

STATE OF HAWAII  
DEPARTMENT OF DEFENSE  
HAWAII ARMY NATIONAL GUARD

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

PN15150023

KALAELOA, KAPOLEI, OAHU, HAWAII  
TAX MAP KEY: 9-1-013: 045

## 100% FINAL BID SET

16 FEBRUARY, 2018



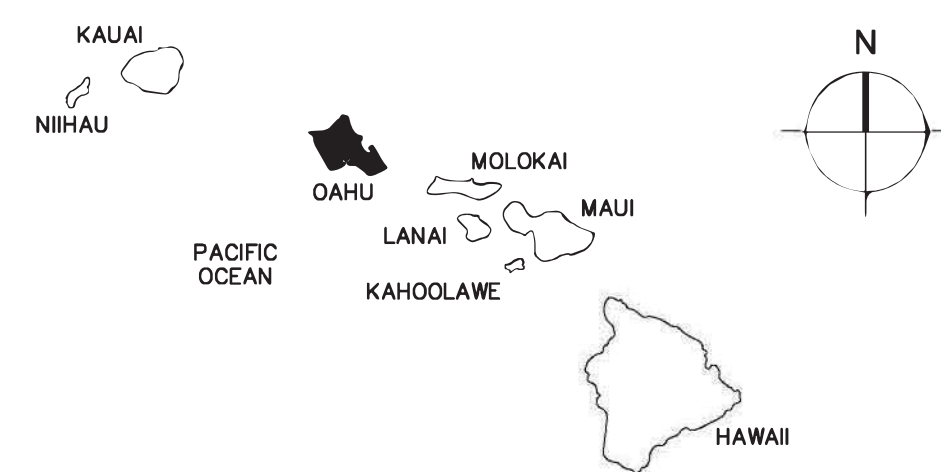
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WESTHEIMER INDUSTRIAL TRAIL #142  
8401 N. BROADWAY, OKLAHOMA CITY, OK 73114  
837 EMERSON ROAD, ST. LOUIS, MO 63141  
85 PLATO BOULEVARD E. ST. PAUL, MN 55107  
ONE WEST THIRD STREET, TULSA, OK 74103



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EXPIRATION DATE OF LICENSE:

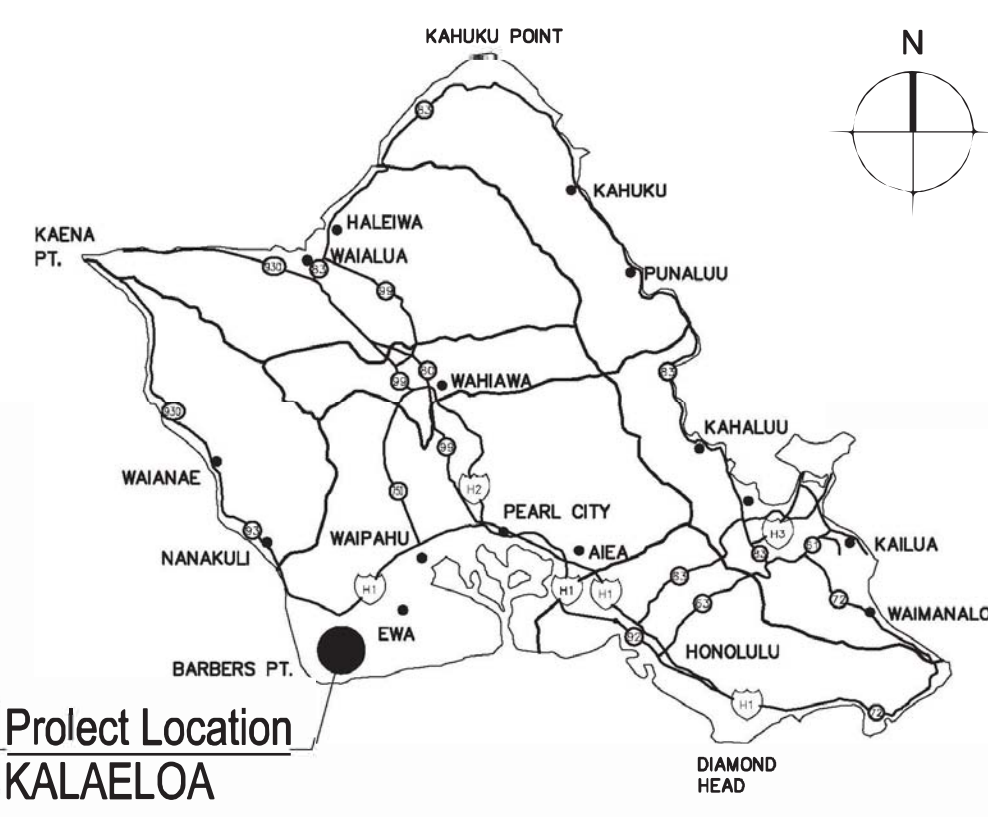
SYN	DESCRIPTION	DATE	APPX

Map of the Hawaiian Islands:



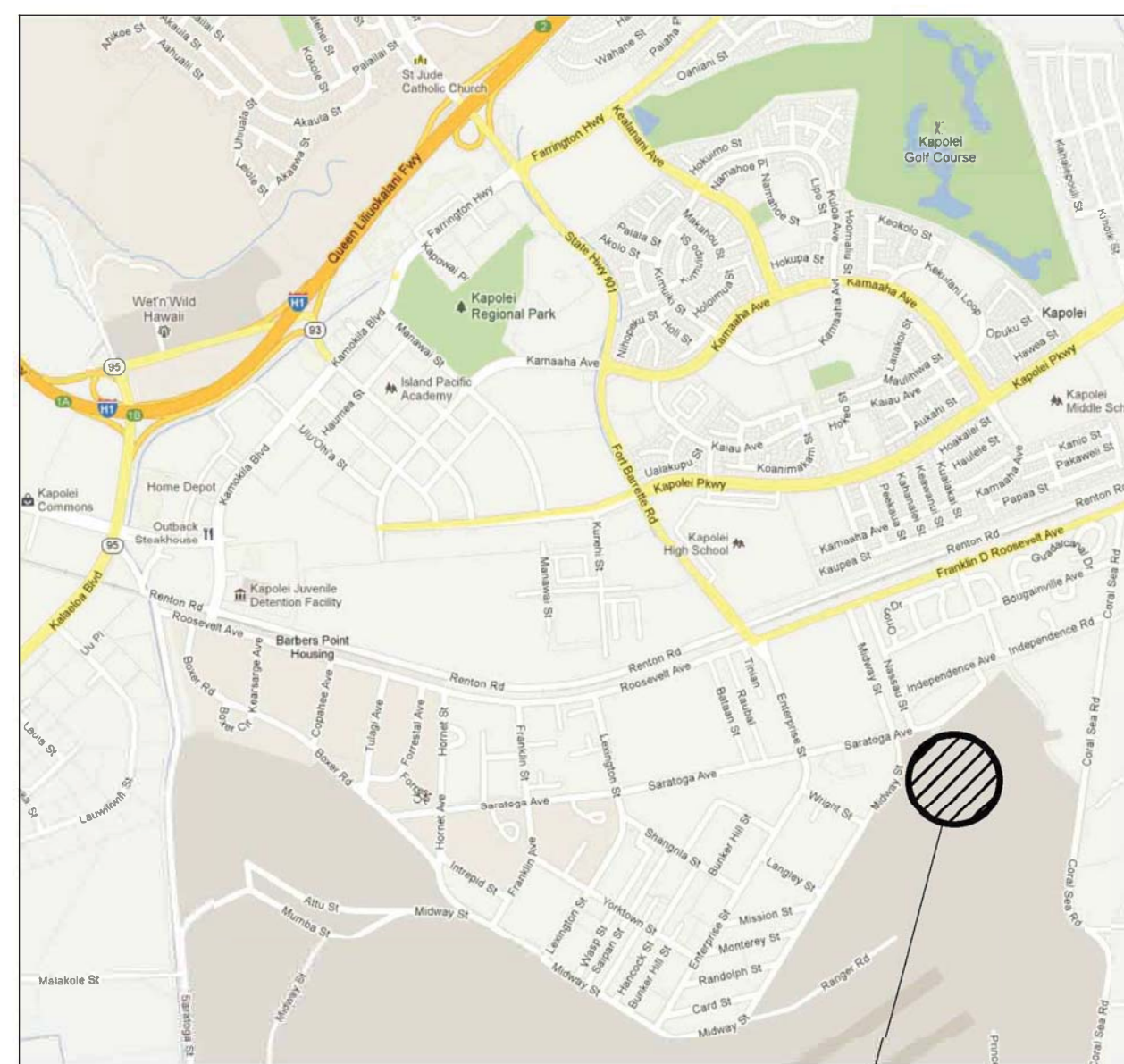
HAWAIIAN ISLANDS

Location Map:



