

STATE OF HAWAII
DEPARTMENT OF DEFENSE
HAWAII ARMY NATIONAL GUARD

BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS

PN15150023

91-1387 SARATOGA AVENUE, BUILDING 29
KALAELOA, KAPOLEI, OAHU, HAWAII
TAX MAP KEY: 9-1-013: 045

100% FINAL BID SET

17 MARCH, 2020



1220 N. PONTIAC TRAIL, WALLED LAKE, WA 98090
WESTMEIER HOUSTON, TX 77042
8450 N. BROADWAY, OKLAHOMA CITY, OK 73114
625 EMERSON ROAD, ST. LOUIS, MO 63141
60 PLATO BOULEVARD E. ST. PAUL, MN 55107
ONE WEST THIRD STREET, TULSA, OK 74103



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EXPIRATION DATE OF LICENSE: 04/30/2022

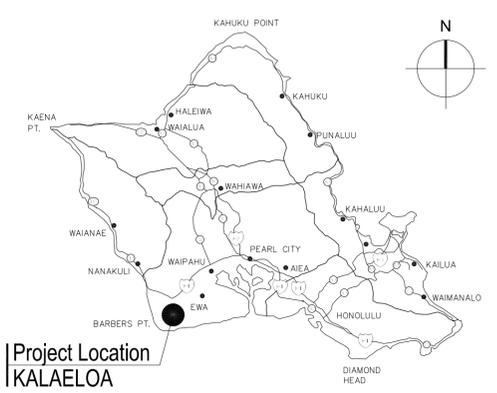
SYMBOL	DESCRIPTION	DATE	APPROVED

Map of the Hawaiian Islands:



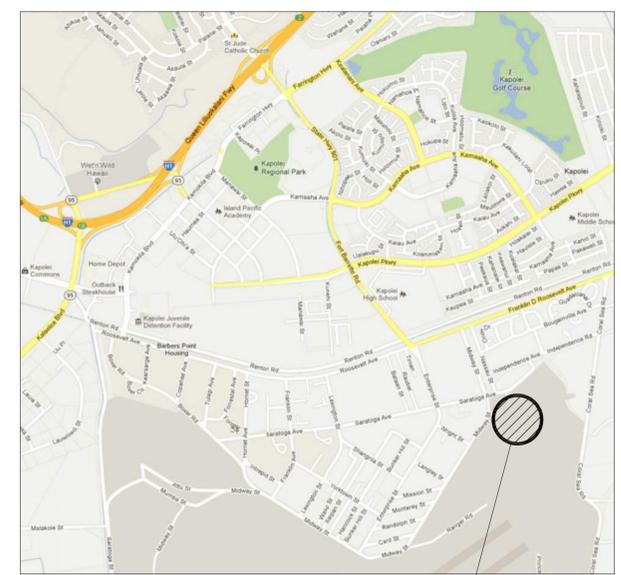
HAWAIIAN ISLANDS

Location Map:



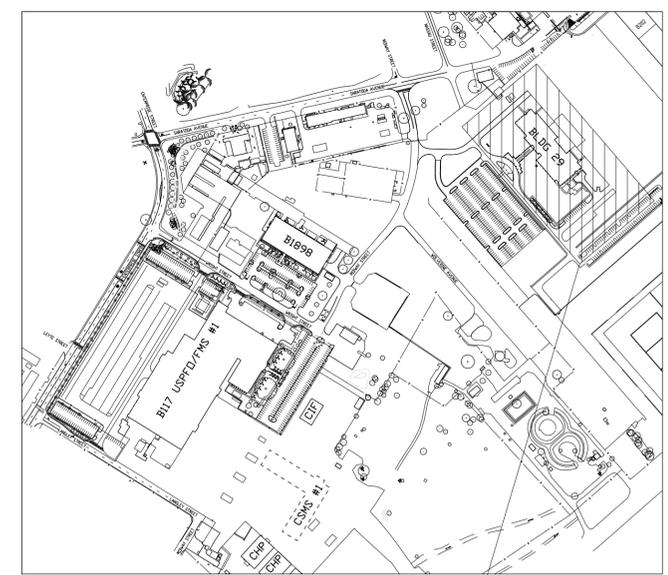
ISLAND OF OAHU

Vicinity Map:



Project Location
91-1387 SARATOGA AVENUE

Project Site:



Project Site
EXISTING BUILDING 29

Project Scope:

- The Scope of this project generally includes the following:
- the addition of thresh holds at existing shower stalls;
 - the addition of quick-connect fittings for hose nozzles at an existing irrigation system;
 - the addition of fencing and gates at an existing utility yard;
 - paving for additional parking area;
 - additional parking lot lighting;
 - the addition of a photovoltaic system / canopy on a steel support structure;
 - some miscellaneous sidewalks and curbing.

Project Team:

ARCHITECT: BENHAM
622 EMERSON ROAD, SUITE 600
ST. LOUIS, MISSOURI 63141
TELEPHONE: 314.821.7017 FAX: 314.821.8499
EMAIL: GARY.WUNDERLICH@benham.com
BENHAM PROJECT NO.: 314202

CIVIL ENGINEER: BENHAM
622 EMERSON ROAD, SUITE 600
ST. LOUIS, MISSOURI 63141
TELEPHONE: 314.821.7017 FAX: 314.821.8499
EMAIL: GARY.SMIT@benham.com
BENHAM PROJECT NO.: 314202

ELECTRICAL ENGINEER: BENHAM
622 EMERSON ROAD, SUITE 600
ST. LOUIS, MISSOURI 63141
TELEPHONE: 314.821.7017 FAX: 314.821.8499
EMAIL: WAYNE.BUTLER@benham.com
BENHAM PROJECT NO.: 314202

STRUCTURAL ENGINEER: BENHAM
622 EMERSON ROAD, SUITE 600
ST. LOUIS, MISSOURI 63141
TELEPHONE: 314.821.7017 FAX: 314.821.8499
EMAIL: RICK.MEYER@benham.com
BENHAM PROJECT NO.: 314202

100% FINAL BID SET

DATE: 03/17/2020

DES: AKG DRW: HET CHK: MCB

DEPARTMENT OF DEFENSE
FACILITIES DESIGN & PROJECTS BRANCH
KALAELOA, KAPOLEI, OAHU, HAWAII

HAWAII ARMY NATIONAL GUARD

91-1387 SARATOGA AVENUE
BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS
AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS

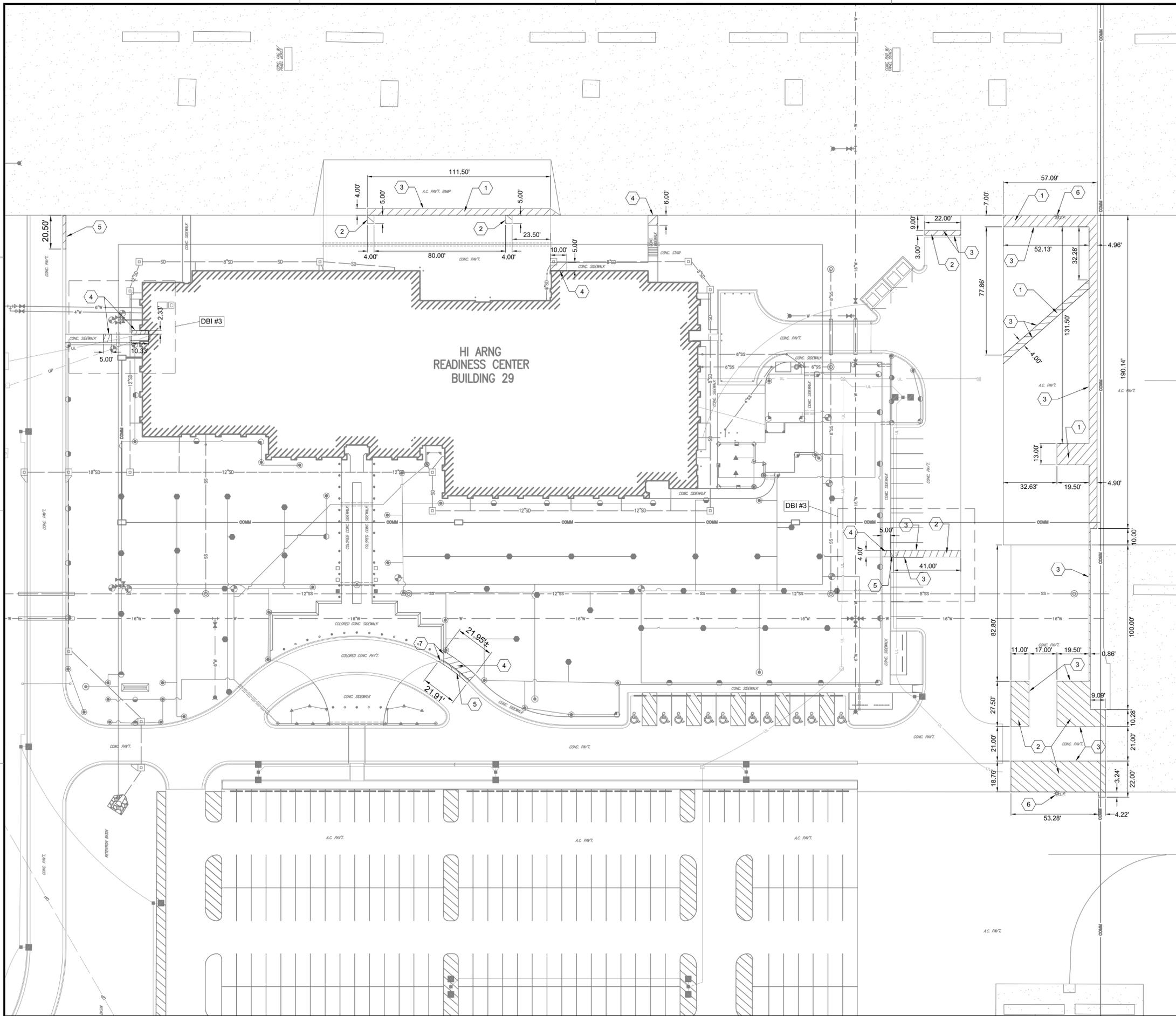
TANK NO.
9-1-013: 045

COVER SHEET

STATE OF HAWAII
FACILITY MANAGEMENT OFFICE

SCALE: AS NOTED
STATE JOB NO: CA-1512-C
FEDERAL PROJECT NO: 15150023
SHEET OF

G.001



SHEET NOTES:

- UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. THEREFORE, THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS NOT PRESENTLY KNOWN. BEFORE STARTING ANY WORK, LOCATE AND PROTECT ALL EXISTING BURIED UTILITY LINES, WHETHER OR NOT SHOWN ON THESE DRAWINGS, DURING THE COURSE OF CONSTRUCTION.
- EXISTING SITE IMPROVEMENTS SHOWN ON DRAWINGS HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. A TOPOGRAPHIC SURVEY FOR THE SITE WAS NOT PERFORMED. THEREFORE, EXISTING SITE IMPROVEMENTS MUST BE CONSIDERED AS APPROXIMATE ONLY. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE EXISTING CONDITIONS PRIOR TO THE START OF ANY CONSTRUCTION.
- SEE SHEET C.103, SITE PLAN 1, FOR ADDITIONAL CONCRETE CURB AND GUTTER DEMOLITION.
- COORDINATE ALL SITE DEMOLITION WITH PROPOSED SITE IMPROVEMENTS AND NEW UNDERGROUND UTILITIES.
- SAWCUT PAVEMENTS AND CURBING TO FULL DEPTH PRIOR TO REMOVAL OR REMOVE TO NEAREST JOINT.

KEYED NOTES:

- ASPHALT PAVEMENT TO BE REMOVED
- CONCRETE PAVEMENT TO BE REMOVED
- SAWCUT PAVEMENT
- CONCRETE SIDEWALK TO BE REMOVED
- CONCRETE CURB AND GUTTER TO BE REMOVED
- PARKING LOT LIGHT POLE AND FOUNDATION TO BE REMOVED
- EXISTING STAMPED COLORED CONCRETE SIDEWALK. DO NOT DISTURB. REMOVE EXISTING PLAIN CONCRETE SIDEWALK TO NEAREST JOINT SEPARATING THE TWO DIFFERENT TYPES OF SIDEWALKS.

DEDUCTIVE BID ITEM (DBI):

DBI #3 - DELETE DEMOLITION/REPLACEMENT WORK ASSOCIATED WITH THE PHOTOVOLTAIC SYSTEM UNDERGROUND POWER.



1 SITE DEMOLITION PLAN
1"=30'



1250 N. PONTIAC TRAIL, WALLED LAKE, WA 98093
WESTMEIER, HOUSTON, TX 77060
8450 N. BROADWAY, OKLAHOMA CITY, OK 73114
825 EMERSON ROAD, ST. LOUIS, MO 63141
60 PLATO BOULEVARD, E. ST. PAUL, MN 55107
ONE WEST THIRD STREET, TULSA, OK 74103



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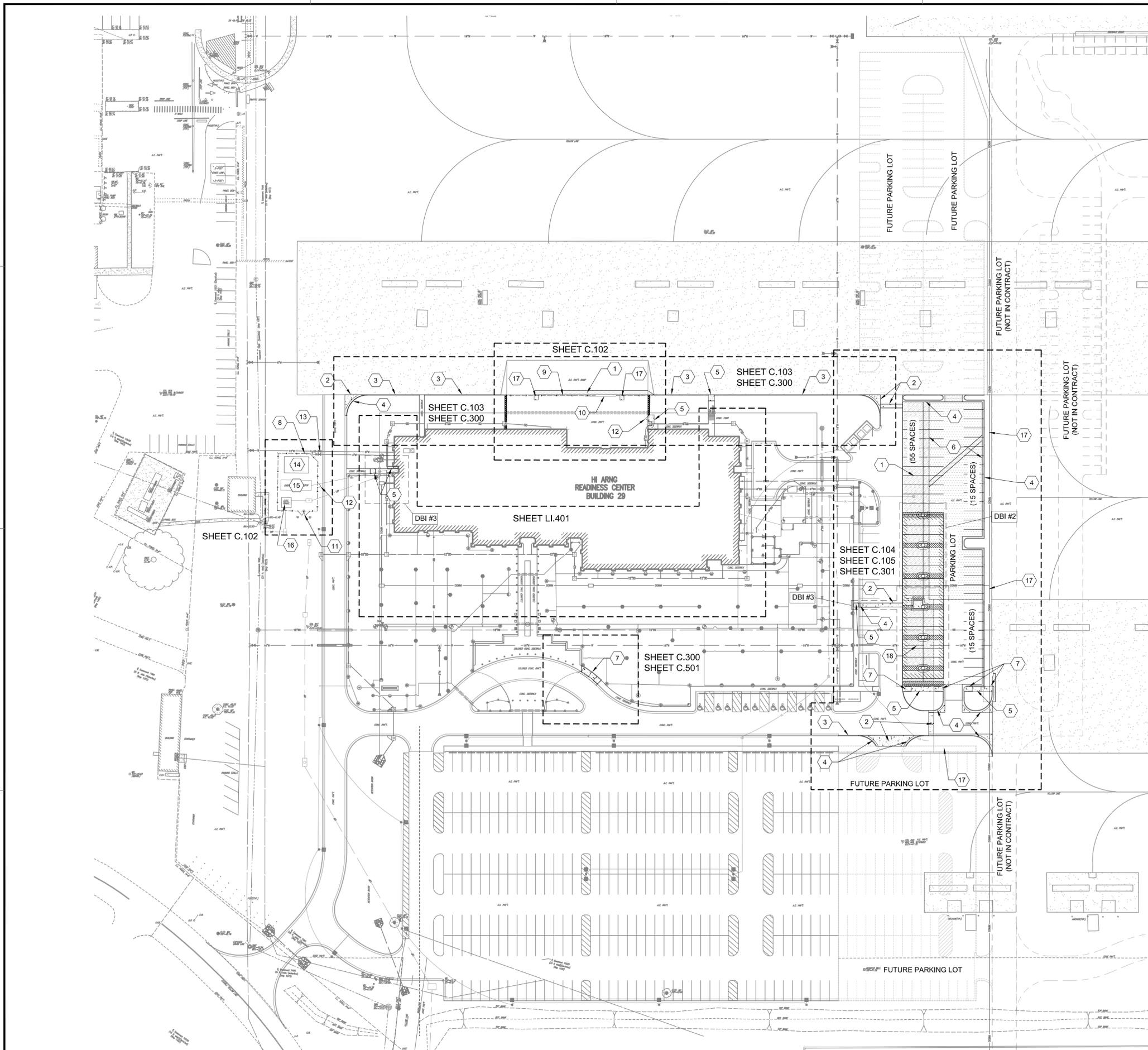
DATE	DESCRIPTION	SYN	APPR

100% FINAL BID SET

03/17/2020
DES: GWS DRW: GWS CHK: MJS

DEPARTMENT OF DEFENSE
HAWAII ARMY NATIONAL GUARD
FACILITIES DESIGN & PROJECTS BRANCH
KALAELOA, KAPOLEI OAHU, HAWAII
91-1387 SARATOGA AVENUE
BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS
CIVIL DEMOLITION PLAN
TALK NO. 9-1403-045

SCALE: AS NOTED
STATE JOB NO. CA-1512-C
FEDERAL PROJECT NO. 15150023
SHEET 1 OF 1
C.100



SHEET NOTES:

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- EXISTING SITE IMPROVEMENTS SHOWN ON DRAWINGS HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. A TOPOGRAPHIC SURVEY FOR THE SITE WAS NOT PERFORMED. THEREFORE, EXISTING SITE IMPROVEMENTS MUST BE CONSIDERED AS APPROXIMATE ONLY. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE EXISTING CONDITIONS PRIOR TO THE START OF ANY CONSTRUCTION.

KEYED NOTES:

- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- 6" VERTICAL CONCRETE CURB
- 6" VERTICAL CONCRETE CURB AND GUTTER
- CONCRETE SIDEWALK
- 2" ASPHALT OVERLAY
- ADA RAMP
- 6' CHAIN LINK FENCE (BARBED)
- 6' CHAIN LINK FENCE (BARBED) INSTALL FENCE POSTS IN PAVEMENT AREAS
- 20' MANUAL CANTILEVERED SLIDE GATE (20' CLEAR OPENING)
- 10' DOUBLE SWING GATE (10' CLEAR OPENING)
- 5' MAN GATE
- COORDINATE FENCE LOCATION WITH EXISTING PIV
- EXISTING MECHANICAL EQUIPMENT
- EXISTING EMERGENCY GENERATOR
- EXISTING ELECTRICAL TRANSFORMER
- 16" WATER MAIN

DEDUCTIVE BID ITEM (DBI):

- DBI #2 -** DELETE 50% OF THE PHOTOVOLTAIC SYSTEM AND APPROXIMATELY 50% OF THE STRUCTURAL CANOPY AS INDICATED. RECONFIGURE PARKING LOT STRIPING PROVIDING FOR AN ADDITIONAL 2 SPACES, AND ADDITIONAL ASPHALT PAVEMENT WHERE COLUMN ISLANDS WERE REMOVED FROM PROJECT.
- DBI #3 -** DELETE THE REMAINING 50% OF THE PHOTOVOLTAIC SYSTEM AND THE AND ASSOCIATED STRUCTURAL CANOPY. RECONFIGURE PARKING LOT STRIPING PROVIDING FOR AN ADDITIONAL 3 SPACES, DELETION OF 2 MOTORCYCLE SPACES AND ASSOCIATED CONCRETE SECTION, AND ADDITIONAL ASPHALT PAVEMENT WHERE COLUMN ISLANDS AND MOTORCYCLE PARKING WERE REMOVED FROM PROJECT. REMOVE DEMOLITION/REPLACEMENT WORK ASSOCIATED WITH UNDERGROUND POWER.



1 OVERALL SITE PLAN
 1"=60'
 0 15' 30' 60'
 Scale: 1" = 60'



1250 N. PONTIAC TRAIL, WALLED LAKE, MI 48390
 WESTMEIER, HOUSTON, TX 77042
 8450 N. BROADWAY, OKLAHOMA CITY, OK 73114
 635 EMERSON ROAD, ST. LOUIS, MO 63141
 60 PLATO BOULEVARD, E. ST. PAUL, MN 55107
 ONE WEST THIRD STREET, TULSA, OK 74103



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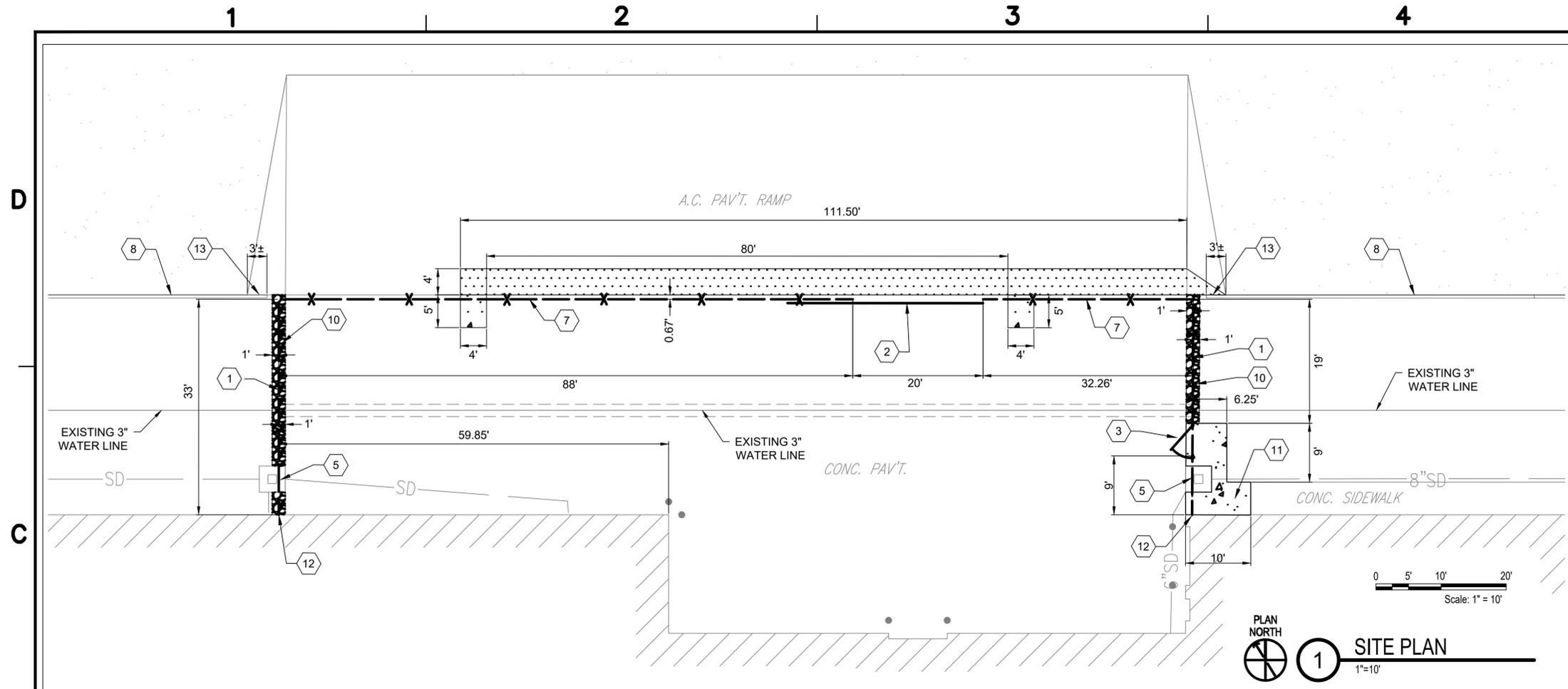
SYMBOL	DESCRIPTION	DATE	APPROVED

100% FINAL BID SET

DESIGNED: GWS DRAWN: GWS CHECKED: MJS

STATE OF HAWAII
 FACILITY MANAGEMENT OFFICE
 HAWAII ARMY NATIONAL GUARD
 FACILITIES DESIGN & PROJECTS BRANCH
 KALAHELOA, KAPOLEI OAHU, HAWAII
 91-1387 SARATOGA AVENUE
 BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS
 CIVIL OVERALL SITE PLAN
 TALK NO. 9-1403-045

