
R.C.E. NO. 59226 — EXP. 06/30/13

SCALE: AS SHOWN | SHEET 22 OF 22
PLAN NO.

J.C. CHANG & ASSOCIATES, INC. JCCA
ENGINEERS ▪ ARCHITECTS ▪ PLANNERS
385 VAN NESS AVENUE, SUITE 208 PH (310) 212-7614
TORRANCE, CALIFORNIA 90501 FAX (310) 212-5272
JCCA #11040–1

PREPARED BY:
CWE
1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
www.cwecorp.com

DRAWING NAME: P:\11040-1\11040-1C27A.dwg
PLOT DATE: May 16, 2013 – 4:17pm PLOTTED BY: JoeyD



SPENCER STREET

(E) AC PAVING

DEMOLITION SITE PLAN

SCALE: 0 1 3 5 FEET 10 — 1" = 5'

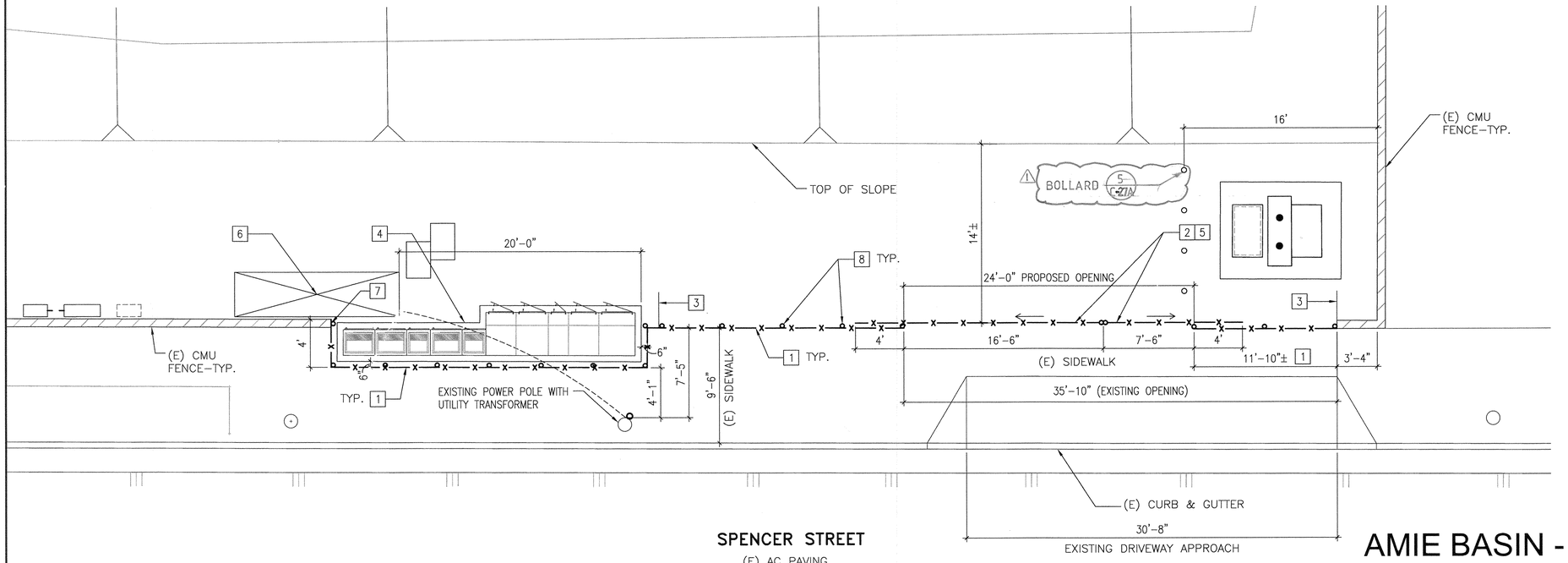
N

DEMOLITION KEYNOTES:

1. AFTER COMPLETION OF NEW ELECTRICAL WORK, DEMO (E) ELECTRICAL SWITCHBOARD AND CONCRETE PAD. REPAVE WITH NEW AC PAVING.
2. REMOVE EXISTING CHAINLINK FENCE POSTS AND GATES.
3. SAWCUT & REMOVE PORTION OF EXISTING WALL AND FOOTINGS.
4. SAWCUT AND REMOVE PORTION OF EXISTING PAVING AS REQUIRED FOR NEW EQUIPMENT PAD.

GENERAL NOTES

1. REPAIR PAVING TO MATCH EXISTING AND AS DETAILED ELSEWHERE ON THE CIVIL DRAWINGS.
2. CONTRACTOR TO PROVIDE TEMPORARY FENCING SIMILAR TO EXISTING TO SECURE THE SITE DURING CONSTRUCTION. REPAIR SIDEWALK AFTER TEMPORARY FENCE REMOVAL TO CITY STANDARD.
3. SEE ELECTRICAL DRAWING FOR ADDITIONAL PAVEMENT REMOVAL AND REPLACEMENT FOR TRENCHING, ETC.



SPENCER STREET

(E) AC PAVING

NEW WORK KEYNOTES:

1. NEW FENCE WITH PVC SLATS TO MATCH (E) 1/C-27A
2. NEW DOUBLE SLIDING GATES WITH PVC SLATS SIMILAR TO EXISTING 2/C-27A
3. LIMIT OF GATE IN FULLY OPEN POSITION.
4. NEW CONCRETE PAD 3/C-27A
5. REMOVE EXISTING AND CONSTRUCT NEW V-TRACK FOR NEW GATES 4/C-27A
6. REPAIR AC PAVING TO MATCH EXISTING. SEE GENERAL NOTE 1 ABOVE.
7. PROVIDE CEMENT PLASTER FULL HEIGHT AT WALL SAWCUT.
8. CONCRETE FILLED FENCE POSTS AT NOT TO EXCEED 10' ON CENTER WITH BOLLARDS MIDWAY BETWEEN FENCE POSTS 1/C-27A

AMIE BASIN - ENTRANCE MODIFICATION : C-27

SITE PLAN

SCALE: 0 1 3 5 FEET 10 — 1" = 5'

N

REV.	DATE	DESCRIPTION	BY	CHECKED
1	8/22/16	ADDED NOTE FOR BOLLARD	VP	

REGISTERED PROFESSIONAL ENGINEER — TOUFIC J. SEMAAN — No. 59226 — Exp. 06/30/13 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — JAMES F. REDMOND — No. C41062 — Exp. 12/31/14 — CIVIL — STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: ALF

DESIGNED: C.P.

PROJECT ENGINEER: VIKRAM BAPNA

DIVISION ENGINEER: JOHN DETTLE

APPROVED:

5/28/13

TOUFIC J. SEMAAN — DATE
ACTING CITY ENGINEER
R.C.E. NO. 59226 — EXP. 06/30/13

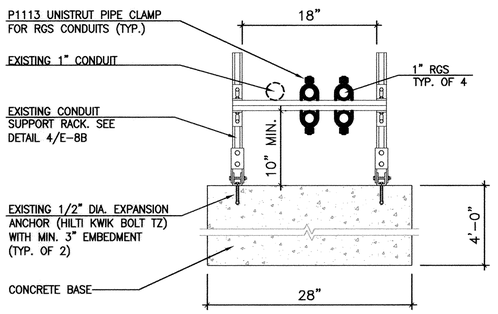
SCALE: AS SHOWN | SHEET 21 OF 22

PLAN NO.

J.C. CHANG & ASSOCIATES, INC. JCCA
ENGINEERS ▪ ARCHITECTS ▪ PLANNERS
385 VAN NESS AVENUE, SUITE 208 — PH (310) 212-7644
TORRANCE, CALIFORNIA 90501 — FAX (310) 212-5272
JCCA #11040-1

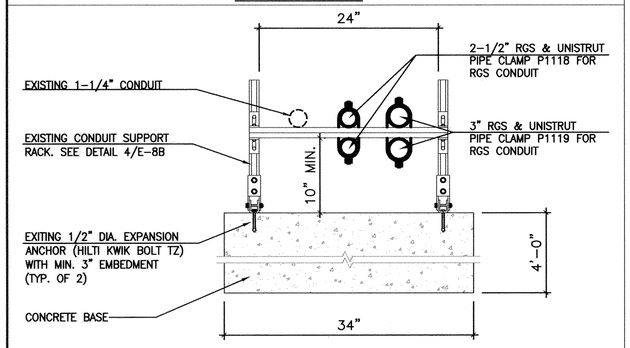
PREPARED BY:
CWE
1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
www.cwecorp.com

DRAWING NAME: R:\11040-1\11040TC27.dwg
PLOT DATE: May 16, 2013 - 4:17pm PLOTTED BY: JoeyD



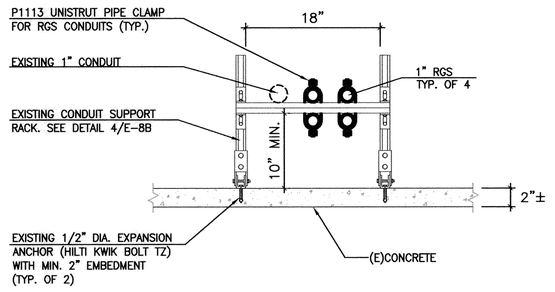
CONTROL CIRCUIT CONDUITS SUPPORT RACK ON DIRT AREA

N.T.S — 2 / E-8B



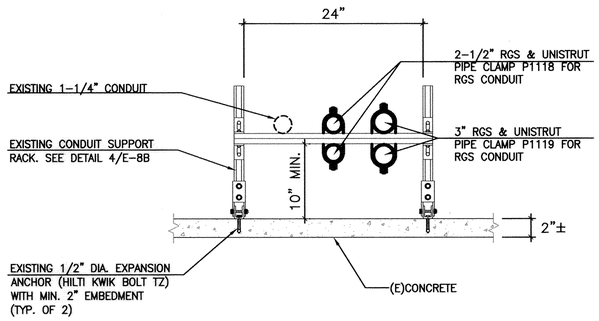
POWER CIRCUIT CONDUITS SUPPORT RACK ON DIRT AREA

N.T.S — 3 / E-8B



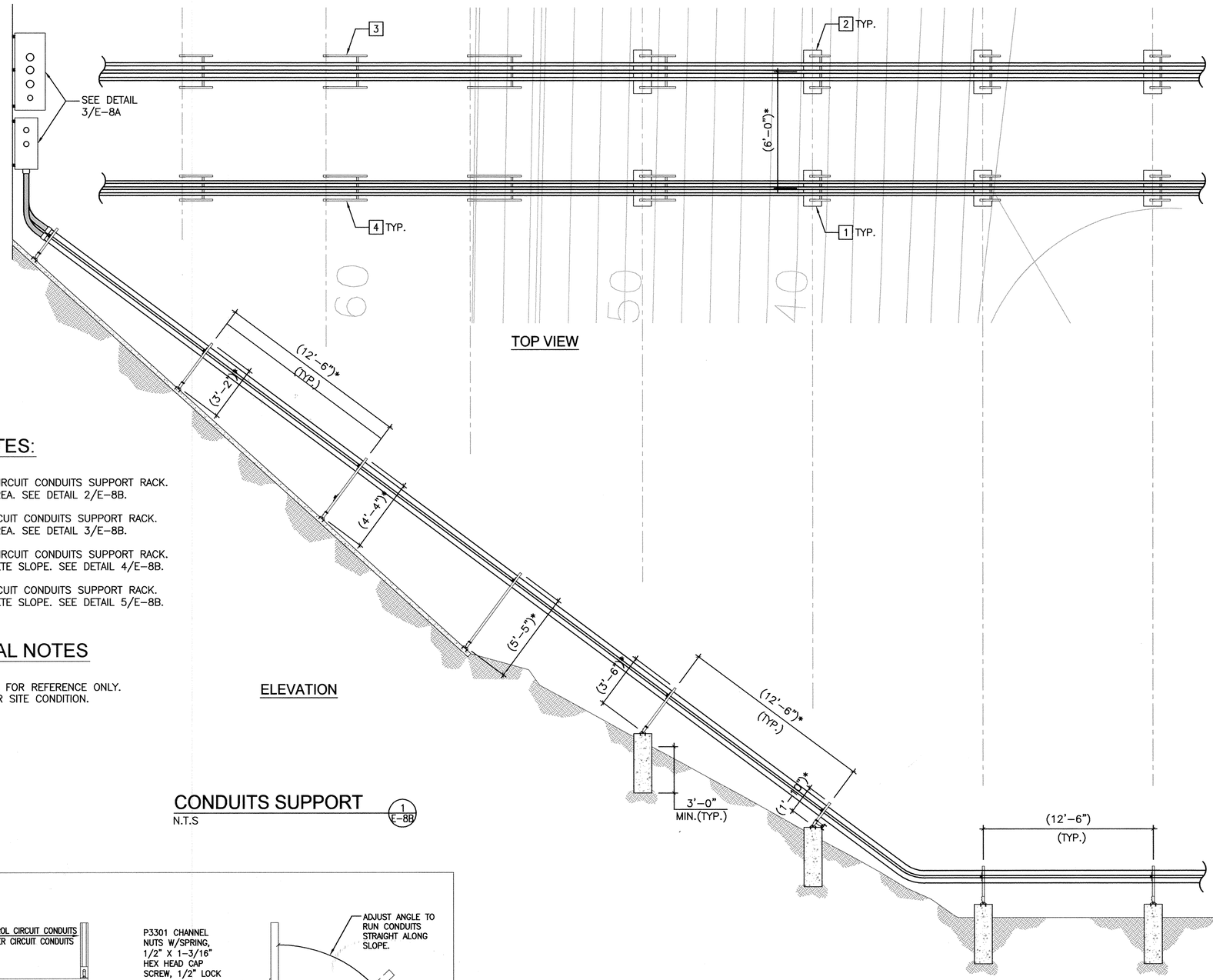
CONTROL CIRCUIT CONDUITS SUPPORT RACK ON CONCRETE SLOPE

N.T.S — 4 / E-8B



POWER CIRCUIT CONDUITS SUPPORT RACK ON CONCRETE SLOPE

N.T.S — 5 / E-8B



KEYNOTES:

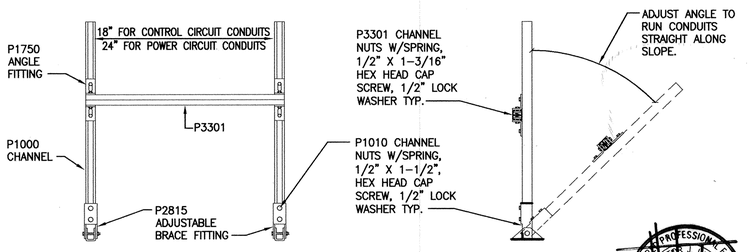
1. CONTROL CIRCUIT CONDUITS SUPPORT RACK. ON DIRT AREA. SEE DETAIL 2/E-8B.
2. POWER CIRCUIT CONDUITS SUPPORT RACK. ON DIRT AREA. SEE DETAIL 3/E-8B.
3. CONTROL CIRCUIT CONDUITS SUPPORT RACK. ON CONCRETE SLOPE. SEE DETAIL 4/E-8B.
4. POWER CIRCUIT CONDUITS SUPPORT RACK. ON CONCRETE SLOPE. SEE DETAIL 5/E-8B.

GENERAL NOTES

* DIMENSIONS FOR REFERENCE ONLY. ADJUST PER SITE CONDITION.

CONDUITS SUPPORT

N.T.S — 1 / E-8B



CONDUIT SUPPORT RACK

N.T.S — 6 / E-8B

REGISTERED PROFESSIONAL ENGINEER JAMES J. JACKSON No. E15994 EXP. 6-30-14 ELECTRICAL STATE OF CALIFORNIA

PREPARED BY:

CWE
1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 526-7500 OFFICE (714) 526-7004 FAX
www.cwecorp.com

AMIE BASIN - ELECTRICAL DETAILS : E-8B

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER CRAIG BILEZERIAN No. 55339 Exp. 12/31/14 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VIKRAM BAPNA No. C52060 EXP. 12-31-14 ELECTRICAL STATE OF CALIFORNIA

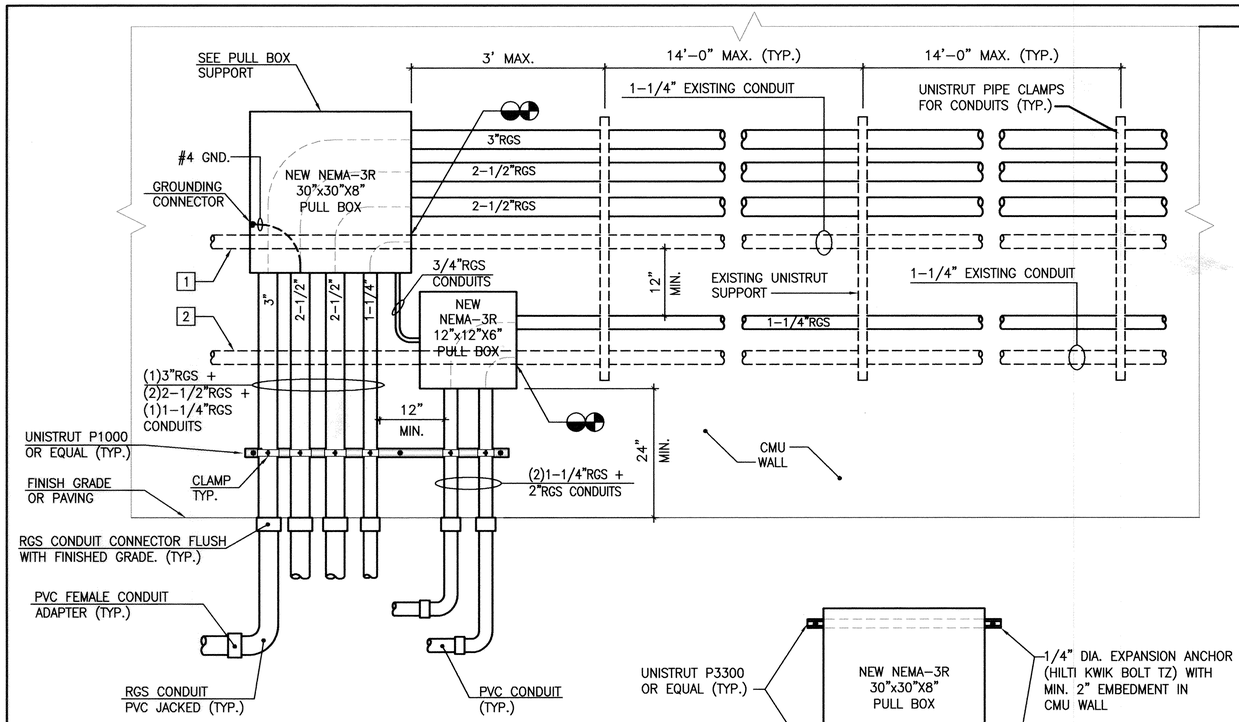
CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

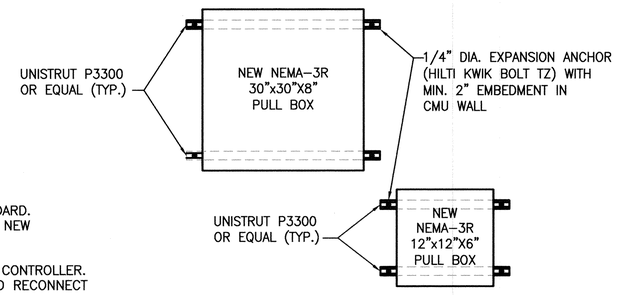
DRAWN: ALF
DESIGNED: C.P.
PROJECT ENGINEER: VIKRAM BAPNA
DIVISION ENGINEER: JOHN DETTLE

APPROVED: 3/3/14
CRAIG BILEZERIAN — DATE
CITY ENGINEER
R.C.E. NO. 55339 — EXP. 12/31/14

SCALE: AS SHOWN — SHEET 20 OF 22
PLAN NO.