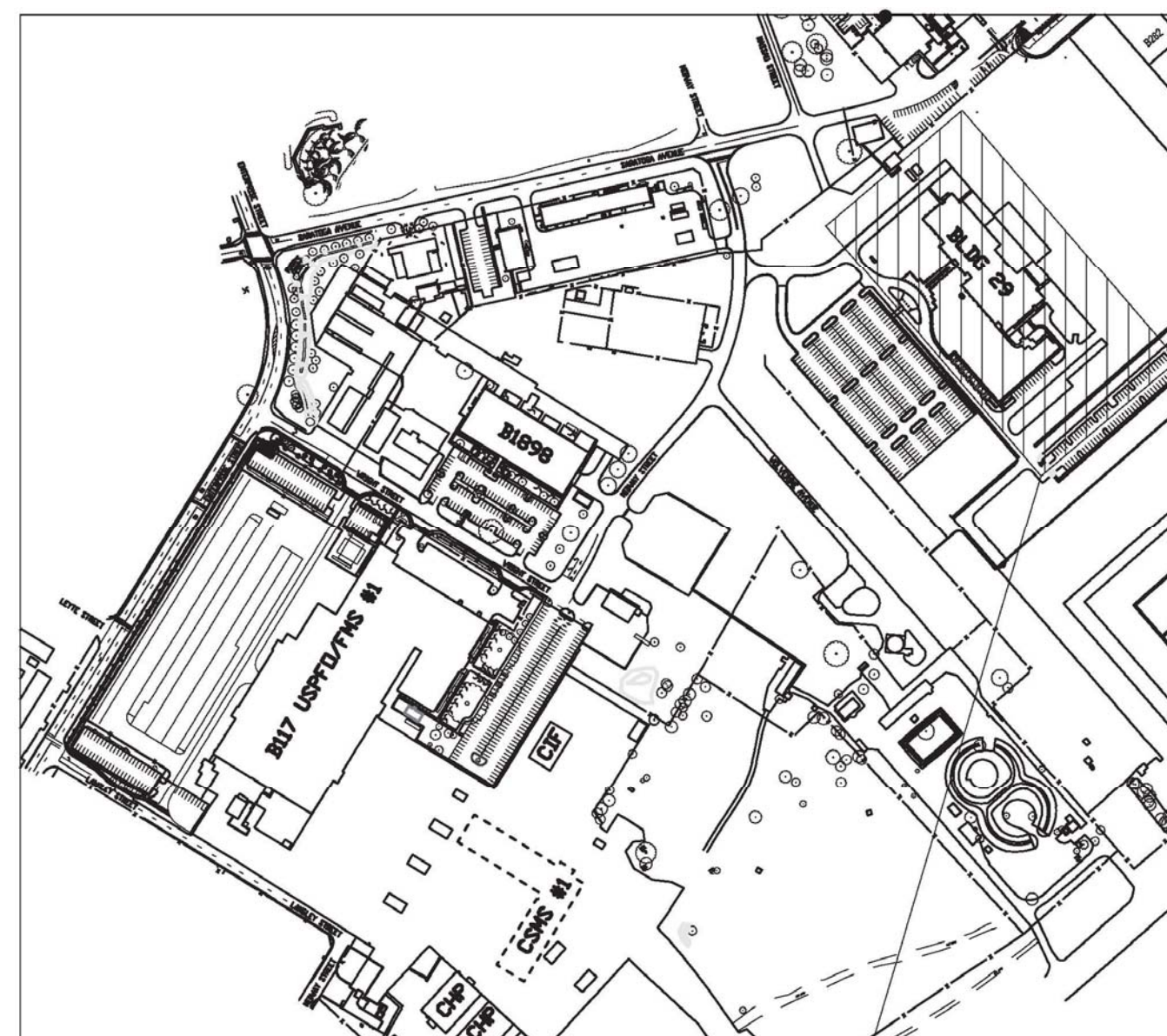
ISLAND OF OAHU

Vicinity Map:



Project Location  
91-1387 SARATOGA AVENUE

Project Site:



Project Site  
BUILDING 29

Project Team:

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

SUBMITAL PHASE

100% FINAL BID SET

SUBMITAL DATE: 16/02/2018

DES: AKG DRW: HET CHK: MCB

DEPARTMENT OF DEFENSE

FACILITIES DESIGN & PROJECTS BRANCH

KALAELOA, KAPOLEI, OAHU, HAWAII

BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS

AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS

COVER SHEET

STATE OF HAWAII

FACILITY MANAGEMENT OFFICE

91-1387 SARATOGA AVENUE

SCALE: AS NOTED

STATE JOB NO. CA-1512-C

FEDERAL PROJECT NO. 15150023

SHEET OF

G.001

SURVEY ABBREVIATIONS

Table with two columns: Abbreviation and Description. Includes entries like A.C. ASPHALT CONCRETE, APPROX. APPROXIMATE, ARV AIR RELEASE VALVE, etc.

LEGEND

Legend table with columns for EXISTING and PROPOSED symbols. Includes entries like ASPHALT, ASPHALT OVERLAY, CONCRETE, SANITARY SEWER, etc.

GENERAL SURVEY NOTES

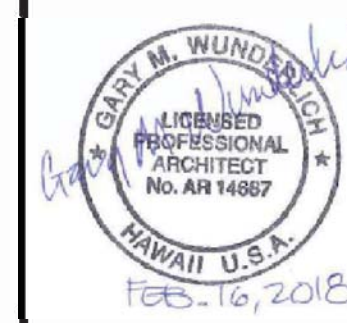
NOTE: SURVEY INFORMATION SHOWN WAS PREPARED FOR THE HI ARNG READINESS CENTER BUILDING 29. SURVEY NOTES: COORDINATES AND AZIMUTHS (SOUTH) ARE REFERRED TO HAWAII STATE PLANE GRID SYSTEM, NAD 83, ZONE 3, U.S. FOOT.

SHEET INDEX

Table listing sheet numbers and descriptions. Includes GENERAL G.001 COVER SHEET, CIVIL C.100 DEMOLITION PLAN, ARCHITECTURAL A.402 ENLARGED FLOOR PLANS - RESTROOMS, etc.



1250 N. PONTIAC TRAIL, WALLEED LAKE, HI 96790



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Table with columns for SUBMITTAL PHASE, DATE, and DESCRIPTION. Includes entries for 100% FINAL BID SET.

100% FINAL BID SET

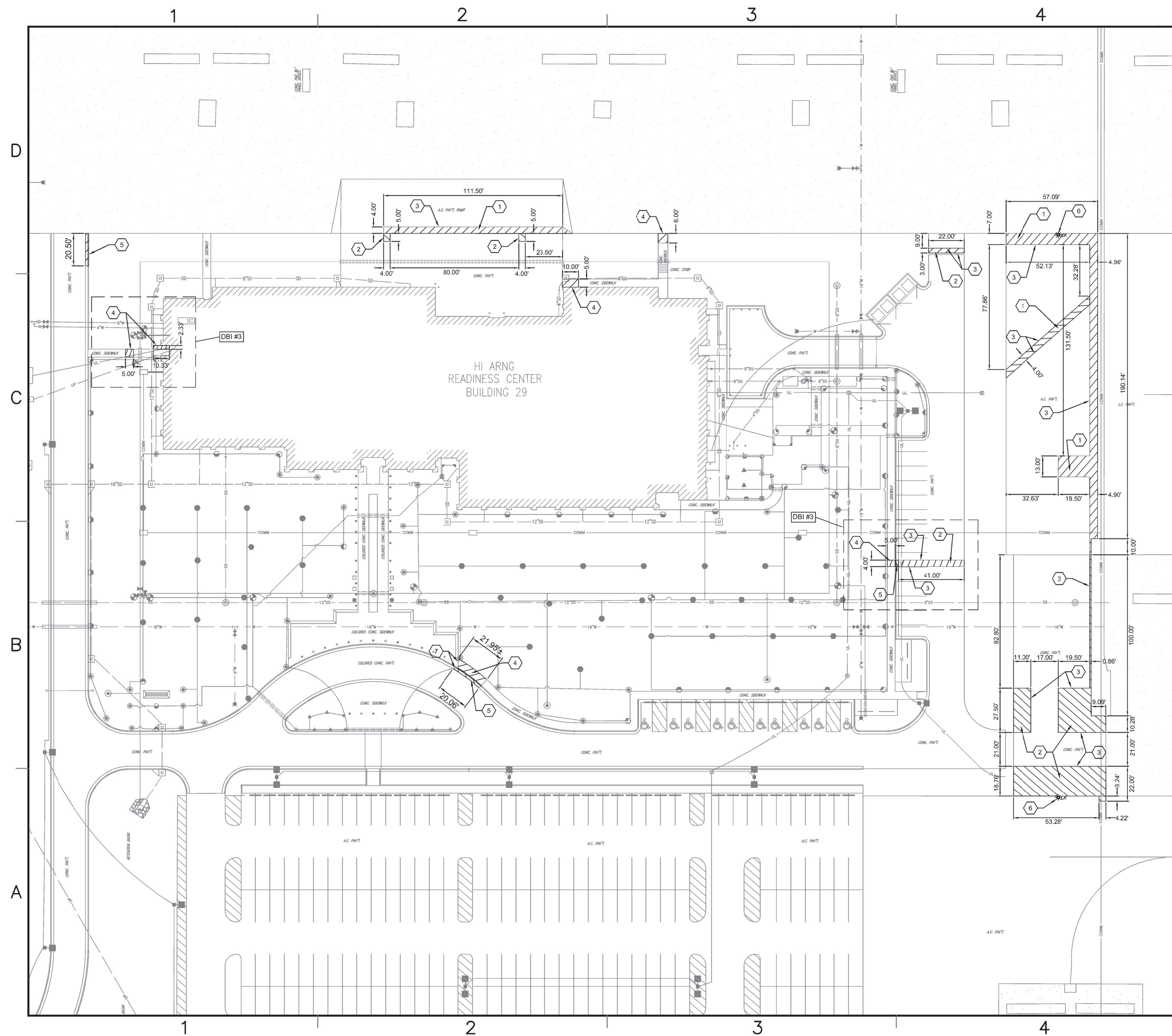
SUBMITTAL DATE: 16/02/2018

DES: AKG DRW: HET CHK: MCB

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

STATE OF HAWAII FACILITY MANAGEMENT OFFICE 911-1387 SARATOGA AVENUE BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS

SCALE: AS NOTED STATE JOB NO. CA-1512-C FEDERAL PROJECT NO. 15150023 SHEET OF G.002



**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. SEE SHEET C.103, SITE PLAN 1, FOR ADDITIONAL CONCRETE CURB AND GUTTER DEMOLITION.
4. COORDINATE ALL SITE DEMOLITION WITH PROPOSED SITE IMPROVEMENTS AND NEW UNDERGROUND UTILITIES.
5. SAWCUT PAVEMENTS AND CURBING TO FULL DEPTH PRIOR TO REMOVAL OR REMOVE TO NEAREST JOINT.