SCALE: AS NOTED
 STATE JOB NO.: CA-1512-C
 FEDERAL PROJECT NO.: 15150023
 SHEET 1 OF 1
C.101

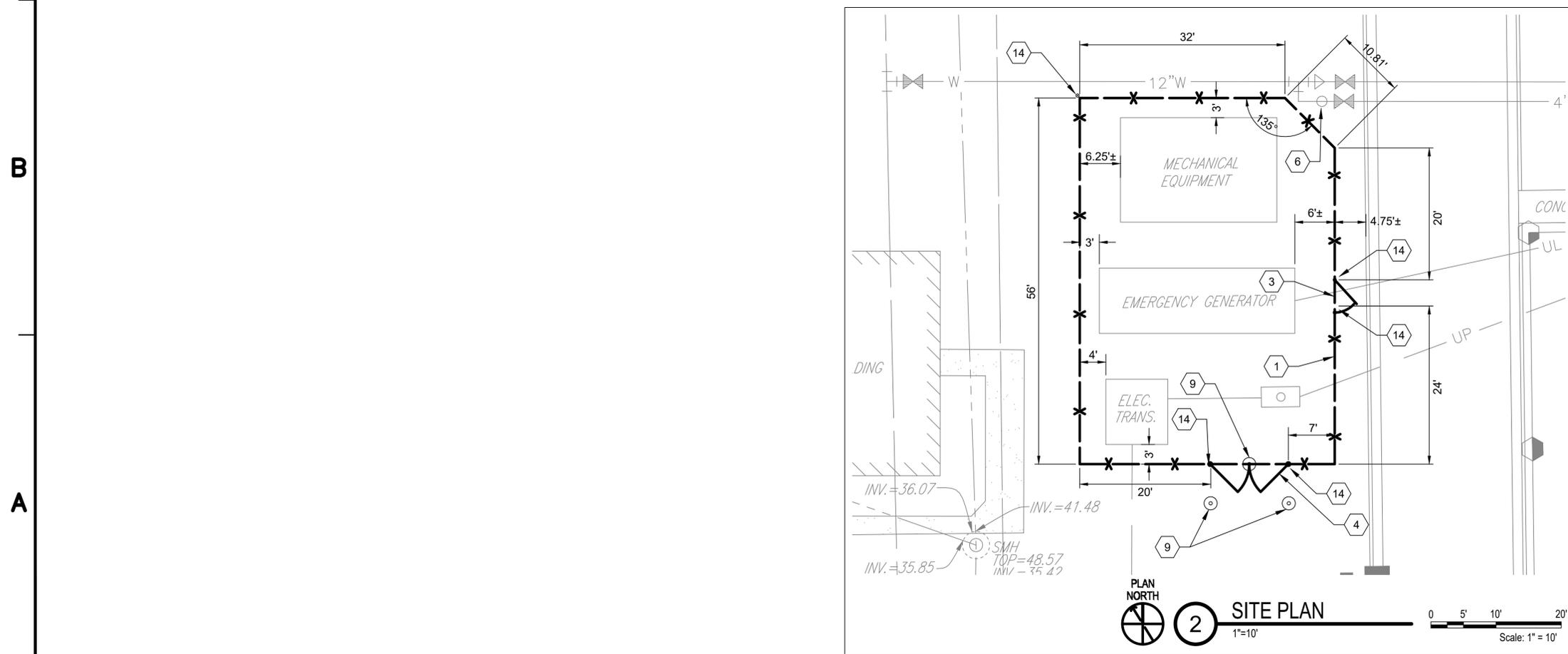


SHEET NOTES:

1. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. THEREFORE, THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS NOT PRESENTLY KNOWN. BEFORE STARTING ANY WORK, LOCATE AND PROTECT ALL EXISTING BURIED UTILITY LINES, WHETHER OR NOT SHOWN ON THESE DRAWINGS, DURING THE COURSE OF CONSTRUCTION.
2. EXISTING SITE IMPROVEMENTS SHOWN ON DRAWINGS HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. A TOPOGRAPHIC SURVEY FOR THE SITE WAS NOT PERFORMED. THEREFORE, EXISTING SITE IMPROVEMENTS MUST BE CONSIDERED AS APPROXIMATE ONLY. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE EXISTING CONDITIONS PRIOR TO THE START OF ANY CONSTRUCTION.
3. COORDINATE ALL SITE SITE IMPROVEMENTS WITH EXISTING UNDERGROUND UTILITIES.

KEYED NOTES:

1. 6" CHAIN LINK FENCE SEE DETAIL 2, C.502
2. CANTILEVERED SLIDE GATE SEE DETAIL 1, C.502
3. MAN GATE SEE DETAIL 2, C.503
4. DOUBLE SWING GATE SEE DETAIL 1, C.503
5. COORDINATE FENCE INSTALLATION WITH UNDERGROUND STORM SEWER AND STRUCTURE
6. COORDINATE FENCE INSTALLATION WITH UNDERGROUND WATER LINES, VALVES, AND POST INDICATOR VALVE
7. INSTALL NEW FENCE WITH NEW FENCE POSTS IN OR ON EXISTING PAVEMENT
8. 6" VERTICAL CONCRETE CURB SEE DETAIL 5, C.500
9. SWING GATE STOP SEE DETAIL 3, C.503. COORDINATE INSTALLATION AND LOCATION WITH GATE SWING AND PLUNGER BAR
10. GRAVEL MOW STRIP SEE DETAIL 3, C.502
11. CONCRETE SIDEWALK SEE DETAIL 2, C.501. COORDINATE NEW CONCRETE SIDEWALK INSTALLATION WITH EXISTING STORM SEWER STRUCTURE
12. COORDINATE FENCE POST AT BUILDING WALL AND FOOTING SEE DETAIL 4, C.502
13. EXTEND NEW CURBING TO A POINT WHERE TOP OF CURB MATCHES TOP OF EXITING ASPHALT PAVEMENT.
14. FENCE GROUNDING ROD SEE DETAIL 4, C.503





BENHAM
Professional Surveying

1250 N. PONTIAC TRAIL, WALLEE LAKE, MI 48390
WESTHEIMER, HOUSTON, TX 77062
9409 N. BROADWAY, OKLAHOMA CITY, OK 73114
622 EMERSON ROAD, ST. LOUIS, MO 63141
60 PLATO BOULEVARD E. ST. PAUL, MN 55107
ONE WEST THIRD STREET, TULSA, OK 74103

SEAL



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SUBMITTAL PHASE	DATE	DESCRIPTION	BY	CHECKED	DATE
100% FINAL BID SET <td>03/17/2020 <td></td> <td></td> <td></td> <td></td> </td>	03/17/2020 <td></td> <td></td> <td></td> <td></td>				

DEPARTMENT OF DEFENSE
FACILITIES DESIGN & PROJECTS BRANCH
KALAELOA, KAPOLEI, OAHU - HAWAII

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91-1387 SARATOGA AVENUE
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CIVIL
SITE PLAN

T.M.K. NO.
9-1-013-045

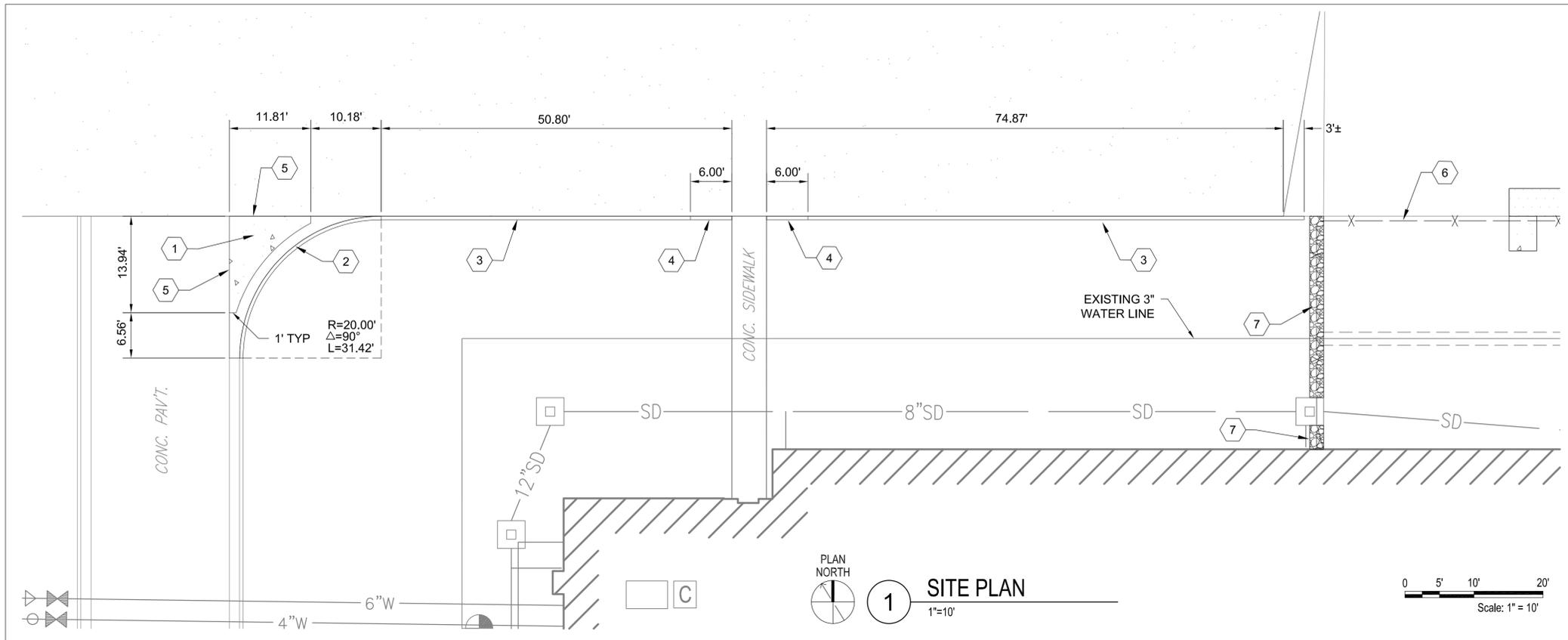
SCALE: AS NOTED

STATE JOB NO. CA-1512-C

FEDERAL PROJECT NO. 15150023

SHEET 01 OF 02

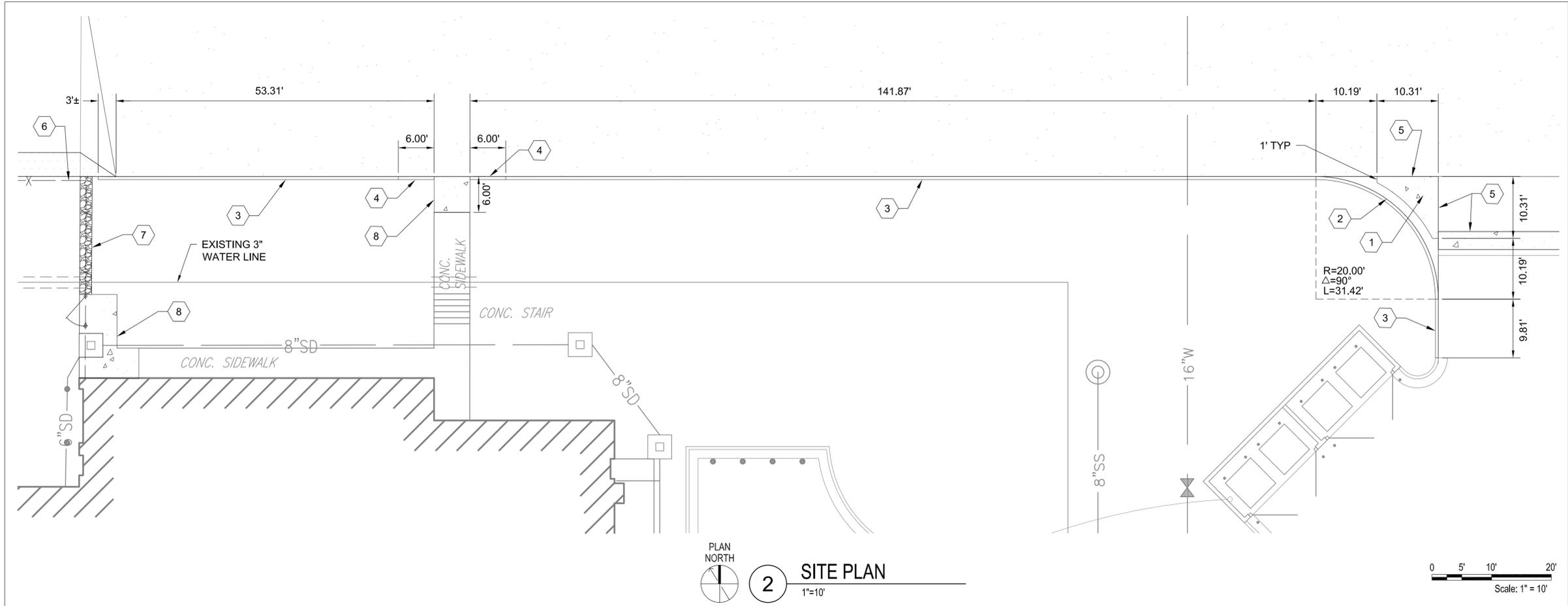
C.102



1 SITE PLAN
1"=10'

- SHEET NOTES:**
1. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. THEREFORE, THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS NOT PRESENTLY KNOWN. BEFORE STARTING ANY WORK, LOCATE AND PROTECT ALL EXISTING BURIED UTILITY LINES, WHETHER OR NOT SHOWN ON THESE DRAWINGS, DURING THE COURSE OF CONSTRUCTION.
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- KEYED NOTES:**
1. CONCRETE PAVEMENT SEE DETAIL 1, C.500
 2. 6" VERTICAL CONCRETE CURB AND GUTTER SEE DETAIL 6, C.500
 3. 6" VERTICAL CONCRETE CURB SEE DETAIL 5, C.500
 4. CONCRETE CURB TRANSITION SEE DETAIL 4, C.500
 5. DOWEL NEW CONCRETE PAVEMENT SEE DETAIL 2, C.500
 6. 6' CHAIN LINK FENCE SEE DETAIL 2, C.502
 7. MOW STRIP SEE DETAIL 3, C.502
 8. CONCRETE SIDEWALK SEE DETAIL 2, C.501



2 SITE PLAN
1"=10'



1250 N. PONTIAC TRAIL, WALLED LAKE, WA 98093
WESTMEIER, HOUSTON, TX 77042
8450 N. BROADWAY, OKLAHOMA CITY, OK 73114
825 EMERSON ROAD, ST. LOUIS, MO 63141
60 PLATO BOULEVARD, E. ST. PAUL, MN 55107
ONE WEST THIRD STREET, TULSA, OK 74103



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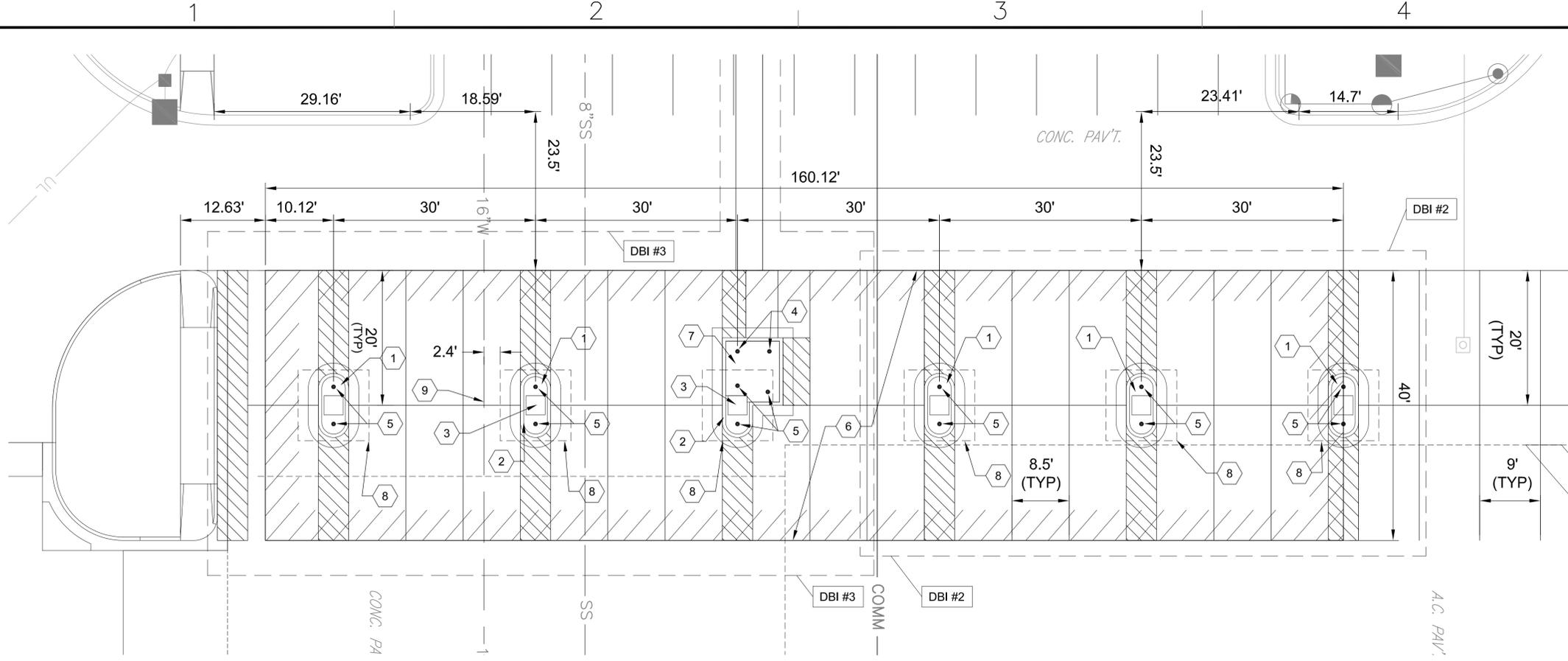
SYMBOL	DESCRIPTION	DATE	APPROVED

100% FINAL BID SET

DESIGNED BY: GWS DRAWN BY: GWS CHECKED BY: MJS

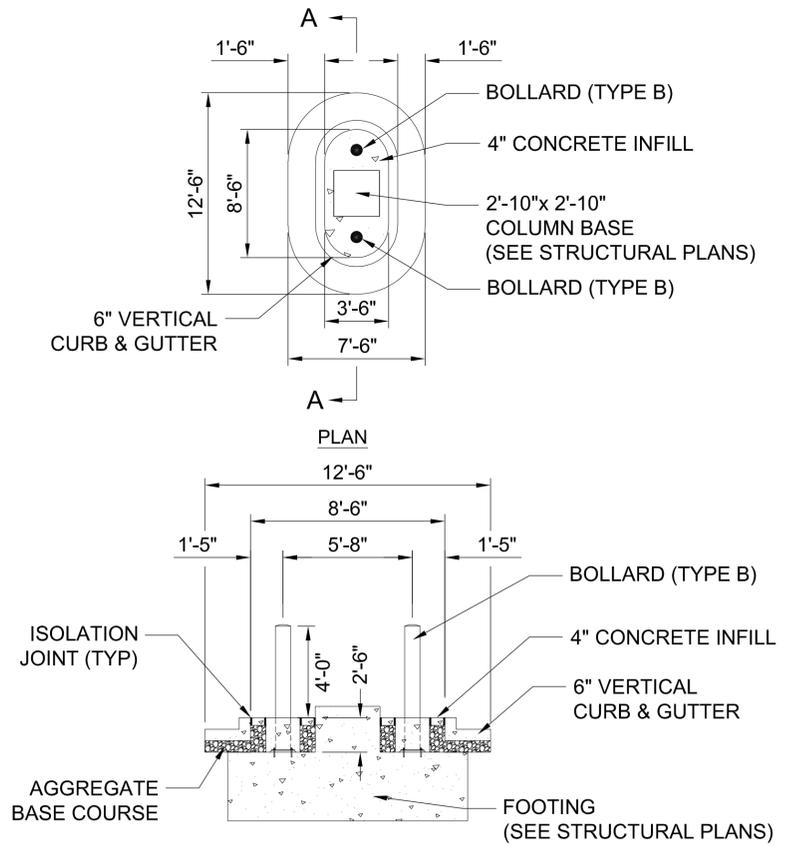
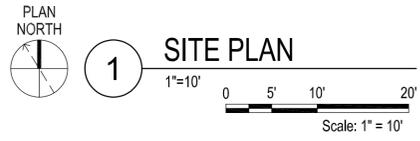
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CIVIL
SITE PLAN
TALK NO. 9-1403-045

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SHEET 01 OF 01

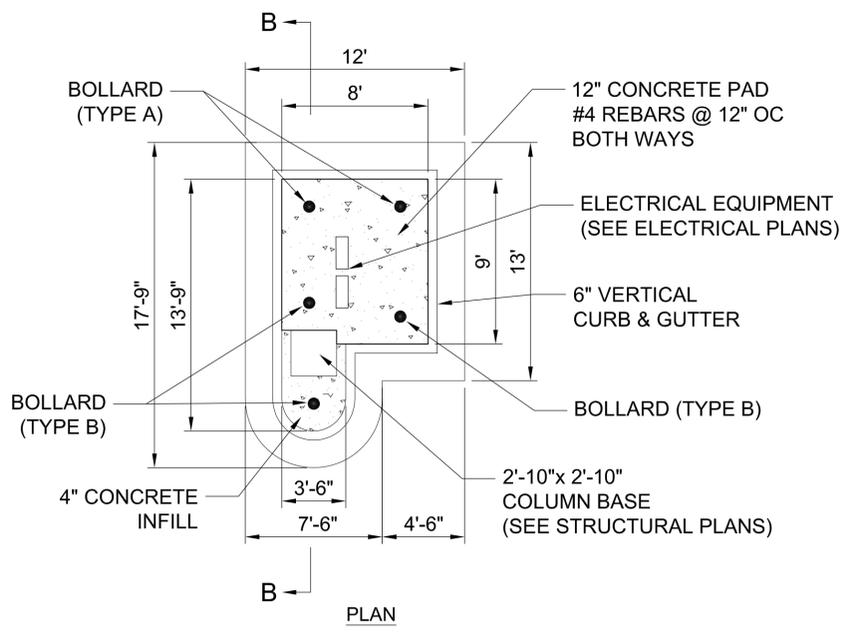


- KEYED NOTES:**
1. CONCRETE ISLAND SEE DETAIL 2 SHEER C.105
 2. 6" VERTICAL CONCRETE CURB AND GUTTER SEE DETAIL 6, C.500
 3. OVERHEAD CANOPY COLUMN SEE STRUCTURAL PLANS
 4. BOLLARD TYPE A SEE DETAIL 7, C.503
 5. BOLLARD TYPE B SEE DETAIL 7, C.503
 6. OVERHEAD CANOPY SEE STRUCTURAL PLANS
 7. CONCRETE ELECTRICAL EQUIPMENT PAD SEE DETAIL 3 SHEET C.105
 8. COLUMN FOOTING SEE STRUCTURAL PLANS
 9. EXISTING 16" WATER MAIN, CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF THE EXISTING 16" WATER MAIN PRIOR TO CONSTRUCTION OF COLUMN FOOTING

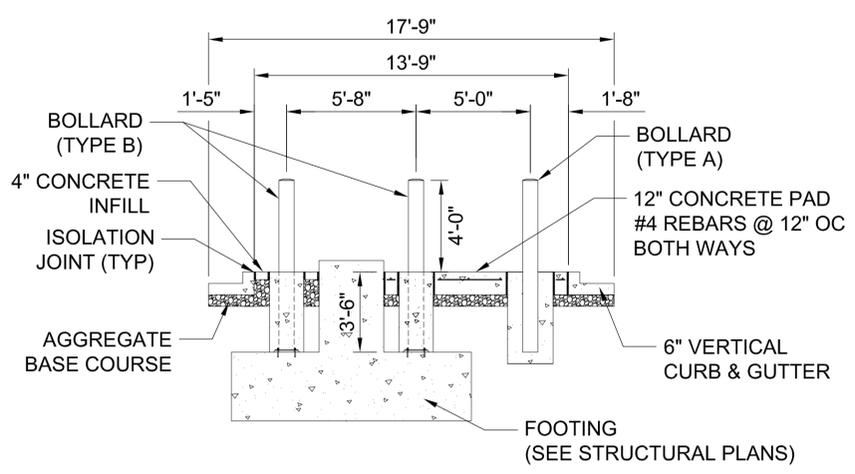
- DEDUCTIVE BID ITEM (DBI):**
- DBI #2 - DELETE 50% OF THE PHOTOVOLTAIC SYSTEM AND APPROXIMATELY 50% OF THE STRUCTURAL CANOPY AS INDICATED. RECONFIGURE PARKING LOT STRIPING PROVIDING FOR AN ADDITIONAL 2 SPACES, AND ADDITIONAL ASPHALT PAVEMENT WHERE COLUMN ISLANDS WERE REMOVED FROM PROJECT.
- DBI #3 - DELETE THE REMAINING 50% OF THE PHOTOVOLTAIC SYSTEM AND THE AND ASSOCIATED STRUCTURAL CANOPY. RECONFIGURE PARKING LOT STRIPING PROVIDING FOR AN ADDITIONAL 3 SPACES, DELETION OF 2 MOTORCYCLE SPACES AND ASSOCIATED CONCRETE SECTION, AND ADDITIONAL ASPHALT PAVEMENT WHERE COLUMN ISLANDS AND MOTORCYCLE PARKING WERE REMOVED FROM PROJECT. REMOVE DEMOLITION/REPLACEMENT WORK ASSOCIATED WITH UNDERGROUND POWER.