DRAWING NAME: X:\CAD\Projects\11540-1 Stormwater Basin Enhancement, City of Torrance\Contract 2\CAD-Contract 2\11540102BB.dwg
PLOT DATE: Nov 22, 2013 - 11:49am PLOTTED BY: vprasad



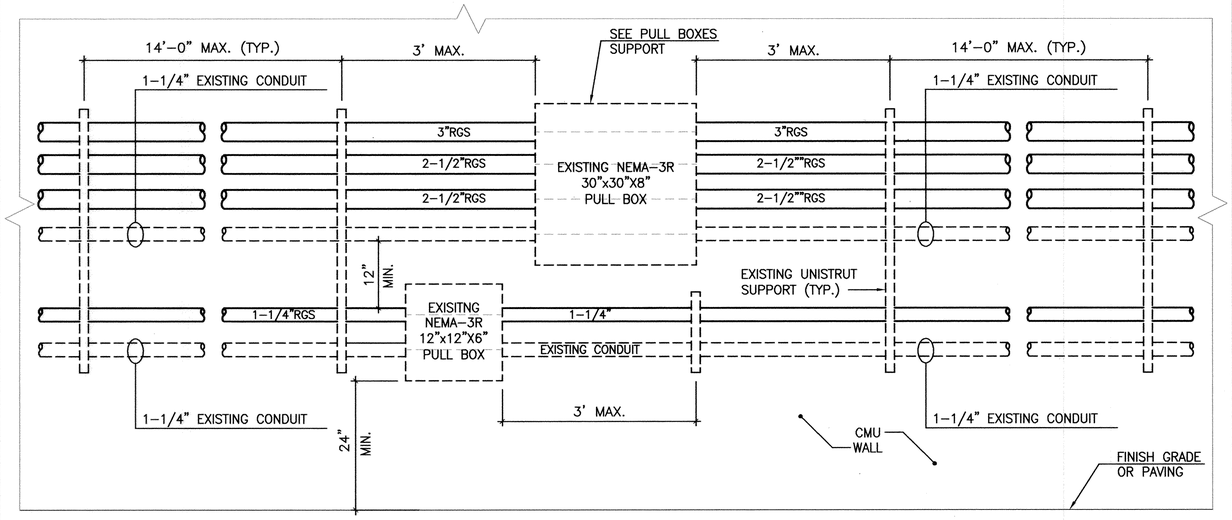


NEW WORK KEYNOTES:

1 REMOVE PORTION OF EXISTING POWER CONDUIT AND WIRING TO EXISTING SWITCHBOARD. CONNECT CONDUIT TO NEW PULLBOX. REROUTE CONDUIT AND WIRE AS SHOWN TO NEW SWITCHBOARD.

2 REMOVE PORTION OF EXISTING DATA CONDUIT AND WIRING TO EXISTING IRRIGATION CONTROLLER. CONNECT CONDUIT TO NEW PULLBOX. REROUTE CONDUIT AND WIRE AS SHOWN AND RECONNECT TO IRRIGATION CONTROLLER.

ELEVATION (1 / E-8A)
N.T.S



ELEVATION (2 / E-8A)
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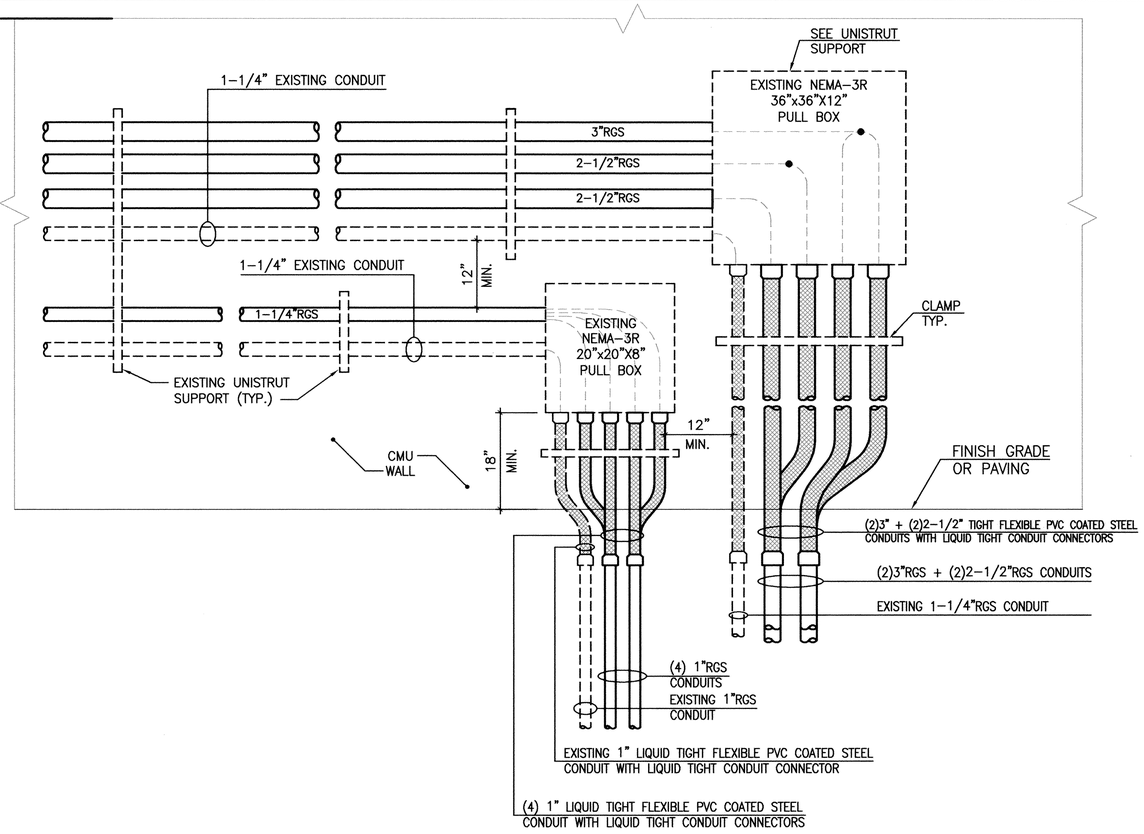


ELEVATION (3 / E-8A)
N.T.S

AMIE BASIN - ELECTRICAL DETAILS : E-8A

REGISTERED PROFESSIONAL ENGINEER — No. E19107 EXP. 6-30-14 — ELECTRICAL — STATE OF CALIFORNIA

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER — CRAIG BILEZERIAN — No. 55339 Exp. 12/31/14 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — VIKRAM BAPNA — No. C52060 EXP. 12-31-14 — STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

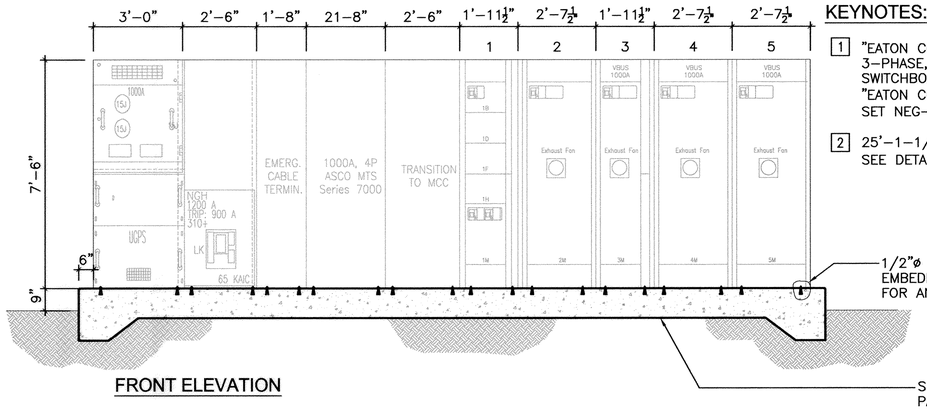
DRAWN: ALF
DESIGNED: C.P.
PROJECT ENGINEER: VIKRAM BAPNA
DIVISION ENGINEER: JOHN DETTLE

APPROVED: 3/3/14
CRAIG BILEZERIAN — DATE
CITY ENGINEER
R.C.E. NO. 55339 — EXP. 12/31/14

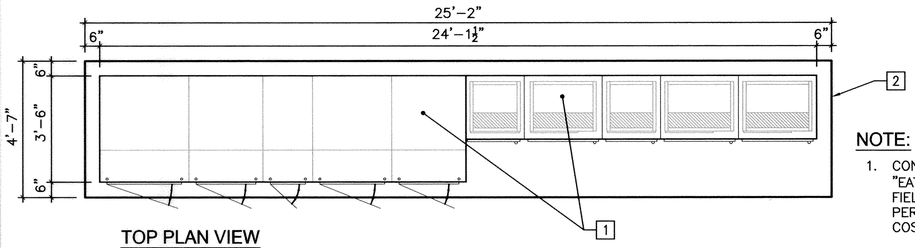
SCALE: AS SHOWN | SHEET 19 OF 22
PLAN NO.

PREPARED BY:
1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 526-7500 OFFICE (714) 526-7004 FAX
www.cwecorp.com

DRAWING NAME: X:\JOB\Projects\11060-1 Stormwater Basin Enhancement, City of Torrance\Contract 2\Civil\Contract 2\11060TEBK.dwg
PLOT DATE: Nov 22, 2013 - 2:19pm PLOTTED BY: vpravasi



FRONT ELEVATION



TOP PLAN VIEW

KEYNOTES:

1. "EATON CORPORATION" 1000A, 480/277V, 3-PHASE, 4-WIRE, 65 KA, NEMA-3R SWITCHBOARD AND MCC PER "EATON CORPORATION" DRAWING SET NEG-ALT # LAEC12030205-0000.
2. 25'-1-1/2" x 4'-7" CONCRETE PAD, SEE DETAIL 2/E-8.

1/2"ø ANCHOR BOLT WITH 4-1/2" MIN. EMBEDMENT VERIFY WITH MANUFACTURER FOR ANCHORAGE DETAIL AND LOCATION.

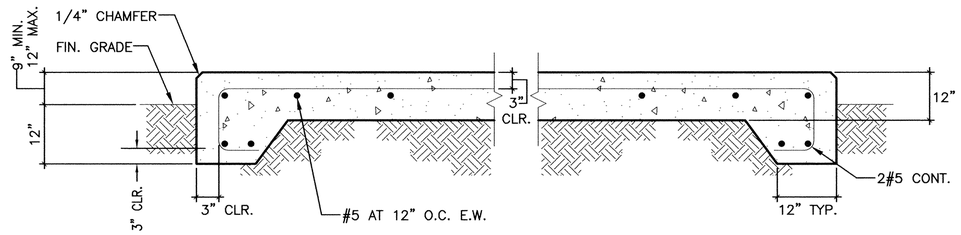
SEE STRUCTURAL DRAWING FOR CONCRETE PAD DETAIL. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH @ 28 DAYS OF 4000 PSI.

NOTE:

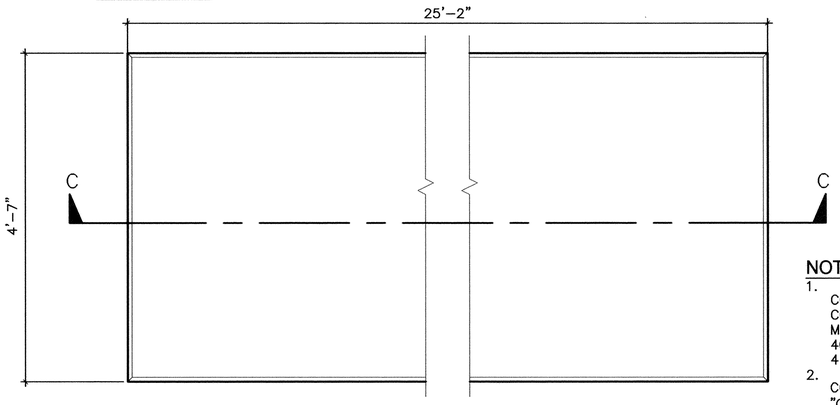
1. CONCRETE PAD DIMENSIONS ARE BASED ON "EATON CORPORATION" ELECTRICAL EQUIPMENT. FIELD VERIFY DIMENSION OF CONCRETE PAD PER ACTUAL SIZE OF EQUIPMENT. NO EXTRA COST IF A BIGGER CONCRETE PAD IS REQUIRED.

SWITCHBOARD ASSEMBLE DETAIL (1 / E-8)

N.T.S



SECTION C-C



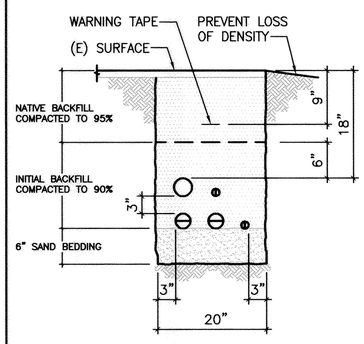
PLAN

NOTES:

1. CONCRETE SHALL HAVE A MINIMUM CEMENT CONTENT OF 450 LBS PER CUBIC YARD, MINIMUM 28 DAY CRUSHING STRENGTH OF 4000 PSI AND A MAXIMUM SLUMP OF 4 INCHES.
2. CONCRETE PAD DIMENSIONS ARE BASED ON "CUTLER HAMMER"/"COOPER" EQUIPMENT. FIELD VERIFY DIMENSION OF CONCRETE PAD PER ACTUAL SIZE OF EQUIPMENT. NO EXTRA COST IF A BIGGER CONCRETE PAD IS REQUIRED.

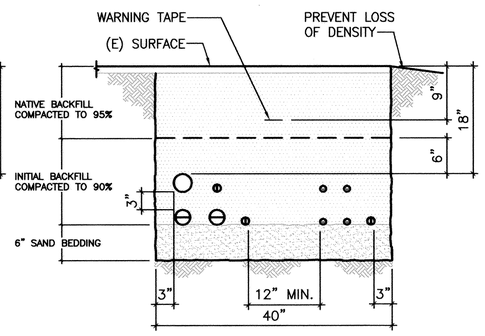
SWICTHBOARD CONCRETE PAD DETAIL (2 / E-8)

N.T.S



TRENCH DETAIL (3 / E-8)

N.T.S.



TRENCH DETAIL (4 / E-8)

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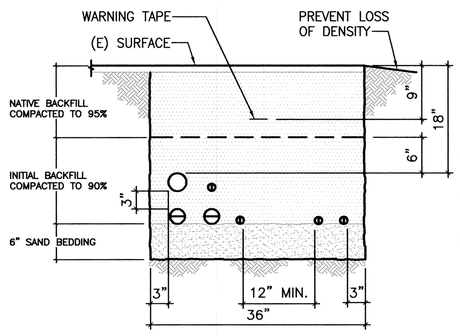

TRENCH DETAIL (5 / E-8)

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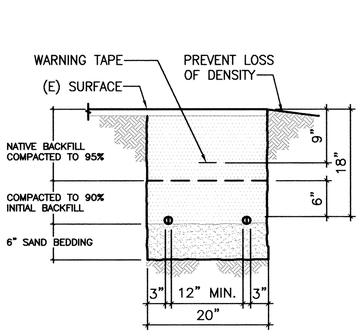
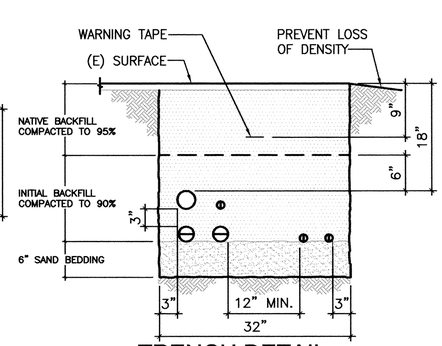


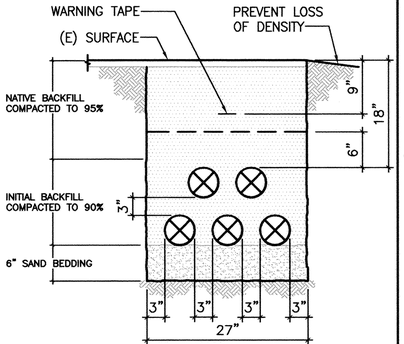
TRENCH DETAIL (6 / E-8)

N.T.S.



TRENCH DETAIL (7 / E-8)

N.T.S.



TRENCH DETAIL (8 / E-8)

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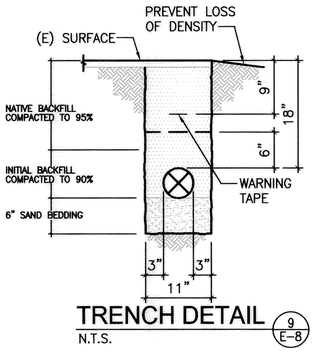

TRENCH DETAIL (9 / E-8)

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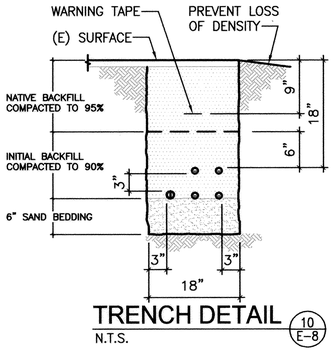

TRENCH DETAIL (10 / E-8)

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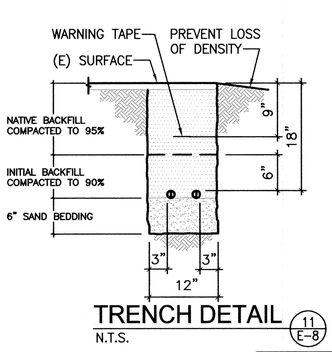

TRENCH DETAIL (11 / E-8)

N.T.S.

LEGEND:

- ● – 1"
- ◐ – 1-1/4"
- ⊖ – 2"-1/2"
- ○ – 3"
- ⊗ – 5"

REGISTERED PROFESSIONAL ENGINEER — VIKRAM BAPNA — No. C52060 — EXP. 12-31-14 — ELECTRICAL — STATE OF CALIFORNIA

PREPARED BY:

CWE

1561 E. ORANGETHORPE AVE., SUITE 240
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AMIE BASIN - ELECTRICAL DETAILS : E-8

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER — CRAIG BILEZERIAN — No. 55339 — Exp. 12/31/14 — CIVIL — STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: ALF
DESIGNED: C.P.
PROJECT ENGINEER: VIKRAM BAPNA
DIVISION ENGINEER: JOHN DETTLE

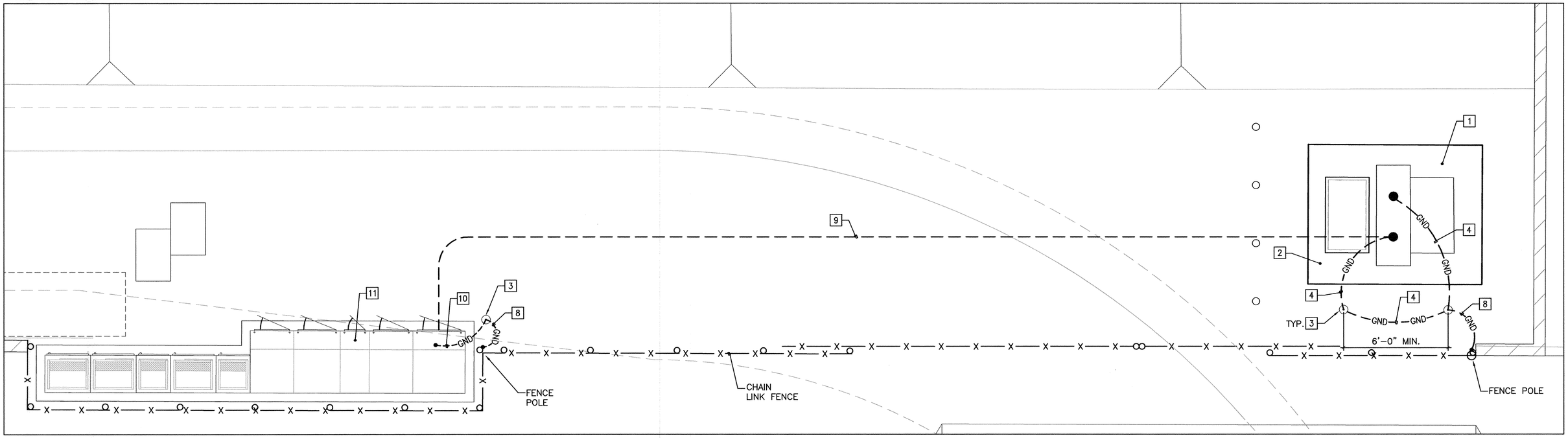
APPROVED:

CRAIG BILEZERIAN — DATE 3/3/14
CITY ENGINEER
R.C.E. NO. 55339 — EXP. 12/31/14

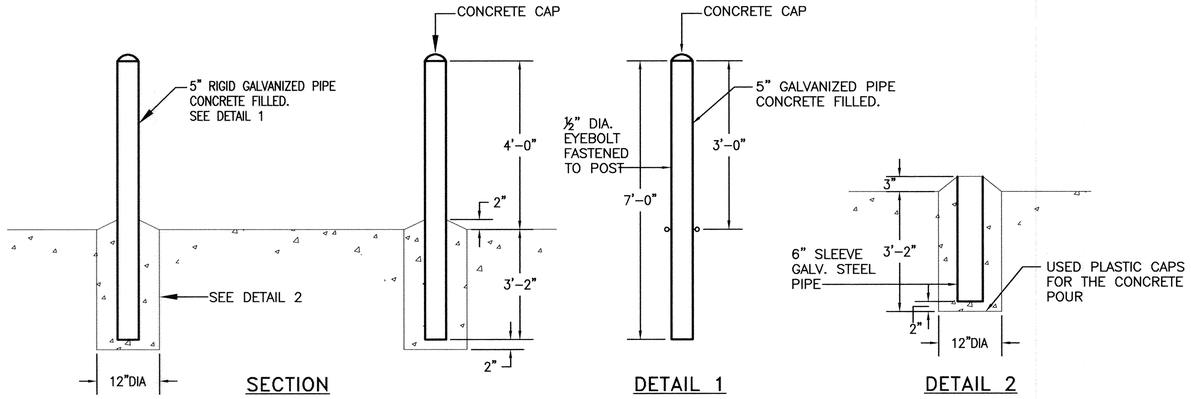
SCALE: AS SHOWN | SHEET 18 OF 22

PLAN NO.