**KEYED NOTES:** [Keyed Note Symbols]

1. ASPHALT PAVEMENT TO BE REMOVED
2. CONCRETE PAVEMENT TO BE REMOVED
3. SAWCUT PAVEMENT
4. CONCRETE SIDEWALK TO BE REMOVED
5. CONCRETE CURB AND GUTTER TO BE REMOVED
6. PARKING LOT LIGHT POLE AND FOUNDATION TO BE REMOVED
7. 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'  
 0 15' 30' 60'  
 Scale: 1" = 30'



1250 N. FORTY-THIRD STREET, WALKED LAKE, MI 48306  
 WESTHEMER HOUSTON, TX 77602  
 8600 N. BROADWAY, OKLAHOMA CITY, OK 73114  
 622 EMERSON ROAD, ST. LOUIS, MO 63141  
 60 FLAT TO BUCKLEHEADS, ST. PAUL, MN 55107  
 ONE WEST THIRD STREET, TULSA, OK 74103



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 EXPIRATION DATE OF LICENSE: 4/30/2018

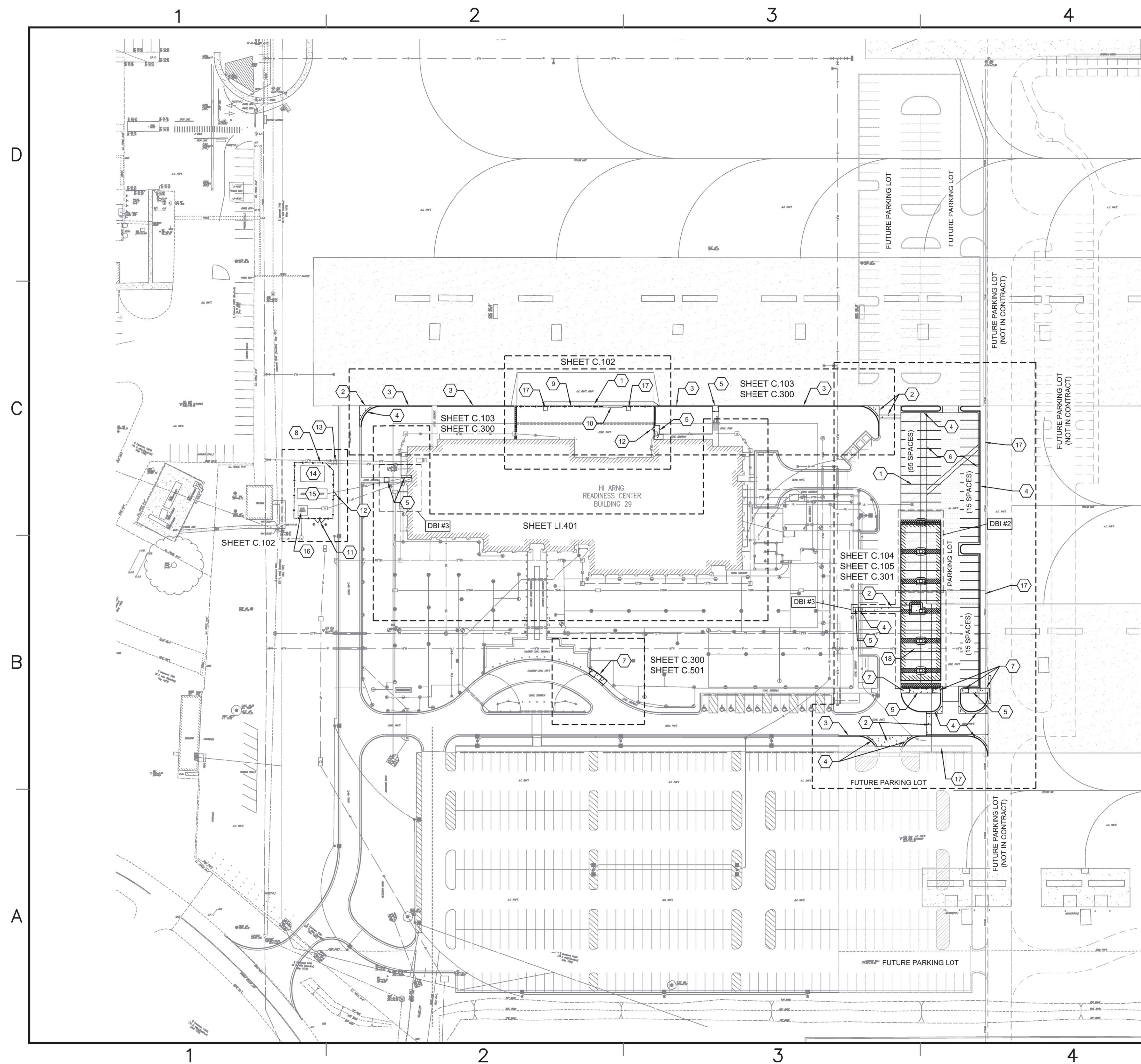
DATE	DESCRIPTION	APP'D

SUBMITAL PHASE  
 100% FINAL BID SET

SUBMITAL DATE: 16/02/2018  
 DES: GWS DRW: GWS CHK: M.J.S

STATE OF HAWAII  
 FACILITY MANAGEMENT OFFICE  
 HAWAII ARMY NATIONAL GUARD  
 DEPARTMENT OF DEFENSE  
 FACILITIES DESIGN & PROJECTS BRANCH  
 KALAEOLA, KAPOLEI, OAHU, HAWAII  
**BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS**  
 CIVIL  
 DEMOLITION PLAN

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



**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.

**KEYED NOTES:**

1. ASPHALT PAVEMENT
2. CONCRETE PAVEMENT
3. 6" VERTICAL CONCRETE CURB
4. 6" VERTICAL CONCRETE CURB AND GUTTER
5. CONCRETE SIDEWALK
6. 2" ASPHALT OVERLAY
7. ADA RAMP
8. 6' CHAIN LINK FENCE (BARBED)
9. 6' CHAIN LINK FENCE (BARBED) INSTALL FENCE POSTS IN PAVEMENT AREAS
10. 20' MANUAL CANTILEVERED SLIDE GATE (20' CLEAR OPENING)
11. 10' DOUBLE SWING GATE (10' CLEAR OPENING)
12. 5' MAN GATE
13. COORDINATE FENCE LOCATION WITH EXISTING PIV
14. EXISTING MECHANICAL EQUIPMENT
15. EXISTING EMERGENCY GENERATOR
16. EXISTING ELECTRICAL TRANSFORMER
17. PARKING LOT LIGHT POLE
18. 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'  
 Scale: 1" = 60'



1250 N. FONTAINE TRAIL, WALLEE LAKE, MI 48390  
 WESTHEMER HOUSTON, TX 77040  
 800 N. BROADWAY, OKLAHOMA CITY, OK 73114  
 822 EMBURY ROAD, ST. LOUIS, MO 63141  
 60 PLATO ESTATE DRIVE, ST. PAUL, MN 55107  
 ONE WEST THIRD STREET, TULSA, OK 74103



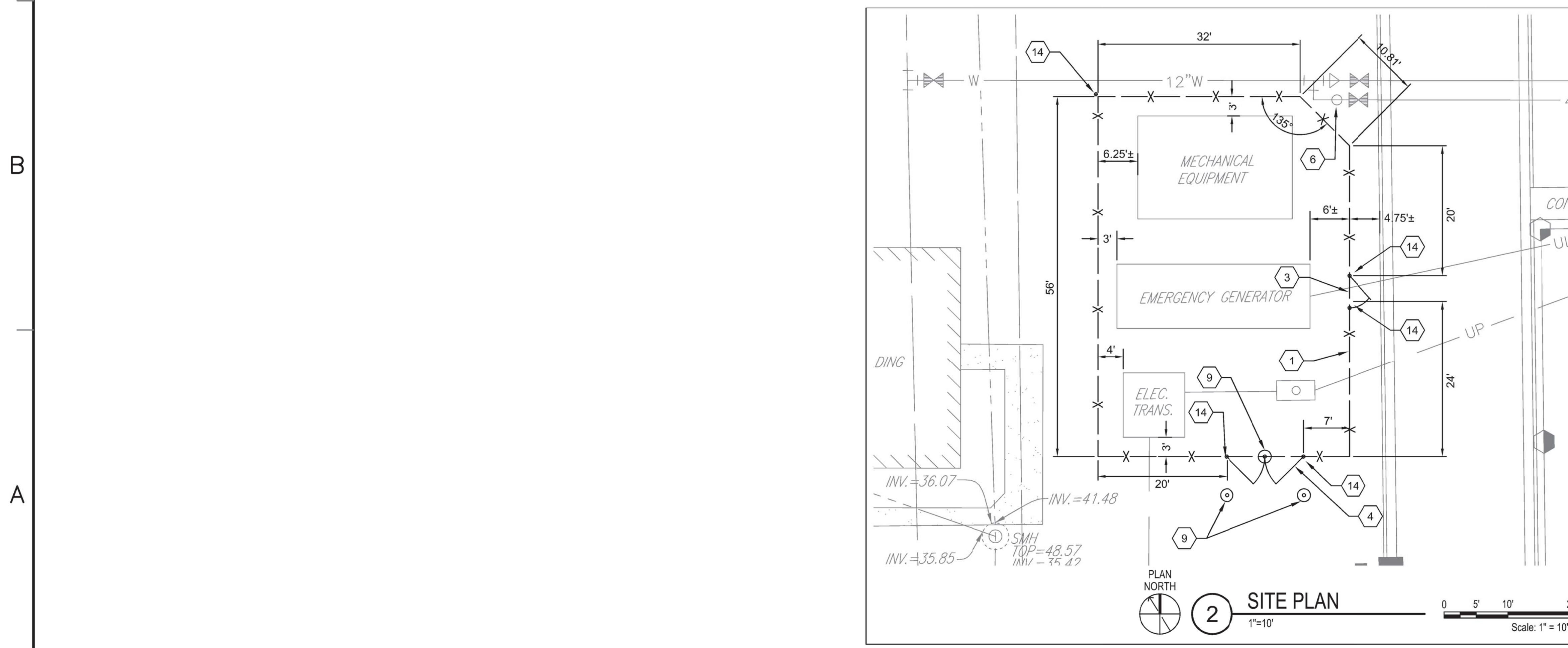
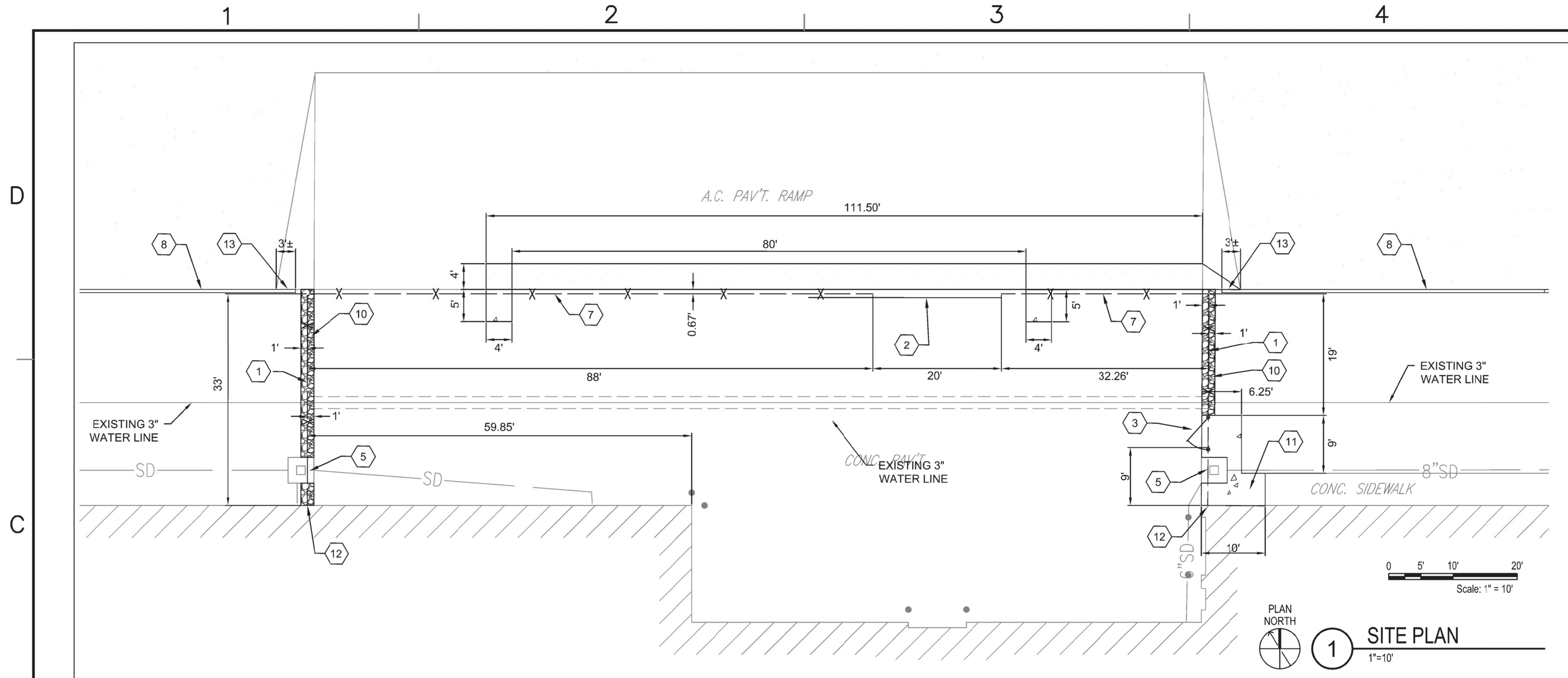
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DATE	DESCRIPTION	APP'D