2 CONCRETE ISLAND
C.105 SCALE: NOT TO SCALE



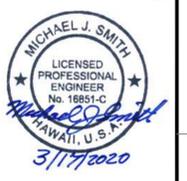
3 CONCRETE ELECTRICAL EQUIPMENT PAD
C.105 SCALE: NOT TO SCALE



SECTION B-B



1250 N. PONTIAC TRAIL, WALLED LAKE, MI 48390
WESTHEIMER HOUSTON, TX 77042
8450 N. BROADWAY, OKLAHOMA CITY, OK 73114
835 EMERSON ROAD, ST. LOUIS, MO 63141
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ONE WEST THIRD STREET, TULSA, OK 74103



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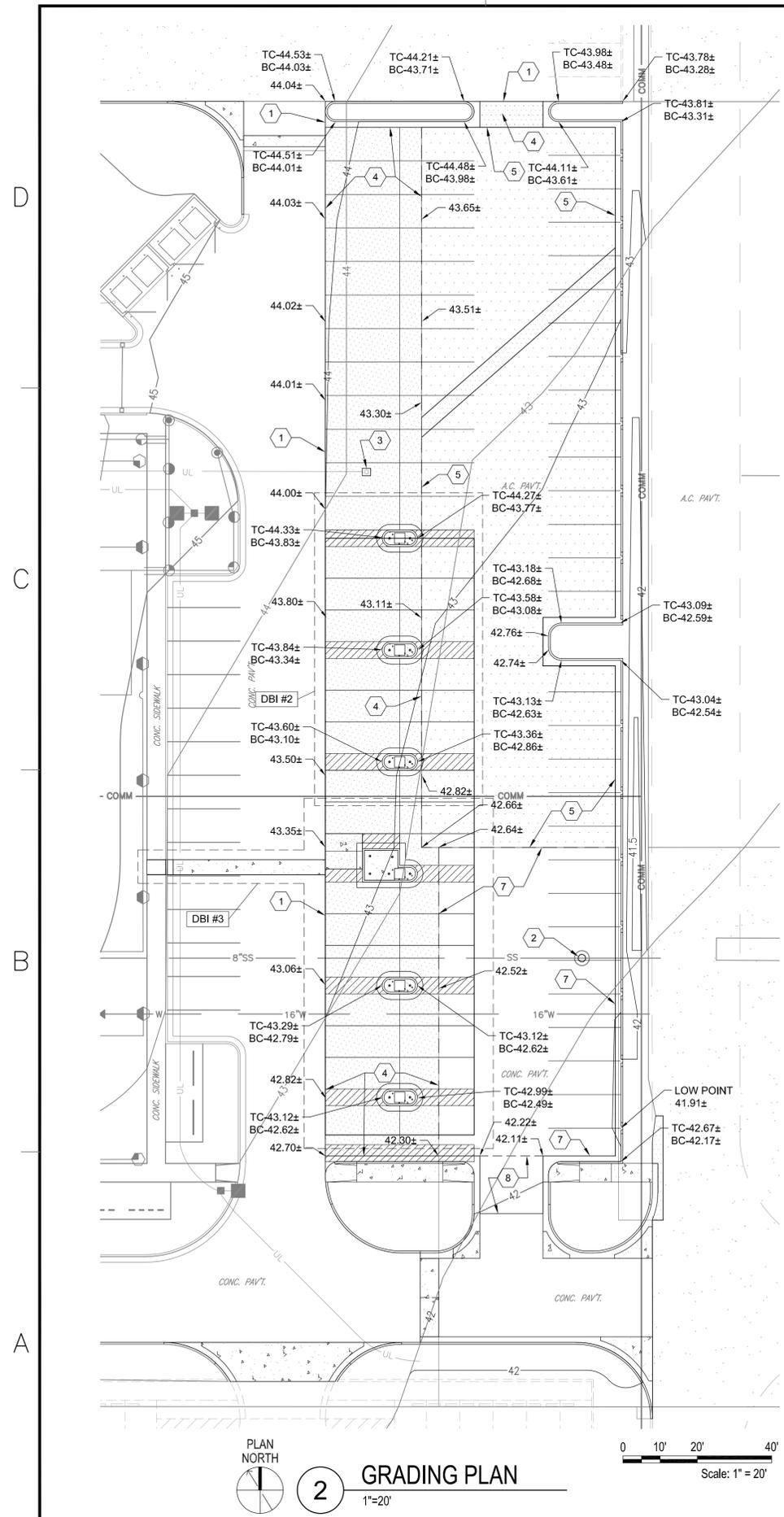
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DESIGN DATE: 03/17/2020

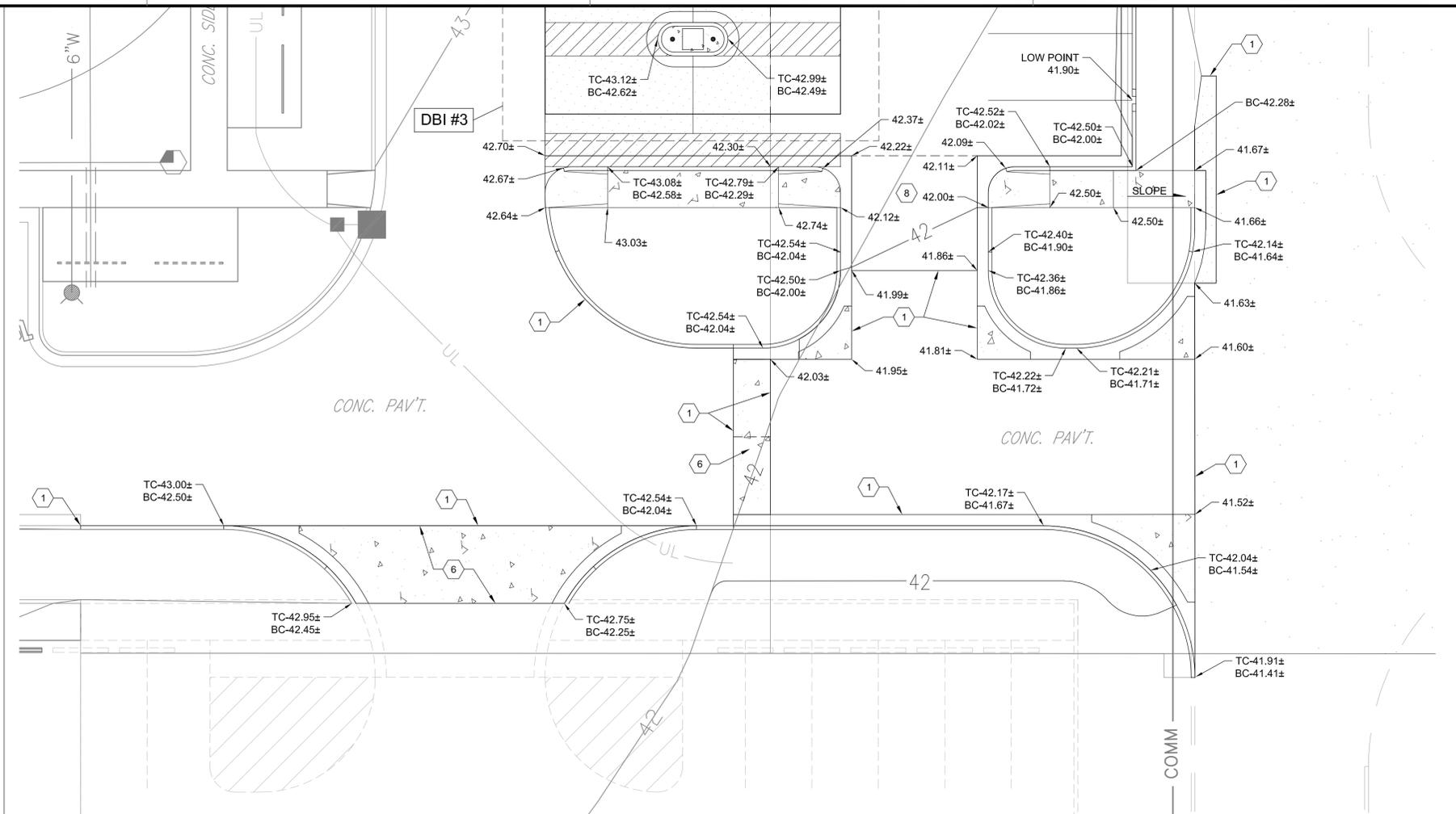
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CIVIL SITE PLAN
TALK NO. 9-1403-045

SCALE: AS NOTED
STATE JOB NO. CA-1512-C
FEDERAL PROJECT NO. 15150023
SHEET 1 OF 1



2 GRADING PLAN
1"=20'



1 GRADING PLAN
1"=10'

KEYED NOTES:

1. MATCH EXISTING GRADE, SEE SHEET NOTE 3 THIS SHEET
2. ADJUST SANITARY MANHOLE COVER AND FRAME TO GRADE (2"±)
3. ADJUST ELECTRICAL HAND HOLE TO GRADE
4. ASPHALT PAVEMENT
5. 2" ASPHALT OVERLAY ON EXISTING ASPHALT PAVEMENT
6. CONCRETE PAVEMENT
7. 2" ASPHALT OVERLAY ON EXISTING CONCRETE PAVEMENT
8. TRANSITION 0" - 2" ASPHALT OVERLAY

DEDUCTIVE BID ITEM (DBI):

- DBI #2** - DELETE 50% OF THE PHOTOVOLTAIC SYSTEM AND APPROXIMATELY 50% OF THE STRUCTURAL CANOPY AS INDICATED. RECONFIGURE PARKING LOT STRIPING PROVIDING FOR AN ADDITIONAL 2 SPACES, AND ADDITIONAL ASPHALT PAVEMENT WHERE COLUMN ISLANDS WERE REMOVED FROM PROJECT.
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SHEET NOTES:

1. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. THEREFORE, THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS NOT PRESENTLY KNOWN. BEFORE STARTING ANY WORK, LOCATE AND PROTECT ALL EXISTING BURIED UTILITY LINES, WHETHER OR NOT SHOWN ON THESE DRAWINGS, DURING THE COURSE OF CONSTRUCTION.
2. EXISTING SITE IMPROVEMENTS SHOWN ON DRAWINGS HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. A TOPOGRAPHIC SURVEY FOR THE SITE WAS NOT PERFORMED. THEREFORE, EXISTING SITE IMPROVEMENTS AND ELEVATIONS SHOWN MUST BE CONSIDERED AS APPROXIMATE ONLY. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE EXISTING CONDITIONS PRIOR TO THE START OF ANY CONSTRUCTION.
3. MATCH EXISTING GRADES AND SLOPES OF ADJOINING PAVEMENTS, CURBING, AND GUTTERS. SET TOP OF NEW CURBING 6" ABOVE ADJOINING EXISTING PAVEMENT ELEVATIONS.



1200 N. PONTIAC TRAIL, WALLED LAKE, MI 48390
WESTMEIER, HOUSTON, TX 77063
8400 N. BROADWAY, OKLAHOMA CITY, OK 73114
825 EMERSON ROAD, ST. LOUIS, MO 63141
60 PLATO BOULEVARD, E. ST. PAUL, MN 55107
ONE WEST THIRD STREET, TULSA, OK 74103



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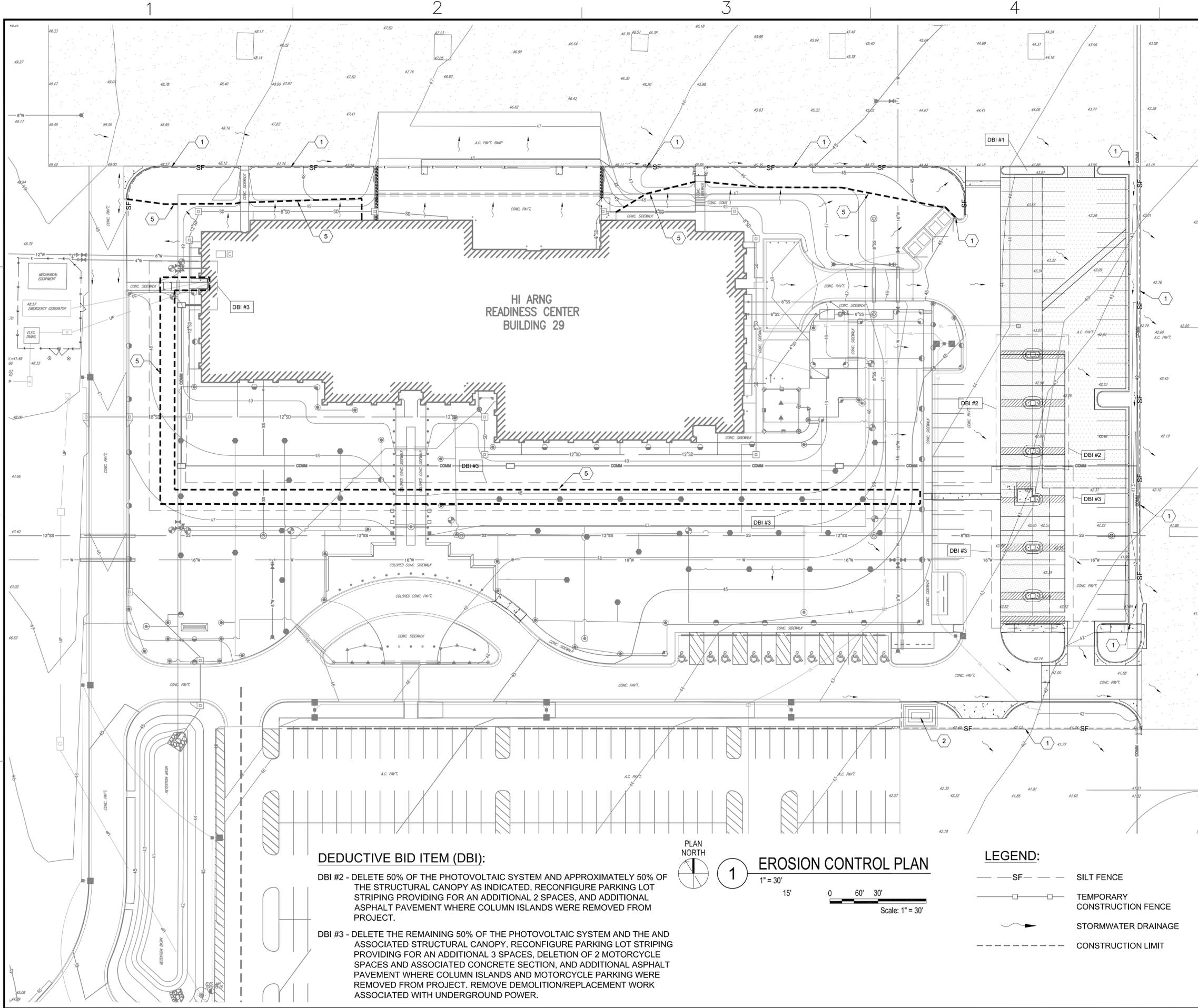
SYMBOL	DESCRIPTION	DATE	APPROVED

100% FINAL BID SET

DESIGN DATE: 03/17/2020
DES: GWS DRW: GWS CHK: MJS

DEPARTMENT OF DEFENSE
HAWAII ARMY NATIONAL GUARD
FACILITIES DESIGN & PROJECTS BRANCH
KALAELOA, KAPOLEI, OAHU, HAWAII
91-1387 SARATOGA AVENUE
BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS
CIVIL GRADING PLAN
TALK NO. 9-1403-045

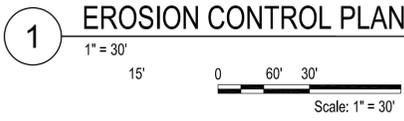
SCALE: AS NOTED
STATE JOB NO. CA-1512-C
FEDERAL PROJECT NO. 15150023
SHEET OF
C.301



DEDUCTIVE BID ITEM (DBI):

DBI #2 - DELETE 50% OF THE PHOTOVOLTAIC SYSTEM AND APPROXIMATELY 50% OF THE STRUCTURAL CANOPY AS INDICATED. RECONFIGURE PARKING LOT STRIPING PROVIDING FOR AN ADDITIONAL 2 SPACES, AND ADDITIONAL ASPHALT PAVEMENT WHERE COLUMN ISLANDS WERE REMOVED FROM PROJECT.

DBI #3 - DELETE THE REMAINING 50% OF THE PHOTOVOLTAIC SYSTEM AND THE AND ASSOCIATED STRUCTURAL CANOPY. RECONFIGURE PARKING LOT STRIPING PROVIDING FOR AN ADDITIONAL 3 SPACES, DELETION OF 2 MOTORCYCLE SPACES AND ASSOCIATED CONCRETE SECTION, AND ADDITIONAL ASPHALT PAVEMENT WHERE COLUMN ISLANDS AND MOTORCYCLE PARKING WERE REMOVED FROM PROJECT. REMOVE DEMOLITION/REPLACEMENT WORK ASSOCIATED WITH UNDERGROUND POWER.



LEGEND:

- SF SILT FENCE
- TEMPORARY CONSTRUCTION FENCE
- STORMWATER DRAINAGE
- CONSTRUCTION LIMIT

SHEET NOTES:

1. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. THEREFORE, THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS NOT PRESENTLY KNOWN. BEFORE STARTING ANY WORK, LOCATE AND PROTECT ALL EXISTING BURIED UTILITY LINES, WHETHER OR NOT SHOWN ON THESE DRAWINGS, DURING THE COURSE OF CONSTRUCTION.
2. EXISTING SITE IMPROVEMENTS SHOWN ON DRAWINGS HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. A TOPOGRAPHIC SURVEY FOR THE SITE WAS NOT PERFORMED. THEREFORE, EXISTING SITE IMPROVEMENTS AND ELEVATIONS SHOWN MUST BE CONSIDERED AS APPROXIMATE ONLY. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE EXISTING CONDITIONS PRIOR TO THE START OF ANY CONSTRUCTION.

BEST MANAGEMENT PRACTICES:

THE FOLLOWING PROCEDURES WILL BE IMPLEMENTED AND ADJUSTED DURING THE CONSTRUCTION OF THIS PROJECT.

1. THE CONTRACTOR SHALL COMPLY WITH ALL CURRENT ORDINANCES AND REGULATIONS FOR EROSION AND SEDIMENT CONTROL FOR THE CITY AND COUNTY OF HONOLULU (HAR 11-55, APPENDIX C, SECTION 5.1 EROSION AND SEDIMENT CONTROL REQUIREMENTS).
2. THE CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL CONSTRUCTION ACTIVITIES WITH THE GOVERNMENTS REPRESENTATIVE.
3. CONTRACTOR SHALL KEEP VEHICLE TRACKING OF SEDIMENT TO A MINIMUM AND SHALL CLEAN HAUL ROUTES IF TRACKING BECOMES EXCESSIVE AS DETERMINED BY THE GOVERNMENTS REPRESENTATIVE OR LOCAL GOVERNMENT HAVING JURISDICTION.
4. CONTRACTOR IS TO INSTALL EROSION CONTROL DEVICES PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
5. CONTRACTOR IS TO MAINTAIN ALL EROSION CONTROL DEVICES IN PROPER WORKING CONDITIONS THROUGHOUT THE DURATION OF THE OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE TO REPAIR OR REPLACE ANY DAMAGED DEVICES.
6. THE CONTRACTOR SHALL INSTALL SILT FENCE AND OR SOCK BARRIERS ALONG THE PERIMETER OF THE WORK AREA AS REQUIRED.
7. IN THE OCCASION THAT WIND EROSION BECOMES EVIDENT, THE CONTRACTOR SHALL SPRINKLE THE CONSTRUCTION SITE WITH WATER TO CONTROL DUST WITHIN WORK AREA.
8. EXPOSED/DISTURBED AREAS SHALL BE GRASSED, LANDSCAPED, OR STABILIZED AFTER GRADING WORK IS COMPLETED AND NO FURTHER DISTURBANCE IS REQUIRED.
9. THE CONTRACTOR CAN REMOVE THE EROSION CONTROL BMP'S UPON THE COMPLETION OF WORK. ALL DISTURBED BASE SOILS ARE STABILIZED, AND THE WORK IS APPROVED BY THE GOVERNMENTS REPRESENTATIVE.