DRAWING NAME: X:\CAD\Drawings\11040-1 Stormwater Basin Enhancement, City of Torrance\Construct 2\CAD-Construct 2\11040108.dwg
PLOT DATE: Nov 22, 2013 - 11:46am PLOTTED BY: vpraad



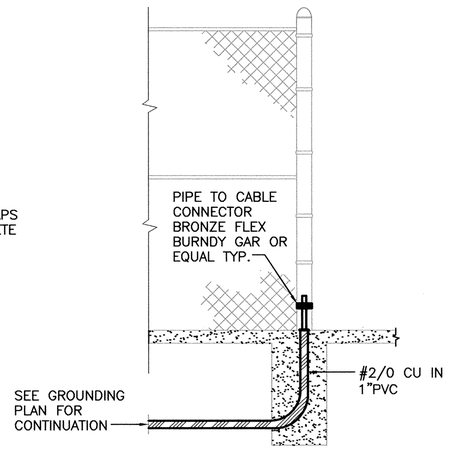
AMIE BASIN - ELECTRICAL GROUNDING PLAN



NON-REMOVABLE BARRIER POST

SCALE: N.T.S.

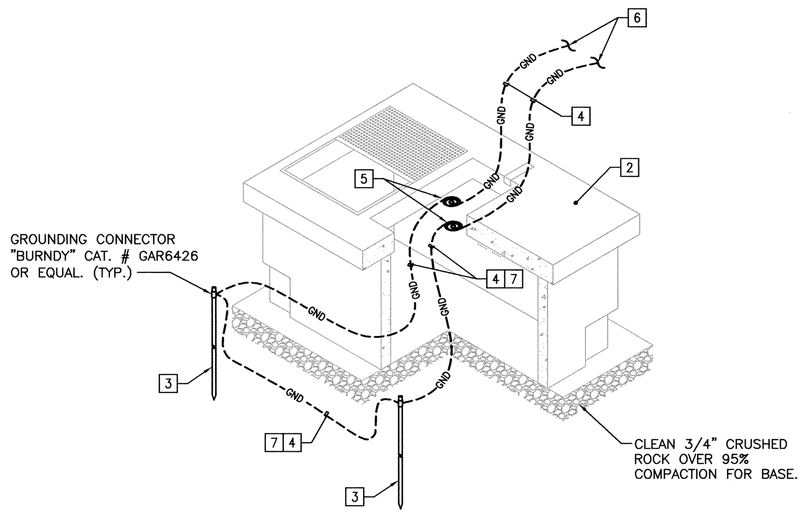
3 / E-7



FENCE POST GROUNDING

SCALE: N.T.S.

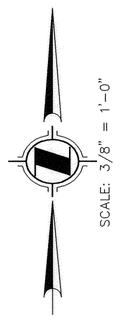
2 / E-7



SLAB BOX - PAD MOUNTED TRANSFORMER

SCALE: N.T.S.

1 / E-7



0 1 2 3 FEET 5

3/8" = 1'-0"

GRAPHIC SCALE

NEW WORK KEYNOTES:

1. PAD MOUNTED SCE TRANSFORMER.
2. SLAB BOX–PAD MOUNTED TRANSFORMER. SEE DETAIL 1/E–7 ON THIS SHEET.
3. PROVIDE 5/8" x 8' COPPERCLAD STEEL GROUND ROD PER SCE STANDARD DIRECTLY BURRIED IN THE EARTH. FIELD VERIFY SUITABLE LOCATIONS.
4. PROVIDE CONTINUOUS LENGTH OF #3/O BAR GROUND WIRE TINNED, CU. EXTEND THE ENDS OF THE BAR GROUND WIRE NO LESS THAN 6 FEET ABOVE SLAB TOP AT TRANSFORMER LEAD OPENING.
5. COIL GROUND WIRE BELOW SLAB TOP.
6. CONNECT WIRE TO TRANSFORMER GROUND NUT AND TRANSFORMER GROUND STRAP AND NUT FOR XO
7. GROUND WIRE SHALL BE PLACED THROUGH 1"PVC SCH.40 CONDUIT AT EITHER END OF SLAB BOX.
8. BOND THE FENCE TO THE GROUNDING SYSTEM. SEE DETAIL 2/E–7
9. BOND THE SWITCHBOARD GROUNDING TO THE TRANSFORMER GROUNDING SYSTEM. ALSO SEE NOTE 9 ON DWG. E–6
10. PROVIDE #3/O BAR GROUND WIRE TINNED. CU.
11. NEW SWITCHBOARD.

REGISTERED PROFESSIONAL ENGINEER — CRAIG BILEZERIAN — No. E16399 EXP. 6-30-14 — ELECTRICAL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — CRAIG BILEZERIAN — No. 55339 Exp. 12/31/14 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — VIKRAM BAPNA — No. C52060 EXP. 12-31-14 — STATE OF CALIFORNIA

PREPARED BY:
CWE
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FULLERTON, CA 92831
(714) 526-7500 OFFICE (714) 526-7004 FAX
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REV.	DATE	DESCRIPTION	BY	CHECKED

AMIE BASIN - ELECTRICAL GROUNDING PLAN : E-7

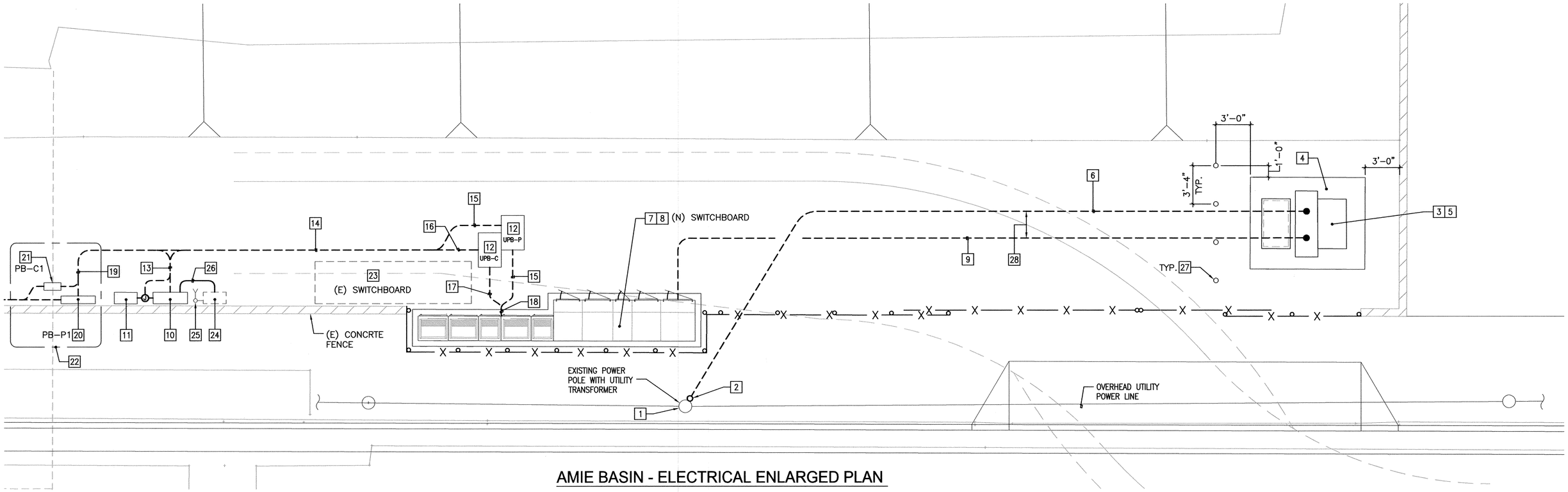
CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: ALF
DESIGNED: C.P.
PROJECT ENGINEER: VIKRAM BAPNA
DIVISION ENGINEER: JOHN DETTLE

APPROVED: 3/3/14
CRAIG BILEZERIAN — DATE
CITY ENGINEER
R.C.E. NO. 55339 — EXP. 12/31/14

SCALE: AS SHOWN | SHEET 17 OF 22
PLAN NO.

DRAWING NAME: X:\CAD\Whitsett\11040-1 Stormwater Basin Enhancement, City of Torrance\Contract 2\CAD-Contract 2\11040TB07.dwg
PLOT DATE: Nov 22, 2013 - 11:45am PLOTTED BY: vpressel



AMIE BASIN - ELECTRICAL ENLARGED PLAN

GENERAL NOTES:

SEE GENERAL NOTES ON DWG. E–4.

NEW WORK KEYNOTES:

1. EXISTING POWER POLE, PROPOSED POINT OF CONNECTION. COORDINATE WITH SCE FOR THE ACTUAL POINT OF CONNECTION.
2. NEW CONDUIT 5"PVC RISER AT THE EXISTING POWER POLE PER SCE STANDARD/REQUIREMENTS.
3. SCE PAD MOUNTED TRANSFORMER. WATTAGE AND PRIMARY VOLTAGE PER SCE STANDARD/REQUIREMENTS, SECONDARY 480/277V, 3ø, 4W.
4. PROVIDE & INSTALL SCE CONCRETE SLAB BOX SS 533.1 PER SCE STANDARD/REQUIREMENTS. SEE DETAIL 1/E–6.
5. PROVIDE TRANSFORMER GROUNDING. SEE DWG. E–7.
6. RUN UNDERGROUND DUCT BANK WITH 5"PVC WITH PULL TAPE FROM SERVICE TRANSFORMER SLAB BOX TO THE NEW POLE RISER. COORDINATE QUANTITY AND CONDUITS SIZE WITH SCE PER STANDARD/REQUIREMENTS. CONNECTION BY SCE. SEE DETAIL 9/E–8.
7. PROVIDE 277/480V, 3ø, 4W, 1000A, 65 KAIC, NEMA–3R SWITCHBOARD AND MCC PER SINGLE LINE DIAGRAM DWG. E–5 AND DETAIL 1/E–8.
8. PROVIDE CONCRETE PAD SIZE 25'–2" x 4'–7". DIMENSION IS APPROXIMATE AND BASED AT "EATON" EQUIPMENT. VERIFY DIMENSIONS OF CONCRETE PAD PER ACTUAL SIZE OF SWITCHBOARD. SEE DETAIL 2/E–8.
9. RUN UNDERGROUND DUCT BANK WITH 5 SETS OF 5" PVC CONDUIT WITH POWER & GROUND WIRES AND WITH PULL TAPE FROM SERVICE TRANSFORMER SLAB BOX AND TO THE NEW SWITCHBOARD, MENTIONED IN NOTE 7 COORDINATE QUANTITY AND CONDUITS SIZE WITH SCE PER STANDARD/REQUIREMENTS. SEE DETAIL 8/E–8.
10. NEW PUMP CONTROLLER. SEE REQUIREMENTS AND SEQUENCE OF OPERATION ON DWG. E–0. COORDINATE WORK CAREFULLY WITH STRUCTURAL AND CIVIL DRAWINGS TO PROVIDE CONTROL FUNCTION INTENDED BY THESE DRAWINGS.
11. IRRIGATION CONTROLLER, SEE LANDSCAPE DWG. CONNECTION BY ELECTRICAL CONTRACTOR.
12. PROVIDE & INSTALL PRECAST UNDERGROUND CONCRETE PULL BOX, 2'–0"x3'–0"x4'–0" FOR DIRECT TRAFFIC INSTALLATION WITH FULL TRAFFIC COVER H–20 LOADING FOR POWER AND CONTROL WIRING. FIELD VERIFY EXACT LOCATION.
13. RUN UNDERGROUND DUCT BANK WITH PVC SCH. 40 WITH (1) 1–1/4"C–5#12 + 2#12 GND. POWER WIRES FOR PUMP AND IRRIGATION CONTROLLERS AND (1) 1–1/4"C FOR CONTROL WIRING AT PUMP CONTROLLER. SEE DETAIL 6/E–8.
14. RUN UNDERGROUND DUCT BANK WITH PVC SCH. 40 CONDUITS:
    - (1) 3"C
    - (2) 2"–1/2"C
    - (4) 1–1/4"C

    SEE DETAIL 5/E–8.
15. RUN UNDERGROUND DUCT BANK WITH PVC SCH. 40 CONDUITS:
    - (1) 3"C
    - (2) 2"–1/2"C
    - (2) 1–1/4"C

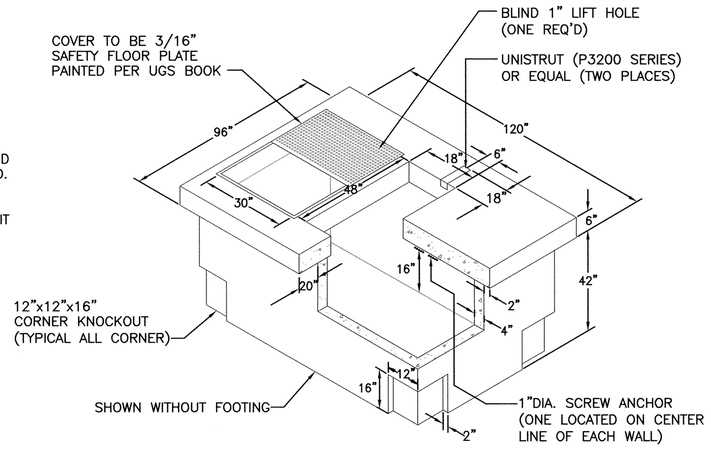
    SEE DETAIL 3/E–8.
16. RUN UNDERGROUND DUCT BANK WITH PVC SCH. 40 CONDUITS:
    - (2) 1–1/4"C

    SEE DETAIL 11/E–8.
17. RUN UNDERGROUND DUCT BANK WITH PVC SCH. 40 CONDUITS:
    - (1) 1–1/4"C
    - (4) 1"C

    SEE DETAIL 10/E–8.
18. RUN UNDERGROUND DUCT BANK WITH PVC SCH. 40 CONDUITS:
    - (1) 3"C
    - (2) 2–1/2"C
    - (3) 1–1/4"C
    - (4) 1"C

    TERMINATE CONDUITS INDIVIDUAL AT SECTIONS OF MSS PER SINGLE LINE DIAGRAM. SEE DETAIL 4/E–8.
19. RUN UNDERGROUND DUCT BANK WITH PVC SCH. 40 CONDUITS:
    - (1) 3"C
    - (2) 2–1/2"C
    - (3) 1–1/4"C

    SEE DETAIL 7/E–8
20. PROVIDE & INSTALL NEMA–3R WALL MIOUNTED PULL BOX, 30"X30"X8" FOR POWER. INTERCEPT EXISTING 1–1/4" CONDUIT FOR IRRIGATION PUMP INSTALLED IN PREVIOUS PROJECT. EXTEND WIRING AS REQUIRED FOR CONNECTION WITH NEW SWITCHBOARD.
21. PROVIDE & INSTALL NEMA–3R PULL BOX WALL MOUNTED, 12"x12"x6" FOR CONTROL. INTERCEPT EXISTING 1–1/4" CONDUIT FOR IRRIGATION PUMP CONTROLS INSTALLED IN PREVIOUS PROJECT. EXTEND WIRING AS REQUIRED FOR CONNECTION.
22. SEE DETAIL 1/E–8A. FOR ELEVATION.
23. EXISTING SWITCHBOARD.
24. EXISTING PUMPS CONTROLLER. SEE NOTE ◇7 DWG. E–2 & E–3.
25. (E) ANTENNA AND ANTENNA CONNECTION TO THE (E) SCADA TELEMETRY SYSTEM LOCATED IN (E) PUMPS CONTROLLER.
26. RUN 3/4" WITH CONTROL WIRES BETWEEN NEW AND EXISTING PUMP CONTROLLER.
27. BARRIER POST. SEE DETAIL 3/E–7.
28. MINIMUM 12" BETWEEN TRENCHES EDGES.



SLAB BOX - PAD MOUNTED TRANSFORMER

SCALE: N.T.S.

1 / E–6

SCALE: 1/4" = 1'–0"

0 1 2 4 FEET 8

1/4" = 1'–0"

GRAPHIC SCALE

PREPARED BY:

CWE

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FULLERTON, CA 92831
(714) 526-7500 OFFICE (714) 526-7004 FAX
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REGISTERED PROFESSIONAL ENGINEER — VIKRAM BAPNA — No. C52060 — EXP. 12-31-14 — STATE OF CALIFORNIA — ELECTRICAL

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER — CRAIG BILEZERIAN — No. 55339 — Exp. 12/31/14 — CIVIL — STATE OF CALIFORNIA

AMIE BASIN - ELECTRICAL ENLARGED PLAN : E-6

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

APPROVED: 3/3/14

CRAIG BILEZERIAN, CITY ENGINEER, R.C.E. NO. 55339 — DATE EXP. 12/31/14

DRAWN: ALF

DESIGNED: C.P.