SUBMITAL PHASE  
 100% FINAL BID SET

SUBMITAL DATE: 16/02/2018  
 DES: GWS DRW: GWS CHK: MJS

STATE OF HAWAII	DEPARTMENT OF DEFENSE
FACILITY MANAGEMENT OFFICE	FACILITIES DESIGN & PROJECTS BRANCH
91-1387 SARATOGA AVENUE	KALAELOA, KAPOLEI, OAHU, HAWAII
BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS	
CIVIL OVERALL SITE PLAN	
SCALE:	AS NOTED
STATE JOB NO.	CA-1512-C
FEDERAL PROJECT NO.	15150023
SHEET	OF
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.
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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



1250 N. FONTAINE TRAIL, WALLED LAKE, MI 48390  
 WESTMEER HOUSTON, TX 77060  
 800 N. BROADWAY, OKLAHOMA CITY, OK 73114  
 622 EMBURY ROAD, ST. LOUIS, MO 63141  
 60 PLATTSVILLE AVENUE, ST. PAUL, MN 55107  
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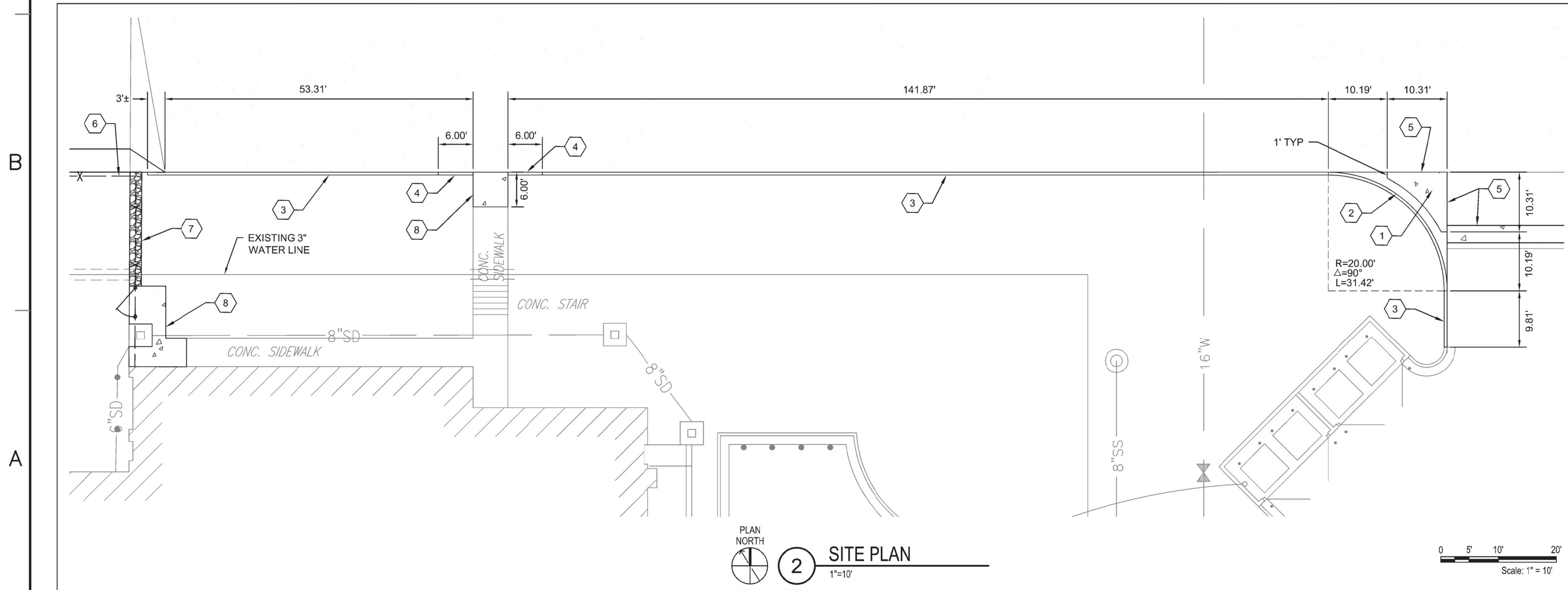
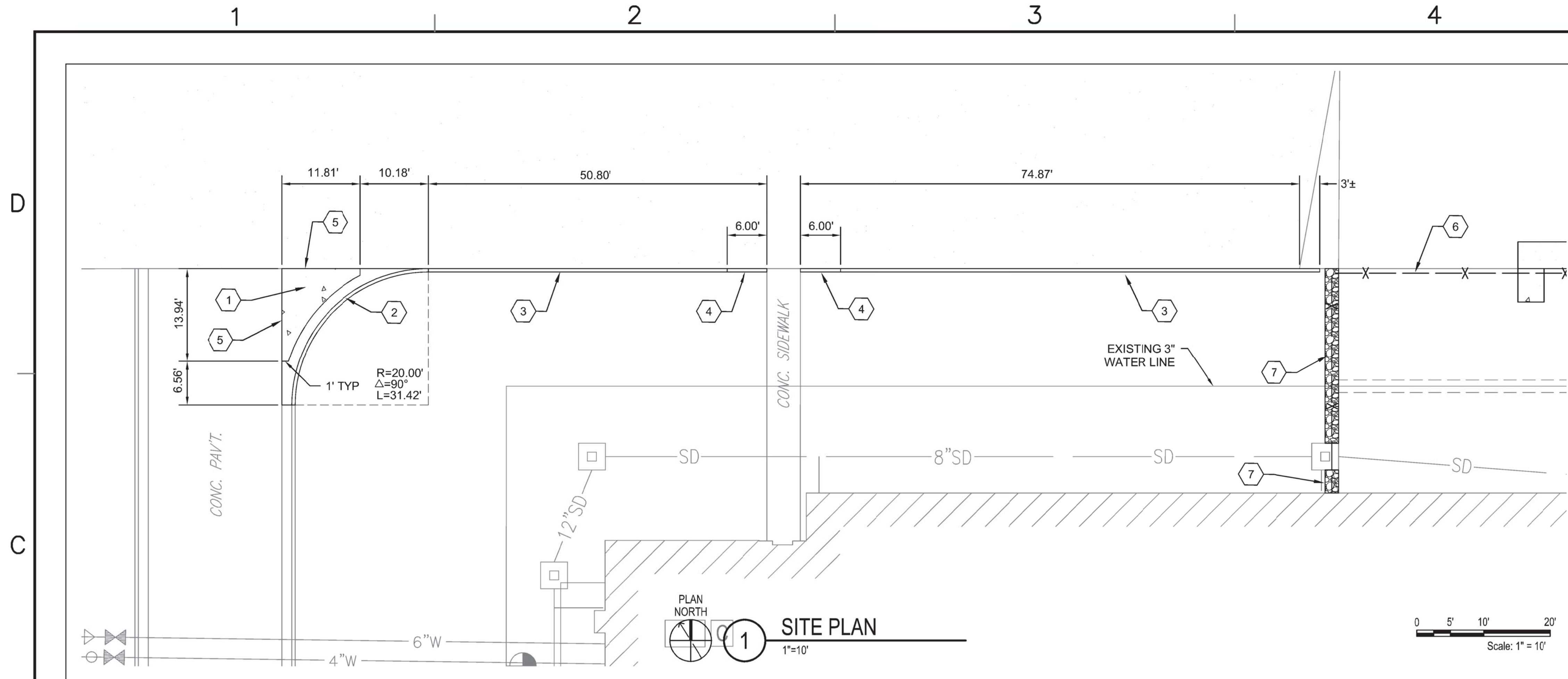
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DEPARTMENT OF DEFENSE  
 FACILITIES DESIGN & PROJECTS BRANCH  
 KALAELOA, KAPOLEI, OAHU, HAWAII  
 HAWAII ARMY NATIONAL GUARD  
 FACILITY MANAGEMENT OFFICE  
 91-1387 SARATOGA AVENUE  
 BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS  
 CIVIL  
 SITE PLAN

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



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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



