CONTRA COSTA COMMUNITY COLLEGE DISTRICT
D-4009 - REPLACEMENT OF MAIN ELECTRICAL SWITCHGEAR
DIABLO VALLEY COLLEGE

DRAWING LIST

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<td>E308</td>
<td>30</td>
<td>ELECTRICAL MANHOLE DETAILS - DEMOLITION (E) MH3-2</td>
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</tr>
</tbody>
</table>

DEFERRED APPROVALS

1. NONE

NOTES

"SHOULD ANY EXISTING CONDITIONS SUCH AS DEMOLITION OR NONCOMPLIANCE CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CSA APPROVED DOCUMENTS WHETHER THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24. CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER, OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED REPAIR WORK SHALL BE SUBMITTED TO AND APPROVED BY CSA BEFORE PROCEEDING WITH THE REPAIR WORK."
NOTES:

1. The nominal dimensions of the opening in which the cover sits shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.

2. Covers and boxes shall be interchangeable with California standard sizes and female gaskets. When assembled with a proper male or female gasket, the top surfaces shall be flush within 1/8". Top outside radius of covers and pull boxes shall have a 1/8" radius.

3. Dimensions for the cover for non-traffic pull box are nominal values.
# New 5kV Main Switchgear Monitoring Points for Connection to Existing DVC Building Automation System

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Breaker Open</th>
<th>Breaker Close</th>
<th>Breaker Trip</th>
<th>Volts Line to Line</th>
<th>kVA</th>
<th>kW</th>
<th>Power Factor</th>
<th>kW Demand</th>
<th>Power Factor at kW Demand</th>
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<tr>
<td>1</td>
<td>Feeder Breaker 52-Main</td>
<td>X</td>
<td>X</td>
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<td>X</td>
<td>X</td>
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<td>Feeder Breaker 52-1 for for 1</td>
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<td>X</td>
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<td>X</td>
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<td>X</td>
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<td>10</td>
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<td>X</td>
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</tbody>
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### 48V DC Battery System Trouble Alarm

11. 48V DC Battery System Trouble Alarm

12. AC Panel Main Breaker Trip Alarm

13. DC Panel Main Breaker Trip Alarm

14. 10 - Spare Points to be Determined Later

---

## Sheet Notes

1. Refer to Sheet D009 for General Electrical Notes, Abbreviations and Symbols.
2. Refer to Sheets C and E010 for Location of Equipment, Conduit Requirement, etc. that are shown on this drawing.

## Key Notes

1. For additional information and requirement, refer to specification section 26.15.26. Medium Voltage Metal Clad Switchgear.

2. Coordinate with District Energy Manager (T. Marcell, 925-229-6932) for selection of all required, BAS communication gateway materials to be provided for future installation.

3. District's BAS Contractor shall be responsible for integrating all the switchgear points (see Table) to the existing campus and/or BAS, including but not limited to, provide necessary materials (i.e., controllers, software, control units, terminations, programming, testing and commissioning for a fully functional monitoring of the switchgear points.

4. (A) 2°C from switchgear to mechanical room in ET BLDG by contractor.

5. Future fiber optic cables from (A) switchgear to ET building telecom room by others.

6. New work at ET building Telecom Room, prior to work, coordinate with campus BAS.

----

### Work Indicated on this DWG will be by Others

---

**Contra Costa Community College District**

**Diablo Valley College**

333 Golf Club Road, Pleasant Hill, CA 94523

---

**Project D-4009**

Replacement of Main Electrical Switchgear

Building Automation System Interconnection

---

**Identification Stamp**

[Stamp Image]

---

**YEI Engineers, Inc.**

537 Highway 9, Sunnyvale, CA 94086

---

**Project No. D-4009**

**Sheet No. D-4009**

---

**Redaction**

[Redaction Image]
1. Refer to single line diagram sheet E101 for demolition.
2. Refer to single line diagram sheet E102 for new work and new feeder size.
3. Refer to sheets E202 to E205, E400 and E402 for underground work required.
4. Refer to civil drawings for site work on sheets E202 to E205.
1. REFER TO SINGLE LINE DIAGRAM SHEET E101 FOR DEMOLITION.
2. REFER TO SINGLE LINE DIAGRAM SHEET E102 FOR NEW WORK.
3. REFER TO SHEET E001 FOR GENERAL ELECTRICAL NOTES.