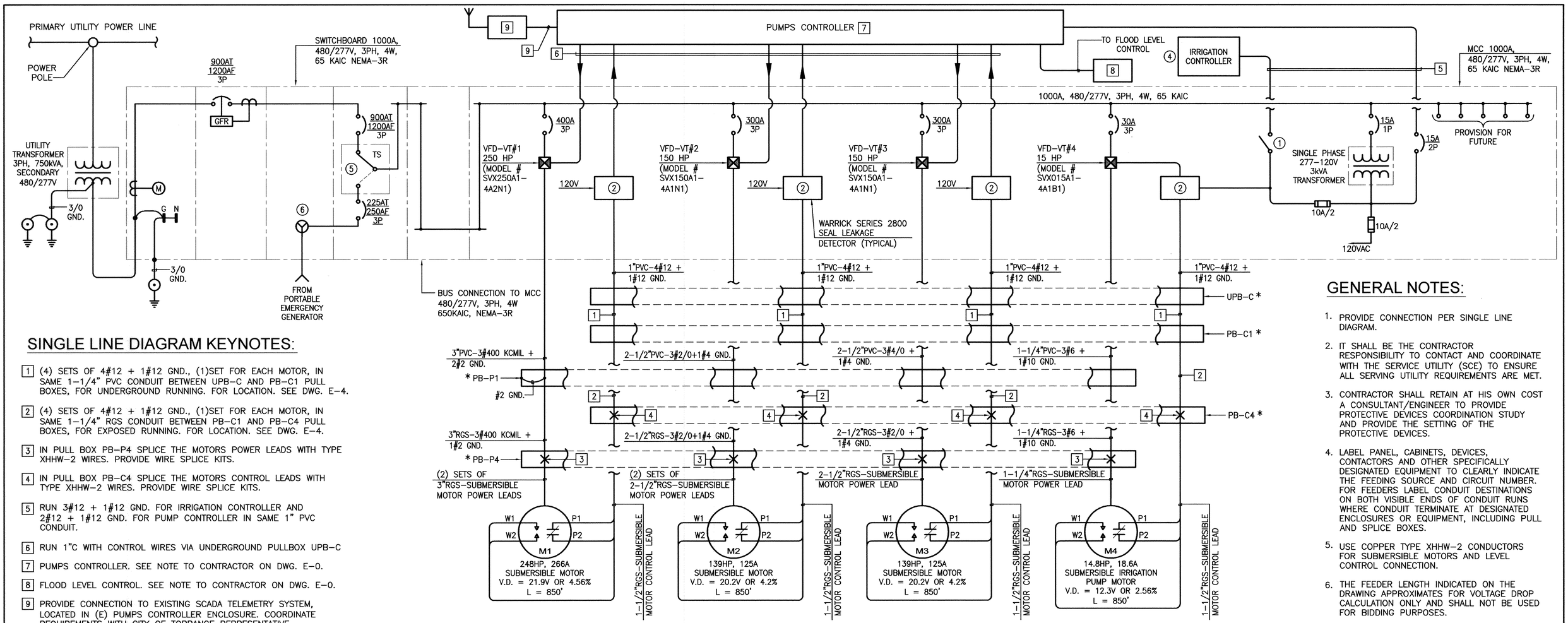
PROJECT ENGINEER: VIKRAM BAPNA

DIVISION ENGINEER: JOHN DETTLE

SCALE: AS SHOWN | SHEET 16 OF 22

PLAN NO.

DRAWING NAME: X:\CAD\Virtual\110401-1 Stormwater Basin Enhancement, City of Torrance\Contract 2\CAD-Contract 2\110401E06.dwg
PLOT DATE: Nov 22, 2013 - 11:44am PLOTTED BY: vpreed



AMIE BASIN - SINGLE LINE NEW WORK DIAGRAM

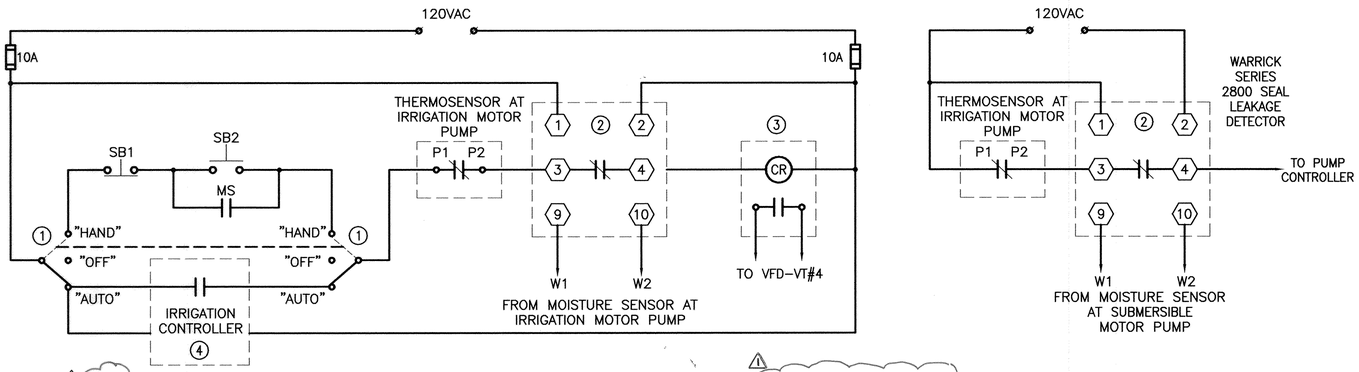
SINGLE LINE DIAGRAM KEYNOTES:

1. (4) SETS OF 4#12 + 1#12 GND., (1)SET FOR EACH MOTOR, IN SAME 1-1/4" PVC CONDUIT BETWEEN UPB-C AND PB-C1 PULL BOXES, FOR UNDERGROUND RUNNING. FOR LOCATION. SEE DWG. E-4.
2. (4) SETS OF 4#12 + 1#12 GND., (1)SET FOR EACH MOTOR, IN SAME 1-1/4" RGS CONDUIT BETWEEN PB-C1 AND PB-C4 PULL BOXES, FOR EXPOSED RUNNING. FOR LOCATION. SEE DWG. E-4.
3. IN PULL BOX PB-P4 SPLICE THE MOTORS POWER LEADS WITH TYPE XHHW-2 WIRES. PROVIDE WIRE SPLICE KITS.
4. IN PULL BOX PB-C4 SPLICE THE MOTORS CONTROL LEADS WITH TYPE XHHW-2 WIRES. PROVIDE WIRE SPLICE KITS.
5. RUN 3#12 + 1#12 GND. FOR IRRIGATION CONTROLLER AND 2#12 + 1#12 GND. FOR PUMP CONTROLLER IN SAME 1" PVC CONDUIT.
6. RUN 1"C WITH CONTROL WIRES VIA UNDERGROUND PULLBOX UPB-C
7. PUMPS CONTROLLER. SEE NOTE TO CONTRACTOR ON DWG. E-0.
8. FLOOD LEVEL CONTROL. SEE NOTE TO CONTRACTOR ON DWG. E-0.
9. PROVIDE CONNECTION TO EXISTING SCADA TELEMETRY SYSTEM, LOCATED IN (E) PUMPS CONTROLLER ENCLOSURE. COORDINATE REQUIREMENTS WITH CITY OF TORRANCE REPRESENTATIVE.

GENERAL NOTES:

1. PROVIDE CONNECTION PER SINGLE LINE DIAGRAM.
2. IT SHALL BE THE CONTRACTOR RESPONSIBILITY TO CONTACT AND COORDINATE WITH THE SERVICE UTILITY (SCE) TO ENSURE ALL SERVING UTILITY REQUIREMENTS ARE MET.
3. CONTRACTOR SHALL RETAIN AT HIS OWN COST A CONSULTANT/ENGINEER TO PROVIDE PROTECTIVE DEVICES COORDINATION STUDY AND PROVIDE THE SETTING OF THE PROTECTIVE DEVICES.
4. LABEL PANEL, CABINETS, DEVICES, CONTACTORS AND OTHER SPECIFICALLY DESIGNATED EQUIPMENT TO CLEARLY INDICATE THE FEEDING SOURCE AND CIRCUIT NUMBER. FOR FEEDERS LABEL CONDUIT DESTINATIONS ON BOTH VISIBLE ENDS OF CONDUIT RUNS WHERE CONDUIT TERMINATE AT DESIGNATED ENCLOSURES OR EQUIPMENT, INCLUDING PULL AND SPLICE BOXES.
5. USE COPPER TYPE XHHW-2 CONDUCTORS FOR SUBMERSIBLE MOTORS AND LEVEL CONTROL CONNECTION.
6. THE FEEDER LENGTH INDICATED ON THE DRAWING APPROXIMATES FOR VOLTAGE DROP CALCULATION ONLY AND SHALL NOT BE USED FOR BIDDING PURPOSES.
7. SWITCHBOARD AND MCC BASED ON "EATON CORPORATION" ELECTRICAL EQUIPMENT, EXCEPT "WARRICK" SERIES 2800-1G1A SEAL LEAKAGE DETECTOR.

* DRAWINGS SHOWS ONLY PULL BOXES IN WHICH TYPE OR SIZE OR QUANTITY OF WIRE OR CONDUITS CHANGE. FOR PULL BOXES LOCATION, REFER TO DWGS. E-4 AND E-6.



(E) AMIE BASIN - IRRIGATION PUMP CONTROL DIAGRAM

CONTROL DEVICE LEGEND:

1. KEY OPERATED 3 POSITION DOUBLE THROW SELECTOR SWITCH.
2. WARRICK SERIES 2800-1G1A SEAL LEAKAGE DETECTOR.
3. INDUSTRIAL CONTROL RELAY, COIL VOLTAGE 120V.
4. IRRIGATION CONTROLLER, SEE IRRIGATION DRAWINGS, CONNECTION BY ELECTRICAL CONTRACTOR.
5. SERVICE ENTRANCE MANUAL TRANSFER SWITCH 480/277V, 3-PH, 4W 1000A, NEMA-3R.
6. 480V, 200A, 3P+N+G INLET/CAP (MALE).

NOTE:

INSTALL IRRIGATION PUMP CONTROL DEVICE AT IRRIGATION PUMP SECTION OF MCC.

FOR REFERENCE ONLY

TYPICAL CONNECTION BETWEEN MOTOR THERMAL PROTECTION AND SEAL LEAKAGE DETECTOR

LOAD SUMMARY:

1.	PUMP MOTOR M1	=	221.1 KVA
2.	PUMP MOTOR M2	=	103.8 KVA
3.	PUMP MOTOR M3	=	103.8 KVA
4.	PUMP MOTOR M4	=	15.5 KVA
5.	MISCELLANEOUS POWER	=	3.0 KVA
	TOTAL	=	447.2 KVA

OR 540A @ 480, 3PHASE

RECORD DRAWING

AMIE BASIN - SINGLE LINE & CONTROL DIAGRAMS : E-5

REV.	DATE	DESCRIPTION	BY	CHECKED
1	8/17/16	ADDED NOTES	VP	

REGISTERED PROFESSIONAL ENGINEER CRAIG BILEZERIAN No. 55339 Exp. 12/31/14 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VIKRAM BAPNA No. C52060 EXP. 12-31-14 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER JOHN DETTLE No. 16837 EXP. 9-30-14 ELECTRICAL STATE OF CALIFORNIA

PREPARED BY:
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CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

APPROVED: 3/3/14
CRAIG BILEZERIAN CITY ENGINEER R.C.E. NO. 55339 — DATE EXP. 12/31/14

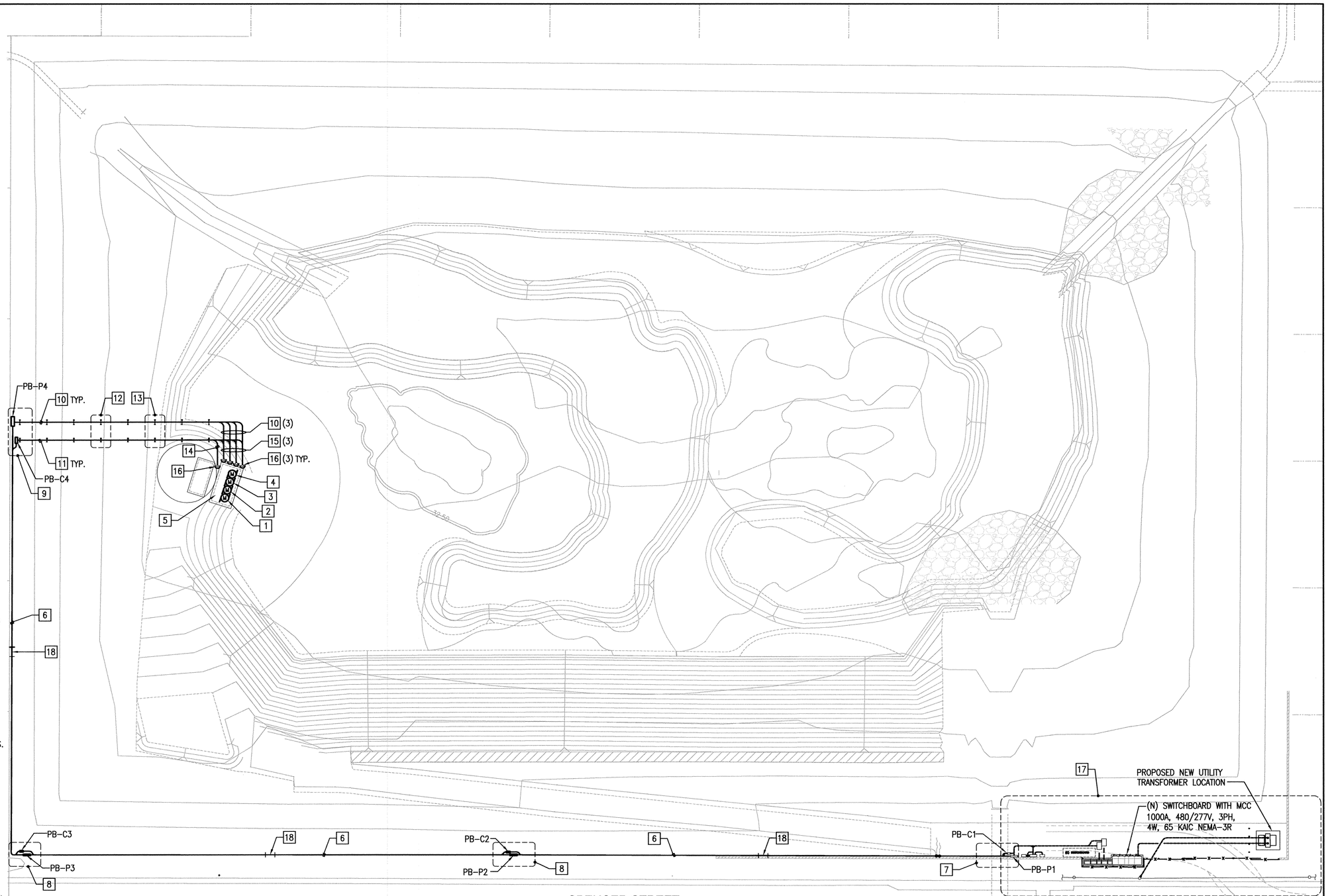
DRAWN: ALF
DESIGNED: C.P.
PROJECT ENGINEER: VIKRAM BAPNA
DIVISION ENGINEER: JOHN DETTLE

SCALE: AS SHOWN | SHEET 15 OF 22
PLAN NO.

DRAWING NAME: X:\ENG\Projects\11080-1 Stormwater Basin Enhancement, City of Torrance\Control 2\LOAD-Control 2\1104E105.dwg
PLOT DATE: Nov 22, 2013 - 2:06pm PLOTTED BY: vanessa

NEW WORK KEYNOTES:

1. IRRIGATION PUMP M4. CONNECT IRRIGATION PUMP M4 PER SINGLE LINE DIAGRAM DWG. E–5. UTILIZE EXISTING CONDUIT AND WIRING.
2. NEW 139HP PUMP M3. CONNECT PUMP M3 PER SINGLE LINE DIAGRAM DWG. E–5.
3. NEW 139HP PUMP M2. CONNECT NEW PUMP M2 PER SINGLE LINE DIAGRAM DWG. E–5.
4. NEW 248HP PUMP M1. CONNECT NEW PUMP M1 PER SINGLE LINE DIAGRAM DWG. E–5.
5. CONCRETE WET WELL, SEE STRUCTURAL DRAWINGS.
6. RUN (1) 3" RGS + (2) 2–1/2" RGS CONDUITS FOR POWER WIRING AND (1) 1–1/4 "RGS CONDUITS FOR CONTROL WIRING ALONG WALL, UTILIZE EXISTING UNISTRUT SUPPORT. SEE DETAIL 2/E–8A.
7. UTILIZE EXISTING PULL BOXES PER DETAIL 1/E–8A.
8. UTILIZE EXISTING PULL BOXES PER DETAIL 2/E–8A.
9. UTILIZE EXISTING PULL BOXES PER DETAIL 3/E–8A.
10. RUN (2) 3" RGS + (2) 2–1/2" RGS CONDUITS FOR POWER WIRING ABOVE SURFACE SLOPE USING EXISTING UNISTRUT SUPPORT. FOR CONDUITS TERMINATION TO THE EXTERIOR PULL BOXES USE LIQUID TIGHT FLEXIBLE STEEL CONDUITS WITH LIQUID TIGHT CONNECTOR. SEE DETAIL 3/E–8A.
11. RUN (4) 1" RGS CONDUITS FOR CONTROL WIRING ABOVE SURFACE SLOPE USING UNISTRUT SUPPORT. FOR CONDUITS TERMINATION TO THE PULL BOXES USE LIQUID TIGHT FLEXIBLE STEEL CONDUITS WITH LIQUID TIGHT CONNECTOR, SEE DETAIL 3/E–8A.
12. UTILIZE EXISTING CONDUIT SUPPORT ON CONCRETE SLOPE SEE DETAIL 4/E–8B AND 5/E–8B.
13. UTILIZE EXISTING CONDUIT SUPPORT ON DIRT AREA SEE DETAIL 2/E–8B AND 3/E–8B.
14. 1" RGS SCH.40 CONDUIT FOR FLOOD LEVEL CONTROL. PROVIDE UNISTRUT SUPPORT ON CONCRETE FOOTING. COORDINATE LOCATION WITH CONTROL SUB–CONTRACTOR.
15. (2) 3" RGS + (2) 2–1/2" RGS + (4) 1" RGS CONDUITS FOR MOTOR POWER AND WIRING CONTROL. UTILIZE EXISTING UNISTRUT SUPPORT ON CONCRETE FOOTING.
16. STUB–UP (3) CONDUIT AT TOP OF CONCRETE PAD FOR PUMPS. WATER SEAL CONDUIT AFTER CABLE HAS BEEN PULLED. (TYP.)
17. SEE ENLARGED PLAN ON DWG. E–6.
18. AT THE MIDDLE OF CONDUITS RUN BETWEEN TWO (2) PULL BOXES INSTALL COMBINATION DEFLECTION/EXPANSION FITTINGS WITH GROUND BONDING JUMPER RESPECTIVE CONDUITS DIAMETERS.



GENERAL NOTES:

1. CONTRACTOR SHALL EXERCISE EXTREME CARE AND DILIGENCE WHEN EXCAVATING AND WORKING AROUND EXISTING UNDERGROUND UTILITIES. PERFORM ANY NECESSARY HAND DIGGING, MANUAL TRENCHING, AND SHORING WITHOUT EXTRA COST.
2. CONTRACTOR SHALL PROVIDE IN HIS BID A NECESSARY AMOUNT TO COVER "DIG ALERT" (OR ANOTHER COMPANY) CHARGES TO PROVIDE A FULL UNDERGROUND UTILITIES. IN CASE OF ANY DAMAGES TO ANY EXISTING UTILITIES, THE CONTRACTOR HAS TO REPAIR ALL DAMAGES AT HIS OWN EXPENSES WITHOUT ANY EXTRA CHARGES TO THE OWNER.
3. REPAIR ALL A.C. CONCRETE, SURFACES, CURBS, LAWN AND PLANTING AREAS TO MATCH EXISTING, INCLUDING SPRINKLER SYSTEM REPAIR IN LAWN AND PLANTERS, AFTER TRENCHING AND UNDERGROUND WORK.
4. CONTRACTOR SHALL ELECTRONICALLY SCAN THE UNDERGROUND CORRIDOR WHERE THE NEW TRENCHING SHALL OCCUR. EXISTING UNDERGROUND UTILITIES SHALL BE LOCATED BOTH ON THE HORIZONTAL AND VERTICAL PLANES USING ELECTRONIC OR RADIO DETECTION DEVICES. SYSTEMS THAT ARE NON METALLIC SHALL HAVE A METALLIC TRACER WIRE INSERTED INTO THE CONDUIT TO FACILITATE TRACKING OF THE ALIGNMENT.
5. DRAWING IS ESSENTIALLY DIAGRAMMATIC.
5. CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY. EXACT ROUTING SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD TO SUIT FIELD CONDITIONS AND APPROVED BY THE OWNER. ALL CONFLICTS SHALL BE RESOLVED PRIOR TO BID.
6. COORDINATE ELECTRICAL TRENCHING WITH AN OTHER DISCIPLINE TRENCHING.