KEYED NOTES:

1. SILT FENCE, SEE DETAIL 5 ON SHEET C.503
2. CONCRETE WASHOUT, CONTRACTOR MAINTAIN BASIN TO A MAXIMUM OF 50% CAPACITY, SEE DETAIL 6 ON SHEET C.503 (ACTUAL SIZE AND LOCATION TO BE COORDINATED WITH THE GOVERNMENTS REPRESENTATIVE)
3. CONSTRUCTION STAGING AREA (ACTUAL SIZE AND LOCATION TO BE COORDINATED WITH THE GOVERNMENTS REPRESENTATIVE)
4. HAZARDOUS MATERIAL STORAGE (ACTUAL SIZE AND LOCATION TO BE COORDINATED WITH THE GOVERNMENTS REPRESENTATIVE)
5. CONSTRUCTION LIMITS



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 825 EMERSON ROAD, ST. LOUIS, MO 63141
 60 PLATO BOULEVARD, E. ST. PAUL, MN 55107
 ONE WEST THIRD STREET, TULSA, OK 74103



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DATE	DESCRIPTION	SYN	APPR

100% FINAL BID SET

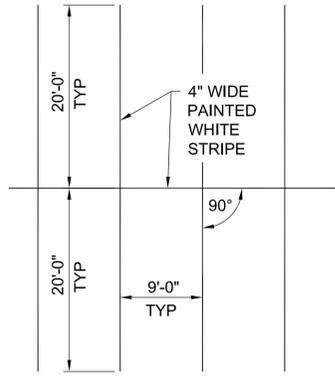
DATE: 03/17/2020
 DES: GWS DRW: GWS CHK: MJS

DEPARTMENT OF DEFENSE
 FACILITIES DESIGN & PROJECTS BRANCH
 KALAHELOA, KAPOLEI OAHU, HAWAII
 BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS
 AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS
 TALK NO. 9-14013-045

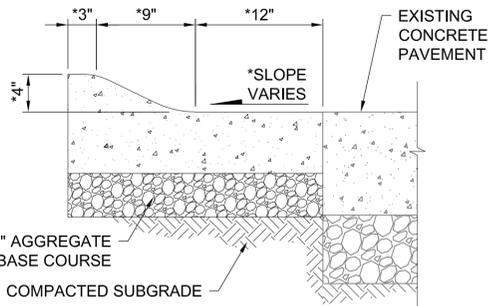
STATE OF HAWAII
 FACILITY MANAGEMENT OFFICE
 91-1387 SARATOGA AVENUE
 HAWAII ARMY NATIONAL GUARD
 CIVIL EROSION CONTROL PLAN

SCALE: AS NOTED
 STATE JOB NO. CA-1512-C
 FEDERAL PROJECT NO. 15150023
 SHEET 4 OF 4

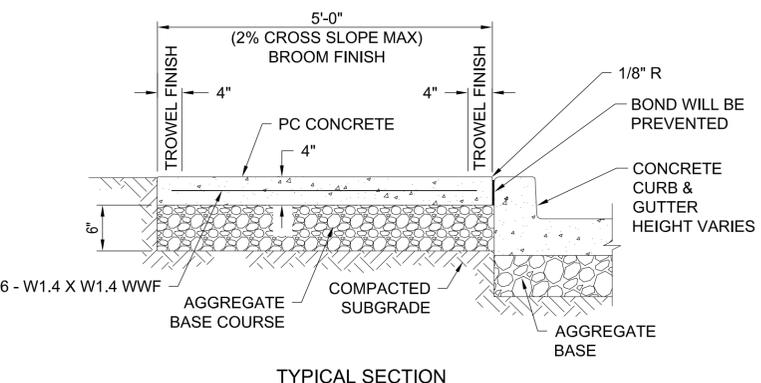
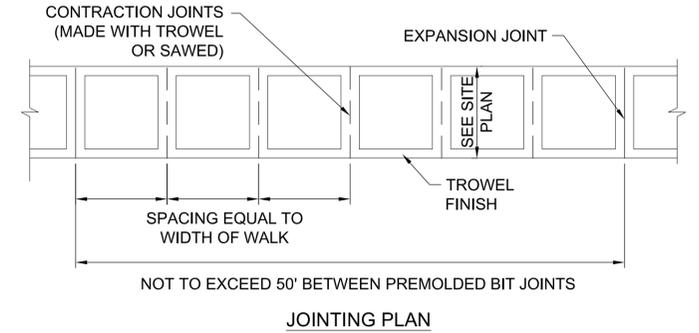
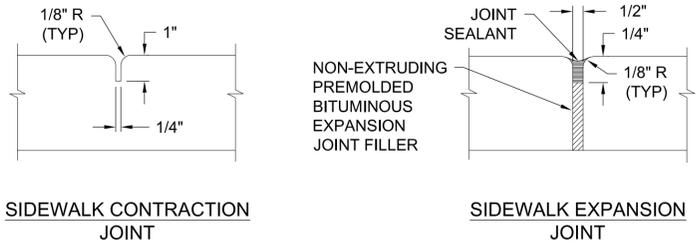
C.400



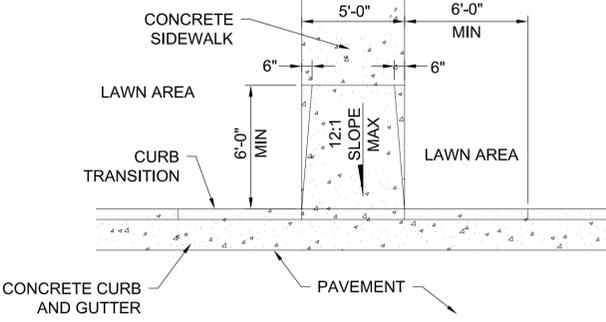
4 PARKING LOT STRIPE DETAIL
SCALE: NOT TO SCALE



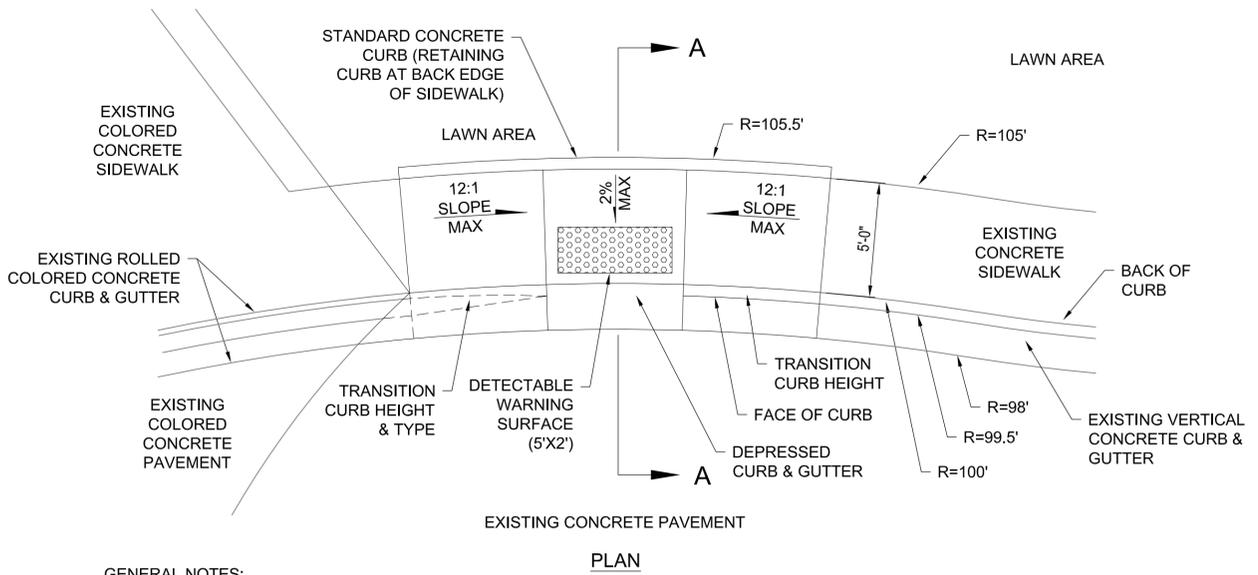
5 4" ROLLED CONCRETE CURB
SCALE: NOT TO SCALE



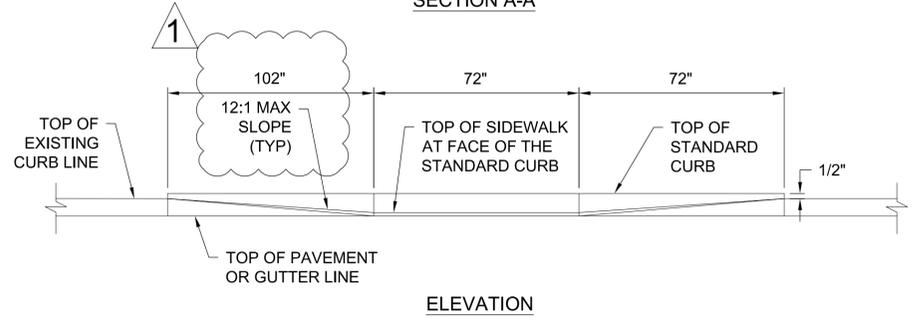
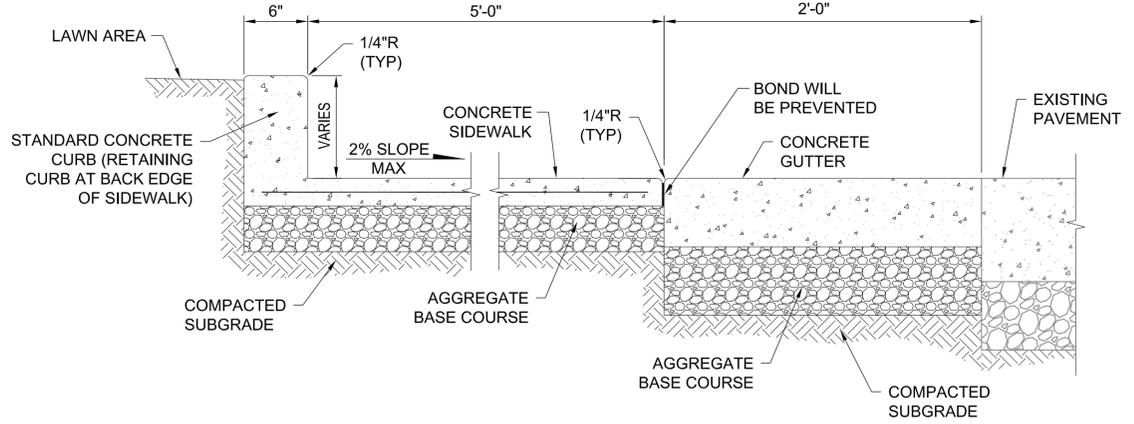
2 CONCRETE SIDEWALK DETAILS
SCALE: NOT TO SCALE



3 CURB RAMP DETAIL
SCALE: NOT TO SCALE



- GENERAL NOTES:
- INSTALL NEW RAMP PER HAWAII DEPARTMENT OF TRANSPORTATION STANDARDS.
 - CROSS SLOPE OF GUTTER SAME AS PAVEMENT.
 - VERTICAL CURB AND GUTTER SHALL HAVE EXPANSION JOINTS SPACED AT 100 FEET C/C MAX. AND AT RADIUS POINTS OF ALL CURVES.
 - CONSTRUCTION OR CONTRACTION JOINTS SHALL BE SPACED AT FROM 5 FEET TO 15 FEET C/C BETWEEN EXPANSION JOINTS.
 - TRANSITIONS FROM RAMPS AND LANDING TO WALKS, GUTTERS OR STREETS SHALL BE FLUSH (NO LIP) AND FREE OF ABRUPT CHANGES.
 - TRANSITIONS FROM RAMPS TO GUTTERS AND ROADWAYS SHALL BE FLUSH.
 - CURB RAMPS AND SIDEWALKS SHALL BE CONSTRUCTED TO ELIMINATE PONDING TO THE MAXIMUM EXTENT FEASIBLE.
 - CURB RAMP SHALL HAVE A DETECTABLE WARNING SURFACE AT THE LANDING OF THE RAMP THAT IS 5'-0" WIDE AND 2'-0" DEEP. DETECTABLE WARNING SURFACES SHALL CONFORM TO THE REQUIREMENTS IN THE CONSTRUCTION SPECIFICATIONS.
 - THE EDGE OF THE DETECTABLE WARNING SURFACE NEAREST THE STREET SHALL BE BETWEEN 6" AND 8" FROM THE GUTTER FLOWLINE.



1 CURB RAMP DETAIL
SCALE: NOT TO SCALE



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STATE OF HAWAII
FACILITY MANAGEMENT OFFICE
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KALAELOA, KAPOLEI OAHU, HAWAII
91-1387 SARATOGA AVENUE
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CIVIL PAVEMENT DETAILS
TALK NO. 9-14013-045

SCALE: AS NOTED
STATE JOB NO. CA-1512-C
FEDERAL PROJECT NO. 15150023
SHEET 01 OF 01
C.501

1

2

3

4

5

D

C

B

A

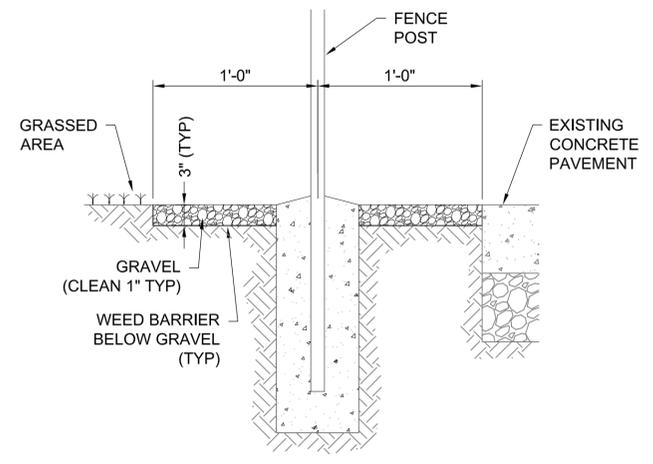


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WESTMEIER, HOUSTON, TX 77062
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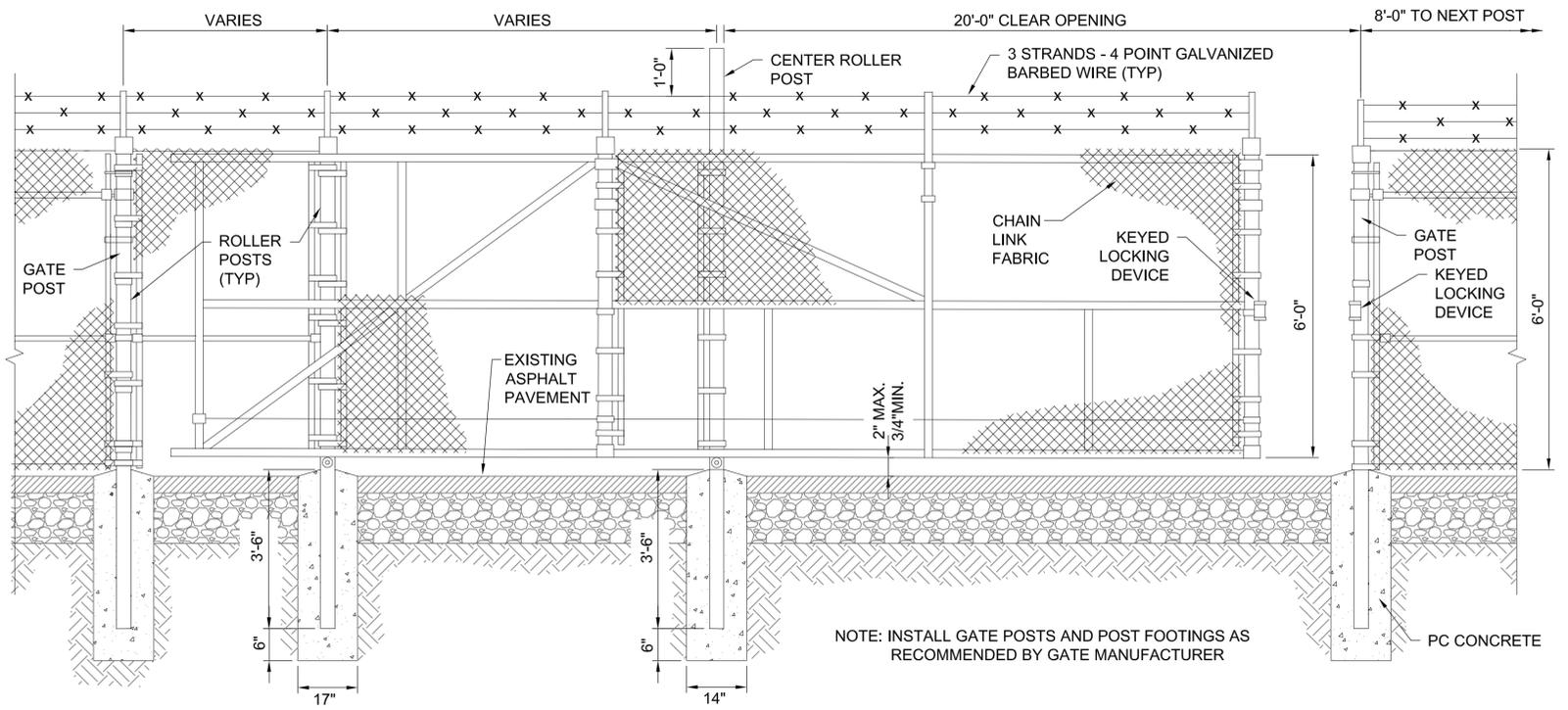


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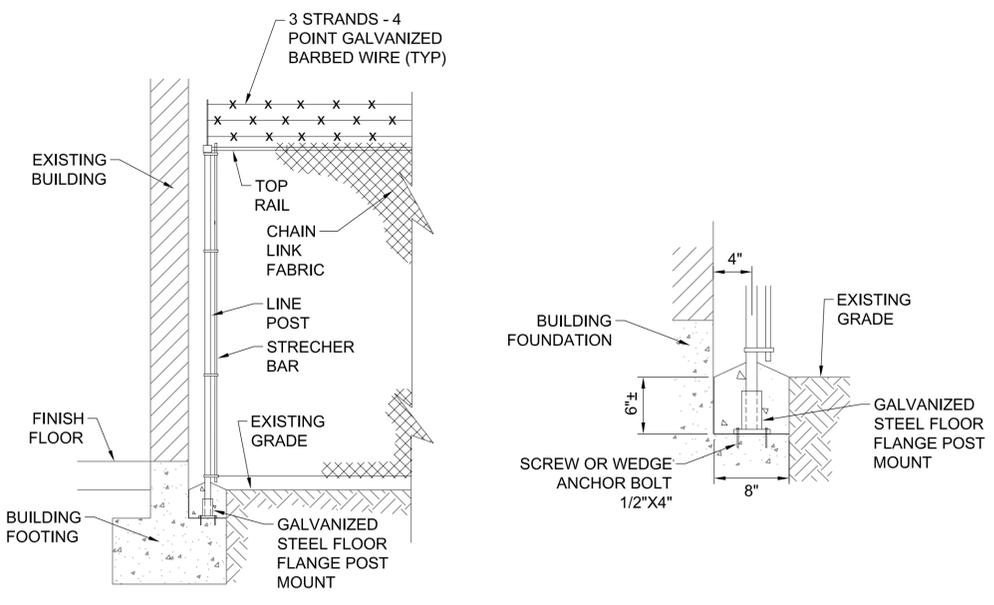
SYN	DESCRIPTION	DATE	APPR



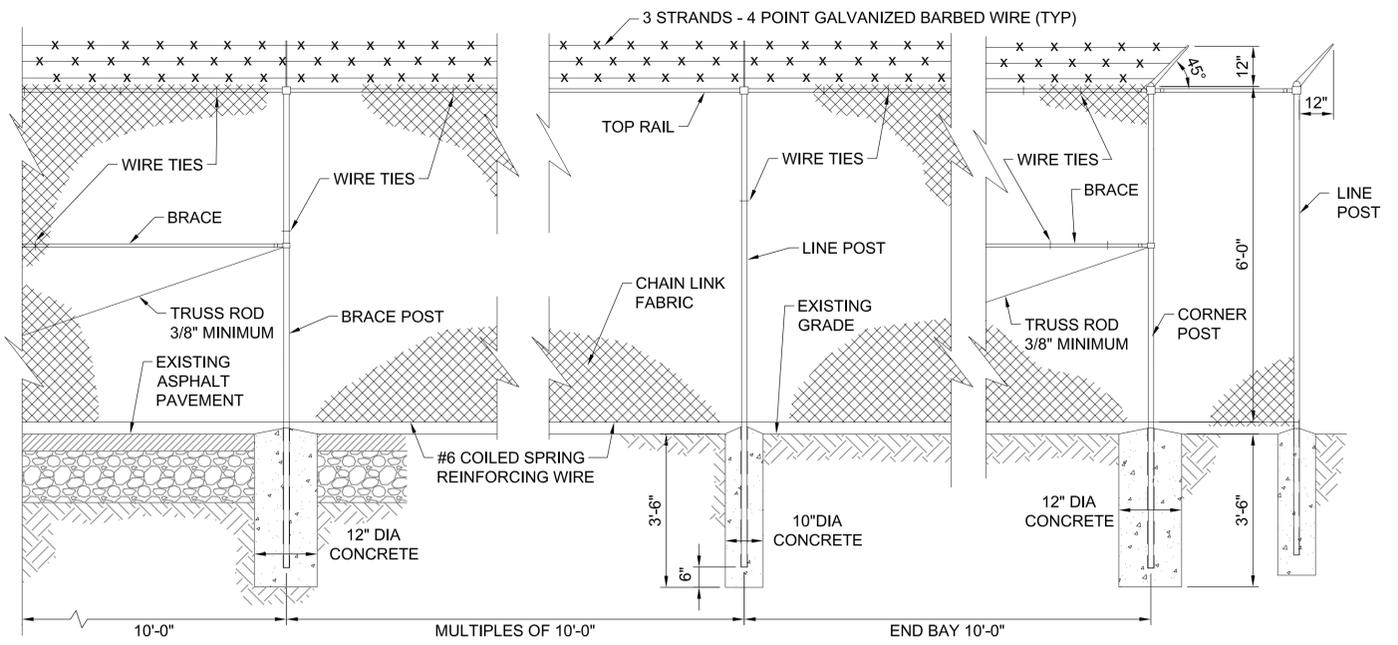
3 FENCE MOW STRIP DETAIL
SCALE: NOT TO SCALE



1 CANTILEVERED SLIDE GATE
SCALE: NOT TO SCALE



4 FENCE POST AT WALL DETAIL
SCALE: NOT TO SCALE



2 CHAIN LINK FABRIC FENCE
SCALE: NOT TO SCALE

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DESIGN DATE: 03/17/2020

DES: GWS DRW: GWS CHK: MJS

STATE OF HAWAII
FACILITY MANAGEMENT OFFICE
91-1387 SARATOGA AVENUE
KALAELOA, KAPOLEI OAHU, HAWAII

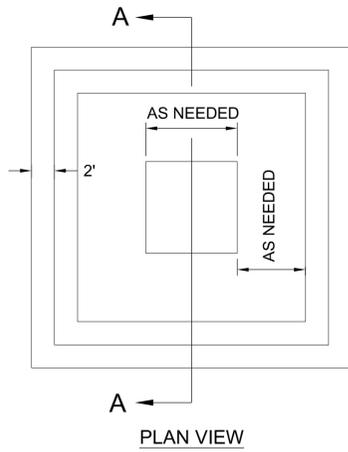
HAWAII ARMY NATIONAL GUARD
FACILITIES DESIGN & PROJECTS BRANCH
KALAELOA, KAPOLEI OAHU, HAWAII

BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS

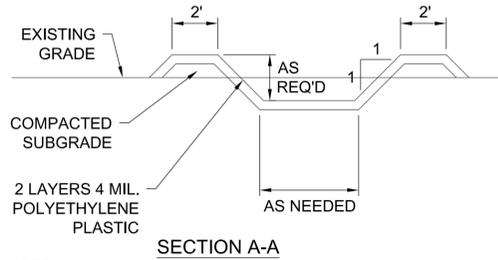
CIVIL FENCE DETAILS
TALK NO. 9-1403-045

SCALE: AS NOTED
STATE JOB NO. CA-1512-C
FEDERAL PROJECT NO. 15150023
SHEET OF

C.502



PLAN VIEW



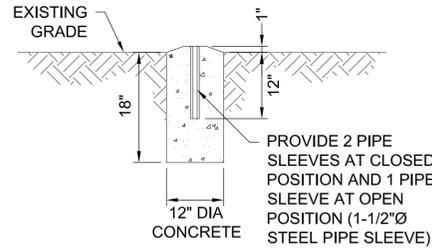
SECTION A-A

NOTE:

1. ACTUAL SIZE AND LOCATION OF THE WASHOUT BASIN WILL BE COORDINATED WITH THE GOVERNMENTS REPRESENTATIVE.
2. CLEAN OUT THE FACILITY ONCE STORED MATERIALS HAVE REACHED 2' IN DEPTH (NOT TO EXCEED 50% CAPACITY).
3. A PRE-MANUFACTURED WASHOUT FACILITY MAY BE USED IF APPROVED.
4. PLACEMENT, MAINTENANCE REQUIREMENTS, AND INSPECTION SHALL BE PER LOCAL RULES AND REGULATIONS.

6 CONCRETE TRUCK WASHOUT BASIN

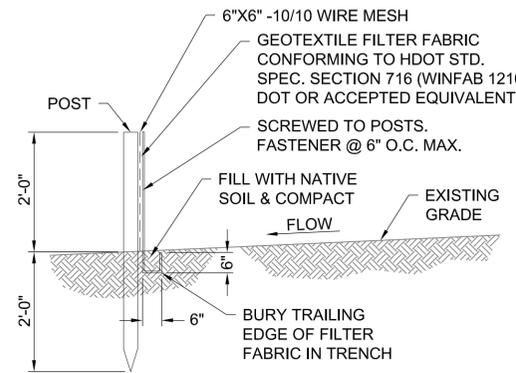
C.503 SCALE: NOT TO SCALE



NOTE: INSTALL GATE STOPS AT FULL OPEN GATE SWING POSITION AND AT CLOSED POSITION

3 GATE STOP DETAIL

C.503 SCALE: NOT TO SCALE



5 SILT FENCE DETAIL

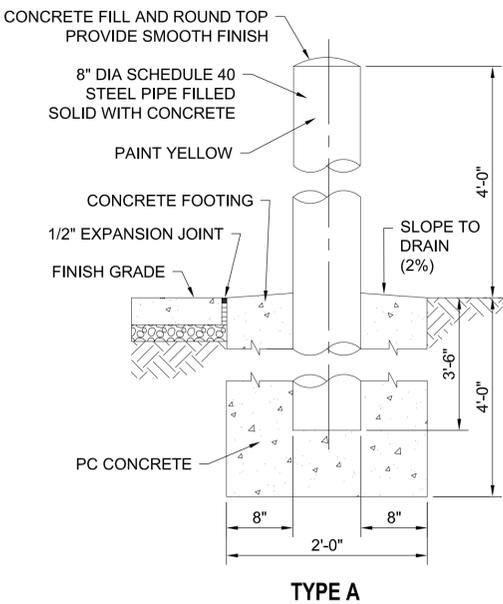
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DBI #2 & #3

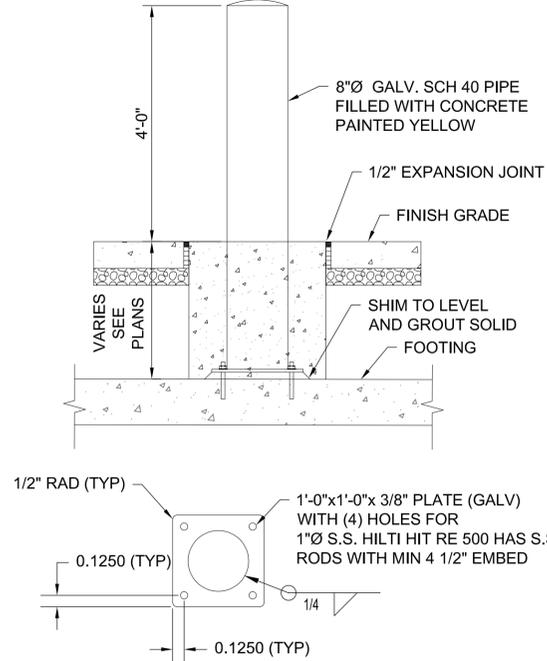
DEDUCTIVE BID ITEM (DBI):

DBI #2 - DELETE 50% OF THE PHOTOVOLTAIC SYSTEM AND APPROXIMATELY 50% OF THE STRUCTURAL CANOPY AS INDICATED. RECONFIGURE PARKING LOT STRIPING PROVIDING FOR AN ADDITIONAL 2 SPACES, AND ADDITIONAL ASPHALT PAVEMENT WHERE COLUMN ISLANDS WERE REMOVED FROM PROJECT.