**KEY NOTES**

1. (E) DUCT BANK, (E) CONDUITS TO BE ABANDONED IN PLACE, DISCONNECT AND REMOVE (E) CABLES.
2. PROVIDE (N) DUCT BANK TO (E) WH3, SEE E01 FOR DETAILS.
3. S.C.D. FOR MANHOLE WATER DISCHARGE PIPE CONNECTION.
4. RE-500 LAMP AREA DUE TO NEW UNDERGROUND TRENCH DISTURBED BY CONSTRUCTION TO MATCH (E) LAMP & PLANTS, REPAIR EXISTING IRRIGATION SYSTEM WHERE DAMAGED.
ENLARGED PLAN - UNDERGROUND DB AND CONDUTS

SHEET NOTES
1. REFER TO SINGLE LINE DIAGRAM SHEET E101 FOR DEMOLITION.
2. REFER TO SINGLE LINE DIAGRAM SHEET E102 FOR NEW WORK AND (N) FEEDER SIZES.
3. REFER TO SHEET E010 FOR GENERAL ELECTRICAL NOTES.
4. S.C.O. FOR SITE WORK; RETROFIT (E) UNDERGROUND CONDUTS AS REQUIRED; CONTRACTOR TO VERIFY IN FIELD.
5. PROVIDE SIGNS "DANGER HIGH VOLTAGE", MOUNT TO (N) FENCE.

KEY NOTES
1. (N) DUCTBANK, (E) CONDUTS TO BE ABANDONED IN PLACE, DISCONNECT AND REMOVE (E) CABLES.
2. PROVIDE (N) 4160V SWGR RECONNET TO (E) TUL, SEE DWG E401, REFER TO CIVIL DRAWING FOR EQUIPMENT HOUSEKEEPING PAD.
3. PROVIDE (N) TRANSFORMER T4, RECONNECT TO (E) ABBV ET BUSG, SEE DWG E501, FOR NEW WORK AT ELECT/MED RM, REFER TO CIVIL DRAWING FOR EQUIPMENT HOUSEKEEPING PAD.
4. PROVIDE (N) MANHOLE & (N) DUCTBANK, MANHOLE WATER DISCHARGE PIPE CONNECTION, REFER TO CIVIL DRAWINGS.
5. PROVIDE (N) 2" CLR. 48X51. 120V/240V FOR EACH SUMP PUMP FROM (N) SUMP PUMP SP- PANEL, LOCATED AT (N) SWGR TO (N) MANHOLE 1X4, 2X2 & 2X2, SEE DWG E104 FOR LV CIRCUITS.
6. (E) CONDUTS FOR FIRE ALARM & COMM. RETROFIT CONDUTS, WIRES AND INSTALL NEW BOX (MATCH EXISTING SIZE), SEE CIVIL DWG FOR LOCATION.
7. (N) CONDUTS RUN THRU (E) CONCRETE WALLWAYS, CUTOVER AS REQUIRED, SEE CIVIL DWG FOR DETAILS AND UP AGAINST WALL (CORE DRILL WALLS, SEE CIVIL DWG), REPAIR WALLWAY TO MATCH EXISTING.

CONTRA COSTA COMMUNITY COLLEGE DISTRICT
DIABLO VALLEY COLLEGE
331 GOLF CLUB ROAD, PLEASANT HILL, CA 94523

MATCH LINE
SHEET NO. E204

PROJECT D-4009
REPLACEMENT OF MAIN ELECTRICAL SWITCHGEAR
ELECTRICAL SITE PLAN
AREA 3
AND SKY U/G DUCTBANK ENLARGED PLAN

DIABLO VALLEY COLLEGE
331 GOLF CLUB ROAD, PLEASANT HILL, CA 94523

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

SCALE: 1"=10'-0"
KEY NOTES

1. (C) DUCTBANK, (E) CONDUITS TO BE ABANDONED IN PLACE, DISCONNECT AND REMOVE (C) CABLES.
2. S.C.D. FOR (C) DUCTBANK AND (E) MANHOLE.