SCALE: 1" = 20'

20 10 0 20 60

GRAPHIC SCALE

AMIE BASIN - ELECTRICAL NEW SITE PLAN : E-4

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER — CRAIG BILEZERIAN — No. 55339 — Exp. 12/31/14 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — VIKRAM BAPNA — No. C52060 — EXP. 12-31-14 — ELECTRICAL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — ELECTRICAL — NO. E 18199 — EXP. 1-30-14 — STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: ALF
DESIGNED: C.P.
PROJECT ENGINEER: VIKRAM BAPNA
DIVISION ENGINEER: JOHN DETTLE

APPROVED:
CRAIG BILEZERIAN — DATE 3/3/14
CITY ENGINEER — R.C.E. NO. 55339 — EXP. 12/31/14

SCALE: AS SHOWN | SHEET 14 OF 22

PLAN NO.

PREPARED BY:
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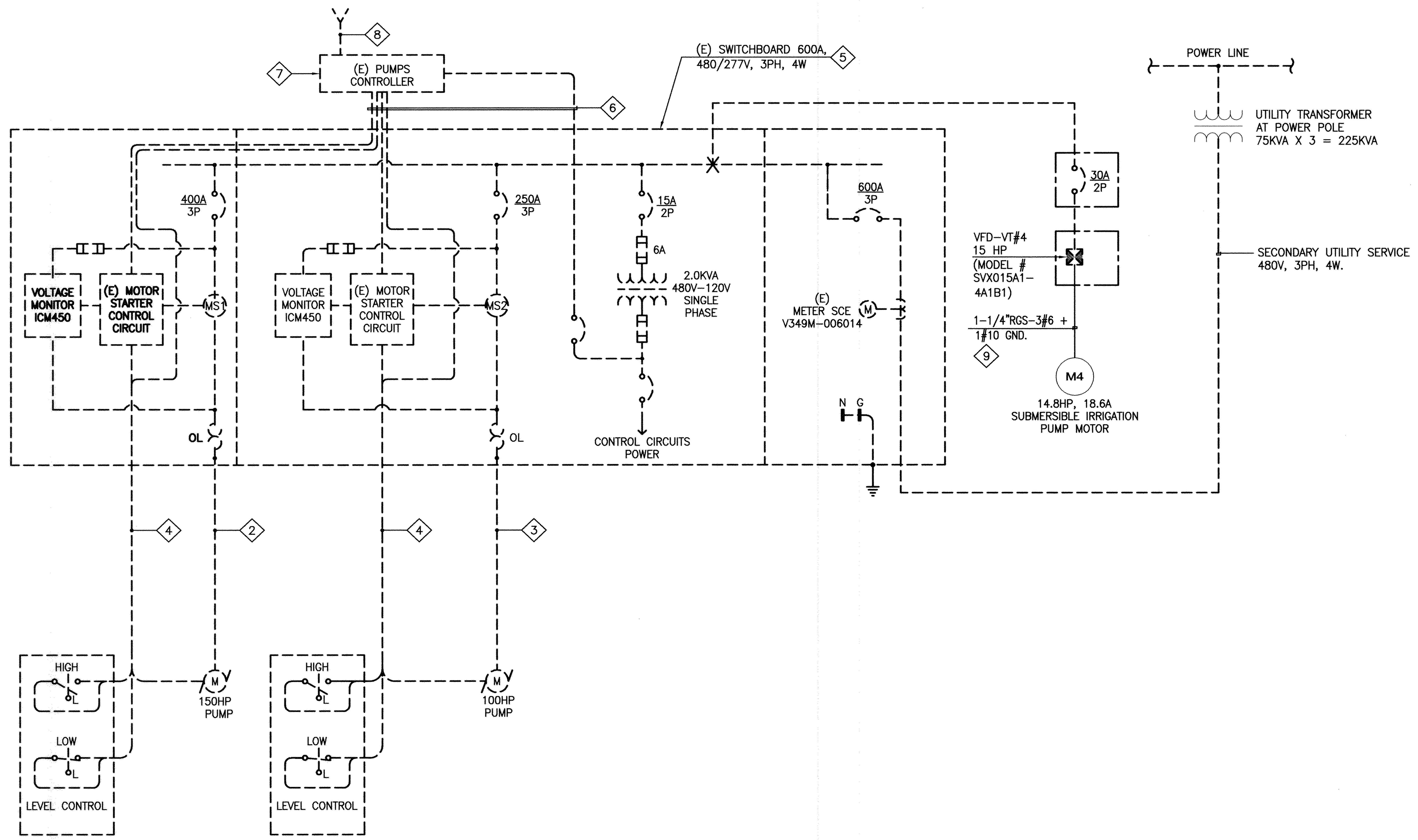
DRAWING NAME: X:\ENG\Projects\11040–1 Stormwater Basin Enhancement, City of Torrance\Contract 2\CAD–Contract 2\11040104.dwg
PLOT DATE: Nov 22, 2013 – 11:41am PLOTTED BY: vpraad



AMIE BASIN - SINGLE LINE DEMOLITION DIAGRAM

SINGLE LINE DEMOLITION KEYNOTES:

1. DEMOLITION WORK AT UTILITY SIDE BY SCE.
2. DISCONNECT AND REMOVE (E) 150HP MOTOR PUMP, REMOVE WIRES AND CONDUITS BACK TO THE POWER SOURCE AT SWITCHBOARD. RETURN PUMP TO CITY.
3. DISCONNECT AND REMOVE (E) 100HP PUMP MOTOR, REMOVE CONDUCTOR AND CONDUITS BACK TO THE POWER SOURCE AT SWITCHBOARD. RETURN PUMP TO CITY.
4. DISCONNECT AND REMOVE PUMP LEVEL CONTROL & WIRING, MOTOR THERMAL PROTECTION AND MOISTURE DETECTION SYSTEMS. REMOVE CONDUIT.
5. REMOVE (E) SWITCHBOARD.
6. REMOVE CONNECTION BETWEEN (E) SWITCHBOARD AND PUMPS CONTROLLER.
7. (E) PUMP CONTROLLER. INSIDE OF THE (E) PUMP CONTROLLER ENCLOSURE DISCONNECT AND REMOVE CONTROL SECTION OF THE CONTROLLER, THE (E) SCADA TELEMETRY SYSTEM AND ENCLOSURE TO REMAIN. THE NEW PUMP CONTROLLER WILL BE CONNECTED TO THE (E) SCADA TELEMETRY SYSTEM
8. (E) ANTENNA AND ANTENNA CONNECTION TO THE (E) SCADA TELEMETRY SYSTEM IN PUMP CONTROL BOX TO REMAIN.
9. (E) CONDUIT AND WIRING FROM WALLMOUNTED VFD TO THE LOCATION OF IRRIGATION PUMP TO REMAIN AND BE PROTECTED IN PLACE FOR CONNECTION TO NEW SYSTEM.

LEGEND:

------ DARK LINE DENOTES DEMO DEVICES/EQUIPMENT AND CONNECTION.

AMIE BASIN - SINGLE LINE DEMOLITION DIAGRAM : E-3

REV.	DATE	DESCRIPTION	BY	CHECKED

PREPARED BY:

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REGISTERED PROFESSIONAL ENGINEER — EXP. 3-31-14 — ELECTRICAL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — CRAIG BILEZERIAN — No. 55339 — Exp. 12/31/14 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — VIKRAM BAPNA — No. C52060 — EXP. 12-31-14 — STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

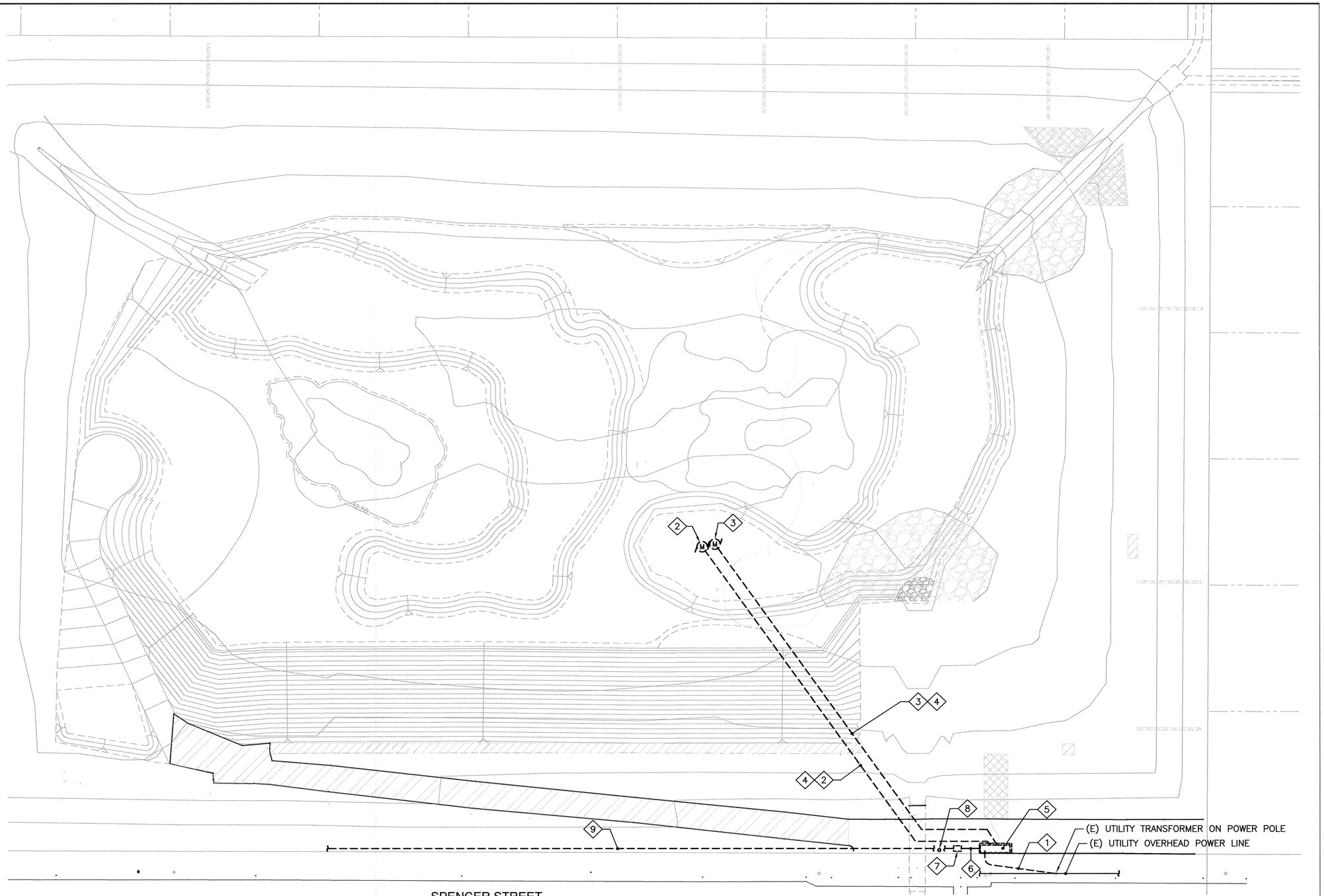
DRAWN: ALF
DESIGNED: C.P.
PROJECT ENGINEER: VIKRAM BAPNA
DIVISION ENGINEER: JOHN DETTLE

APPROVED: 3/3/14
CRAIG BILEZERIAN, CITY ENGINEER, R.C.E. NO. 55339 — DATE — EXP. 12/31/14

SCALE: AS SHOWN | SHEET 13 OF 22
PLAN NO.

DEMOLITION KEYNOTES:

1. DEMOLITION WORK AT UTILITY SIDE BY SCE.
2. DISCONNECT AND REMOVE (E) 150HP MOTOR PUMP. REMOVE WIRES AND CONDUITS BACK TO THE POWER SOURCE. RETURN PUMP TO CITY.
3. DISCONNECT (E) 100HP PUMP MOTOR, REMOVE WIRES AND REMOVE CONDUITS BACK TO THE POWER SOURCE. RETURN PUMP TO CITY.
4. DISCONNECT AND REMOVE PUMP LEVEL CONTROL & WIRING FOR MOTOR THERMAL PROTECTION AND MOISTURE DETECTION SYSTEMS. REMOVE CONDUIT.
5. REMOVE (E) SWITCHBOARD.
6. REMOVE CONNECTION BETWEEN (E) SWITCHBOARD AND PUMPS CONTROLLER.
7. (E) PUMP CONTROLLER. INSIDE OF (E) PUMP CONTROLLER ENCLOSURE DISCONNECT AND REMOVE CONTROL SECTION OF THE CONTROLLER, THE (E) SCADA TELEMETRY SYSTEM AND ENCLOSURE TO REMAIN. THE NEW PUMP CONTROLLER WILL BE CONNECTED TO THE (E) SCADA TELEMETRY SYSTEM.
8. (E) ANTENNA AND ANTENNA CONNECTION TO THE (E) SCADA TELEMETRY SYSTEM IN PUMP CONTROL BOX TO REMAIN.
9. REMOVE ALL ABANDONED CONDUITS AND BOXES.



SCALE: 1" = 20'

20 10 0 20 60

GRAPHIC SCALE

AMIE BASIN - ELECTRICAL DEMO SITE PLAN : E-2

REGISTERED PROFESSIONAL ENGINEER — VIKRAM BAPNA — No. C52060 — EXP. 12-31-14 — ELECTRICAL — STATE OF CALIFORNIA

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER — CRAIG BILEZERIAN — No. 55339 — Exp. 12/31/14 — CIVIL — STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: ALF
DESIGNED: C.P.
PROJECT ENGINEER: VIKRAM BAPNA
DIVISION ENGINEER: JOHN DETTLE

APPROVED: 3/3/14
CRAIG BILEZERIAN — DATE
CITY ENGINEER
R.C.E. NO. 55339 — EXP. 12/31/14

SCALE: AS SHOWN | SHEET 12 OF 22

PLAN NO.

PREPARED BY:

1561 E. ORANGETHORPE AVE., SUITE 240
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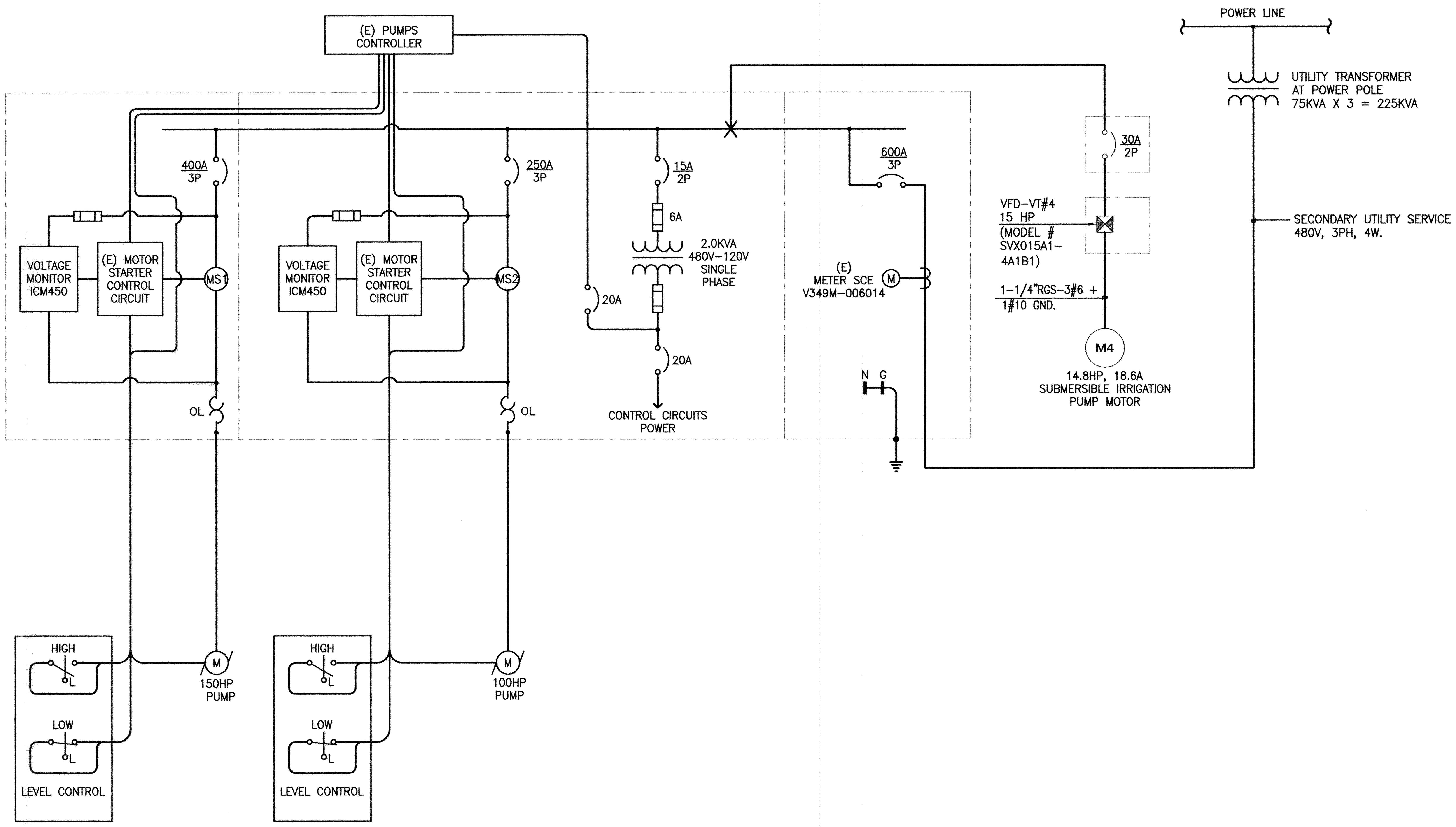
DRAWING NAME: X:\Jobs\Amieben\110401-1 Stormwater Basin Enhancement, City of Torrance\Construct 2\CAD-Construct 2\110401E02.dwg
PLOT DATE: Nov 22, 2013 - 10:16am PLOTTED BY: vpraveel



AMIE BASIN - EXISTING SINGLE LINE DIAGRAM

LOAD SUMMARY:

1.	150HP PUMP	=	145.0 KVA
2.	100HP PUMP	=	98.8 KVA
3.	MISCELLANEOUS POWER	=	1.5 KVA
	TOTAL		245.3 KVA
			OR 295A @ 480, 3PHASE.

AMIE BASIN - EXISTING SINGLE LINE DIAGRAM : E-1

PREPARED BY:

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REV.	DATE	DESCRIPTION	BY	CHECKED

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: ALF
DESIGNED: C.P.
PROJECT ENGINEER: VIKRAM BAPNA
DIVISION ENGINEER: JOHN DETTLE

APPROVED:
3/3/14
CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. 55339 EXP. 12/31/14

SCALE: AS SHOWN SHEET 11 OF 22
PLAN NO.

ELECTRICAL SPECIFICATION NOTES:

A. SCOPE

1. FURNISH ALL LABOR, FURNISH AND INSTALL ALL REQUIRED MATERIALS AND EQUIPMENT FOR COMPLETE OPERATING SYSTEMS AS SHOWN AND AS SPECIFIED.

B. CODES

1. ALL ELECTRICAL WORK SHALL COMPLY WITH 2010 CALIFORNIA ELECTRICAL CODE AND REGULATION REQUIREMENTS OF THE COUNTY.

C. PERMITS AND INSPECTIONS CODES

1. OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS FOR THE INSTALLATION OF THE ELECTRICAL WORK. DELIVER CERTIFICATES OF INSPECTION AND APPROVAL TO THE OWNER.

D. SITE VISIT

1. CONTRACTOR SHALL VISIT THE JOB SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS THAT WILL AFFECT HIS WORK AND MAKE THE NECESSARY ALLOWANCES IN HIS BID TO COMPENSATE FOR THESE CONDITIONS. BY THE ACT OF SUBMITTING A BID FOR THIS PROJECT, IT IS HEREBY UNDERSTOOD THAT THE CONTRACTOR IS FAMILIAR WITH AND ACCEPTS ALL CONDITIONS AT THE SITE. NO REQUEST FOR ADDITIONAL PAYMENT SHALL BE CONSIDERED AS VALID, DUE TO FAILURE TO ALLOW FOR CONDITIONS WHICH MAY EXIST.