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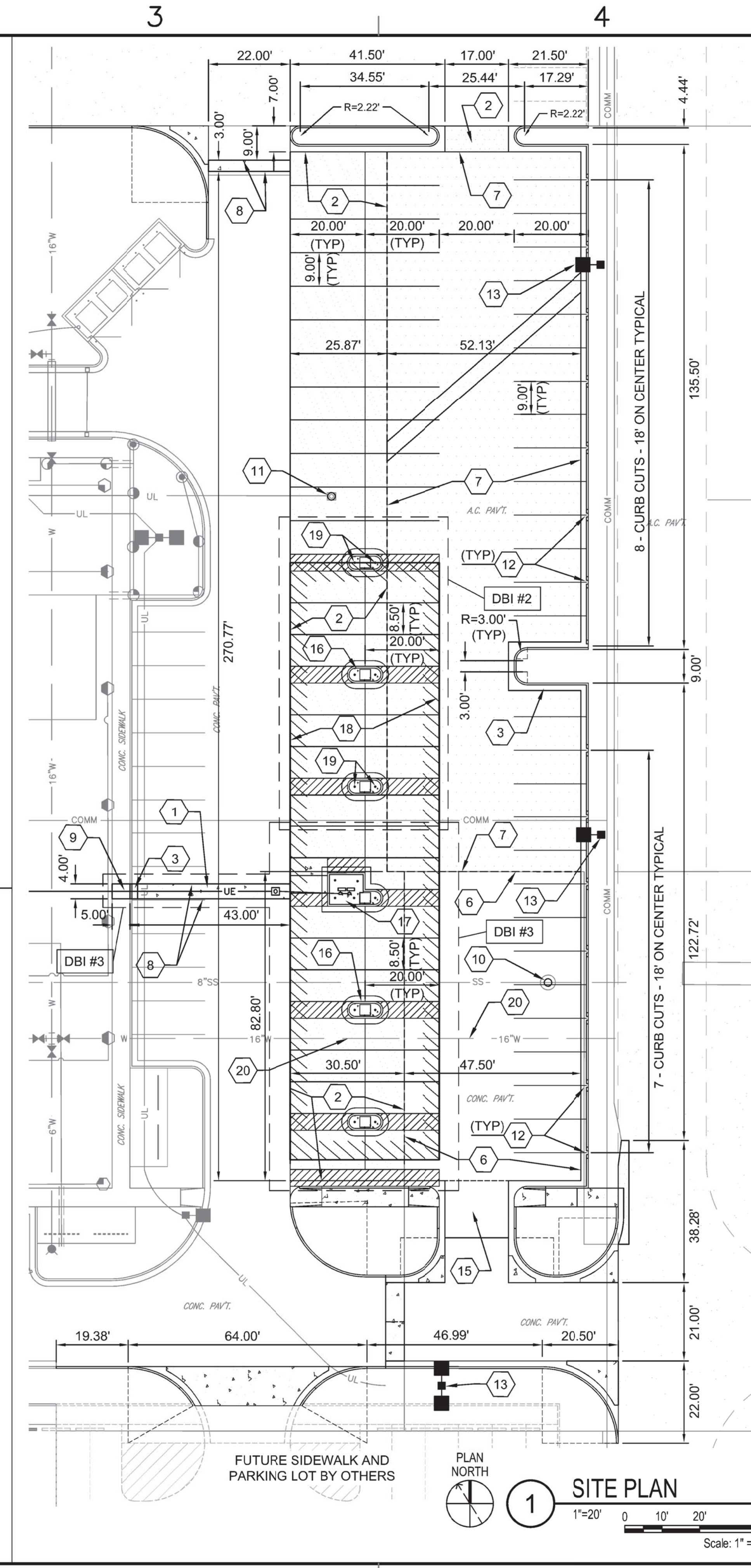
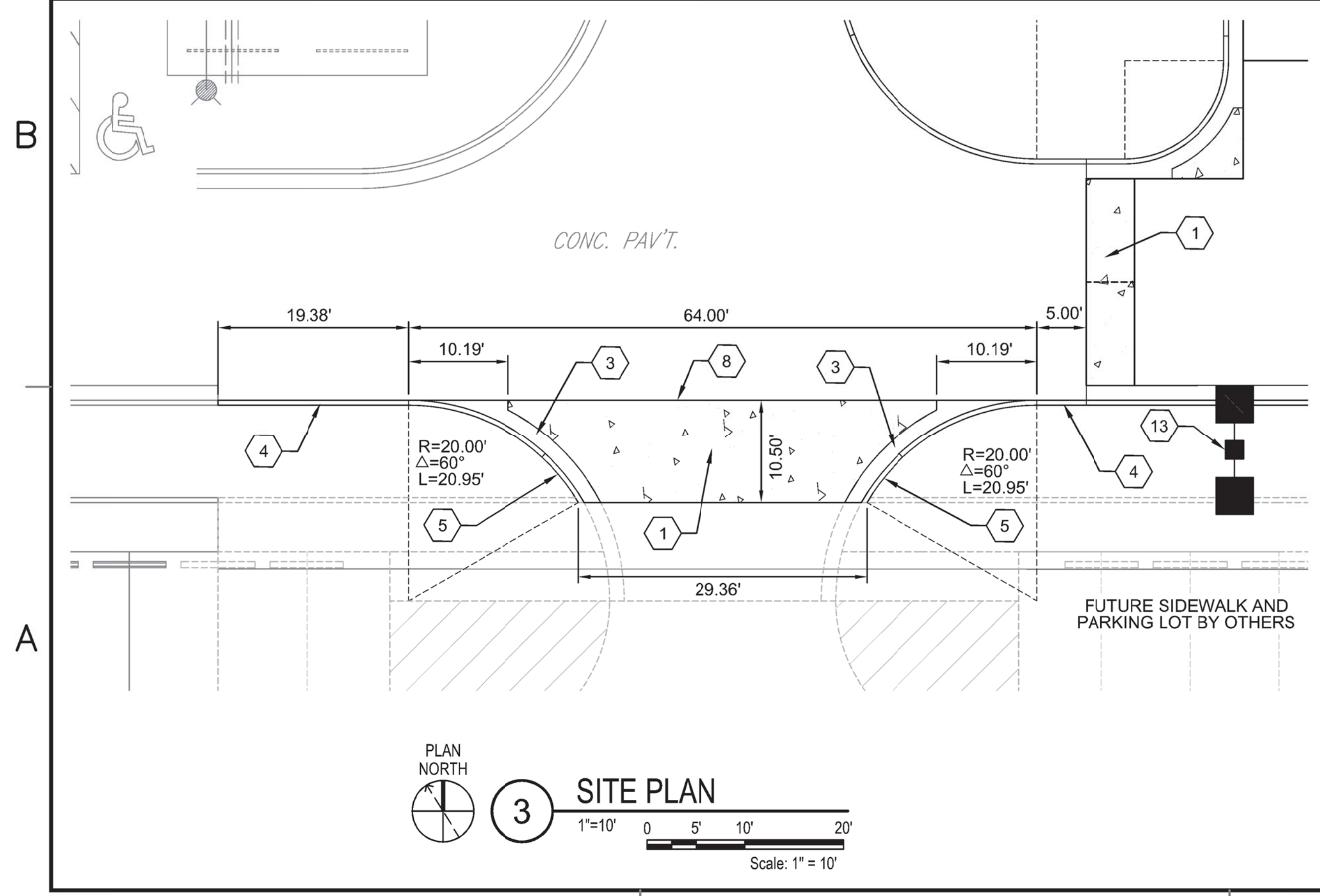
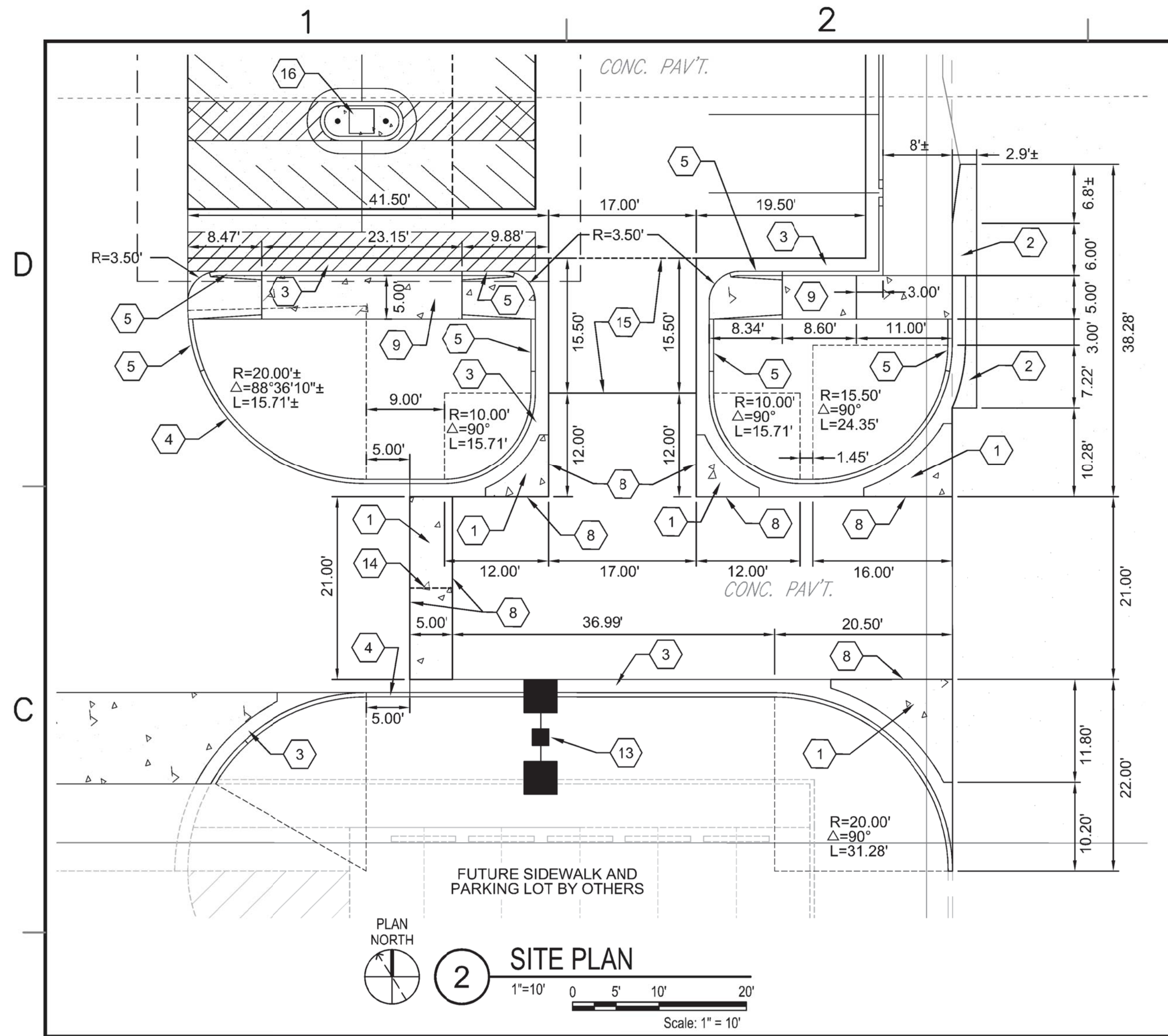
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 FACILITY MANAGEMENT OFFICE  
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 KALAHELOA, KAPOLEI, OAHU, HAWAII  
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 AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS  
 CIVIL  
 SITE PLAN