(N) CONDUIT LAYOUT - AREA 4
SCALE 1"=10'-0"
MANHOLE DETAIL

ELECTRICAL MANHOLE - (E) MH3-1

MANHOLE #3-1

POINTER 1 - (E) MH3-1 TO (E) T3. CKT#8-3

SCALE: NTS

MANHOLE #3-1

POINTER 2 - (E) MH3-1 TO (E) MH3-1. CKT#8

SCALE: NTS

KEY NOTES - DEMOLITION

1. DISCONNECT AND REMOVE (E) CABLES FROM MH3, CONTRACTOR TO FIELD VERIFY, SEE DWG E301 FOR NEW WORK.
2. REFER TO SHEET E301 FOR NEW CONNECTION FORMS.
3. REFER TO SHEET E301 FOR NEW CONNECTION FORMS.

SHEET NOTES

1. REFER TO SINGLE LINE DIAGRAM SHEET E101 FOR DEMOLITION.
2. REFER TO SINGLE LINE DIAGRAM SHEET E102 FOR NEW WORK.

DIMENSIONS: NTS

CONTRA COSTA COMMUNITY COLLEGE DISTRICT
DIABLO VALLEY COLLEGE
331 GOLF CLUB ROAD, PLEASANT HILL, CA 94523

YEI ENGINEERS, INC.

PROJECT D-4009
REPLACEMENT OF MAIN ELECTRICAL SWITCHGARD
ELECTRICAL MANHOLE DETAILS
DEMOLITION - (E) MH3-1

Sheet No.
E302
Page No.
24

D-4009

B68960.0

1517671.0

20180208

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20180208

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E302

DIABLO VALLEY COLLEGE
331 GOLF CLUB ROAD, PLEASANT HILL, CA 94523

CONTRA COSTA COMMUNITY COLLEGE DISTRICT

PROJECT D-4009
REPLACEMENT OF MAIN ELECTRICAL SWITCHGARD
ELECTRICAL MANHOLE DETAILS
DEMOLITION - (E) MH3-1

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1517671.0

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E302

YEI ENGINEERS, INC.

PROJECT D-4009
REPLACEMENT OF MAIN ELECTRICAL SWITCHGARD
ELECTRICAL MANHOLE DETAILS
DEMOLITION - (E) MH3-1

Sheet No.
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Page No.
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B68960.0

1517671.0

20180208

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20180208

E302

YEI ENGINEERS, INC.
Sheet Notes:
1. Refer to single line diagram sheet 101 for demolition.
2. Refer to sheet 1305 for new work.

Key Notes - Demolition:
- Disconnect (e) CXT#8, see new connections in (d) M35.
- Disconnect (e) CXT#8, see new connections in (d) M35.

Electrical Manhole - (e) M35

Diablo Valley College

Manhole Detail

Contra Costa Community College District

Diablo Valley College

551 Golf Club Road, Pleasant Hill, CA 94523
MANHOLE DETAIL

1. (N) CABLE SIZE, REFER TO SHEET E102 FOR FEEDER SCHEDULE.
2. REFER TO CAVL DWG FOR (N) MANHOLE DETAILS.

KEY NOTES
1. PROVIDE GROUND ROD, LIGHTING AND SUMP PUMP AS REQUIRED, SEE DETAIL IN SHEET E310.