E. CLEANING PREMISES

1. KEEP JOB SITE FREE FROM RUBBISH AND WASTE MATERIALS, REMOVE SAME FROM SITE ON A DAILY BASIS.

G. COORDINATION

1. COORDINATE ALL WORK WITH OTHER TRADES. OBTAIN ALL DRAWINGS THAT WILL REQUIRE COORDINATION AND PROVIDE ALL ELECTRICAL CONNECTIONS REQUIRED WHETHER SHOWN ON ELECTRICAL DRAWINGS OR NOT.

2. CONTRACTOR IS TO OBTAIN AND REFER TO MECHANICAL, PLUMBING, IRRIGATION, AND OTHER DRAWINGS AND PROVIDE ALL CONTROL WIRING, RELAYS, STARTERS, TIME SWITCHES, CONDUITS, ETC. INDICATED THEREON AS BEING PROVIDED UNDER THE ELECTRICAL WORK.

3. COORDINATE WITH SCE THE ACTUAL POINT OF CONNECTION AND INCLUDE IN BID THE QUANTITY & SIZE OF CONDUITS REQUIRED.

H. SHOP DRAWINGS

1. SHOP DRAWINGS MUST BE STAMPED BY THE CONTRACTOR FOR CONFORMANCE PRIOR TO SUBMITTAL. SUBMIT SIX SETS OF SHOP DRAWINGS FOR REVIEW PRIOR TO PURCHASING.

I. CONTRACTOR BID

1. CONTRACTOR'S BID SHALL BE BASED ON ALL WORK SHOWN ON THE PLANS AND AS SPECIFIED. ALL PREMIUM, TIME COSTS REQUIRED SHALL BE INCLUDED IN THE BID. ALL WORKS SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR. IF CONTRACTOR PROPOSES TO SUBSTITUTE FOR EQUIPMENT SPECIFIED, HE SHALL SUBMIT HIS REQUEST FOR CONSIDERATION TO THE OWNER AND ENGINEER PRIOR TO THE BID WRITING. ALL SUBSTITUTIONS MUST BE REVIEWED BY THE ENGINEER IN WRITING. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE AT HIS OWN EXPENSE FOR ANY CHANGES RESULTING FROM HIS PROPOSED SUBSTITUTIONS WHICH AFFECT OTHER PARTS OF HIS OWN WORK OR THE WORK OF OTHER CONTRACTORS.

J. "AS-BUILT" DRAWINGS

1. CONTRACTOR SHALL KEEP A SET OF PRINTS WHICH SHALL BE CORRECTED DAILY TO SHOW EVERY CHANGE FROM THE ORIGINAL DRAWINGS AND SPECIFICATIONS. UNDERGROUND RUNS SHALL BE ACCURATELY DIMENSIONED ON THESE PRINTS (REFERENCED TO BUILDING WALLS OR COLUMNS). ADDENDA AND CHANGE ORDERS SHALL ALSO BE INCLUDED ON THESE PRINTS. DELIVER "AS-BUILT" PRINTS TO OWNER PRIOR TO ACCEPTANCE OF THE JOB. "AS-BUILT" PRINTS SHALL BE SIGNED AND DATED BY CONTRACTOR.

K. POWER SHUTDOWN

1. POWER SHUTDOWN REQUIRED FOR THE EXECUTION OF THIS PROJECT

L. CONDUIT

1. RIGID METAL CONDUIT SHALL BE USED FOR EXPOSED FEEDERS UNLESS NOTED TO THE CONTRARY.

2. RIGID PVC CONDUIT, SCHEDULE 40 SHALL BE USED FOR UNDERGROUND DUCT.

3. A GROUND WIRE IS REQUIRED FOR ALL CONDUITS.

M. CONDUCTORS

1. COPPER TYPE XHHW-2 CONDUCTORS SHALL BE USED FOR SUBMERSIBLE MOTORS AND LEVEL CONTROL CONNECTION.

GENERAL NOTES:

1. UNLESS OTHERWISE NOTED, ALL MATERIALS AND WORK ARE NEW. EXISTING ELECTRICAL SYSTEMS ARE NOT SHOWN, EXCEPT WHERE INTER-FACING IS REQUIRED.
2. ALL ELECTRICAL EQUIPMENT SHALL BE LISTED BY UL OR A COUNTY APPROVED THIRD PARTY TESTING FACILITY.
3. ALL CABLE/WIRE CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY AND THEY SHALL BE ROUTED TO SUIT ACTUAL FIELD CONDITIONS. EXCEPT WHERE LOCATIONS ARE EXPLICITLY DIMENSIONED ON THE DRAWINGS.
4. WHERE THERE IS A CONFLICT BETWEEN THE DRAWINGS AND ANY RELEVANT CODES, THE CODES SHALL GOVERN, EXCEPT WHERE THE DRAWINGS INDICATE A QUALITY LEVEL SUPERIOR TO THAT SPECIFIED BY THE CODES.
5. IN EVENT OF CONFLICT OR DISCREPANCY BETWEEN DRAWINGS, BETWEEN SPECIFICATIONS. BETWEEN CONTRACT DOCUMENTS, BETWEEN DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE THE MORE STRINGENT OF THE DRAWINGS, AND SPECIFICATIONS. AND CONTRACT DOCUMENTS FOR THE CONSTRUCTION AND BIDDING PURPOSES.
6. PROVIDE IS DEFINED TO MEAN THAT THE CONTRACTOR SHALL FURNISH, INSTALL, ADJUST, TEST AND INTEGRATE INTO A COMPLETE SYSTEM THE ITEM INDICATED. INCLUDING ALL HARDWARE, WIRING, AND MISCELLANEOUS ITEMS AS NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM.
7. CONTRACTOR SHALL PROVIDE ALL SUPPORTING HARDWARE, ETC. AS REQUIRED TO SUPPORT ALL CONDUIT, CONNECTIONS, ETC. WITHIN THE LIMITS OF THIS CONTRACT.
8. INCLUDE ON BID THE PROTECTIVE DEVICE COORDINATION STUDY INCLUDING ARC FLASH LABEL.

ELECTRICAL LEGEND:

SYMBOL	DESCRIPTION
	TRANSFORMER
400A 3P	MOLDED CASE CIRCUIT BREAKER 400A, 3-POLE
	FUSE
MS	MOTOR STARTER
OL	OVERLOAD RELAY
248HP	248HP SUBMERSIBLE MOTOR
L	LEVEL SWITCH
TS	MANUAL TRANSFER SWITCH
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	VARIABLE FREQUENCY DRIVE (VFD)
	GROUND ROD

ABBREVIATIONS

ABBREVIATION	DESCRIPTION
AFF	ABOVE FINISHED FLOOR
C	CONDUIT
CU	COPPER
(E)	EXISTING
G OR GND	GROUND
(N)	NEW
PB-P	WALL MOUNTED PULL BOX FOR POWER
PB-C	WALL MOUNTED PULL BOX FOR CONTROL WIRING
RGS	RIGID GALVANIZED STEEL CONDUIT
TYP	TYPICAL
UPB-P	UNDERGROUND PULL BOX FOR POWER
UPB-C	UNDERGROUND PULL BOX FOR CONTROL WIRING
UNO	UNLESS NOTED OTHERWISE
VD	VOLTAGE DROP
WP	WEATHER PROOF
XFMR	TRANSFORMER
#	NUMBER

DRAWING INDEX

NUMBER	SHEET TITLE
E-0	ELECTRICAL SPECIFICATION, LEGEND, GENERAL NOTES & DRAWING INDEX
E-1	AMIE BASIN – EXISTING SINGLE LINE DIAGRAM (FOR REFERENCE ONLY)
E-2	AMIE BASIN – ELECTRICAL DEMO SITE PLAN
E-3	AMIE BASIN – SINGLE LINE DEMOLITION DIAGRAM
E-4	AMIE BASIN – ELECTRICAL NEW SITE PLAN
E-5	AMIE BASIN – SINGLE LINE NEW WORK DIAGRAM
E-6	AMIE BASIN – ELECTRICAL ENLARGED PLAN
E-7	AMIE BASIN – ELECTRICAL GROUNDING PLAN
E-8	AMIE BASIN – ELECTRICAL DETAILS
E-8A	AMIE BASIN – ELECTRICAL DETAILS
E-8B	AMIE BASIN – ELECTRICAL DETAILS

NOTE TO CONTRACTOR:

CONTRACTOR SHALL RETAIN AT HIS OWN COST A QUALIFIED CONTROL/PLC/VFD PROGRAM SUBCONTRACTOR TO PERFORM FULLY FUNCTIONAL CONTROL SYSTEM DESIGN AND INSTALLATION PER THE SEQUENCES OF OPERATION AND CITY OF TORRANCE REQUIREMENTS. THE CONTROL SYSTEM SHALL BE INTERCONNECTED TO THE EXISTING SCADA TELEMETRY SYSTEM. THE CONTROL SYSTEM SHALL INCLUDE, BUT NOT LIMITED TO, PROGRAMMABLE LOGIC CONTROLLER (PLCI), TIMERS, CONTROL RELAYS, PRESSURE TRANSDUCER AND BACK-UP FLOAT SWITCH (INTERNALLY WEIGHTED NON-MERCURY SPDT), INDICATING LIGHTS, POWER SUPPLY, ETC. TO MONITOR AND CONTROL PUMPS. THE CONTROL SYSTEM SHALL BE MOUNTED IN WEATHERPROOF STAINLESS STEEL ENCLOSURE, COMPLYING WITH UL698A. SUBMIT COMPLETE SET OF SHOP-DRAWINGS FOR APPROVAL PRIOR TO PROCEEDING WITH THE WORK.

CITY OF TORRANCE REQUIREMENTS AND SEQUENCES OF OPERATION:

1. PUMPS ARE TO BE CONTROLLED AND OPERATED BY CONTROL PANEL, LOCATION SHOWN ON PLAN
2. PUMP #2 AND PUMP #3 WILL OPERATE AS AN ON-DEMAND ALTERNATING DUPLEX SYSTEM WITH PUMP #1 (250HP PUMP) OPERATING AS A "JOCKEY" PUMP AS NOTED ON CIVIL DRAWING.
3. PUMP #1 TURN ON ONLY AFTER BOTH PUMP #2 AND PUMP #3 ARE RUNNING SIMULTANEOUSLY.
4. FOR COMPLETE SEQUENCE OF OPERATIONS AND REQUREMENTS REFER TO THE CIVIL DRAWINGS.

⚠1 UTILITY COORDINATION NOTE:

CONTRACTOR SHALL BE REQUIRED TO CONTACT SOUTHERN CALIFORNIA EDISON (SCE) SERVICE PLANNING AND ESTABLISH CONTACT IN THE BEGINNING OF PROJECT. CONTRACTOR SHALL PROVIDE ALL INFRA-STRUCTURE AS REQUIRED BY SCE STANDARD, INCLUDING BUT NOT LIMITED TO CONCRETE BASE FOR UTILITY TRANSFORMER, STUB-UPS, ABOVE GROUND AND UNDER GROUND CONDUIT, FITTINGS, JOINTS, ELBOWS ETC. ALL PROVISIONS SHALL BE PROVIDED PRIOR TO SCE START OF WORK. CONTRACTOR SHALL CAREFULLY COORDINATE WITH SCE IN ORDER TO ENSURE ALL PROVISIONS HAVE BEEN PROVIDED AND ADJUST WORK SCHEDULE AS NECESSARY TO MEET WITH AND PERFORM ANY AUXILIARY WORK REQUIRED TO COMPLETE UTILITY TRANSFORMER INSTALLATION IN A TIMELY MANNER FOR A COMPLETE AND FUNCTIONAL SYSTEM.

RECORD DRAWING

ELECTRICAL SPECIFICATION, LEGEND, GENERAL NOTES & DRAWING INDEX : E-0

REV.	DATE	DESCRIPTION	BY	CHECKED
⚠1	8/22/16	ADDED NOTE	V.P.	

REGISTERED PROFESSIONAL ENGINEER ELECTRICAL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER CRAIG BILEZERIAN No. 55339 Exp. 12/31/14 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VIKRAM BAPNA No. C52060 EXP. 12-31-14 STATE OF CALIFORNIA

PREPARED BY:

CWE

1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 526-7500 OFFICE (714) 526-7004 FAX
www.cwecorp.com

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: ALF

DESIGNED: C.P.

PROJECT ENGINEER: VIKRAM BAPNA

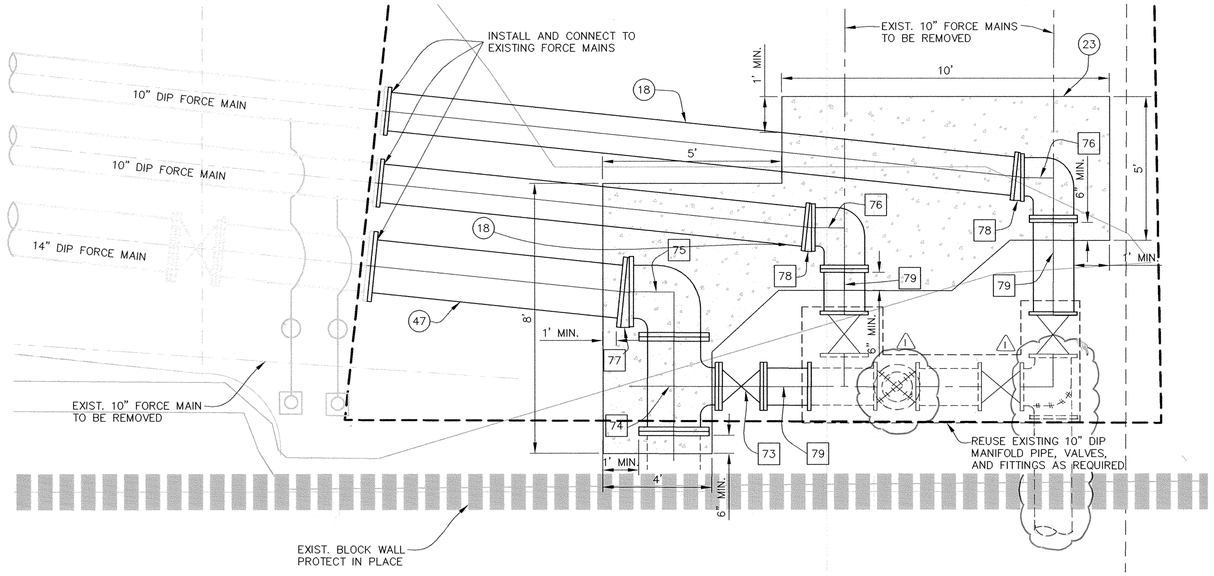
DIVISION ENGINEER: JOHN DETTLE

APPROVED: 3/3/14

CRAIG BILEZERIAN, CITY ENGINEER, R.C.E. NO. 55339 — DATE — EXP. 12/31/14

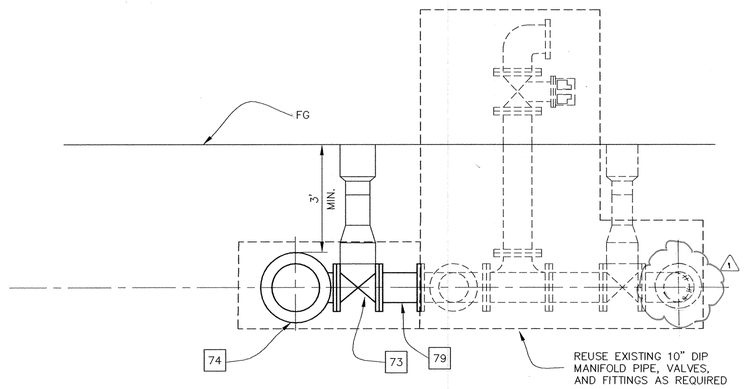
SCALE: AS SHOWN | SHEET 10 OF 22

PLAN NO.



AMIE BASIN FORCE MAIN
CONNECTION DETAIL PLAN

SCALE: 1" = 2'



AMIE BASIN FORCE MAIN
CONNECTION DETAIL ELEV

SCALE: 1" = 2'

PARTS LIST FOR FORCE MAIN CONNECTION		
ITEM	QTY	DESCRIPTION
73	1	10" CL 125 NRS CAST IRON GATE VALVE
74	1	16" X 10" CL 125 DUCTILE IRON TEE
75	1	16" X 14" CL 125 DUCTILE IRON REDUCING 90° ELBOW
76	2	10" CL 125 DUCTILE IRON 90° ELBOW
77	1	14" CL 125 DUCTILE IRON 6" BEVELED FLANGE FILLER
78	2	10" CL 125 DUCTILE IRON 6" BEVELED FLANGE FILLER
79	3	10" CL 150 DUCTILE IRON PIPE SPOOL LENGTH TO BE DETERMINED PER FIELD DIMENSIONS

CONSTRUCTION NOTES:

(18) 10" CL 150 DUCTILE IRON PIPE FORCE MIAN, LENGTH PER PLAN.

(23) CONSTRUCT CONCRETE ENCASEMENT OVER FORCE MAIN ELBOWS WITH ALL RESTRAINED JOINTS.

(47) 14" CL 150 DUCTILE IRON PIPE SPOOL, LENGTH TO BE DETERMINED PER FIELD DIMENSIONS.