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**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.
- PRIOR TO THE INSTALLATION OF THE TACK COAT AND NEW 2" ASPHALT OVERLAY, THE CONTRACTOR IS TO CLEAR THE PAVEMENT SURFACES OF ALL DEBRIS, SEAL PAVEMENT JOINTS, AND PAVEMENT CRACKS.
- CONTRACTOR IS TO NOTIFY THE GOVERNMENTS REPRESENTATIVE OF ANY EXISTING PAVEMENT AREAS THAT ARE IN DISTRESS OR MAY REQUIRE REPLACEMENT.
- COORDINATE ALL SITE DEMOLITION WITH PROPOSED SITE IMPROVEMENTS, NEW UNDERGROUND UTILITIES.
- CONTRACTOR TO COORDINATE ALL NEW WORK WITH EXISTING EDGE OF PAVEMENTS.
- DIMENSIONS SHOWN ARE TO THE BACK OF CURB.
- CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF THE EXISTING 16" WATER MAIN PRIOR TO CONSTRUCTION OF COLUMN FOOTING.

**KEYED NOTES:**

- CONCRETE PAVEMENT SEE DETAIL 1, C.500
- ASPHALT PAVEMENT SEE DETAIL 3, C.500
- 6" VERTICAL CONCRETE CURB AND GUTTER SEE DETAIL 6, C.500
- 6" VERTICAL CONCRETE CURB SEE DETAIL 5, C.500
- CONCRETE CURB TRANSITION SEE DETAIL 4, C.500
- 2" ASPHALT OVERLAY ON EXISTING CONCRETE PAVEMENT SEE DETAIL 7, C.500
- 2" ASPHALT OVERLAY ON EXISTING ASPHALT PAVEMENT SEE DETAIL 7, C.500
- DOWEL NEW CONCRETE PAVEMENT SEE DETAIL 2, C.500
- CONCRETE SIDEWALK SEE DETAIL 2, C.501
- EXISTING SANITARY SEWER MANHOLE, ADJUST LID AND FRAME TO GRADE
- EXISTING ELECTRICAL HANDHOLE, ADJUST TO GRADE
- CURB CUT FOR DRAINAGE SEE DETAIL 8, C.500
- PARKING LOT LIGHT POLE, SEE ELECTRICAL DRAWING FOR DETAILS
- COORDINATE NEW PAVEMENT JOINT WITH THE LOCATION OF THE EXISTING JOINTS IN THE ADJACENT PAVEMENT AREAS
- AREA OF TRANSITION FOR 2" ASPHALT OVERLAY
- CURBED ISLAND
- CURBED ELECTRICAL EQUIPMENT PAD
- SOLAR VOLTAIC STRUCTURE
- BOLLARD (TYP) SEE DETAIL 7, C.503
- EXISTING 16" WATER MAIN, SEE GENERAL NOTE 8 THIS SHEET

**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.**

1250 N. FONTAINE TRAIL, WALLED LAKE, WA 98096  
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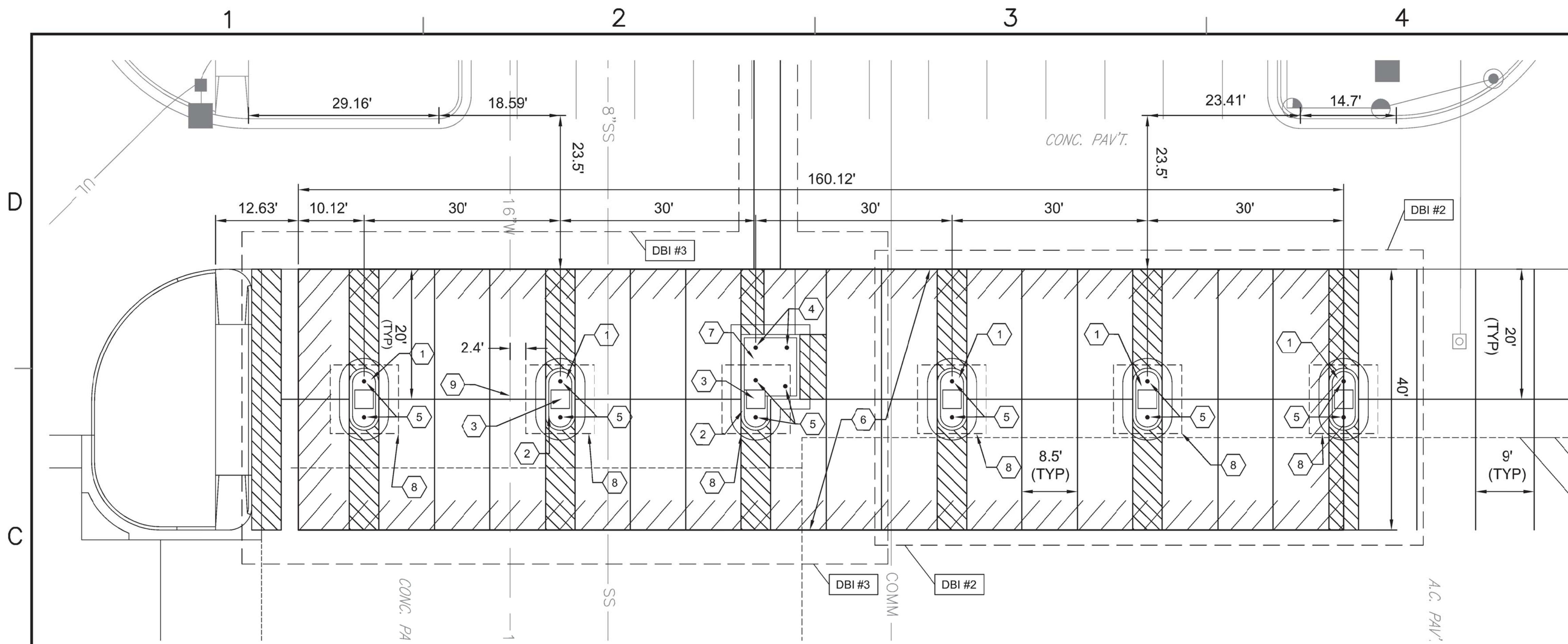
DATE	DESCRIPTION	BY	APPR.

SUBMITAL PHASE: 100% FINAL BID SET  
 SUBMITAL DATE: 16/02/2018  
 DES: GWS DRW: GWS CHK: MJS

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

HAWAII ARMY NATIONAL GUARD  
 FACILITY MANAGEMENT OFFICE  
 91-1387 SARATOGA AVENUE  
 BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS  
 CIVIL SITE PLAN

SCALE: AS NOTED  
 STATE JOB NO. CA-1512-C  
 FEDERAL PROJECT NO. 15150023  
 SHEET OF  
**C.104**



**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.



1250 N. FONTAINE TRAIL, WALLED LAKE, MI 48390  
 WESTHEMER HOUSTON, TX 77602  
 800 N. BROADWAY, OKLAHOMA CITY, OK 73114  
 822 EMBURY ROAD, ST. LOUIS, MO 63141  
 60 PLATO SQUARE, CHARLESTON, SC 29407  
 ONE WEST THIRD STREET, TULSA, OK 74103



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 EXPIRATION DATE OF LICENSE: 4/30/2018