DBI #3 - DELETE THE REMAINING 50% OF THE PHOTOVOLTAIC SYSTEM AND THE AND ASSOCIATED STRUCTURAL CANOPY. RECONFIGURE PARKING LOT STRIPING PROVIDING FOR AN ADDITIONAL 3 SPACES, DELETION OF 2 MOTORCYCLE SPACES AND ASSOCIATED CONCRETE SECTION, AND ADDITIONAL ASPHALT PAVEMENT WHERE COLUMN ISLANDS AND MOTORCYCLE PARKING WERE REMOVED FROM PROJECT. REMOVE DEMOLITION/REPLACEMENT WORK ASSOCIATED WITH UNDERGROUND POWER.



TYPE A



TYPE B

7 BOLLARD DETAIL

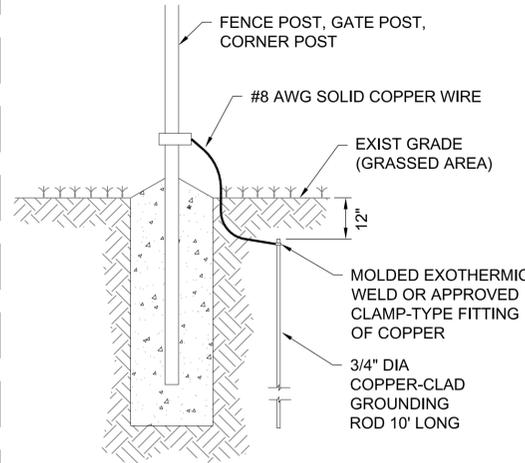
C.503 SCALE: NOT TO SCALE

NOTES:

1. CONSTRUCT SQUARE CONCRETE FOOTING IN ALL PAVED AREAS.
2. CONSTRUCT ROUND CONCRETE FOOTING IN ALL GRASSED AREAS.

4 FENCE GROUNDING ROD DETAIL

C.503 SCALE: NOT TO SCALE

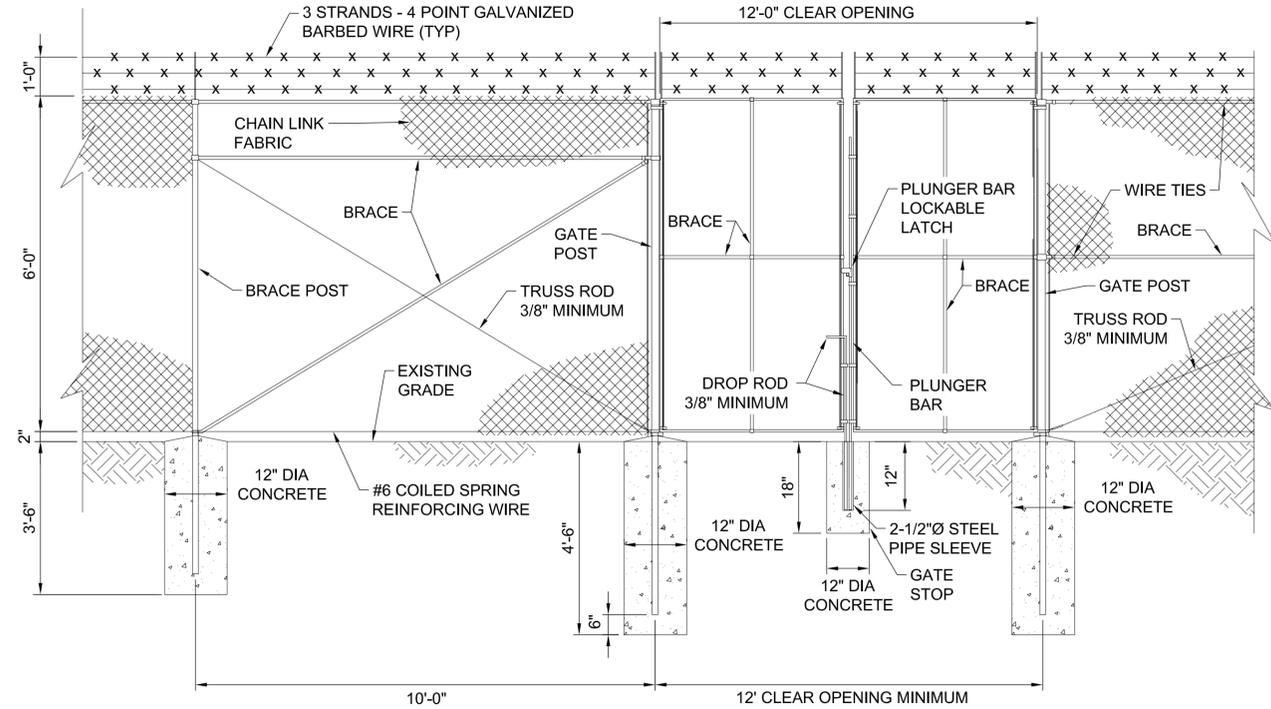


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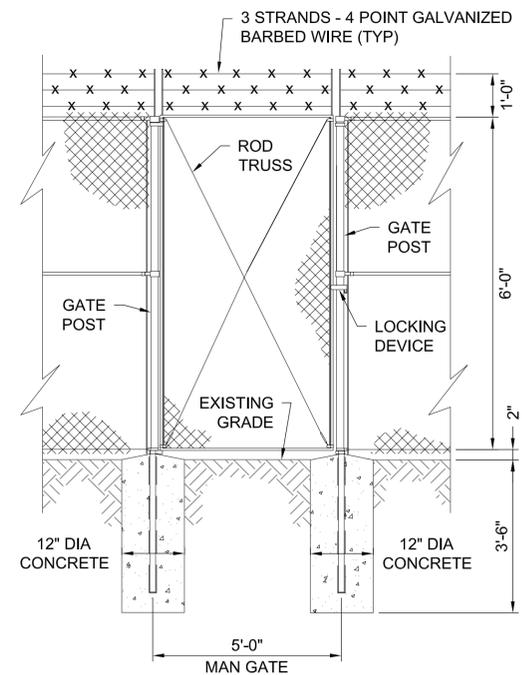
1. PROVIDE GROUNDING RODS FOR THE PERIMETER FENCING AND GATES AT THE ELECTRICAL AND MECHANICAL EQUIPMENT YARD ONLY.
2. GROUNDING RODS SHALL BE INSTALLED AT A MINIMUM OF ONE PER ISOLATED FENCE SECTION, CORNER POST, AND ONE AT EACH GATE POST.

1 DOUBLE SWING GATE

C.503 SCALE: NOT TO SCALE



NOTE: INSTALL GATE POSTS AND POST FOOTINGS AS RECOMMENDED BY GATE MANUFACTURER



2 MAN GATE DETAIL

C.503 SCALE: NOT TO SCALE



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FINAL PHASE

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STATE OF HAWAII

DEPARTMENT OF DEFENSE

FACILITIES DESIGN & PROJECTS BRANCH

KALAELOA, KAPOLEI, OAHU, HAWAII

TALK NO. 9-1403-045

CIVIL

FENCE AND EROSION CONTROL DETAILS

91-1387 SARATOGA AVENUE

BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS

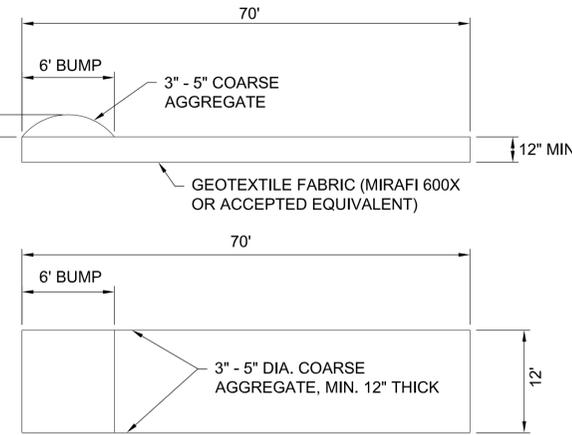
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STATE JOB NO. CA-1512-C

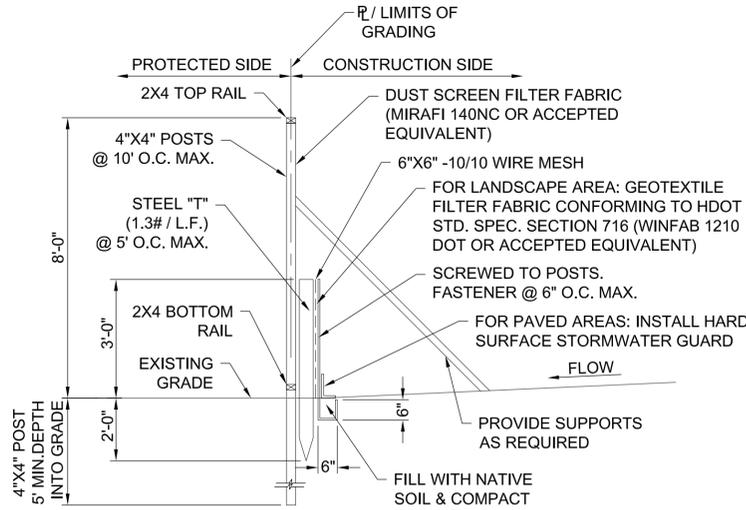
FEDERAL PROJECT NO. 15150023

SHEET 15 OF 15

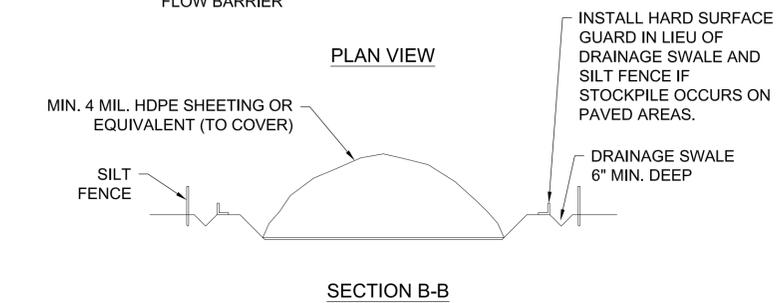
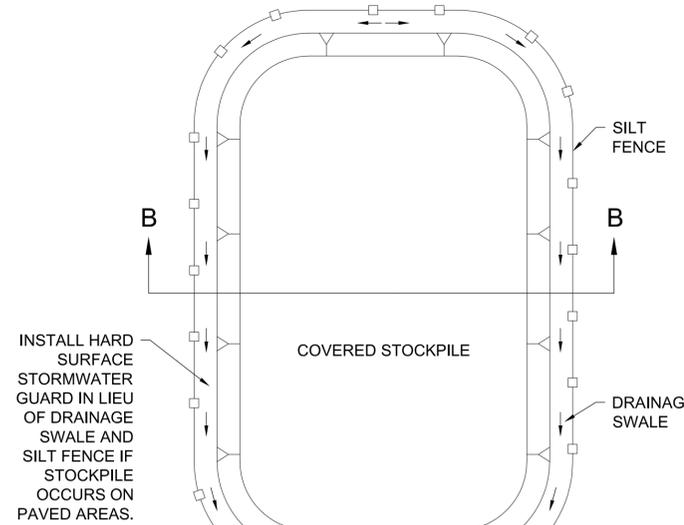
C.503



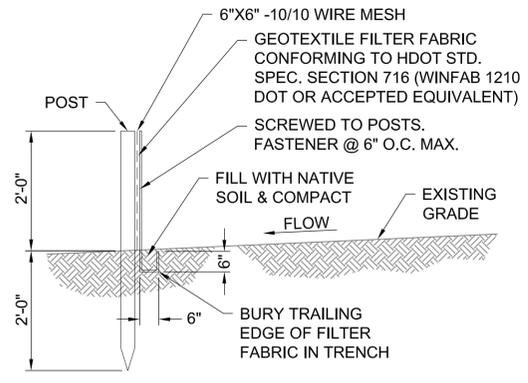
6 STABILIZED CONSTRUCTION ENTRANCE DETAIL
C-504 SCALE: NOT TO SCALE



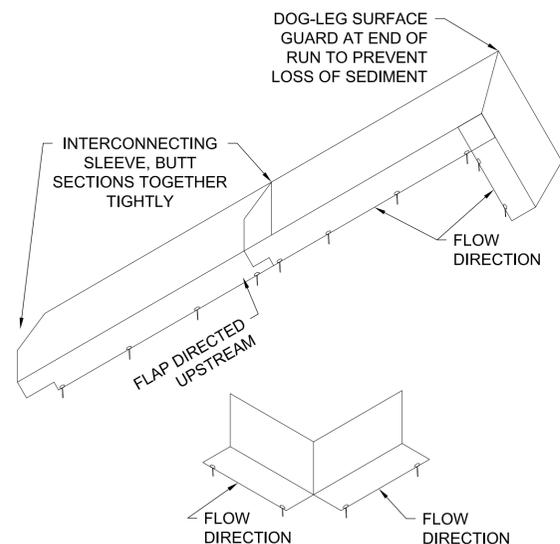
5 TEMPORARY DUST FENCE WITH RUN-OFF PROTECTION
C-504 SCALE: NOT TO SCALE



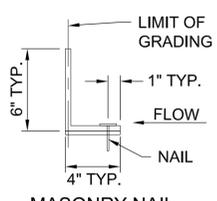
3 STOCKPILE MANAGEMENT
C-504 SCALE: NOT TO SCALE



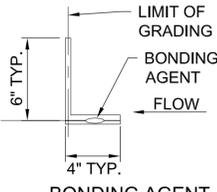
1 SILT FENCE DETAIL
C-504 SCALE: NOT TO SCALE



NOTE:
1. IF BEND IS IN THIS SECTION, LOCATE GRAVEL BAG AT THE ANGLE TO PREVENT UNDERFLOW.

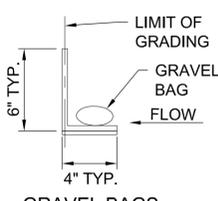


MASONRY NAIL

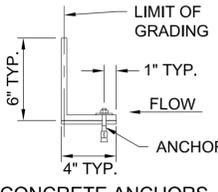


BONDING AGENT

NOTE:
1. INSTALL NAILS FLUSH WITH NETTING SO THAT GASKET IS IN GOOD CONTACT WITH SURFACE.
2. INSTALL 4 TO 5 NAILS PER EACH SEVEN FOOT SEGMENT USE 1 1/2 FASTENERS WITH 23MM PRE-MOUNTED STEEL WASHER WITH AUTOMATIC POWER ACTUATED HAND TOOL. IF NECESSARY USE WEDGE-TYPE EXPANSION ANCHOR.



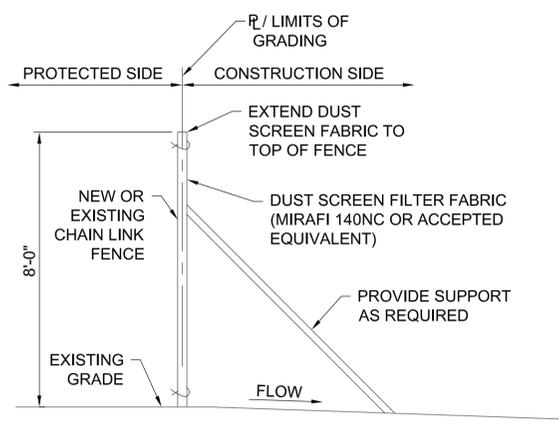
GRAVEL BAGS



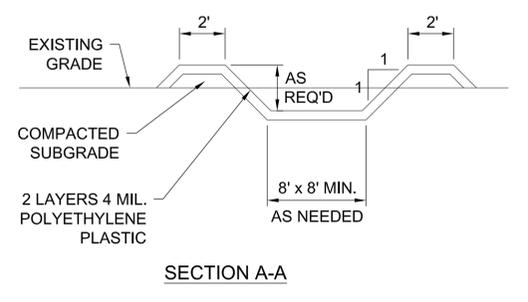
CONCRETE ANCHORS

NOTE:
1. INSTALL ANCHOR FLAP FACING UPSTREAM. PLACE 3'X5-6\"/>

NOTE:
1. INSTALL ANCHOR FLUSH WITH NETTING SO THAT GASKET IS IN GOOD CONTACT WITH SURFACE.
2. INSTALL 4 TO 5 ANCHORS PER EACH SEVEN FOOT SEGMENT. USE WEDGE-TYPE EXPANSION ANCHOR 1/4\"/>



4 TEMPORARY DUST FENCE WITHOUT RUN-OFF PROTECTION
C-504 SCALE: NOT TO SCALE



NOTE:
1. CLEAN OUT THE FACILITY ONCE STORED MATERIALS HAVE REACHED 2\"/>

2 CONCRETE TRUCK WASHOUT BASIN
C-504 SCALE: NOT TO SCALE



1200 N. PONTIAC TRAIL, WALLEE LAKE, MO 64390
WESTMEIER, HOUSTON, TX 77042
8400 N. BROADWAY, OKLAHOMA CITY, OK 73114
825 EMERSON ROAD, ST. LOUIS, MO 63141
60 PLATO BOULEVARD, E. ST. PAUL, MN 55107
ONE WEST THIRD STREET, TULSA, OK 74103



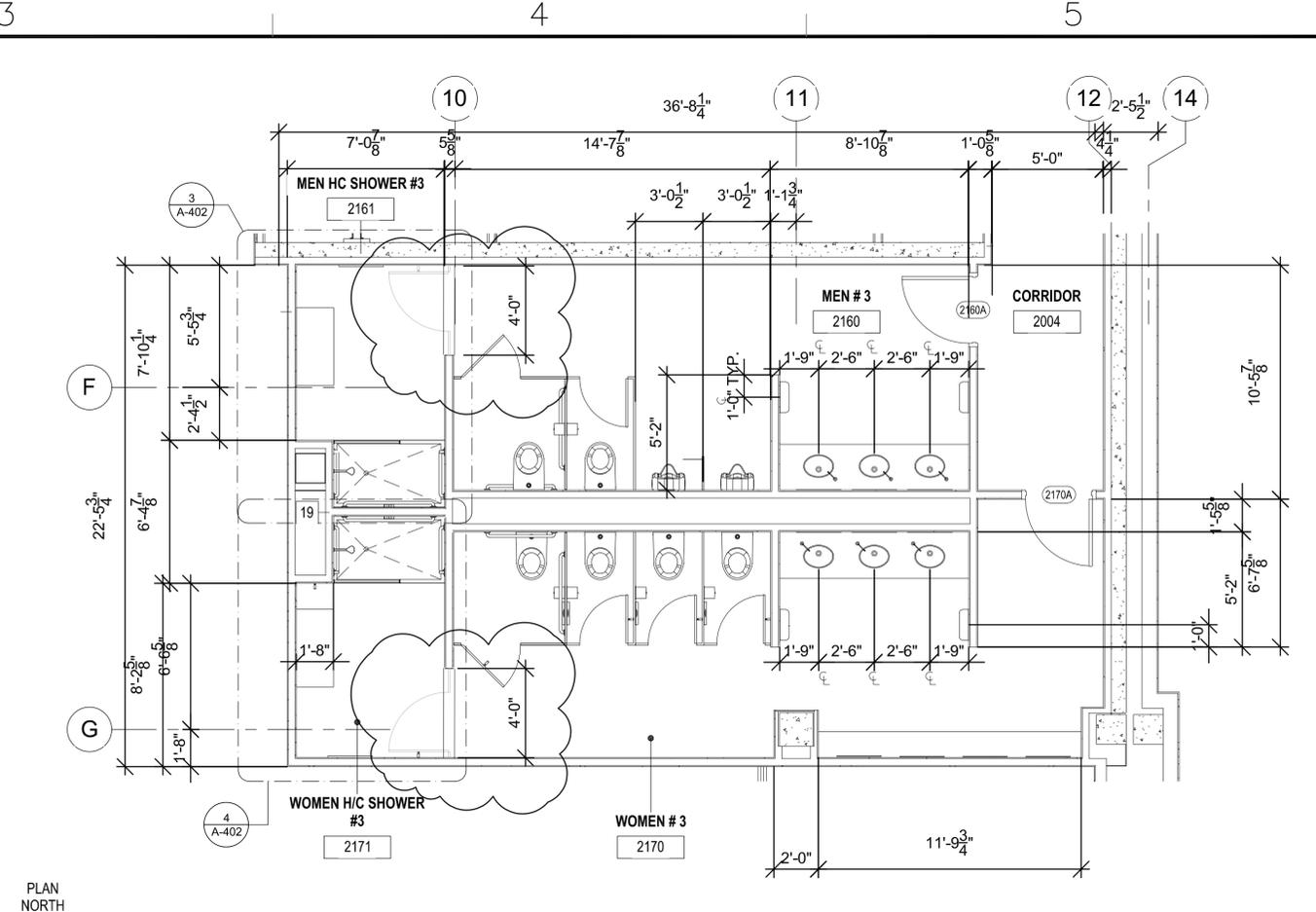
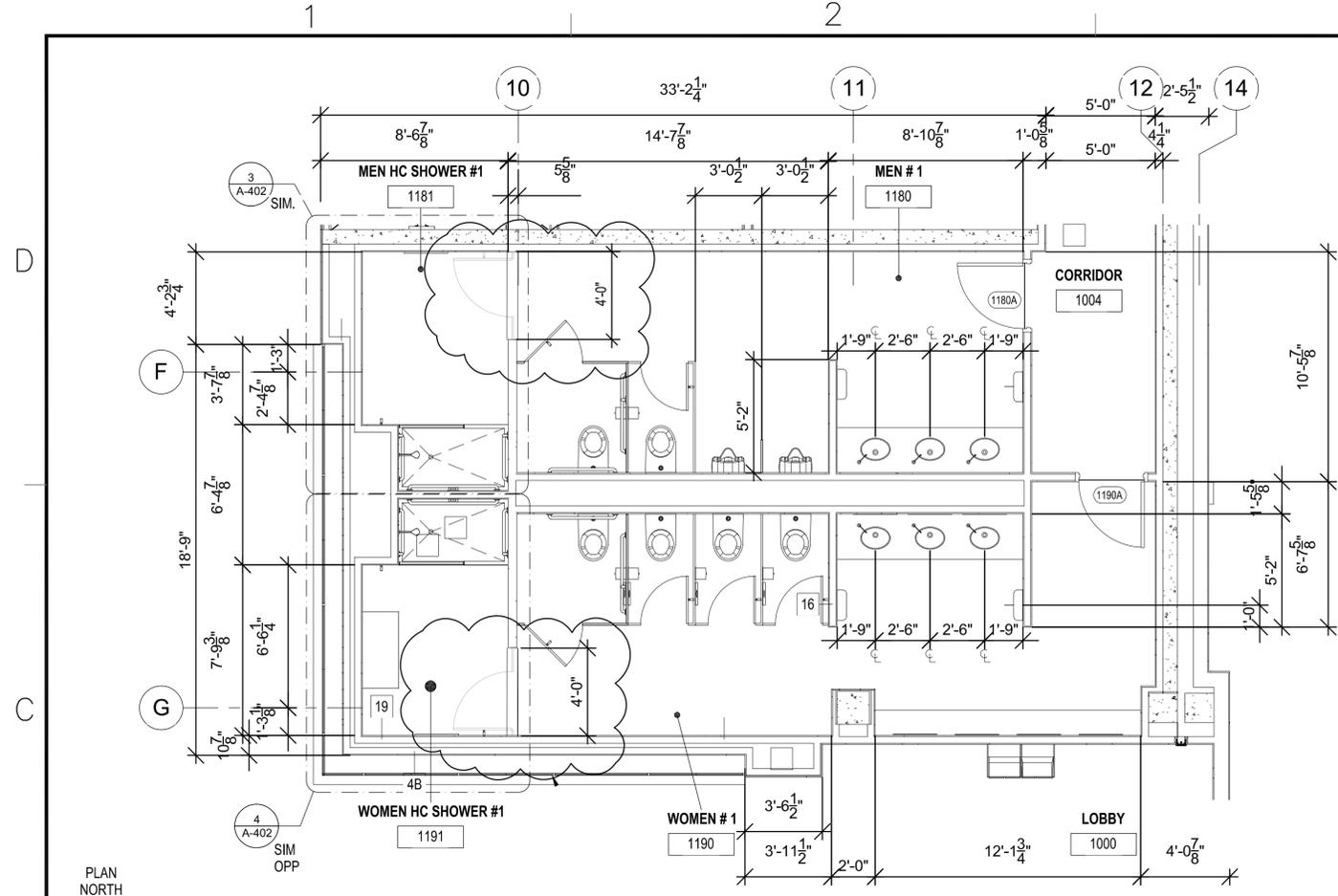
THIS WORK WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION. EXPIRATION DATE OF LICENSE: 04/30/2022