AMIE BASIN FORCE MAIN CONNECTION DETAIL: C-7

REV.	DATE	DESCRIPTION	BY	CHECKED
1	2/3/16	REVISED EXISTING PIPING .	V.P	QP

REGISTERED PROFESSIONAL ENGINEER — CRAIG BILEZERIAN — No. 55339 — EXP. 12/31/14 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — VIKRAM BAPNA — No. C52060 — EXP. 12-31-14 — STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: ALF
DESIGNED: C.P.
PROJECT ENGINEER: VIKRAM BAPNA
DIVISION ENGINEER: JOHN DETTLE

APPROVED: 3/3/14
CRAIG BILEZERIAN — DATE
CITY ENGINEER
R.C.E. NO. 55339 — EXP. 12/31/14

SCALE: AS SHOWN | SHEET 9 OF 22
PLAN NO. SD - 500

PREPARED BY:
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www.cwecorp.com

DRAWING NAME: K:\USER\VP\Wood\Amie Pump Station Upgrade\SHTS-C7-SHMPLRG TAP DETAILS\SHTS-C7-SHMPLRG TAP DETAILS.dwg
PLOT DATE: Dec 09, 2013 - 10:36am PLOTTED BY: vpwood

☐		PARTS LIST
ITEM	QTY	DESCRIPTION
1		OMIT
2	1	250 HP SUBMERSIBLE PUMP W/AUTO COUPLING
3	3	304SS UPPER GUIDE RAIL BRACKET
4	2	150 HP SUBMERSIBLE PUMP W/AUTO COUPLING
5		OMIT
6		OMIT
7		OMIT
8		OMIT
9	2	2" SCH40 GUIDE RAIL – 10' STAINLESS STEEL
10	1	2" SCH40 GUIDE RAIL – 10' STAINLESS STEEL
11	1	14" DUCTILE IRON FLANGED 90° ELBOW – CLASS 125
12	2	10" DUCTILE IRON FLANGED 90° ELBOW – CLASS 125
13		OMIT
14	1	10"X14" DUCTILE IRON FLANGED ECCENTRIC REDUCER – CLASS 150
15	2	6"X10" DUCTILE IRON FLANGED ECCENTRIC REDUCER – CLASS 150
16		OMIT
19		OMIT
20	6	10" DIP RFCA W/ SS HRDWR
22	2	10" CHECK VALVE, FLG X FLG – VAL-MATIC/SWING FLEX
23		OMIT
24	1	14" VAL-MATIC FLANGED SWINGFLEX CHECK VALVE W/ BACKFLOW ACTUATOR & MECHANICAL INDICATOR
25	2	10" CAM-CENTRIC VAL-MATIC PLUG VALVE, FLANGED, WORM GEAR ACTUATED WITH HANDWHEEL
26	1	14" PLUG VALVE BY VAL-MATIC
27		OMIT
28	1	14" DIP FLG x FLG 14in SPOOL
29	2	10" DIP FLG x FLG 12in SPOOL
30		OMIT
31		OMIT
32	1	14" DUCTILE IRON SLEEVE (LONG), MJ WITH RESTRAINTS, SS HARDWARE
33	2	10" DUCTILE IRON SLEEVE (LONG), MJ WITH RESTRAINTS, SS HARDWARE
34		OMIT
35	1	14" DIP FLG x PE, 42" SPOOL
36	2	10" DIP FLG x PE, 46" SPOOL
37		OMIT
38	4	ADJUSTABLE PIPE STAND FOR 10" DIP, FLG STYLE
39		OMIT

☐		PARTS LIST
ITEM	QTY	DESCRIPTION
40		OMIT
41		OMIT
42		OMIT
43	2	ADJUSTABLE PIPE STAND FOR 14" DIP, FLG STYLE
44		OMIT
45		OMIT
46		OMIT
47		OMIT
48		OMIT
49		OMIT
50		OMIT
51	2	14" FLEXIBLE PIPE CONNECTOR MEETING ASTM C-923
52	4	10" FLEXIBLE PIPE CONNECTOR MEETING ASTM C-923
53		OMIT
54	1	14in DIP FLG x PE 66in SPOOL
55	2	10in DIP FLG x PE 75in SPOOL
56		OMIT
57		OMIT
58	1	INTERNALLY WEIGHTED NON-MERCURY MECHANICAL FLOAT
59	1	PRESSURE TRANSDUCER
60	1	OMIT
61	5	OMIT
62	1	14" DIP FLG x PE 48" SPOOL
63	2	10" DIP FLG x PE 52" SPOOL
64		OMIT
65	5	15" ø FERNCO FLEX COUPLING
66	5	15" ø PVC PIPE, SCH 40
67	3	14" DIP RFCA WITH S.S. HRDWR
68	5	DURAN RELINER 24/15F DROP BOWL FOR FLAT WALLS W/ 15" PVC DROP PIPE
69	1	STAINLESS STEEL FLOOR MOUNTED FLOW SPLITTER
70	10	1" X 14 GA. STAINLESS STEEL STRAPS
71	3	1/2" ø STAINLESS STEEL CABLE
72 – 79		OMIT
80		OMIT
81		OMIT
82		OMIT

PUMP 1 CHARACTERISTICS	
DESCRIPTION	VALUE
DESIGN FLOW	4556 gpm
TOTAL DYNAMIC HEAD	141.7 ft
HORSE POWER	248
FLA	266A
MAX PUMP SPEED	1780 rpm
POWER SUPPLY	3PHASE 480V
NUMBER OF PUMPS	1
FREQUENCY	VARIABLE
IMPELLER	2-VANE, 14.96" ø

PUMP 2-3 CHARACTERISTICS	
DESCRIPTION	VALUE
DESIGN FLOW	2087 gpm
TOTAL DYNAMIC HEAD	144.4 ft
HORSE POWER	139
FLA	125A
MAX PUMP SPEED	1780 rpm
POWER SUPPLY	3PHASE 480V
NUMBER OF PUMPS	1
FREQUENCY	VARIABLE
IMPELLER	2-VANE, 13.58" ø

AMIE BASIN PUMP STATION PARTS LIST : C-6

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER CRAIG BILEZERIAN No. 55339 Exp. 12/31/14 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VIKRAM BAPNA No. C52060 EXP. 12-31-14 STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: ALF

DESIGNED: C.P.

PROJECT ENGINEER: VIKRAM BAPNA

DIVISION ENGINEER: JOHN DETTLE

APPROVED:

3/3/14

CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. 55339 EXP. 12/31/14

SCALE: AS SHOWN | SHEET 8 OF 22

PLAN NO. SD - 500

PREPARED BY:
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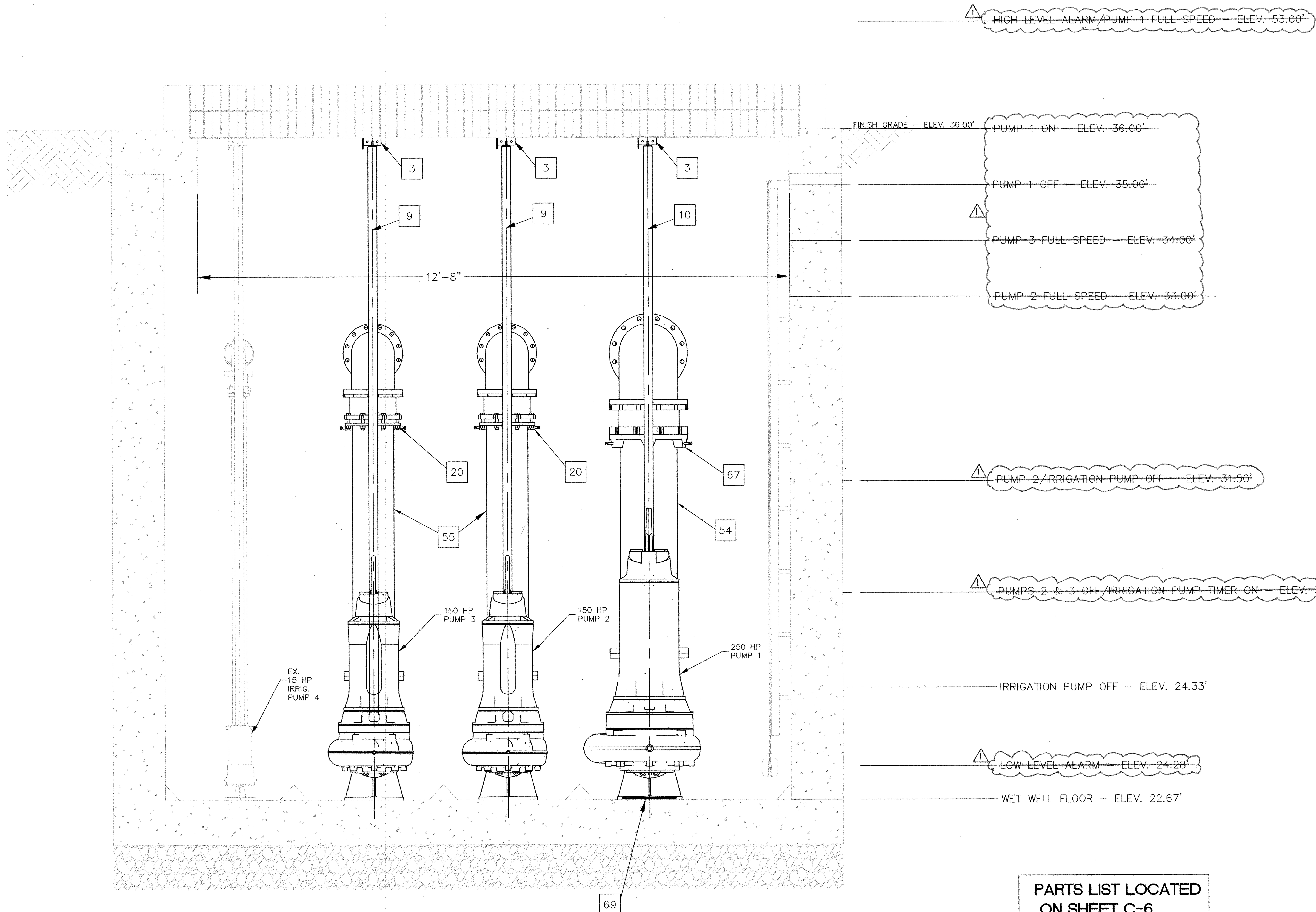
DRAWING NAME: X:\ENG\Projects\Amie Pump Station Upgrade\2013-06-ENG-AMIE-PS-PARTS LIST\2013-06-ENG-AMIE-PS-PARTS LIST.dwg
PLOT DATE: Dec 06, 2013 – 10:36am PLOTTED BY: vpraad



PUMP / FLOAT CONTROLS

PUMP No.3 FULL SPEED – ELEV. 35·00'
PUMP No.2 FULL SPEED – ELEV. 37·00'
PUMP No.1 FULL SPEED – ELEV. 50·00'
PUMP No.1 PUMP OFF – ELEV. 40·00'
PUMP No.2 PUMP OFF – ELEV. 36·00'
PUMP No.3 PUMP OFF – ELEV. 34·00'

PARTS LIST LOCATED ON SHEET C-6

GENERAL NOTES

1. PUMPS ARE TO BE OPERATED BY LOCAL CONTROL PANEL.
2. 150 HP PUMPS #2 & #3 WILL OPERATE AS AN ON-DEMAND ALTERNATING DUPLEX SYSTEM WITH THE 250HP PUMP #1 OPERATING AS A "JOCKEY" PUMP FOR HIGH FLOW CONDITIONS.
3. PUMP #1 TURNS ON ONLY AFTER BOTH 150 HP PUMPS ARE RUNNING SIMULTANEOUSLY.
4. IF PUMPS HAVE NOT CYCLED FOR A SPECIFIED TIME PERIOD, PUMP #3 WILL CYCLE FOR A SPECIFIED TIME PERIOD AND THEN AUTOMATICALLY PLACED ON STANDBY FOR A SPECIFIED TIME PERIOD BEFORE CYCLING AGAIN.
5. PUMP SEQUENCE CONTINUES UNTIL WATER LEVEL REACHES PUMP #2 "ON" LEVEL OR UNTIL WATER LEVEL REACHES PUMP #3 "OFF" LEVEL.
6. ALL WET WELL JOINTS SHALL BE WATERTIGHT, O-RING/FORSHEDA AND MASTIC BUTYL SEALS.
7. ALL BOLTS SHALL BE STAINLESS STEEL TYPE 304L WITH STAINLESS STEEL HARDWARE.
8. ALL TAPS INTO FITTINGS SHALL BE MADE INTO A BOSS.
9. PUMP STATION AND ACCESS ROAD PLAN VIEW ARE LOCATED ON SHEET C-2.
10. PARTS LIST FOR ALL COMPONENTS OF THE PUMP STATION AND VALVE VAULT IS LOCATED ON SHEET C-6.
11. INSTALL ALL PIPE AND FITTINGS PER SIZE AND DIAMETER PROVIDED IN PARTS LIST ON SHEET C-6 AND IN THE SPECIFICATIONS.
12. INTERIOR OF VAULTS SHALL HAVE CRYSTALLINE WATERPROOF COATING.
13. ALL METAL PIPES EXPOSED TO SOIL SHALL BE WRAPPED WITH 8 MIL POLYETHYLENE WRAP.
14. ALL PIPE SPOOLS TO BE FIELD FITTED.
15. ALL PIPE SPOOL LENGTHS IN PARTS LIST ARE APPROXIMATE.

ELEVATION VIEW

NOT TO SCALE

AMIE BASIN PUMP STATION ELEVATION : C-5

REV.	DATE	DESCRIPTION	BY	CHECKED
1	9/23/16	REVISED FLOAT ELEVATIONS	VP	JD

REGISTERED PROFESSIONAL ENGINEER CRAIG BILEZERIAN No. 55339 Exp. 12/31/14 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VIKRAM BAPNA No. C52060 EXP. 12-31-14 STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: ALF
DESIGNED: C.P.
PROJECT ENGINEER: VIKRAM BAPNA
DIVISION ENGINEER: JOHN DETTLE

APPROVED: 3/3/14
CRAIG BILEZERIAN, CITY ENGINEER, R.C.E. NO. 55339 — DATE — EXP. 12/31/14

SCALE: AS SHOWN — SHEET 7 OF 22
PLAN NO. SD - 500

PREPARED BY:
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FULLERTON, CA 92831
(714) 526-7500 OFFICE (714) 526-7004 FAX
www.cwecorp.com

DRAWING NAME: X:\ENG\VPrasad\Amie Pump Station Upgrade\SHT7-C5-CIVIL-AMIE PS ELEV\SHT7-C5-CIVIL-AMIE PS ELEV.dwg
PLOT DATE: Dec 06, 2013 – 10:34am PLOTTED BY: vprasad

GENERAL NOTES

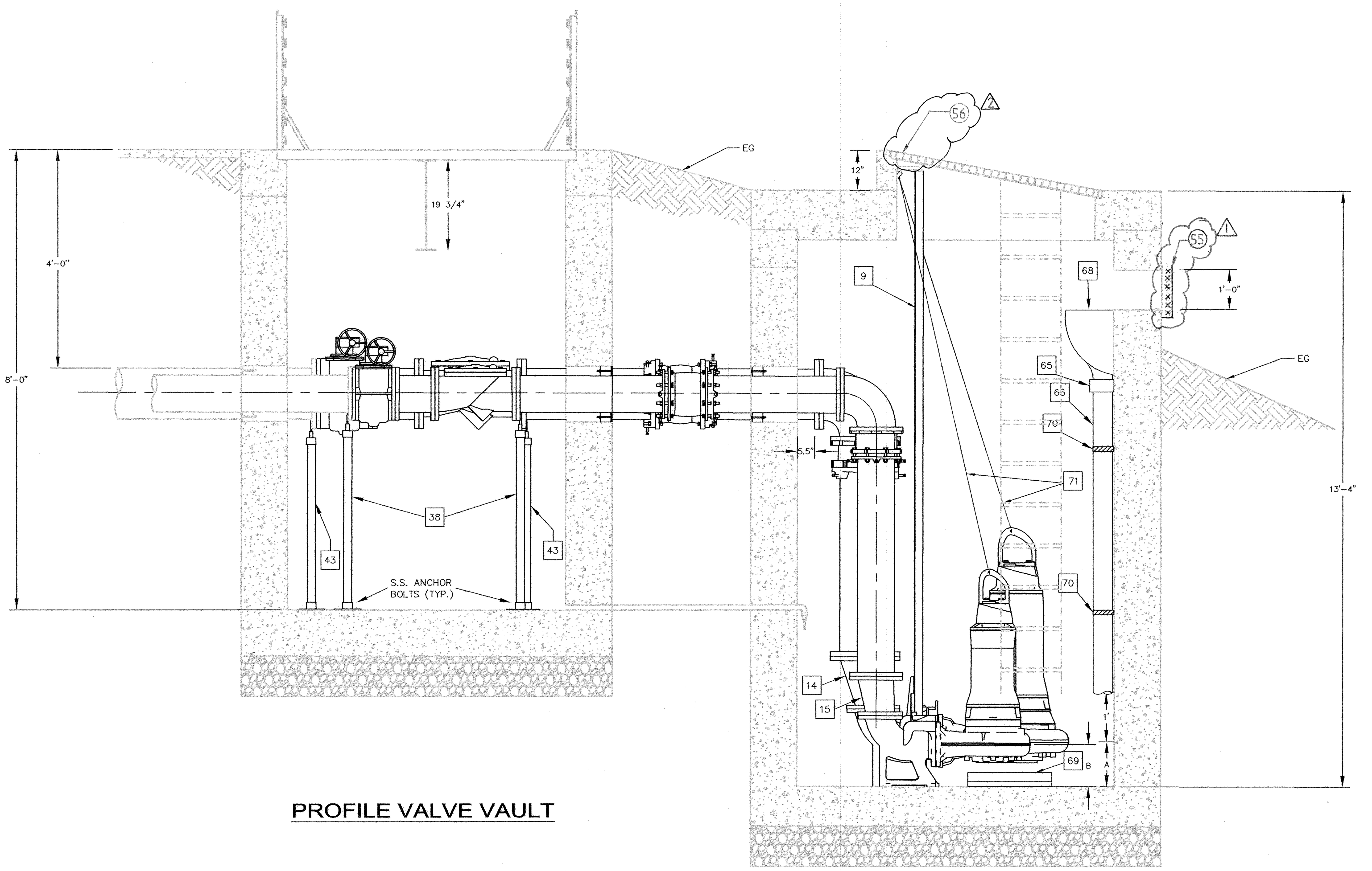
1. PUMPS ARE TO BE OPERATED BY LOCAL CONTROL PANEL.
2. 150 HP PUMPS #2 & #3 WILL OPERATE AS AN ON-DEMAND ALTERNATING DUPLEX SYSTEM WITH THE 250HP PUMP #1 OPERATING AS A "JOCKEY" PUMP FOR HIGH FLOW CONDITIONS.
3. PUMP #1 TURNS ON ONLY AFTER BOTH 150 HP PUMPS ARE RUNNING SIMULTANEOUSLY.
4. IF PUMPS HAVE NOT CYCLED FOR A SPECIFIED TIME PERIOD, PUMP #3 WILL CYCLE FOR A SPECIFIED TIME PERIOD AND THEN AUTOMATICALLY PLACED ON STANDBY FOR A SPECIFIED TIME PERIOD BEFORE CYCLING AGAIN.
5. PUMP SEQUENCE CONTINUES UNTIL WATER LEVEL REACHES PUMP #2 "ON" LEVEL OR UNTIL WATER LEVEL REACHES PUMP #3 "OFF" LEVEL.
6. ALL WET WELL JOINTS SHALL BE WATERTIGHT, O-RING/FORSHEDA AND MASTIC BUTYL SEALS.
7. ALL BOLTS SHALL BE STAINLESS STEEL TYPE 304L WITH STAINLESS STEEL HARDWARE.
8. ALL TAPS INTO FITTINGS SHALL BE MADE INTO A BOSS.
9. PUMP STATION AND ACCESS ROAD PLAN VIEW ARE LOCATED ON SHEET C-2.
10. PARTS LIST FOR ALL COMPONENTS OF THE PUMP STATION AND VALVE VAULT IS LOCATED ON SHEET C-6.
11. INSTALL ALL PIPE AND FITTINGS PER SIZE AND DIAMETER PROVIDED IN PARTS LIST ON SHEET C-6 AND IN THE SPECIFICATIONS.
12. INTERIOR OF VAULTS SHALL HAVE CRYSTALLINE WATERPROOF COATING.
13. ALL METAL PIPES EXPOSED TO SOIL SHALL BE WRAPPED WITH 8 MIL POLYETHYLENE WRAP.
14. ALL PIPE SPOOLS TO BE FIELD FITTED.
15. ALL PIPE SPOOL LENGTHS IN PARTS LIST ARE APPROXIMATE.

⚠1 CONSTRUCTION NOTES

(55) INSTALL 2" DEEP STAINLESS STEEL FRAME AND BIO FILTER MATERIAL

⚠2 (56) REPAIR AND REINFORCE ALUMINUM HINGES ON VAULT GRATE

PARTS LIST LOCATED ON SHEET C-6



PROFILE VALVE VAULT

DIMENSION TABLE

A	13.8"	(250 HP PUMP)
B	10.8"	(150 HP PUMPS)

PROFILE WET WELL

N.T.S.