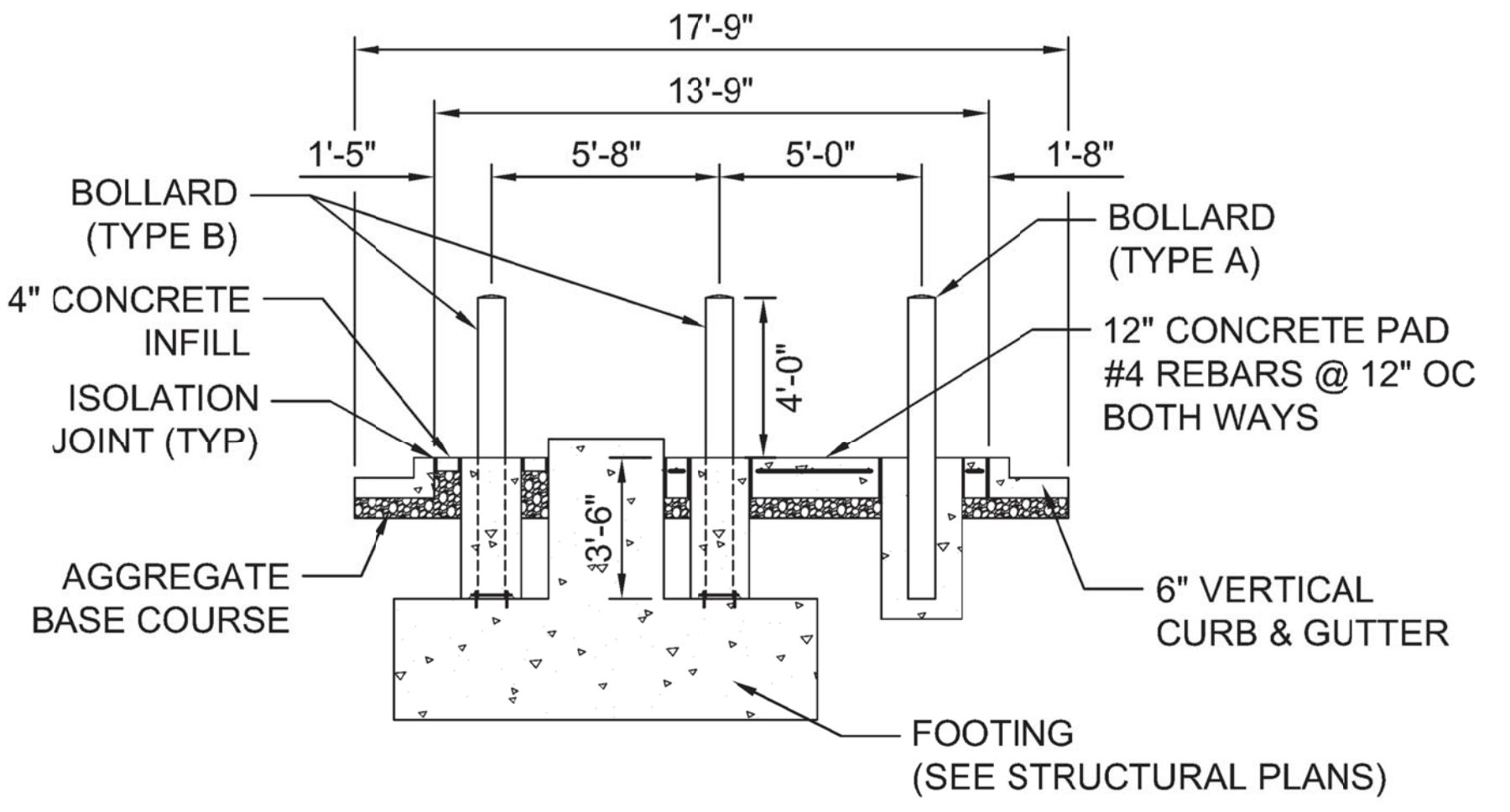
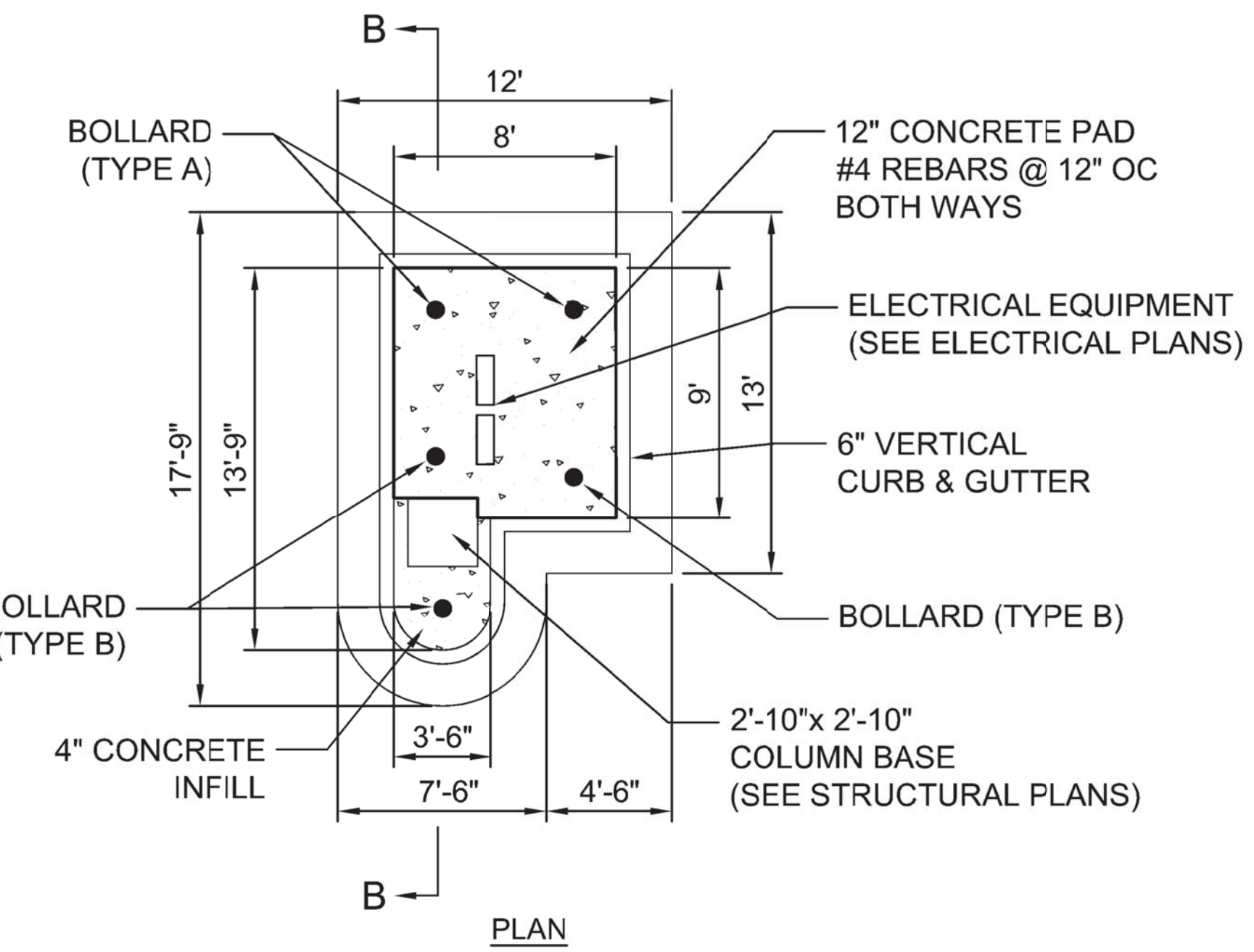
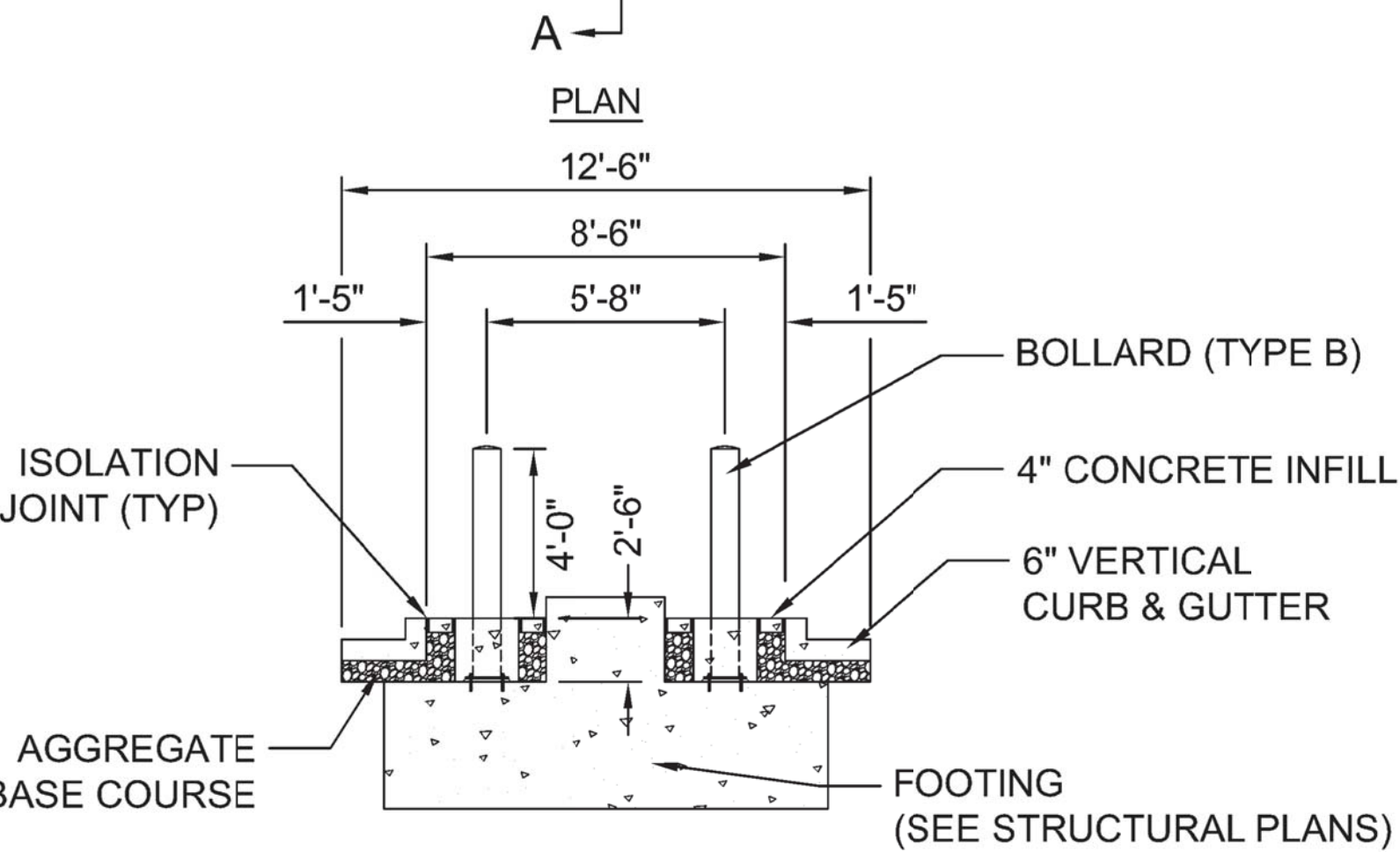
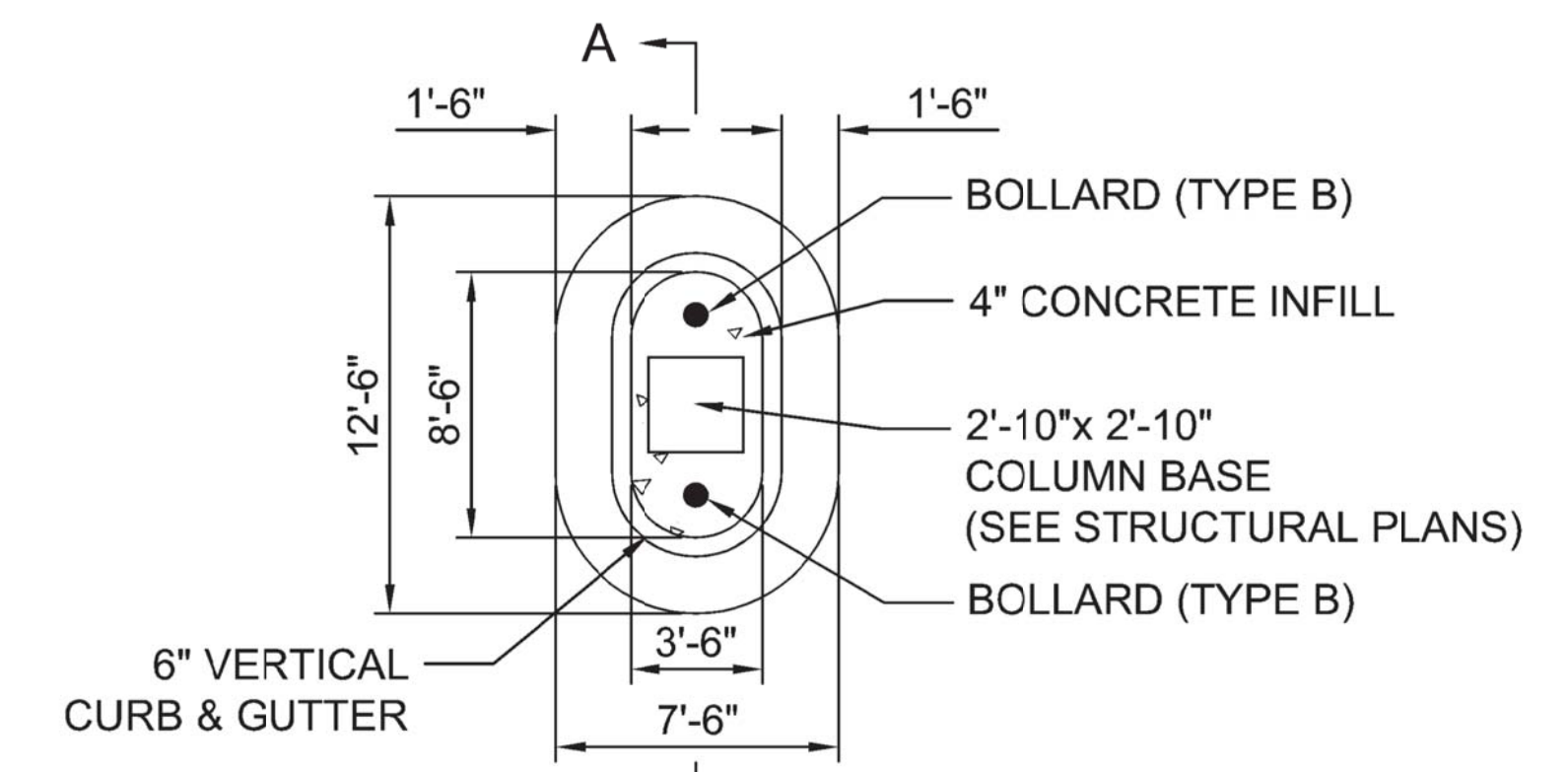
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100% FINAL BID SET