NO.	SYMBOL	DESCRIPTION	DATE	APPROVED
1				

100% FINAL BID SET
SUBMITTAL DATE: 03/17/2020
DES: GWS DRW: GWS CHK: MJS

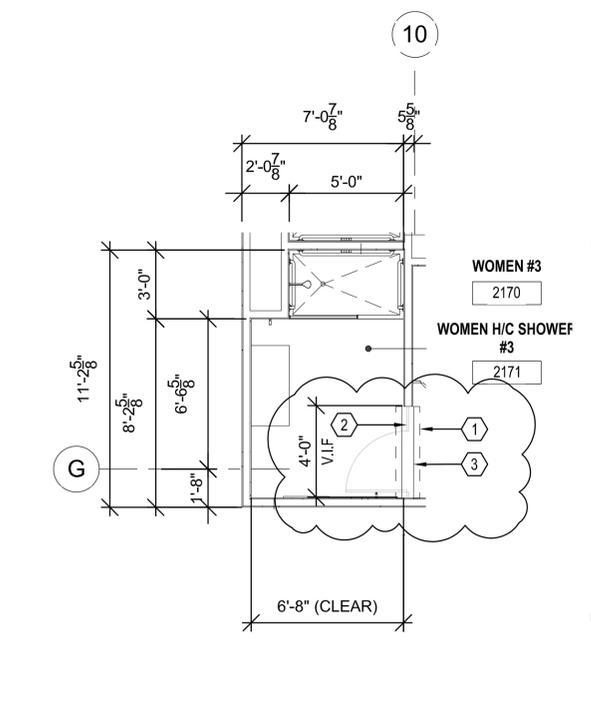
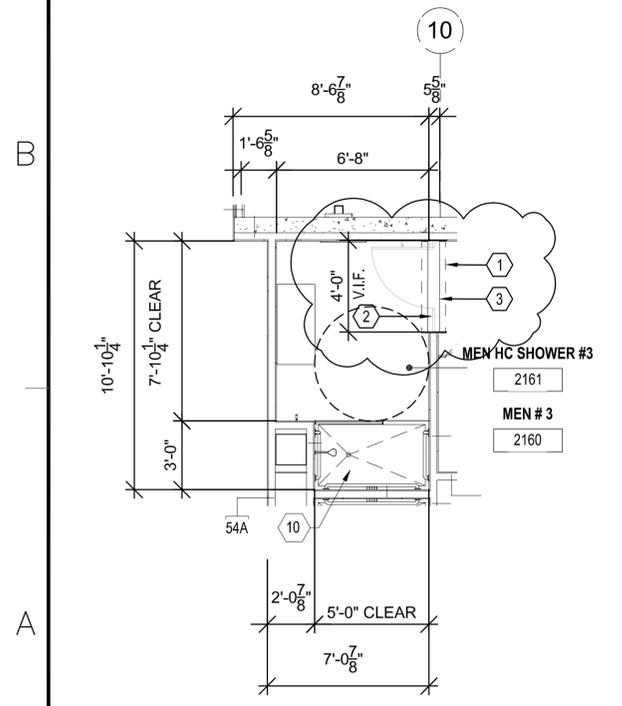
DEPARTMENT OF DEFENSE
HAWAII ARMY NATIONAL GUARD
FACILITIES DESIGN & PROJECTS BRANCH
KALAELOA, KAPOLEI OAHU, HAWAII
91-1387 SARATOGA AVENUE
BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS
CIVIL EROSION CONTROL DETAILS
TALK NO. 9-1403-045

SCALE: AS NOTED
STATE JOB NO. CA-1512-C
FEDERAL PROJECT NO. 15150023
SHEET 1 OF 1
C.504



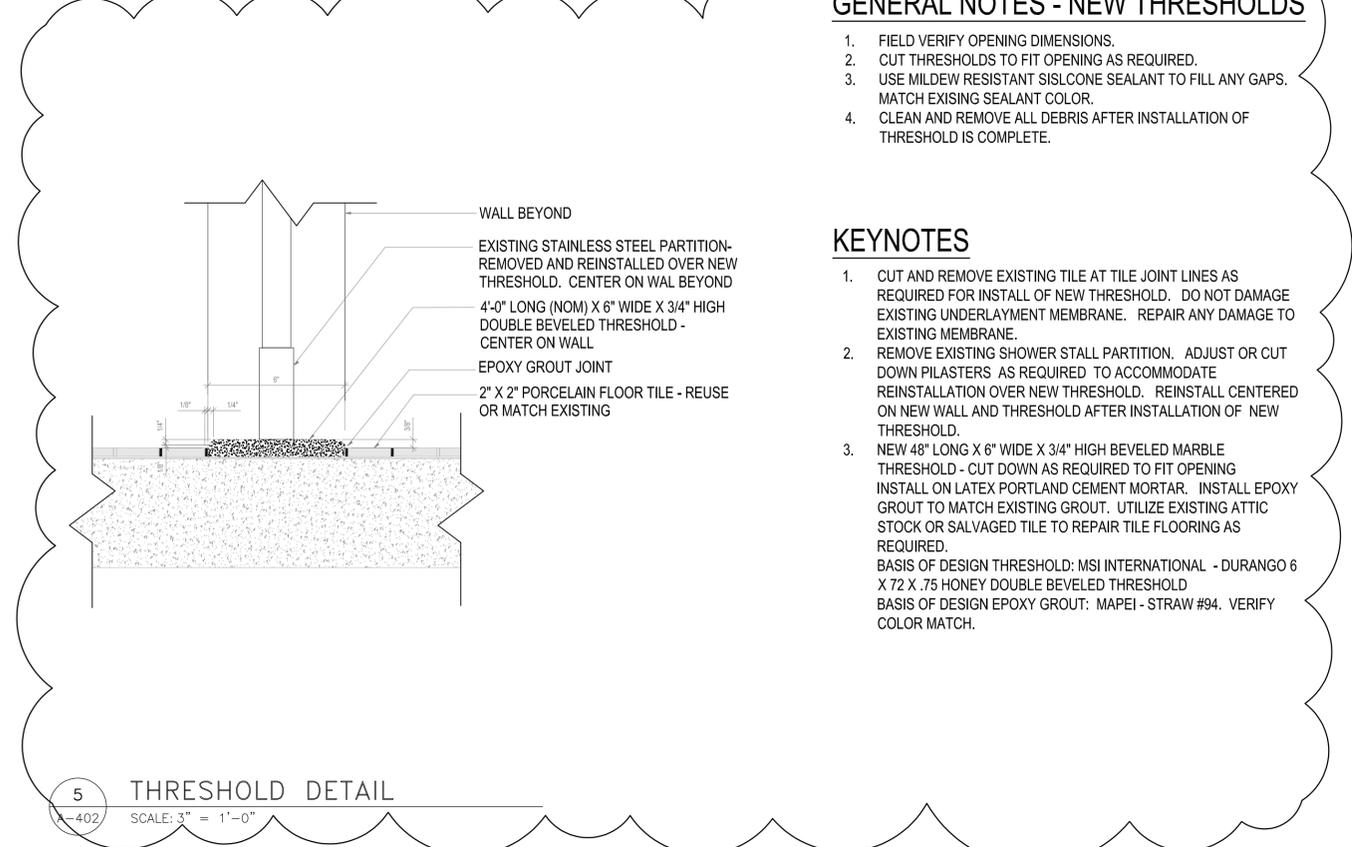
PLAN NORTH
 1 A-402 SCALE: 1/4" = 1'-0"
NEW THRESHOLDS AT EXISTING RESTROOMS 1180, 1190
 (MODIFICATIONS TO EXISTING RESTROOMS)

PLAN NORTH
 3 A-402 SCALE: 1/4" = 1'-0"
NEW THRESHOLDS AT EXISTING RESTROOMS 2160, 2170
 (MODIFICATIONS TO EXISTING RESTROOMS)



PLAN NORTH
 3 A-402 SCALE: 1/4" = 1'-0"
NEW THRESHOLDS AT EXISTING SHOWERS 1181, 2161

PLAN NORTH
 4 A-402 SCALE: 1/4" = 1'-0"
NEW THRESHOLDS AT EXISTING SHOWERS 1191, 2171



5 A-402 SCALE: 3" = 1'-0"
THRESHOLD DETAIL

GENERAL NOTES - NEW THRESHOLDS

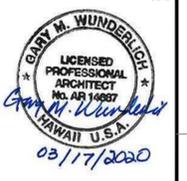
1. FIELD VERIFY OPENING DIMENSIONS.
2. CUT THRESHOLDS TO FIT OPENING AS REQUIRED.
3. USE MILDEW RESISTANT SILICONE SEALANT TO FILL ANY GAPS. MATCH EXISTING SEALANT COLOR.
4. CLEAN AND REMOVE ALL DEBRIS AFTER INSTALLATION OF THRESHOLD IS COMPLETE.

KEYNOTES

1. CUT AND REMOVE EXISTING TILE AT TILE JOINT LINES AS REQUIRED FOR INSTALL OF NEW THRESHOLD. DO NOT DAMAGE EXISTING UNDERLAYMENT MEMBRANE. REPAIR ANY DAMAGE TO EXISTING MEMBRANE.
 2. REMOVE EXISTING SHOWER STALL PARTITION. ADJUST OR CUT DOWN PILASTERS AS REQUIRED TO ACCOMMODATE REINSTALLATION OVER NEW THRESHOLD. REINSTALL CENTERED ON NEW WALL AND THRESHOLD AFTER INSTALLATION OF NEW THRESHOLD.
 3. NEW 48" LONG X 6" WIDE X 3/4" HIGH BEVELED MARBLE THRESHOLD - CUT DOWN AS REQUIRED TO FIT OPENING INSTALL ON LATEX PORTLAND CEMENT MORTAR. INSTALL EPOXY GROUT TO MATCH EXISTING GROUT. UTILIZE EXISTING ATTIC STOCK OR SALVAGED TILE TO REPAIR TILE FLOORING AS REQUIRED.
- BASIS OF DESIGN THRESHOLD: MSI INTERNATIONAL - DURANGO 6 X 72 X .75 HONEY DOUBLE BEVELED THRESHOLD
 BASIS OF DESIGN EPOXY GROUT: MAPEI - STRAW #94. VERIFY COLOR MATCH.



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SYMBOL	DESCRIPTION	DATE	APPROVED

100% FINAL BID SET

DESIGN DATE: 03/17/2020

DES: AKG DRW: AKG CHK: AKG

STATE OF HAWAII
 FACILITY MANAGEMENT OFFICE
 91-1387 SARATOGA AVENUE
 BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS
 ENLARGED FLOOR PLANS - RESTROOMS
 TALK NO. 9-1-402.045

SCALE: AS NOTED
 STATE JOB NO. CA-1512-C
 FEDERAL PROJECT NO. 15150023
 SHEET 3 OF 4
A.402

STRUCTURAL DESIGN CRITERIA

UNIFIED FACILITIES CRITERIA (UFC)		
UFC 1-200-01	DESIGN: GENERAL BUILDING REQUIREMENTS (8 OCTOBER 2019)	
UFC 3-301-01	STRUCTURAL ENGINEERING (1 OCTOBER 2019)	
UFC 4-010-01	DoD MINIMUM ANTITERRORISM STANDARDS FOR BUILDINGS (12 DECEMBER 2018)	
INTERNATIONAL CODE COUNCIL (ICC)		
INTERNATIONAL BUILDING CODE 2018		
AMERICAN CONCRETE INSTITUTE (ACI)		
ACI 117-10	ACI 318-14	
ACI 302.1R-04	STANDARD SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS	
ACI 315-99	GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION	
ACI 360R-10	DETAILS AND DETAILING OF CONCRETE REINFORCEMENT	
ACI 318-11	GUIDE TO DESIGN OF SLAB-ON-GRADE	
ACI 530-11/530.1-11	BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES	
AMERICAN WELDING SOCIETY		
AWS D.1.1/D1.1M:2015	STRUCTURAL WELDING CODE - STEEL (2015)	
AWS D.1.3/D1.3M:2018	STRUCTURAL WELDING CODE - SHEET STEEL (2018)	
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)		
AISC 325-11	STEEL CONSTRUCTION MANUAL, 15TH EDITION	
AISC 360-10	SPECIFICATION AND CODES FOR STRUCTURAL STEEL BUILDINGS	
AMERICAN IRON AND STEEL INSTITUTE (AISI)		
AISI S100-16w/S1-18	NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS 2016 EDITION WITH SUPPLEMENT 1	
AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE/SEI)		
ASCE/SEI 7-16	MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES	
STEEL JOIST INSTITUTE (SJI)		
44th EDITION	44TH EDITION STANDARD SPECIFICATIONS LOAD TABLES AND WEIGHT TABLES FOR STEEL JOISTS AND JOIST GIRDERS	
STEEL DECK INSTITUTE (SDI)		
	SDI DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS AND ROOF DECKS (PUBLICATION No 31)	
	SDI DIAPHRAGM DESIGN MANUAL (3rd EDITION) STRUCTURAL LOADS	
STRUCTURAL LOADS		
DEAD LOADS		
	SELF WEIGHT OF ALL STEEL ELEMENTS INCORPORATED INTO ROOF CONSTRUCTION (DECK, PURLINS, JOIST, BEAMS, TRUSSES, ETC).	
	UNIFORMLY DISTRIBUTED PHOTOVOLTAIC SYSTEM (40 LBS PER PANEL) + LIGHT FIXTURES	3psf
LIVE LOADS		
	ROOF LIVE LOAD UNIFORM (REDUCIBLE PER BUILDING CODE)	20psf
	ROOF LIVE LOAD CONCENTRATED	300lbs
	GROUND FLOOR LIVE LOAD	250psf
SNOW LOADING		
	GROUND SNOW	0psf
	SNOW IMPORTANCE FACTOR (Is) FOR RISK CATEGORY IV (UFC 3-301-01 TABLE 2-2)	1.0
	THERMAL FACTOR Ct	1.0
	EXPOSURE FACTOR Ce	0.9
WIND LOADING		
	WIND IMPORTANCE FACTOR	1.0
	EXPOSURE	D
	BASIC WIND SPEED (UFC 3-301-01 TABLE E-1) FOR RISK CATEGORY II	130 mph
	BUILDING ENCLOSURE: CANOPY: OPEN STRUCTURE	
SEISMIC LOADING		
	RISK CATEGORY	II
	SEISMIC IMPORTANCE FACTOR (Ie) FOR RISK CATEGORY II (UFC 3-301-01 TABLE 2-2)	1.0
	SITE CLASS (ASSUMED)	D
	SPECTRAL RESPONSE ACCELERATION, SHORT PERIOD (Ss) (FROM UFC 3-301-01)	0.59
	SPECTRAL RESPONSE ACCELERATION, 1 SECOND PERIOD (S1) (FROM UFC 3-301-01)	0.17
	SEISMIC DESIGN CATEGORY	D
	SEISMIC RESISTING SYSTEM ORDINARY MOMENT RESISTING FRAME SYSTEM R=	1.0

GENERAL NOTES

- VERIFY ALL DIMENSIONS BEFORE STARTING WORK. THE A/E AND CONTRACTING OFFICER OR DESIGNATED REPRESENTATIVE SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES FOUND.
- SPECIFIC DETAILS AND NOTES TAKE PRECEDENCE OVER STANDARD DETAILS AND NOTES. WHERE CONFLICTS EXIST BETWEEN THE DRAWINGS, THE SPECIFICATIONS AND THE GENERAL STRUCTURAL NOTES, SPECIFIC DETAILS SHALL GOVERN.
- VERIFY THE COORDINATION OF ALL TRADES AND REPORT ANY CONFLICTS IMMEDIATELY TO THE A/E AND THE CONTRACTING OFFICER OR DESIGNATED REPRESENTATIVE.
- OPENINGS FOR CONDUIT, PIPE BANKS, ETC., NOT SHOWN ON STRUCTURAL DRAWINGS SHALL BE APPROVED BY THE A/E PRIOR TO INSTALLATION. ADDITIONAL STRUCTURAL REINFORCEMENT AND CLOSURES FOR FLOOR AND WALL SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE GOVERNMENT.
- DETAILS ENTITLED OR NOTED AS TYPICAL SHALL APPLY NOT ONLY WHERE SPECIFICALLY INDICATED OR REFERENCED, BUT WHERE THE NATURE OF THE CONSTRUCTION REQUIRES THEIR USE.
- INFORM THE A/E AND THE CONTRACTING OFFICER OR DESIGNATED REPRESENTATIVE IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY OF SUCH DEVIATION BY THE A/E'S REVIEW OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE A/E AND THE CONTRACTING OFFICER OR DESIGNATED REPRESENTATIVE OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE A/E HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.
- DO NOT SCALE THESE DRAWINGS, USE DIMENSIONS.
- NO OPENING SHALL BE MADE IN ANY STRUCTURAL MEMBERS WITHOUT WRITTEN APPROVAL OF THE E.O.R.
- NO CHANGE IN SIZE OR DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE A/E.
- OPENINGS LESS THAN 10 INCHES ARE GENERALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR SUCH OPENINGS.
- THE STRUCTURE, INCLUDING, BUT NOT LIMITED TO, STEEL MOMENT FRAMES, CAST-IN-PLACE CONCRETE SLABS, AND STEEL ROOF DECK DIAPHRAGM, IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. ALL TEMPORARY BRACING AND/OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES SHALL BE DESIGNED AND FURNISHED BY CONTRACTOR.

FOUNDATION EXCAVATION AND BACKFILL

- THE FOUNDATION HAS BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL ENGINEERING REPORT PREPARED FOR THIS PROJECT BY AMEL TECHNOLOGIES, INC. DATED JUNE 2015
- ALLOWBLE SOIL BEARING PRESSURE FOR SHALLOW FOUNDATIONS EQUALS 3000 PSF.
- REMOVE FILL MATERIALS WITHIN BUILDING FOOTPRINT AND TO 10 FEET OUTSIDE THE BUILDING FOOTPRINT. BACKFILL WITH STRUCTURAL FILL PER SOIL REPORT RECOMMENDATIONS. SLAB-ON-GRADE SHALL BE OVER 6" MINIMUM THICK DRAINAGE LAYER (AASHTO SP-57 STONE)
- IN AREAS WHERE BEDROCK IS ENCOUNTERED AT THE PROPOSED FOUNDATION BEARING ELEVATION. THE AREA SHALL BE UNDERCUT 12 INCHES. THE 12 INCHES UNDERCUT SHALL BE REPLACED WITH AASHTO #57 STONE UP TO THE PROPOSED FOUNDATION BOTTOM ELEVATION.
- PROVIDE SOILS SPECIAL INSPECTION PER IBC. SEE SPECIAL INSPECTION NOTES THIS SHEET. ANY UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH ENGINEERED FILL.
- CONTRACTOR SHALL PROVIDE MEANS TO ADEQUATELY DRAIN ALL EXTRANEIOUS WATER FROM THE SITE TO ENSURE A DRY FOUNDATION BASE.

ABBREVIATIONS

@	AT
A/E	ARCHITECT AND ENGINEER OF RECORD
ABI	ALTERNATE BID ITEM
ANEX	ANEX TOP OF STEEL MIDDLE (COL AB)
T.O.S.M	
ARCH.	ARCHITECT OR ARCHITECTURAL DRAWINGS
ASD	ALLOWABLE STRENGTH DESIGN
B	BOTTOM
B.O.S.	BOTTOM OF STEEL
C	CENTER LINE
CJ	CONSTRUCTION JOINT
CL	CENTER LINE
CLR.	CLEAR
COL.	COLUMN
CONT.	CONTINUOUS
COORD.	COORDINATE
DIA.	DIAMETER
DWGS	DRAWINGS
E.O.R.	ENGINEER OF RECORD
ELEV.	ELEVATION
EQ.	EQUAL
EXP.	EXPANSION
EXT.	EXTERIOR
FND.	FOUNDATION
GA	GAGE
GALV.	GALVANIZED
H, HI	HIGH
H.P.	HIGH POINT
HORIZ.	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
JB	JOIST BEARING
L, LO	LOW

ABBREVIATIONS

L.P.	LOW POINT
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
MAX.	MAXIMUM
MIN.	MINIMUM
O.C.	ON CENTER
OPP.	OPPOSITE
P.A.F.	POWDER ACTUATED FASTENERS
PL	PLATE
RECT.	RECTANGULAR
REQ'D	REQUIRED
SIM	SIMILAR
SJ	SAWED JOINT
SP.	SPACES
SYMM.	SYMMETRICAL
T	TOP
T.O. OR T/	TOP OF
T.O.L.R.S.	TOP OF LOW ROOF STEEL
T.O.S.	TOP OF STEEL
THRU	THROUGH
TYP	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
VIF	VERIFY IN FIELD
W.P.	WORK POINT
W/	WITH
W/O	WITH OUT
Ø	DIAMETER

SPECIAL INSPECTION

PER UFC 1-200-01 (2-17.1), THE CONTRACTOR "SHALL RETAIN THIRD PARTY QUALITY ASSURANCES AGENCIES TO CONDUCT THE SPECIAL INSPECTIONS REQUIRED BY THE IBC. THE INSPECTING AGENCY SHALL PROVIDE REPORTS OF THE SPECIAL INSPECTIONS DIRECTLY TO THE GOVERNMENT." THE INSPECTING AGENCY SHALL ALSO SUBMIT COPIES OF THESE REPORTS TO THE GENERAL CONTRACTOR (WITHIN TWO DAYS FOLLOWING INSPECTION) AND THE CONTRACTING OFFICER OR DESIGNATED REPRESENTATIVE.

THE FOLLOWING STRUCTURAL ELEMENTS OF CONSTRUCTION SHALL REQUIRE SPECIAL INSPECTION PER IBC SECTION 1704:

TYPE OF CONSTRUCTION	IBC SECTION	IBC TABLE	NOTES
STEEL FABRICATION	1704.2	-	-
STEEL CONSTRUCTION	1704.3	1704.3	-
CONCRETE	1704.4	1704.4	-
SOILS	1704.7	1704.7	SEE NOTE 4
MASONRY	1704.5	1704.5.1	

SPECIALY INSPECTED WORK WHICH IS INSTALLED OR COVERED WITHOUT THE APPROVAL OF THE CONTRACTING OFFICER OR DESIGNATED REPRESENTATIVE IS SUBJECT TO REMOVAL. CONTRACTOR SHALL RETAIN THE SERVICES OF A LICENSED GEOTECHNICAL ENGINEER TO PERFORM SOIL SPECIAL INSPECTION.

THE SPECIAL INSPECTORS MUST BE CERTIFIED BY THE GENERAL CONTRACTOR TO PERFORM THE TYPES OF INSPECTION SPECIFIED.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INFORM THE SPECIAL INSPECTOR OR INSPECTION AGENCY, AND THE GENERAL CONTRACTOR DESIGNATED REPRESENTATIVE AT LEAST TWO (2) WORKING DAYS PRIOR TO PERFORMING ANY WORK THAT REQUIRES SPECIAL INSPECTION. ANY WORK PERFORMED WITHOUT REQUIRED SPECIAL INSPECTION IS SUBJECT TO REMOVAL.