AMIE BASIN PUMP STATION PROFILE : C-4

REV.	DATE	DESCRIPTION	BY	CHECKED
1	9/23/16	ADDED BIO FILTER AND NOTES	VP	JD
2	10/10/16	ADDED HINGE REPAIR	VP	JD

REGISTERED PROFESSIONAL ENGINEER CRAIG BILEZERIAN No. 55339 Exp. 12/31/14 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VIKRAM BAPNA No. C52060 EXP. 12-31-14 STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: ALF
DESIGNED: C.P.
PROJECT ENGINEER: VIKRAM BAPNA
DIVISION ENGINEER: JOHN DETTLE

APPROVED: 3/3/14
CRAIG BILEZERIAN, CITY ENGINEER, R.C.E. NO. 55339 — DATE — EXP. 12/31/14

SCALE: AS SHOWN | SHEET 6 OF 22
PLAN NO. SD - 500

PREPARED BY:
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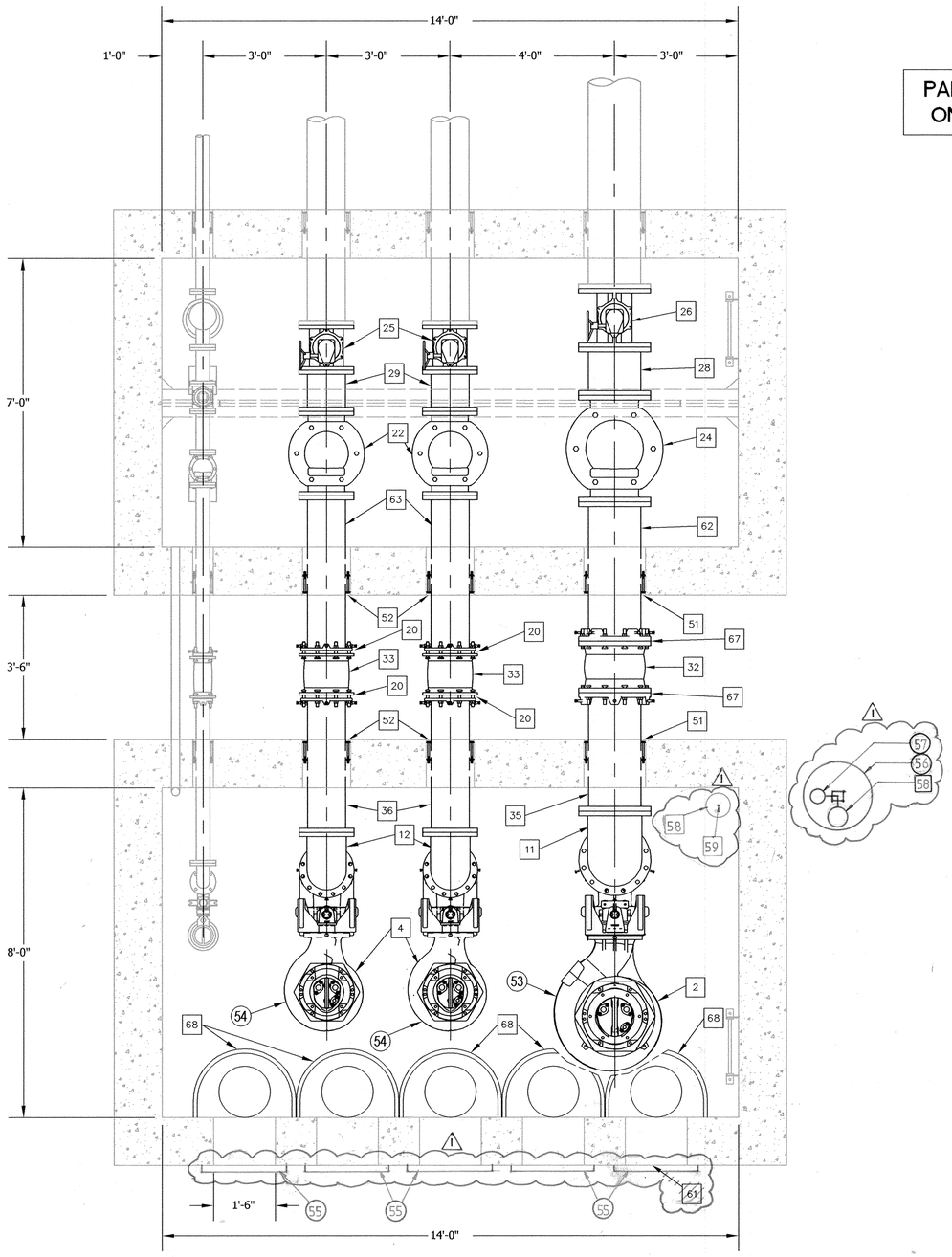

PLAN VIEW
SCALE: 1" = 20'

PARTS LIST LOCATED ON SHEET C-6

GENERAL NOTES

1. PUMPS ARE TO BE OPERATED BY LOCAL CONTROL PANEL.
2. 150 HP PUMPS #2 & #3 WILL OPERATE AS AN ON-DEMAND ALTERNATING DUPLEX SYSTEM WITH THE 250HP PUMP #1 OPERATING AS A "JOCKEY" PUMP FOR HIGH FLOW CONDITIONS.
3. PUMP #1 TURNS ON ONLY AFTER BOTH 150 HP PUMPS ARE RUNNING SIMULTANEOUSLY.
4. IF PUMPS HAVE NOT CYCLED FOR A SPECIFIED TIME PERIOD, PUMP #3 WILL CYCLE FOR A SPECIFIED TIME PERIOD AND THEN AUTOMATICALLY PLACED ON STANDBY FOR A SPECIFIED TIME PERIOD BEFORE CYCLING AGAIN.
5. PUMP SEQUENCE CONTINUES UNTIL WATER LEVEL REACHES PUMP #2 "ON" LEVEL OR UNTIL WATER LEVEL REACHES PUMP #3 "OFF" LEVEL.
6. ALL WET WELL JOINTS SHALL BE WATERTIGHT, O-RING/FORSHEDA AND MASTIC BUTYL SEALS.
7. ALL BOLTS SHALL BE STAINLESS STEEL TYPE 304L WITH STAINLESS STEEL HARDWARE.
8. ALL TAPS INTO FITTINGS SHALL BE MADE INTO A BOSS.
9. PUMP STATION AND ACCESS ROAD PLAN VIEW ARE LOCATED ON SHEET C-2.
10. PARTS LIST FOR ALL COMPONENTS OF THE PUMP STATION AND VALVE VAULT IS LOCATED ON SHEET C-6.
11. INSTALL ALL PIPE AND FITTINGS PER SIZE AND DIAMETER PROVIDED IN PARTS LIST ON SHEET C-6 AND IN THE SPECIFICATIONS.
12. INTERIOR OF VAULTS SHALL HAVE CRYSTALLINE WATERPROOF COATING.
13. ALL METAL PIPES EXPOSED TO SOIL SHALL BE WRAPPED WITH 8 MIL POLYETHYLENE WRAP.
14. ALL PIPE SPOOLS TO BE FIELD FITTED.
15. ALL PIPE SPOOL LENGTHS IN PARTS LIST ARE APPROXIMATE.

CONSTRUCTION NOTES:

(53) INSTALL 1 - 250HP VFD SUBMERSIBLE PUMP #1 (PART #2) WITH A DESIGN PUMPING RATE = 4,556 GPM AT A TOTAL DYNAMIC HEAD (TDH) = 142 FEET AND CAPABLE OF PASSING 3 INCH DIAMETER SOLIDS.

(54) INSTALL 2 - 150HP VFD SUBMERSIBLE PUMPS #2 AND #3 (PART #4) WITH A DESIGN PUMPING RATE = 2,087 GPM AT A TDH = 144 FEET AND CAPABLE OF PASSING 3 INCH DIAMETER SOLIDS.

1 (55) INSTALL 2" DEEP STAINLESS STEEL FRAME AND BIO FILTER MATERIAL.

(56) INSTALL 15'H SQUARE SIGN POST IN CONCRETE FOUNDATION FOR PUMP FLOATS.

(57) INSTALL 3" RGS CONDUITS FOR FLOAT CONTROL WIRES.

AMIE BASIN PUMP STATION PLAN : C-3

REV.	DATE	DESCRIPTION	BY	CHECKED
1	9/23/16	ADDED BIO FILTERS AND FLOAT ASSEMBLY	VP	

REGISTERED PROFESSIONAL ENGINEER — CRAIG BILEZERIAN — No. 55339 — Exp. 12/31/14 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — VIKRAM BAPNA — No. C52060 — EXP. 12-31-14 — STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: ALF
DESIGNED: C.P.
PROJECT ENGINEER: VIKRAM BAPNA
DIVISION ENGINEER: JOHN DETTLE

APPROVED: 3/3/14
CRAIG BILEZERIAN, CITY ENGINEER, R.C.E. NO. 55339 — DATE EXP. 12/31/14

SCALE: AS SHOWN | SHEET 5 OF 22
PLAN NO. SD - 500

PREPARED BY:
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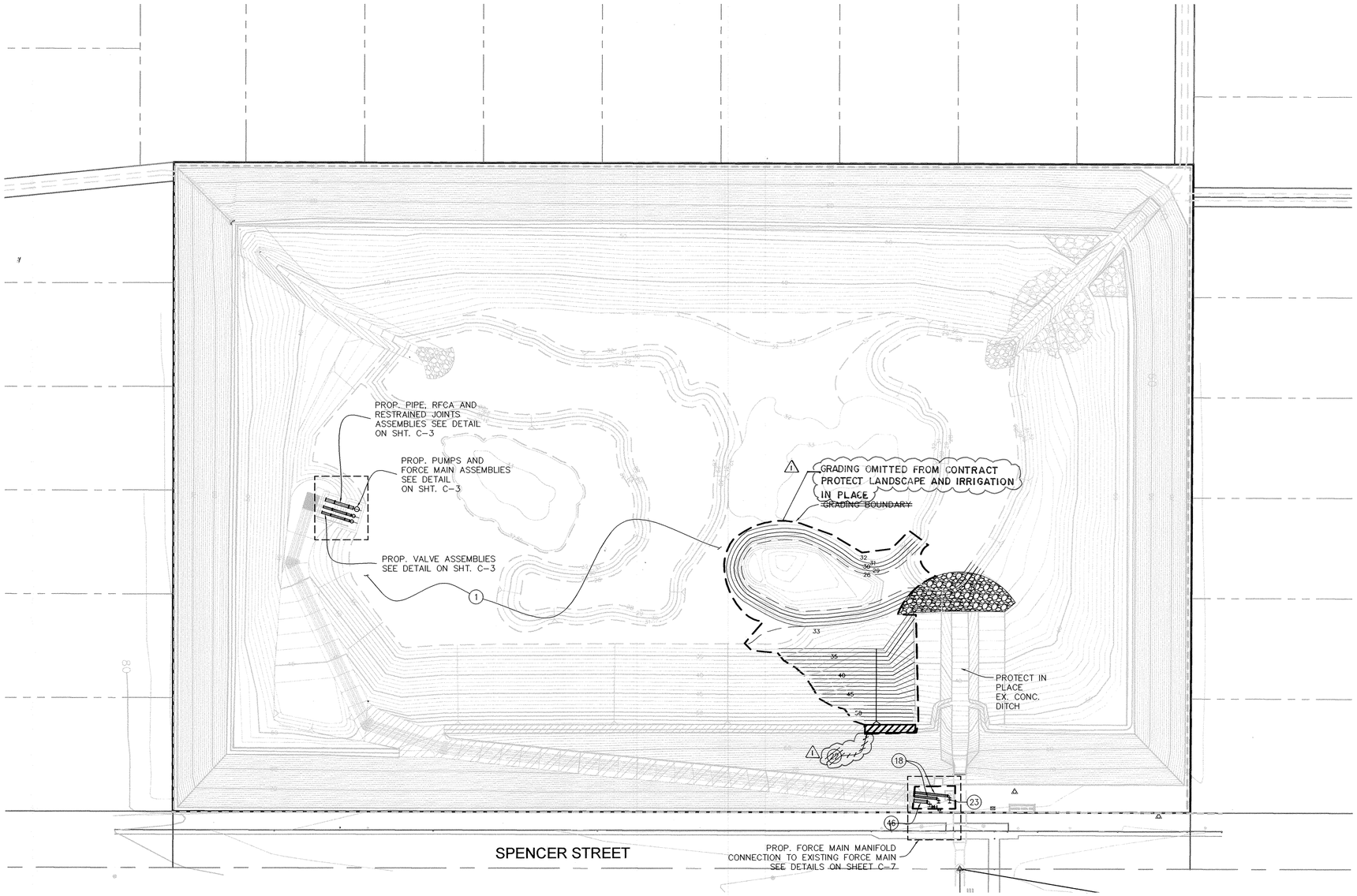
DRAWING NAME: X:\CWE\Projects\Amie Pump Station Upgrade\SHTS-C3-CIVIL-AMIE PUMP STA\SHTS-C3-CIVIL-AMIE PUMP STA.dwg
PLOT DATE: Dec 06, 2013 - 10:28am PLOTTED BY: vpraad



EARTHWORK QUANTITIES

CUT	151.48 CY
FILL	155.58 CY
NET	4.10 CY IMPORT

SCALE: 1" = 30'

30 15 0 30 90

GRAPHIC SCALE

CONSTRUCTION NOTES:

1. REPLACE ALL IMPACTED EXISTING VEGETATION OUTSIDE GRADING LIMITS IN KIND.
18. INSTALL (2)10" D.I.P. FORCE MAINS AND BACKFILL PER CITY OF TORRANCE STD. NO. T-701 (ALL RESTRAINED JOINTS).
1 22. ~~EXISTING V-GUTTER TO BE REMOVED AND REPLACED IN KIND;~~
23. CONSTRUCT CONCRETE ENCASEMENT OVER FORCE MAIN ELBOWS WITH ALL RESTRAINED JOINTS.
46. INSTALL 14" D.I.P. FORCE MAIN AND BACKFILL PER CITY OF TORRANCE STD. NO. T-701 (ALL RESTRAINED JOINTS).

LEGEND

GRADING BOUNDARY – WORK LIMIT

GRADING PLAN - AMIE BASIN : C-2

REV.	DATE	DESCRIPTION	BY	CHECKED
1	2/5/14	OMIT GRADING	VP	JCD

REGISTERED PROFESSIONAL ENGINEER CRAIG BILEZERIAN No. 55339 Exp. 12/31/14 CIVIL STATE OF CALIFORNIA

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CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: ALF
DESIGNED: C.P.
PROJECT ENGINEER: VIKRAM BAPNA
DIVISION ENGINEER: JOHN DETTLE

APPROVED: 3/3/14
CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. 55339 EXP. 12/31/14

SCALE: AS SHOWN | SHEET 4 OF 22
PLAN NO. SD - 500

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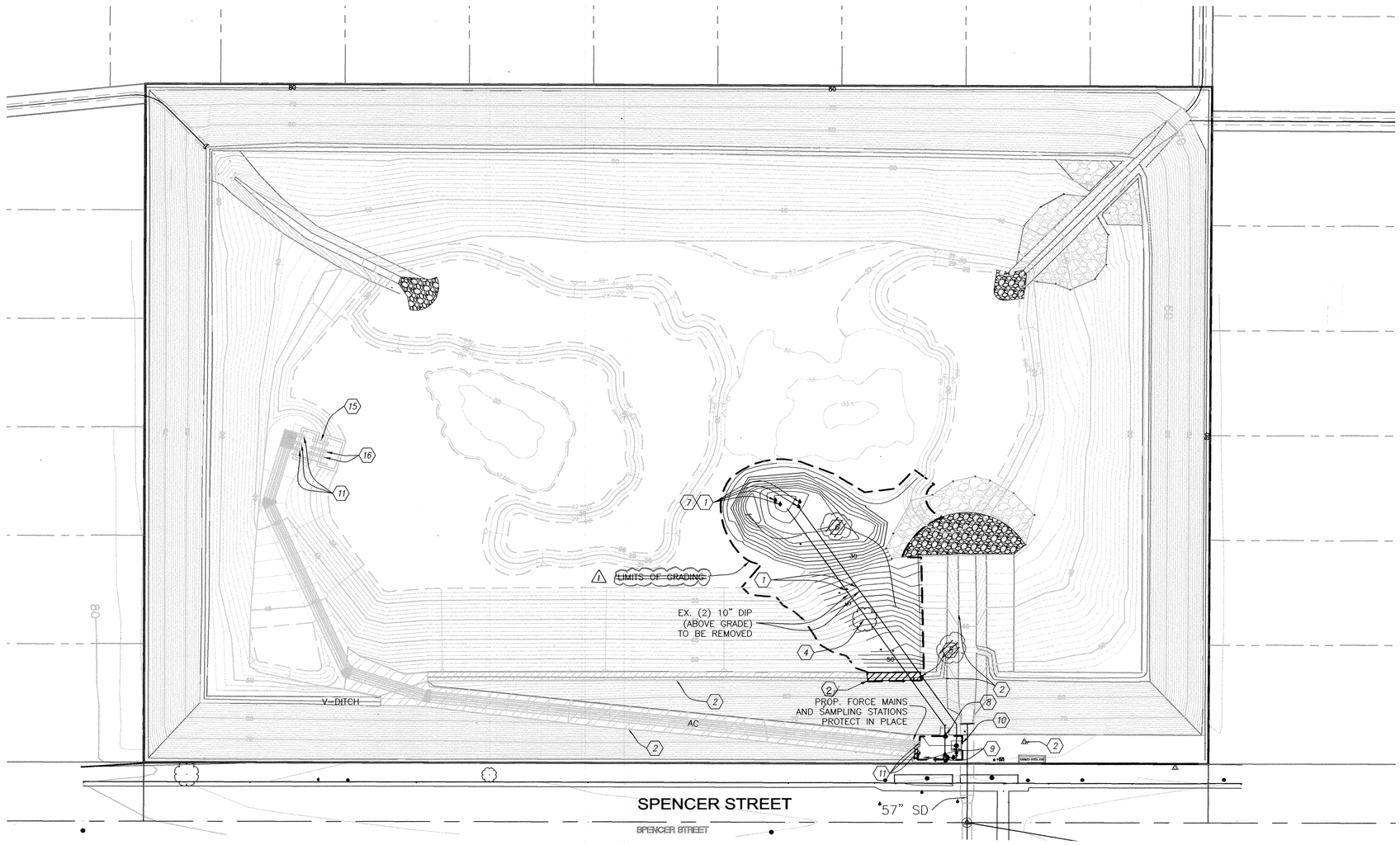
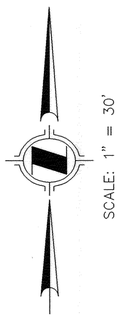
DRAWING NAME: X:\ENG\Projects\Amie Pump Station Upgrade\GRFT-C2-GNK-AMIE GRADING\GRFT-C2-GNK-AMIE GRADING.dwg
PLOT DATE: Dec 06, 2013 - 10:25am PLOTTED BY: vpraveal





DEMOLITION NOTES:

1. CUT, CAP AND REMOVE ALL INDICATED EXISTING UTILITIES FROM THE SITE AND DISPOSE OF PROPERLY. PATCH CONCRETE AS REQUIRED.
2. PROTECT IN PLACE.
4. REMOVE EXISTING PLANTS.
5. REMOVE PORTION OF EXISTING CONCRETE DITCH AS REQUIRED FOR PROPOSED GRADING PLAN PER SHEET C-2.
6. CLEAR AND GRUB TO LIMITS AS SHOWN.
7. EXISTING PUMPS TO BE RETURNED TO THE CITY.
8. ABANDON VALVE.
9. SAWCUT EXISTING AC AS REQUIRED PER DETAIL SHEET C-7.
10. REMOVE EXISTING AC AS REQUIRED TO INSTALL FORCE MAINS AND APPURTENANCES.
11. REMOVE 10" AND 14" BLIND FLANGES.
15. REMOVE TEMPORARY 14" PVC PIPE AND FLANGES.
16. REMOVE TEMPORARY 10" PVC PIPE AND FLANGES.

DEMOLITION PLAN AND NOTES - AMIE BASIN : C-1

REV.	DATE	DESCRIPTION	BY	CHECKED
1	1/23/14	OMITTED GRADING	VP	J.C.B.

PREPARED BY:
1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 526-7500 OFFICE (714) 526-7004 FAX
www.cwecorp.com

REGISTERED PROFESSIONAL ENGINEER CRAIG BILEZERIAN No. 55339 Exp. 12/31/14 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VIKRAM BAPNA No. C52060 EXP. 12-31-14 STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: ALF
DESIGNED: C.P.
PROJECT ENGINEER: VIKRAM BAPNA
DIVISION ENGINEER: JOHN DETTLE

APPROVED: 3/3/14
CRAIG BILEZERIAN, CITY ENGINEER, R.C.E. NO. 55339 — DATE EXP. 12/31/14

SCALE: AS SHOWN | SHEET 3 OF 22
PLAN NO. SD - 500

DRAWING NAME: K:\DWG\Wrigley Water Pump Station Upgrade\SHT-C-1-CIVIL-AMIE DEMO\SHT-C-1-CIVIL-AMIE DEMO.dwg
PLOT DATE: Dec 06, 2013 - 10:13am PLOTTED BY: vprasad