MANHOLE DETAIL

1. (N) PB-5KV
2. (N) DUCTBANK TO (N) SWGR, SEE DWG E204

MANHOLE DETAIL

1. (N) MH1A
2. (N) DUCTBANK TO (N) SWGR, SEE DWG E204
**ELECTRICAL MANHOLE - (E) MH1**

**MANHOLE DETAIL**

**PHOTO - 1**

**KEY NOTE - DEMOLITION**

1. Disconnect all feeders. Contractor shall verify existing feeders and their connections.

2. Remove (E) elbows, (E) cables, etc. and return to district as required.

**SHEET NOTES**

1. Refer to single line diagram sheet E101 for demolition.

2. Refer to single line diagram sheet E102 for new work.
1. REFER TO SINGLE LINE DIAGRAM SHEET E101 FOR DEMOLITION.
2. REFER TO SINGLE LINE DIAGRAM SHEET E102 FOR NEW WORK.
3. REFER TO CIVIL DWG FOR DETAILS.

KEY NOTES

1. (N) CIRCUIT FOR3 SHALL BE TERMINATED WITH 600/AMP NON-LOAD-BREAK ELBOWS, ELASTOMERIC ELBOW CONNECTOR OR EQUAL. PROVIDE NON-METALLIC MOUNTING BRACKETS AND RELATED MATERIALS.
2. PROVIDE (N) ELBOW 200A AND CONNECT TO (E) JUNCTION POINTS.
3. PROVIDE GROUND ROD, LIGHTING AND SUMP PUMP, SEE DETAILS IN E310.
4. CORE DRILL 6-4" CONDUIT INTO (E) MH2-2. CONTRACTOR SHALL FIELD VERIFY, SCAN AND DETERMINE LOCATION OF CONDUIT ENTRY.
5. REPLACE (E) JUNCTIONS TO (N) 3-POINT JUNCTION 600A-200A-200A.
6. PROVIDE (N) IN-LINE SPICES FOR EXISTING AND NEW FEEDER CABLES.
7. (N) FEEDERS CABLE SHIELDS SHALL BE TERMINATED TO (E) GROUND ROD.

CONTRA COSTA COMMUNITY COLLEGE DISTRICT
DIABLO VALLEY COLLEGE
321 GOLF CLUB ROAD, PLEASANT HILL, CA 94523

MANHOLE DETAIL

(N) MH2A
SCALE 1/50

SHEET NOTES

PROJECT D-4009
REPLACEMENT OF MAIN ELECTRICAL SWITCHGEAR
ELECTRICAL MANHOLE DETAILS
NEW WORK — (N) MH2A AND (E) MH2-2

CONTRACTOR 帝王工程顧問公司

REV DATE BY SUB CODE
20180206 010

DIAGRAM SCALE 1/75

IDENTIFICATION GRAPHS
PENDING TO THE STATE UNIVERSITY

PROJECT NO. D-4009
PREPARED AS SHOWN

BY

CONTRIBUTORY CODE

REVISION NO.

DRAWING NO.

PAGE NO.

DATE

SHEET

DIAGRAM SCALE 1/75

IDENTIFICATION GRAPHS
PENDING TO THE STATE UNIVERSITY
MANHOLE #2-2

PHOTO - 1
SCALE: NTS

EXISTING FEEDERS, CKT1 & CKT3

TO MANHOLE #3-2
(SECONDARY)

TO MANHOLE #3-4
(LIGHT IN THE HOSE)

NO HOSES

PULL HUBS

4 AL 600 AMP B BUSES
3 AL 250 AMP B BUSES
5 AL PROJECT TO SUB LOT 20 JA SPIES DOWN
SEE PHOTO-1

(3) TV, V, TO PARKING LOT #1

REV

MANHOLE DETAIL
SCALE: NTS

ELECTRICAL MANHOLE - (E) MH2-2
SCALE: NTS

MANHOLE #2-2

ELECTRICAL MANHOLE DETAILS
DEMOLITION - (E) MH2-2
TYPICAL DETAIL - DUCTBANK SPACERS

NOTE: MINIMUM SEPARATION BETWEEN CONDUITS SHALL BE 3 INCHES.