PROVIDE SPECIAL INSPECTION FOR ALL POST-INSTALLED ANCHORS. PERIODICALLY INSPECT THE FOLLOWING:

- GENERAL COMPLIANCE WITH MANUFACTURER'S INSTRUCTION
- PRODUCT NAME AND DESCRIPTION
- ADHESIVE EXPIRATION DATE FOR ADHESIVE ANCHORS
- HOLE DIAMETER, DEPTH, LOCATION AND EDGE DISTANCE
- CLEANLINESS OF HOLE AND ANCHOR
- ANCHOR DIAMETER, LENGTH AND STEEL GRADE
- ANCHOR EMBEDMENT AND SPACING
- TORQUE REQUIREMENT PER MANUFACTURER'S INSTRUCTION



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EXPIRATION DATE OF LICENSE: 04/30/2022

SYMBOL	DESCRIPTION	DATE	APPROVAL

SUBMITTAL PHASE:
100% FINAL BID SET

SUBMITTAL DATE: 03/17/2020

DES: HMM DRW: JDF CHK: JDW

T.M.K. NO. 9-1013-045

DEPARTMENT OF DEFENSE

FACILITIES DESIGN & PROJECT BRANCH

KALAELOA, KAPOLEI, OAHU, HAWAII

BUILDING 29 PARKING PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS

STRUCTURAL

GENERAL STRUCTURAL NOTES - DESIGN CRITERIA

BASE BID DBI #1

STATE OF HAWAII

FACILITY MANAGEMENT OFFICE

91-1337 SARATOGA AVENUE

SCALE:

STATE JOB NO. CA-1512-C

FEDERAL PROJECT NO. 314202

SHEET OF

S.001

MISCELLANEOUS

- 1 THE CONTRACTOR SHALL INCLUDE AND PROVIDE THE FOLLOWING SERVICES -
 - A VERIFICATION OF ALL DIMENSIONS, ELEVATIONS, OPENING SIZES, AND MECHANICAL EQUIPMENT WEIGHTS PRIOR TO STARTING WORK AND INCORPORATE THIS INFORMATION INTO THE PROJECT SHOP AND ERECTION DRAWINGS.
 - B VERIFICATION OF ALL DIMENSIONS AND MEMBER SIZES RELATING TO ANY EXISTING CONSTRUCTION.
 - C COORDINATE WITH THE OWNER AND REMOVE ALL ABANDONED FOUNDATIONS, UTILITIES, PIPELINES, ETC. THAT MAY INTERFERE WITH THE NEW CONSTRUCTION.
 - D THE GENERAL CONTRACTOR SHALL REVIEW AND APPROVE ALL SHOP DRAWINGS PRIOR TO SUBMITTAL NOTING CHANGES MADE WHICH DO NOT COMPLY WITH DESIGN DRAWINGS. PRIOR WRITTEN APPROVAL FROM THE CONTRACTING OFFICER, STRUCTURAL ENGINEER OF RECORD, AND ARCHITECT SHALL BE REQUIRED FOR ALL DEVIATIONS FROM THE DESIGN DOCUMENTS MADE BY THE CONTRACTOR. REQUEST FOR INFORMATION SHALL NOT BE USED TO INTRODUCE SUBSTITUTIONS, DEVIATIONS, OR CHANGES FROM THE REQUIREMENTS INDICATED BY THE CONSTRUCTION DOCUMENTS.
 - E PROVIDE TEMPORARY BRACING AND SHORING AS REQUIRED FOR STABILITY DURING CONSTRUCTION.
- 2 PLANS, SECTIONS, AND DETAILS ARE NOT TO BE SCALED FOR DETERMINATION OF QUANTITIES, LENGTHS, OR FIT OF MATERIALS.
- 3 SHOP DRAWINGS SHALL BE ORIGINAL DRAWINGS, PREPARED BY CONTRACTOR, SUBCONTRACTOR, SUPPLIER OR DISTRIBUTOR. REPRODUCTION OF STRUCTURAL CONTRACT DOCUMENTS AS ERECTION PLANS OR DETAILS WILL NOT BE PERMITTED AND WILL BE REJECTED WITHOUT REVIEW.
- 4 CONSTRUCTION DOCUMENTS CONSIST OF THESE DRAWINGS AND A SEPARATE BOOK OF SPECIFICATIONS. THE DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY, NEITHER IS MEANT TO STAND ALONE FOR ANY PORTION OF THE WORK DESCRIBED HEREIN. ANY CONFLICT BETWEEN DRAWINGS AND SPECIFICATIONS SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT/ENGINEER.
- 5 THE DESIGN DOCUMENTS REFLECT THE FINAL COMPLETED STATE OF THE STRUCTURAL SYSTEMS AND ELEMENTS. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION RELATED ENGINEERING TO INCLUDE BUT NOT BE LIMITED TO CONSTRUCTION MEANS AND METHODS, TEMPORARY SUPPORTS AND BRACING, TEMPORARY USE OF STRUCTURES, PARTIALLY CONSTRUCTED STRUCTURES AND INCOMPLETE STRUCTURES. ALL CONSTRUCTION AND RELATED ENGINEERING SHALL BE IN ACCORDANCE WITH ASCE 37-02 DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION".
- 6 THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE SURVEY AND SUBSURFACE INVESTIGATION REPORT BEFORE BEGINNING CONSTRUCTION
- 7 EACH SUBCONTRACTOR IS RESPONSIBLE FOR INSTRUCTIONS DIRECTED TO THE "CONTRACTOR", WHERE APPLICABLE, UNLESS SPECIFICALLY RELIEVED OF RESPONSIBILITY BY THE GENERAL CONTRACTOR.
- 8 THE CONTRACTOR SHALL DESIGN AND PROVIDE ALL ITEMS FOR ATTACHING PLUMBING, ELECTRICAL, AND PROCESS EQUIPMENT AND ELEMENTS TO THE BUILDING STRUCTURE TO RESIST ALL LOADS INCLUDING SEISMIC LOADS. ATTACHMENT SHALL BE MADE SO AS NOT TO OVERSTRESS THE STRUCTURAL MEMBERS. THE CONTRACTOR SHALL COORDINATE THE ATTACHMENTS AND LOCATIONS OF THE EQUIPMENT AND ELEMENTS AND INCORPORATE THEIR REQUIREMENTS INTO THE STRUCTURAL STEEL SHOP DRAWINGS. THE SHOP DRAWING SUBMITTAL SHALL INCLUDE ATTACHMENT CALCULATIONS AND SHALL BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. REFER TO THE PLUMBING AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

CONCRETE

- 1 ALL CONCRETE SHALL HAVE A MINIMUM DENSITY OF 145 PCF AND A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
- 2 BEFORE PLACING CONCRETE, COORDINATE WITH MECHANICAL, PLUMBING AND ELECTRICAL CONTRACTOR FOR BLOCKOUTS AND EMBEDDED ITEMS NOT SHOWN ON STRUCTURAL DRAWINGS.
- 3 EXPOSED EDGES OF CONCRETE ABOVE GRADE SHALL HAVE 3/4" X 45 DEGREE CHAMFERS, UNLESS NOTED OTHERWISE (U.N.O.)
- 4 PROVIDE STANDARD HOOKS ON BARS TERMINATING AT A CONCRETE FACE UNLESS NOTED (E.G.: EDGES OF OPENINGS, SLAB EDGES, EXPANSION JOINTS, ENDS OF BEAMS, AND AT TOP, BOTTOM, AND ENDS OF WALLS, ETC.).
- 5 THE CONTRACTOR SHALL FURNISH TO THE CONTRACTING OFFICER OR DESIGNATED REPRESENTATIVE, COMPLETE LEGIBLE COPIES OF ALL CONCRETE POUR TICKETS WITHIN FOUR (4) HOURS OF THE PLACEMENT OF THE CONCRETE THAT WAS RECEIVED. THE POUR TICKETS SHALL CLEARLY IDENTIFY THE CONCRETE SUPPLIER, THE BATCHING DATA, THE TIME OF THE LOADING/DEPARTURE AND THE ACCURATE TIME OF DELIVERY, AND ANY ADDITIONS OF WATER ENROUTE TO OR AT THE JOB SITE. CLEARLY LOCATE ON A PLAN SHEET THE LOCATIONS OF THE CONCRETE WHERE ADDITIONAL WATER HAD BEEN ADDED.
- 6 ALL FOUNDATIONS ARE DESIGNED WITH FORMED SIDES. IF THE CONTRACTOR ELECTS TO USE EARTH FORMED SIDES, 1 1/2" INCHES OF ADDITIONAL CONCRETE THICKNESS SHALL BE ADDED TO EACH EARTH FORMED FACE TO PROVIDE ADEQUATE COVER OVER THE REINFORCING. TOP PORTIONS OF EXTERIOR FOUNDATIONS EXPOSED TO FINAL GRADE SHALL BE FORMED AT LEAST 6" BELOW FINAL GRADE AT NO ADDITIONAL COST TO THE GOVERNMENT. ANY RELATED ADDITIONAL COSTS SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- 7 THE WATER CEMENT RATIO FOR ANY STRENGTH CONCRETE SHALL NOT BE MORE THAN 0.45, EXCEPT THAT THE WATER CEMENT RATIO FOR ENTRAINED CONCRETE SHALL NOT BE MORE THAN 0.4.

REINFORCEMENT

- 1 REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A-615, GR 60, AND DEFORMED WELDED WIRE FABRIC CONFORMING TO ASTM A496 OR A497 AS INDICATED ON DRAWINGS. WELDED WIRE FABRIC SHALL BE SUPPLIED IN MATS NOT ROLLS.
- 2 ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS, INSERTS, ETC. SHALL BE WELL SECURED IN PLACE AND INSPECTED BY THE CONTRACTING OFFICER OR DESIGNATED REPRESENTATIVE PRIOR TO PLACING CONCRETE
- 3 ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED, IN ACCORDANCE WITH ACI DETAILING MANUAL AND ALL APPLICABLE CODES.
- 4 ALL REINFORCING SHALL BE SUPPORTED IN FORMS, SPACED WITH NECESSARY ACCESSORIES AND SHALL BE SECURELY WIRED TOGETHER, IN ACCORDANCE WITH ACI 318.
- 5 MINIMUM CONCRETE COVER FOR THE REINFORCEMENT SHALL BE AS DETAILED ON THE DRAWINGS. WHERE THE COVER IS NOT DIMENSIONED, USE THE SAME FOR SIMILAR ITEMS. WHERE NO SIMILAR ITEMS INDICATE THE AMOUNT OF COVER, USE THE FOLLOWING IN CONJUNCTION WITH ACI 318:
 - A. CONCRETE DEPOSITED AGAINST THE EARTH 3"
 - B. CONCRETE DEPOSITED AGAINST FORMS AND EXPOSED TO EARTH OR WEATHER 2"
 - C. CONCRETE NOT EXPOSED TO EARTH OR WEATHER
- 3/4" SLABS AND WALLS 1
- 1/2" BEAMS AND COLUMNS 1
- 6 DEVELOPMENT OF REINFORCEMENT AND LAP SPLICES SHALL BE IN ACCORDANCE WITH ACI 318 UNLESS NOTED OTHERWISE.
- 7 MECHANICAL SPLICES SHALL BE IN ACCORDANCE WITH ACI 318 AND DEVELOP AT LEAST 125 PERCENT OF THE SPECIFIED YIELD STRESS OF THE BAR.

STRUCTURAL STEEL

- 1 STEEL SHALL CONFORM TO THE FOLLOWING GRADES:
 - A. ALL W SHAPES A992 (Fy=50 KSI)
 - B. ALL ANGLE, CHANNEL A36 (Fy=36 KSI)
 - C. ALL BASE PLATES, CONN. PLATES A36 (Fy=36 KSI)
 - D. STRUCTURAL PIPE A53 GR. B (Fy=35 KSI)
 - E. STRUCTURAL HSS A500 GR. B (Fy=46 KSI)
- 2 ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC "CODE OF STANDARD PRACTICE", FOURTEENTH EDITION.
- 3 UNLESS NOTED OTHERWISE, THE MINIMUM PLATE THICKNESS SHALL BE 3/8"; BOLT DIAMETER SHALL BE 3/4"; MINIMUM WELD SHALL BE 3/16".
- 4 BOLTED CONNECTIONS SHALL BE BEARING TYPE USING A325N BOLTS, UNLESS NOTED OTHERWISE. OVERSIZED HOLES AND LONG-SLOTTED HOLES ARE NOT ALLOWED, UNLESS SHOWN ON THE DRAWINGS.
- 5 WELDED CONNECTIONS SHALL BE IN ACCORDANCE WITH AWS D1.1 "STRUCTURAL WELDING CODE." ALL WELDS SHALL DEVELOP FULL STRENGTH OF THE WEAKER MEMBER, UNLESS SPECIFICALLY DETAILED OR LOADS ARE INDICATED ON DRAWINGS. WELDING ELECTRODES SHALL BE E70XX.
- 6 SPLICING OF STEEL MEMBERS, UNLESS SHOWN ON DRAWINGS, IS PROHIBITED.
- 7 NO CHANGE IN SIZE OR POSITION OF THE STRUCTURAL ELEMENTS SHALL BE MADE AND HOLES, SLOTS, CUTS, ETC. ARE NOT PERMITTED THROUGH ANY MEMBER UNLESS THEY ARE DETAILED ON THE APPROVED SHOP DRAWINGS, AND THEY CAN BE HANDLED PRIOR TO THE SHOP DRAWING PROCESS AS PER PROCEDURES NOTED IN DIVISION 1 IN SPECIFICATION FOR GENERAL REQUIREMENTS.
- 8 NO FINAL BOLTING OR WELDING SHALL BE MADE UNTIL THE STRUCTURE HAS BEEN PROPERLY ALIGNED.
- 9 FABRICATE ALL BEAMS WITH THE MILL CAMBER UP.
- 10 NO BEAM CONNECTION SHALL HAVE LESS THAN TWO (2) BOLTS OR AN EQUIVALENT WELD.
- 11 CORROSION PROTECTION: PAINTING OF STRUCTURAL STEEL (OR GALVANIZING WHERE APPLICABLE) IS REQUIRED FOR ANY EXPOSED STEEL, SEE SPECIFICATIONS.



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 WESTHEIMER, HOUSTON, TX 77042
 8400 N. BROADWAY, OKLAHOMA CITY, OK 73114
 620 EMERSON ROAD, ST. LOUIS, MO 63141
 60 PLATO BOULEVARD E. ST. PAUL, MN 55107
 ONE WEST THIRD STREET, TULSA, OK 74103



THIS WORK WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION
 EXPIRATION DATE OF LICENSE: 04/30/2022

DATE	DESCRIPTION	SYN	DATE	APPR

SUBMITTAL PHASE:
 100% FINAL BID SET

SUBMITTAL DATE: 03/17/2020

DES: HMM DRW: JDF CHK: JDW

DEPARTMENT OF DEFENSE
 FACILITIES DESIGN & PROJECT BRANCH
 KALAELOA, KAPOLEI, OAHU, HAWAII
 BUILDING 29 PARKING PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS
 AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS
 T.M.K. NO. 9-1413-045

STATE OF HAWAII
 FACILITY MANAGEMENT OFFICE
 91-1337 SARATOGA AVENUE
 HONOLULU, HAWAII 96813
 STRUCTURAL
 BASE BID DBI #1 GENERAL STRUCTURAL NOTES

HAWAII ARMY NATIONAL GUARD

SCALE:

STATE JOB NO. CA-1512-C

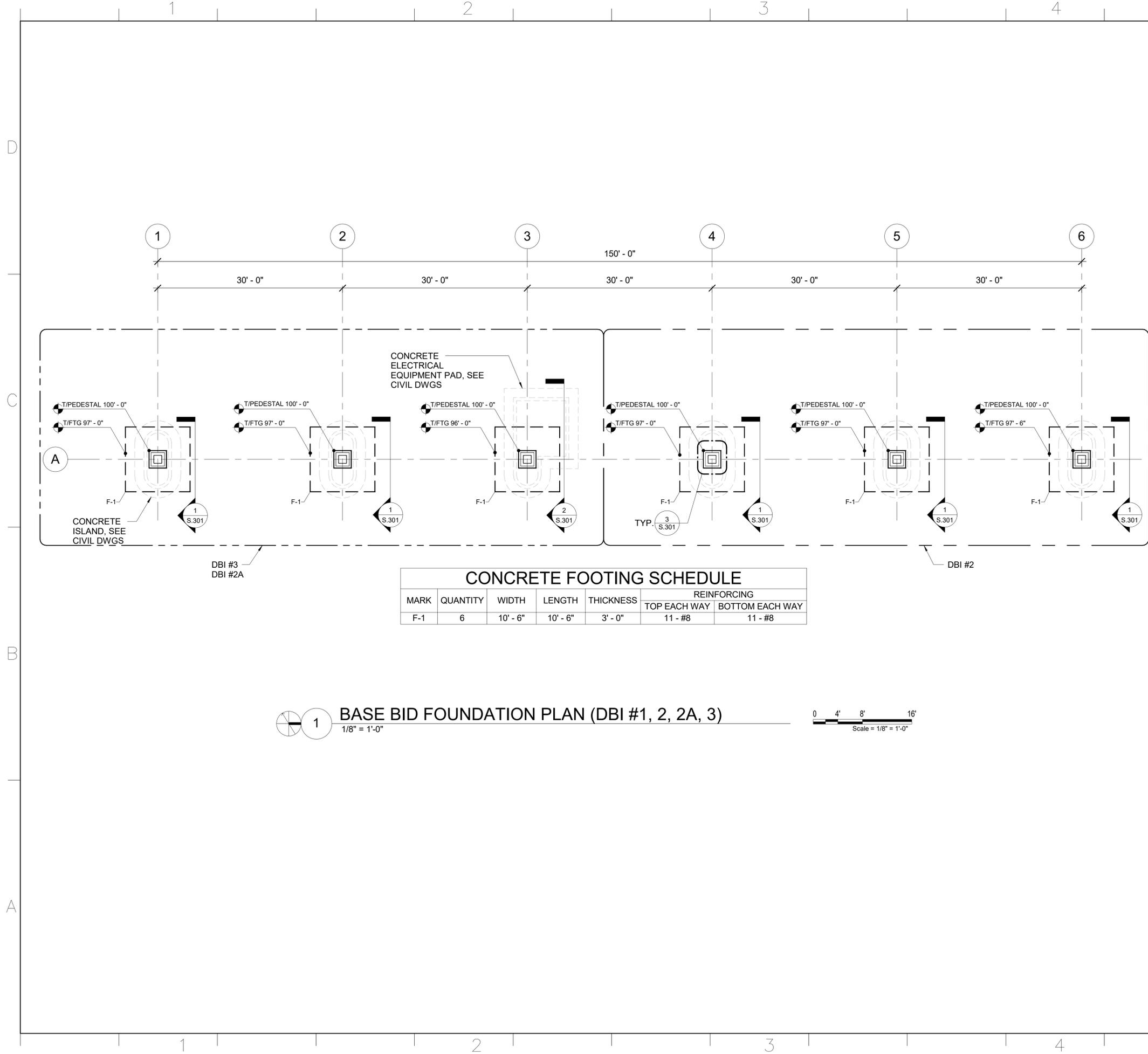
FEDERAL PROJECT NO. 314202

SHEET 02

S.002

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CONCRETE FOOTING SCHEDULE						
MARK	QUANTITY	WIDTH	LENGTH	THICKNESS	REINFORCING	
					TOP EACH WAY	BOTTOM EACH WAY
F-1	6	10' - 6"	10' - 6"	3' - 0"	11 - #8	11 - #8

1 BASE BID FOUNDATION PLAN (DBI #1, 2, 2A, 3)
1/8" = 1'-0"

0 4' 8' 16'
Scale = 1/8" = 1'-0"

SHEET NOTES

- FOR GENERAL NOTES, SEE SHEET S-001.
- ALL PEDESTALS ARE CENTERED UNDER COLUMNS UNLESS NOTED OTHERWISE.
- FOR COLUMN SIZES, SEE ROOF FRAMING PLAN ON SHEET S-111.
- DESCRIPTION OF DEDUCTIVE BID ITEMS (DBI's):
 - DBI #1 - IN LIEU OF THE SUPERSTRUCTURE DETAILED WITHIN THESE CONSTRUCTION DOCUMENTS, CONTRACTOR SHALL PROVIDE A CONTRACTOR-DESIGNED AND ENGINEERED SOLUTION INCLUDING STRUCTURAL CANOPY, COLUMNS, FOOTINGS, ETC. AS REQUIRED FOR A COMPLETE STRUCTURAL SYSTEM TO SUPPORT THE PHOTOVOLTAIC PANELS AND ALL COMPONENTS. CONTRACTOR SHALL UTILIZE THE DESIGN CRITERIA INDICATED ON DRAWING S.001 AS HIS MINIMUM DESIGN PARAMETERS.
 - DBI #2 - DELETE (50%) OF THE SUPERSTRUCTURE AS INDICATED. APPROXIMATELY 50% OF THE SUPERSTRUCTURE AS INDICATED.
 - DBI #2A - DELETE (50%) OF THE SUPERSTRUCTURE AS INDICATED. IN LIEU OF THE SUPERSTRUCTURE DETAILED WITHIN THESE CONSTRUCTION DOCUMENTS, CONTRACTOR SHALL PROVIDE A CONTRACTOR-DESIGNED AND ENGINEERED SOLUTION INCLUDING STRUCTURAL CANOPY, COLUMNS, FOOTINGS, ETC. AS REQUIRED FOR A COMPLETE STRUCTURAL SYSTEM TO SUPPORT THE PHOTOVOLTAIC PANELS AND ALL COMPONENTS. CONTRACTOR SHALL UTILIZE THE DESIGN CRITERIA INDICATED ON DRAWING S.001 AS HIS MINIMUM DESIGN PARAMETERS.
 - DBI #3 - DELETE THE REMAINING 50% OF THE PHOTOVOLTAIC (PV) SYSTEM AND THE REMAINING SUPERSTRUCTURE COMPONENTS FOR A COMPLETE DELETION OF THE PV SYSTEM AND ASSOCIATED STRUCTURE.