TYPICAL DETAIL - CONDUIT STUB-UP

EQUIPMENT
INSULATED THROAT GROUNDING BUSHING WITH LAY-IN LUG
FINISHED GRADE
T.C. EQUIPMENT PAD

MIN. RADIUS PER NEC

3" MIN THICKNESS

PVC SCH 40 RISER ADAPTER COUPLING

ENCASED CONCRETE

PVC-COATED RIS CONDUIT ON 3/4"-2" CORROSION RESISTANT TAPE WRAP WITH SIDE OVERWRAP

REF. TO EQUIP SHOP DMR FOR CONDUIT ENTRY

ALL LIQUID-TIGHT CONNECTORS ENCLOSURE/GASKETED MATERIALS

SUBMERSIBLE SUMP PUMP

2" DRAIN PIPE TO (N) DISCHARGE PIPE

WATERPROOF, 35A, 3P, NON-METALLIC SINGLE THROW ENCLOSED DISCONNECT SWITCH

20A DUAL INTERLACED CORD CARRIAGE ILLUSTRATING FOUNDRY MATERIALS

MATERIALS APPRECIATE TO (N) MTA, (N) MBGA AND (N) MTA

MANHOLE LIGHTING AND SUMP PUMP POWER PLAN

SCALE: NTS

LBC8904-0

PROJECT D-4009
REPLACEMENT OF MAIN ELECTRICAL SWITCHGEAR
ELECTRICAL TYPICAL DETAILS
NEW MANHOLE AND NEW DUCTBANK SHEET 2 OF 2

CONTRA COSTA COMMUNITY COLLEGE DISTRICT
DIABLO VALLEY COLLEGE
321 GOLF CLUB ROAD, PLEASANT HILL, CA 94523

PART NO: R772930

20180206

SECTIONS
SCALE: NTS

SECTION A

SECTION B

SECTION C

SECTION D

SECTION E

SECTION F

OFFSET PIPE CLAMP TYPE 316 STAINLESS STEEL FINISH (MINIMUM 2 SUPPORTS)

SUBMERSIBLE SUMP PUMP

LIGHT SWITCH MOUNT 12" DECCY ENTRANCE

3/4" PVC SCH 40, 2"OD

3/4" PVC SCH 40, 21/2"OD

3/4" PVC SCH 40, 21/4"OD

120V, LED

3/4" PVC SCH 40, 21/8"OD

CONTRA COSTA COMMUNITY COLLEGE DISTRICT
DIABLO VALLEY COLLEGE
321 GOLF CLUB ROAD, PLEASANT HILL, CA 94523

PROJECT D-4009
REPLACEMENT OF MAIN ELECTRICAL SWITCHGEAR
ELECTRICAL TYPICAL DETAILS
NEW MANHOLE AND NEW DUCTBANK SHEET 2 OF 2

PART NO: R772930

20180206
1. REFER TO SHEET E001 FOR GENERAL ELECTRICAL NOTES.

2. REFER TO SHEET E401 FOR (N) SWITCHGEAR.

3. CONTRACTOR SHALL PROVIDE GROUND GRID LEVEL TEST AFTER (N) GROUND GRID AND (E) GROUND GRID TC CONNECTIONS FINISH.

KEY NOTES

1. LOCATIONS OF SWGR GROUND BUS TO BE DETERMINED IN FIELD AND COORDINATE WITH FINAL APPROVED SWITCHGEAR SUBMITTAL.

2. PROVIDE (N) GROUNDING CONNECTION(S) TO (E) UNDERGROUND GROUND GRID. CONTRACTOR SHALL FIELD VERIFY (E) GND GRID.

3. PROVIDE UL LISTED OUTDOOR LED WALLPACK WALL MOUNT LANTERN FIXTURE WITH PHOTOMIC CONTROL OFFICE. BRONZE FINISH. TAMPER RESISTANT SCREWS. HOUSING TYPE N, 250 LED AND 500 COLOR TEMPERATURE OR EQUAL, MAXIMUM WEIGHT: 150 LBS.


GROUNDING PLAN - (N) SWGR AND (N) TI

SCALE: NTS

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REPLACEMENT OF MAIN ELECTRICAL SWITCHGEAR
(GROUNDING AND LIGHTING PLAN)