KEYED NOTES (THIS SHEET) AS- DENOTED BY #



BENHAM
Professional Engineer

1250 N. PONTIAC TRAIL, WALLED LAKE, MI 48290
WESTHEIMER, HOUSTON, TX 77042
8403 N. BROADWAY, OKLAHOMA CITY, OK 73114
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ONE WEST THIRD STREET, TULSA, OK 74103



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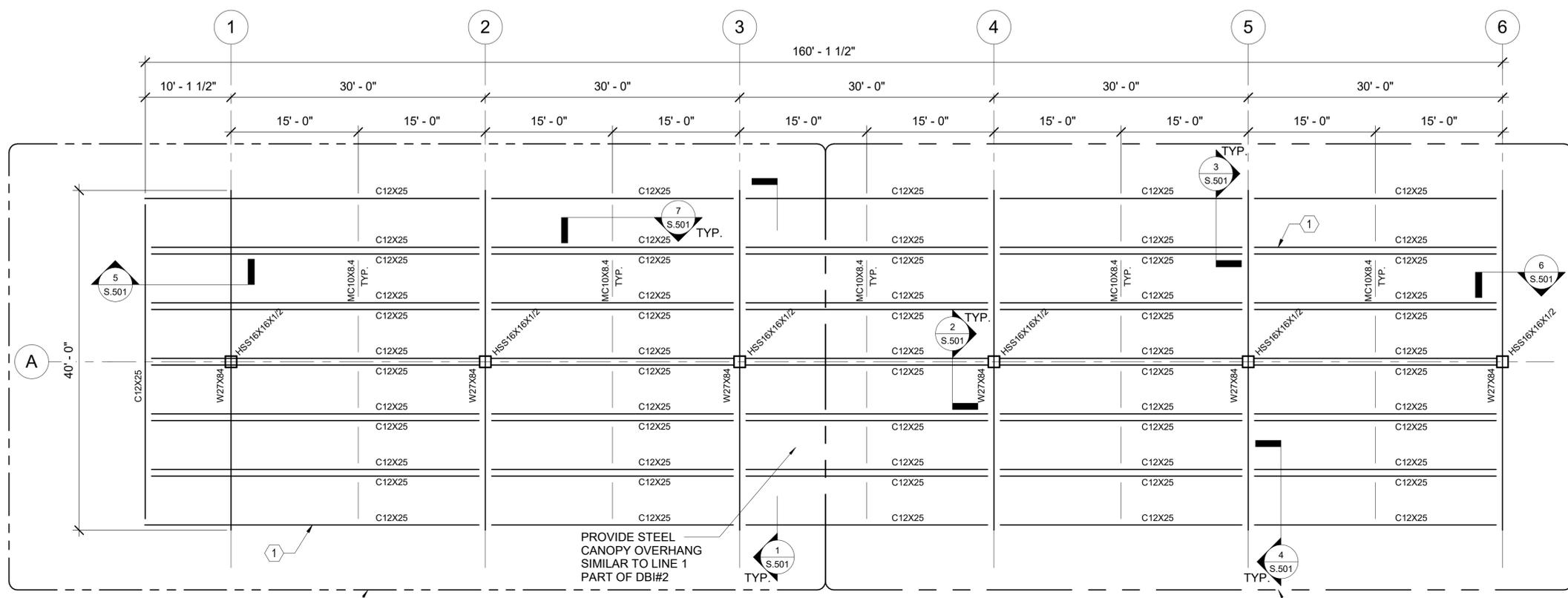
SYMBOL	DESCRIPTION	DATE	APPROVED

DEPARTMENT OF DEFENSE
HAWAII ARMY NATIONAL GUARD
FACILITIES DESIGN & PROJECT BRANCH
KALAELOA, KAPOLEI, OAHU, HAWAII
91-1337 SARATOGA AVENUE
BUILDING 29 PARKING PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS
STRUCTURAL
BASE BID FOUNDATION PLAN (DBI #1, 2, 2A, 3)
T.M.K. NO. 9-1013-045

SCALE: 1/8" = 1'-0"

STATE JOB NO. CA-1512-C
FEDERAL PROJECT NO. 314202
SHEET OF
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1 BASE BID ROOF FRAMING PLAN (DBI #1, 2, 2A, 3)
1/8" = 1'-0"

SHEET NOTES

- SOLAR PANELS NOT SHOWN FOR CLARITY.
- HIGH POINT OF STEEL IS 121'-6" AND THE LOW POINT OF STEEL IS 115'-0".
- DESCRIPTION OF DEDUCTIVE BID ITEMS (DBI's):
 - DBI #1 - IN LIEU OF THE SUPERSTRUCTURE DETAILED WITHIN THESE CONSTRUCTION DOCUMENTS, CONTRACTOR SHALL PROVIDE A CONTRACTOR-DESIGNED AND ENGINEERED SOLUTION INCLUDING STRUCTURAL CANOPY, COLUMNS, FOOTINGS, ETC. AS REQUIRED FOR A COMPLETE STRUCTURAL SYSTEM TO SUPPORT THE PHOTOVOLTAIC PANELS AND ALL COMPONENTS. CONTRACTOR SHALL UTILIZE THE DESIGN CRITERIA INDICATED ON DRAWING S.001 AS HIS MINIMUM DESIGN PARAMETERS.
 - DBI #2 - DELETE 50% OF THE PHOTOVOLTAIC SYSTEM AND APPROXIMATELY 50% OF THE SUPERSTRUCTURE AS INDICATED.
 - DBI #2A - DELETE 50% OF THE PHOTOVOLTAIC SYSTEM AND APPROXIMATELY 50% OF THE SUPERSTRUCTURE AS INDICATED. IN LIEU OF THE SUPERSTRUCTURE DETAILED WITHIN THESE CONSTRUCTION DOCUMENTS, CONTRACTOR SHALL PROVIDE A CONTRACTOR-DESIGNED AND ENGINEERED SOLUTION INCLUDING STRUCTURAL CANOPY, COLUMNS, FOOTINGS, ETC. AS REQUIRED FOR A COMPLETE STRUCTURAL SYSTEM TO SUPPORT THE PHOTOVOLTAIC PANELS AND ALL COMPONENTS. CONTRACTOR SHALL UTILIZE THE DESIGN CRITERIA INDICATED ON DRAWING S.001 AS HIS MINIMUM DESIGN PARAMETERS.
 - DBI #3 - DELETE THE REMAINING 50% OF THE PHOTOVOLTAIC (PV) SYSTEM AND THE REMAINING SUPERSTRUCTURE COMPONENTS FOR A COMPLETE DELETION OF THE PV SYSTEM AND ASSOCIATED STRUCTURE.

KEYED NOTES (THIS SHEET) AS- DENOTED BY

SYM	DESCRIPTION
1	SPACING OF C12'S TO BE COORDINATED WITH P.V. MANUFACTURER.



BENHAM
A Harsco Company

1250 N. PONTIAC TRAIL, WALLED LAKE, MI 48090
WESTHEIMER, HOUSTON, TX 77042
8400 N. BROADWAY, OKLAHOMA CITY, OK 73114
820 EMERSON ROAD, ST. LOUIS, MO 63141
60 PLATO BOULEVARD E.S.T., PALM JMN 35107
ONE WEST THIRD STREET, TULSA, OK 74103



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DATE	APPR

DEPARTMENT OF DEFENSE
FACILITIES DESIGN & PROJECT BRANCH
KALAELOA, KAPOLEI, OAHU, HAWAII

BUILDING 29 PARKING PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS

STATE OF HAWAII
FACILITY MANAGEMENT OFFICE
91-1337 SARATOGA AVENUE

STRUCTURAL
BASE BID ROOF FRAMING PLAN (DBI #1, 2, 2A, 3)

T.M.K. NO.
9-1013-045

SCALE: 1/8" = 1'-0"

STATE JOB NO. CA-1512-C

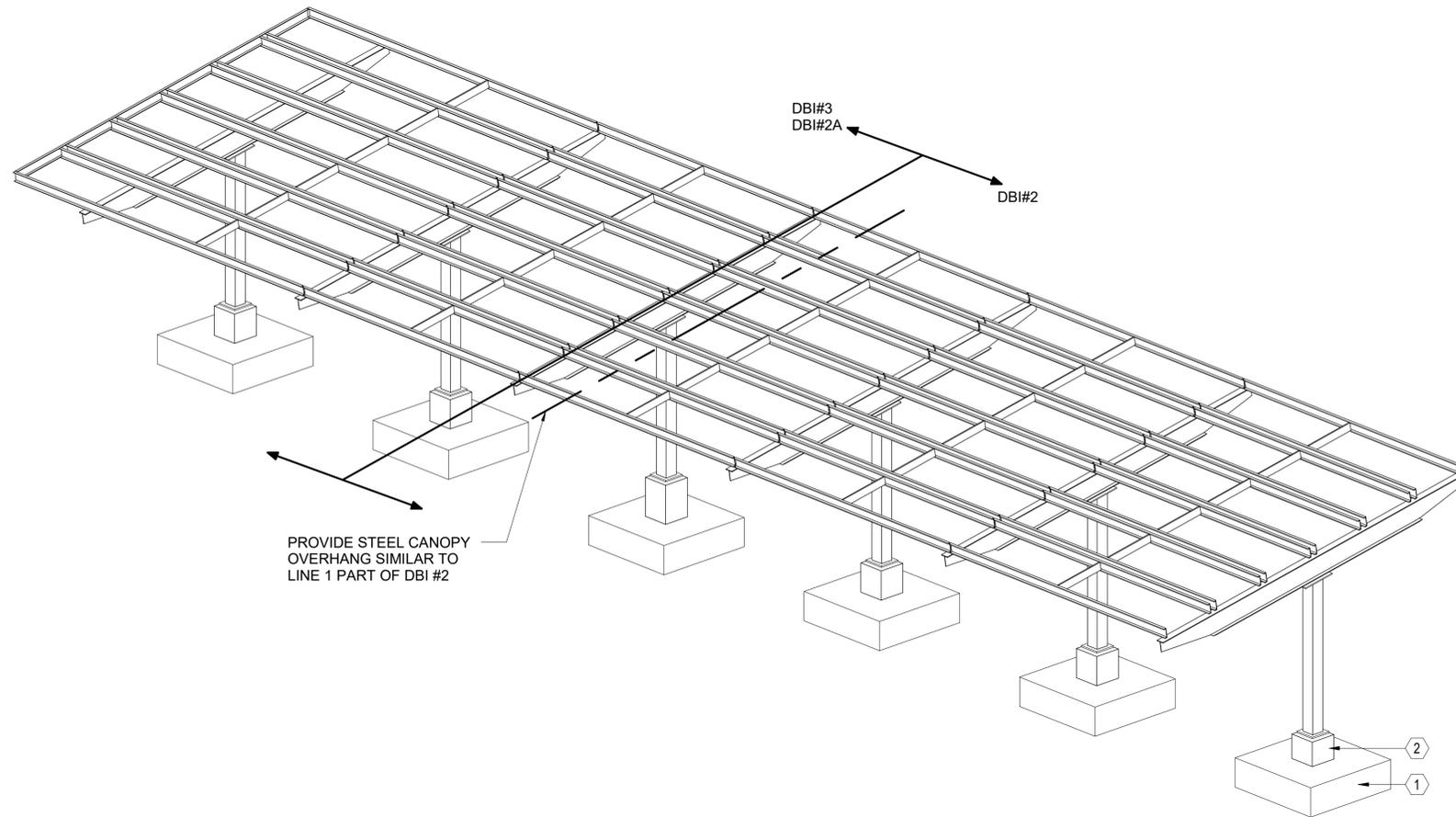
FEDERAL PROJECT NO. 314202

SHEET OF

S.111

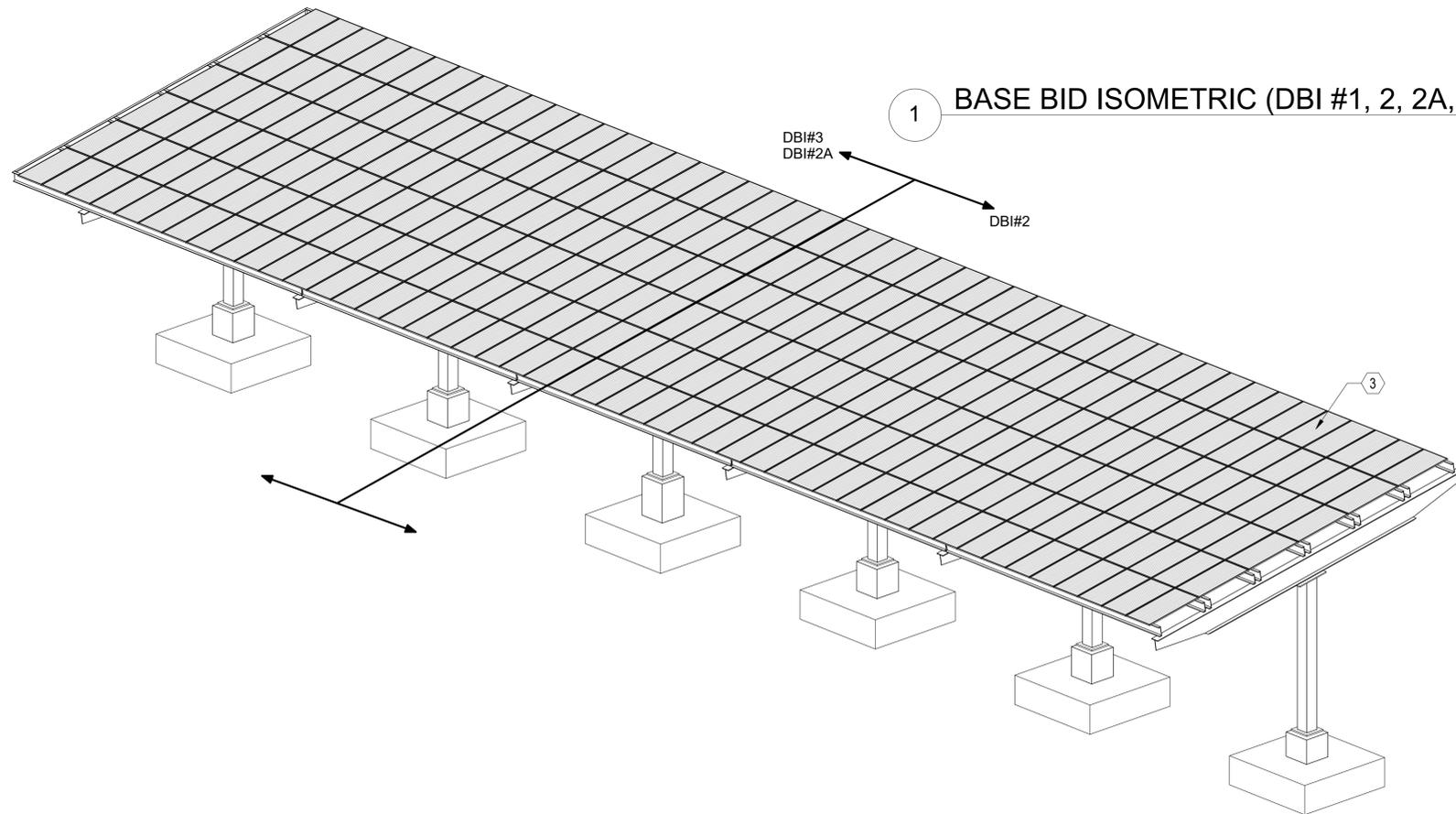
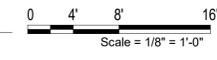
KEYPLAN - NOT TO SCALE

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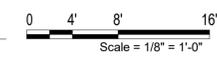


PROVIDE STEEL CANOPY OVERHANG SIMILAR TO LINE 1 PART OF DBI #2

1 BASE BID ISOMETRIC (DBI #1, 2, 2A, 3)



2 PHOTOVOLTAIC SYSTEM ISOMETRIC (DBI #1, 2, 2A, 3)



SHEET NOTES

1. SOLAR PANELS NOT SHOWN FOR CLARITY.
2. HIGH POINT OF STEEL IS 121'-6" AND THE LOW POINT OF STEEL IS 115'-0".
3. SEE SHEET S-111 FOR ROOF FRAMING INFORMATION.
4. DESCRIPTION OF DEDUCTIVE BID ITEMS (DBI's):
 - DBI #1 - IN LIEU OF THE SUPERSTRUCTURE DETAILED WITHIN THESE CONSTRUCTION DOCUMENTS, CONTRACTOR SHALL PROVIDE A CONTRACTOR-DESIGNED AND ENGINEERED SOLUTION INCLUDING STRUCTURAL CANOPY, COLUMNS, FOOTINGS, ETC, AS REQUIRED FOR A COMPLETE STRUCTURAL SYSTEM TO SUPPORT THE PHOTOVOLTAIC PANELS AND ALL COMPONENTS. CONTRACTOR SHALL UTILIZE THE DESIGN CRITERIA INDICATED ON DRAWING S.001 AS HIS MINIMUM DESIGN PARAMETERS.
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KEYED NOTES (THIS SHEET) AS- DENOTED BY #

- 1 CONCRETE FOOTING, TYP.
- 2 CONCRETE PILASTER, TYP.
- 3 SOLAR PANELS. COORDINATE LOCATION WITH ELECTRICAL DRAWINGS.

SYMBOL	DESCRIPTION	DATE	APPROVED

100% FINAL BID SET

03/17/2020

DES: HMM DRW: JDF CHK: JDW

DEPARTMENT OF DEFENSE

FACILITIES DESIGN & PROJECT BRANCH

KALAELOA, KAPOLEI, OAHU, HAWAII

BUILDING 29 PARKING PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS

STRUCTURAL

BASE BID ISOMETRIC VIEW (DBI #1, 2, 2A, 3)

T.M.K. NO. 9-1013-045

STATE OF HAWAII

FACILITY MANAGEMENT OFFICE

91-1337 SARATOGA AVENUE

HAWAII ARMY NATIONAL GUARD

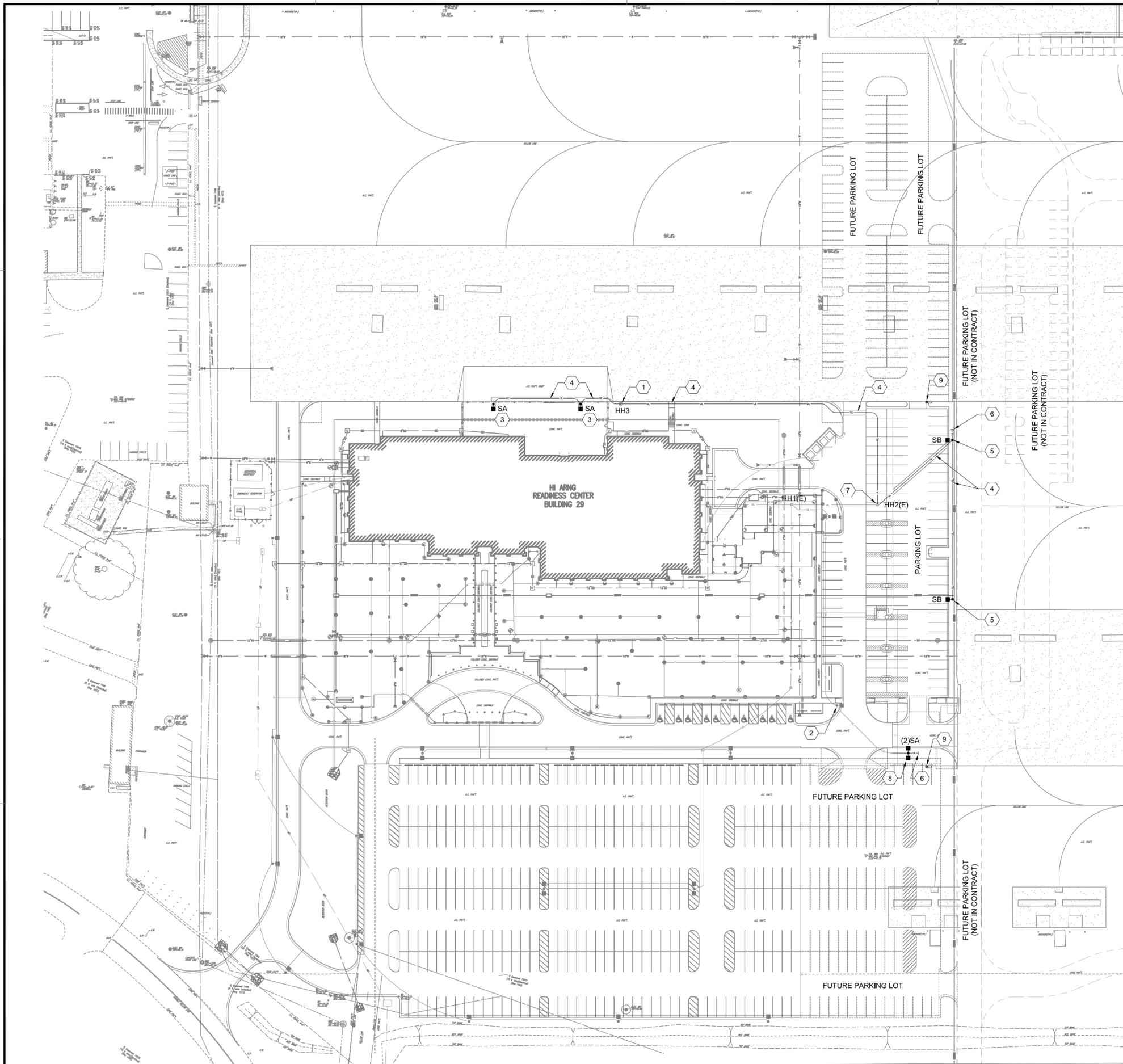
SCALE:

STATE JOB NO. CA-1512-C

FEDERAL PROJECT NO. 314202

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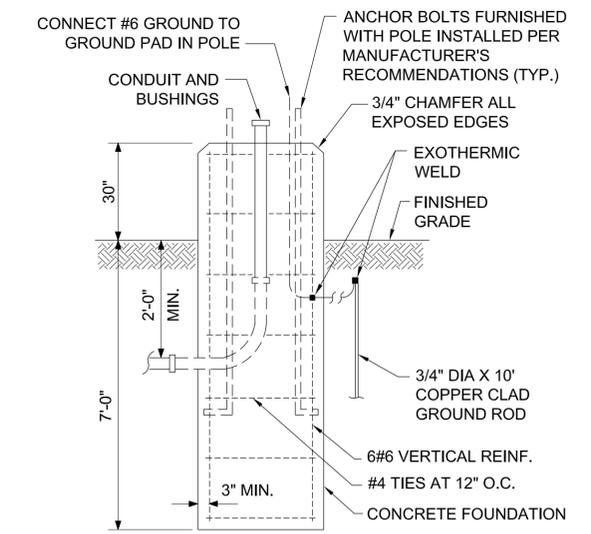


SHEET NOTES:

1. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. THEREFORE, THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS NOT PRESENTLY KNOWN. BEFORE STARTING ANY WORK, LOCATE AND PROTECT ALL EXISTING BURIED UTILITY LINES, WHETHER OR NOT SHOWN ON THESE DRAWINGS, DURING THE COURSE OF CONSTRUCTION.
2. ALL SITE LIGHTING CIRCUITS SHALL BE 2#8, 1#8GND, 1" C MINIMUM AND DIRECT BURIED AT 24" BELOW FINISHED GRADE, UNLESS NOTED OTHERWISE. WIRING AT POLE MAY BE REDUCED TO #10AWG.

KEYED NOTES:

1. PROVIDE PRECAST HANDHOLE FOR SITE LIGHTING.
2. EXISTING POLE MOUNTED LIGHT FIXTURE.
3. PROVIDE FIXTURE "SA" (McGRAW-EDISON #VTS-E12-LED-E1-T4-BK-VA1033BK) AND 20' POLE (VALMONT DS330 #500W200 W/BLACK POWDERCOAT FINISH) ON CONCRETE BASE. CUT AND REMOVE EXISTING PAVEMENT AS REQUIRED FOR INSTALLATION OF CONCRETE BASE. SEE DETAIL 2 BELOW. EXTEND CIRCUIT 1ELP1-26 FROM EXISTING HANDHOLE HH1.
4. NEW UNDERGROUND LIGHTING BRANCH CIRCUIT. CUT AND REMOVE EXISTING PAVEMENT AS REQUIRED FOR INSTALLATION OF NEW CONDUIT.
5. PROVIDE FIXTURE "SB" (McGRAW-EDISON #VTS-E12-LED-E1-SL3-BK-VA1033BK) AND 30' POLE (VALMONT DS330 #500W300 W/BLACK POWDERCOAT FINISH) ON CONCRETE BASE. CUT AND REMOVE EXISTING PAVEMENT AS REQUIRED FOR INSTALLATION OF CONCRETE BASE. COORDINATE EXACT POLE LOCATION WITH EXISTING UNDERGROUND COMMUNICATIONS. SEE DETAIL 2 BELOW. EXTEND CIRCUIT 1ELP1-26 FROM EXISTING HANDHOLE HH1.
6. STUB CONDUIT OUT AND CAP FOR FUTURE PARKING LOT LIGHTING.
7. ADJUST EXISTING HANDHOLE HH2 AS REQUIRED TO BE FLUSH WITH SURFACE OF NEW PAVEMENT.
8. PROVIDE (2) TYPE "SA" FIXTURES (McGRAW-EDISON #VTS-E12-LED-E1-T4-BK-VA1034BK) AND 30' POLE (VALMONT DS330 #500W300 W/BLACK POWDERCOAT FINISH) ON CONCRETE BASE. CUT AND REMOVE EXISTING PAVEMENT AS REQUIRED FOR INSTALLATION OF CONCRETE BASE. SEE DETAIL 2 BELOW. EXTEND CIRCUIT 1ELP1-26 FROM EXISTING LIGHT POLE IDENTIFIED BY KEYED NOTE #2.
9. DEMOLISH EXISTING LIGHT POLE AND CONCRETE BASE.



- NOTES:**
1. COORDINATE POLE BASE DIAMETER WITH EXISTING POLE BASES INSTALLED UNDER B29 PROJECT.
 2. COORDINATE ANCHOR BOLT LOCATION TO PROVIDE PROPER ORIENTATION OF LIGHT FIXTURE.

2 POLE BASE DETAIL - FIXTURE "SA" & "SB"
NOT TO SCALE

1 EXISTING ELECTRICAL SITE PLAN
1"=50' (MODIFICATIONS TO EXISTING SITE LIGHTING)
Scale: 1" = 50'



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SYMBOL	DESCRIPTION	DATE	APPROVED

100% FINAL BID SET

DATE: 03/17/2020

DES: WJB GRW: WJB CHK: DWM

DEPARTMENT OF DEFENSE
HAWAII ARMY NATIONAL GUARD
FACILITIES DESIGN & PROJECTS BRANCH
KALAELOA, KAPOLEI, OAHU, HAWAII
91-1387 SARATOGA AVENUE
BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS
ELECTRICAL OVERALL SITE LIGHTING PLAN
TASK NO. 9-14013.045

STATE OF HAWAII
FACILITY MANAGEMENT OFFICE
SCALE: AS NOTED
STATE JOB NO. CA-1512-C
FEDERAL PROJECT NO. 15150023
SHEET 11 OF 11
E.101