SUBMITAL DATE: 16/02/2018  
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DEPARTMENT OF DEFENSE  
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 CIVIL SITE PLAN

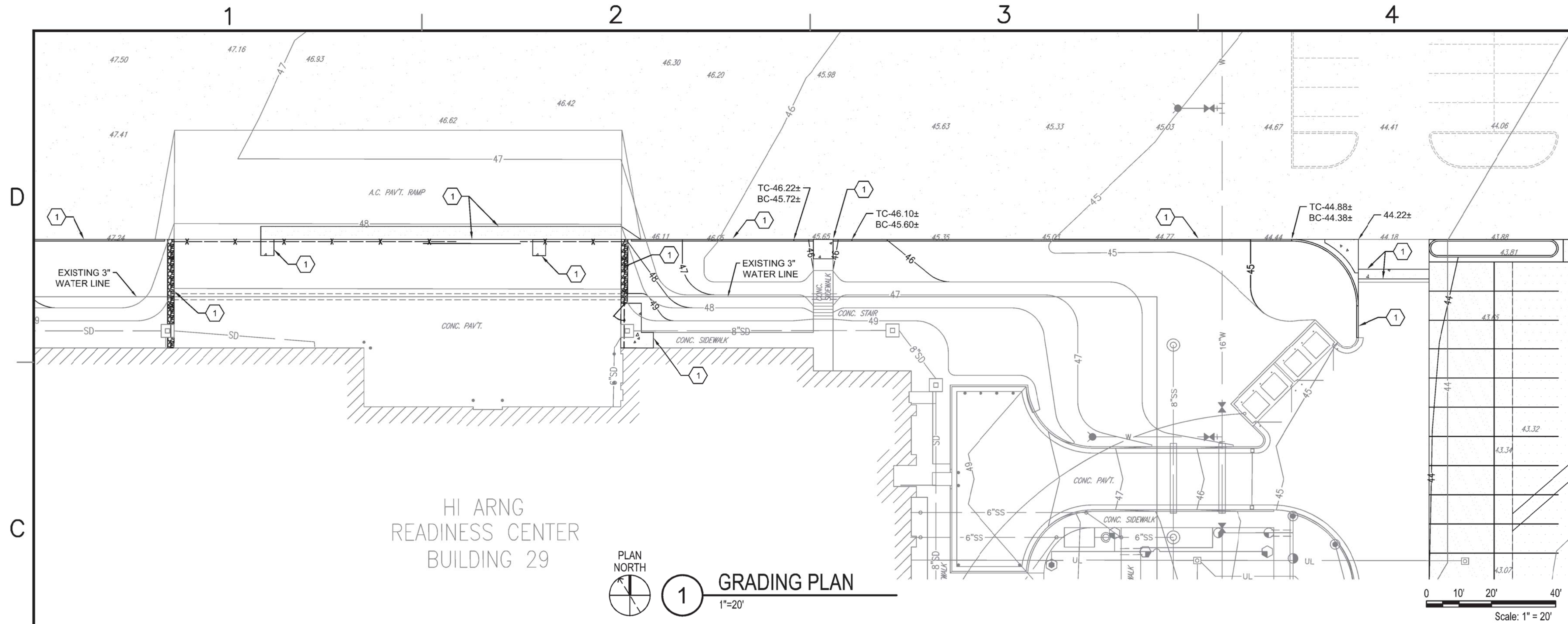
SCALE: AS NOTED  
 STATE JOB NO. CA-1512-C  
 FEDERAL PROJECT NO. 15150023  
 SHEET OF  
**C.105**



**3 CONCRETE ELECTRICAL EQUIPMENT PAD**  
 SCALE: NOT TO SCALE

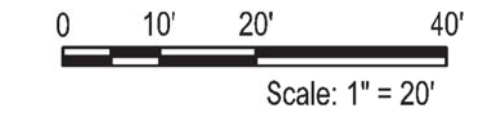
**2 CONCRETE ISLAND**  
 SCALE: NOT TO SCALE





HI ARNG  
READINESS CENTER  
BUILDING 29

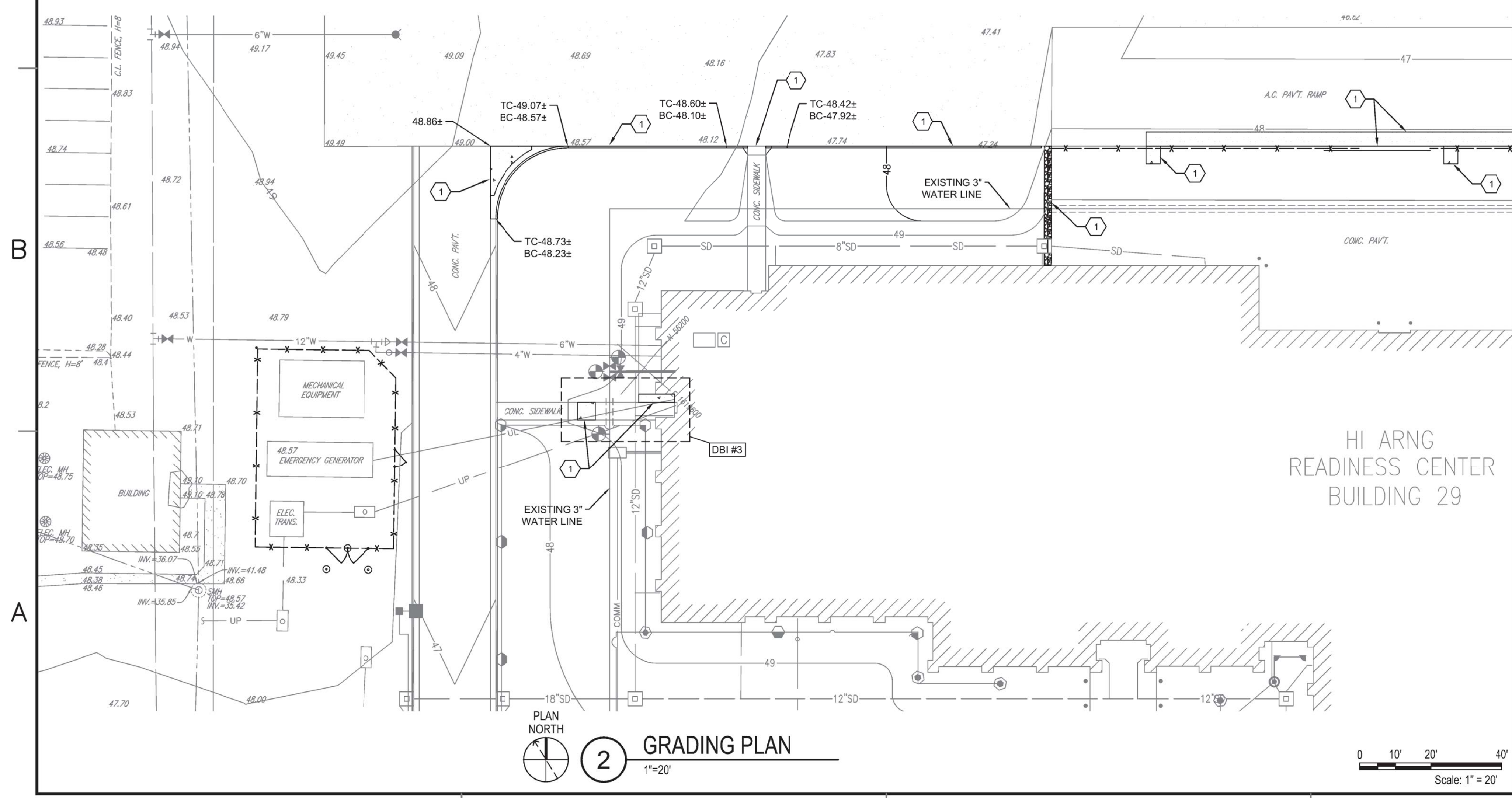
PLAN NORTH  
**1** GRADING PLAN  
1"=20'



- 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 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.
  - MATCH EXISTING GRADES AND SLOPES OF ADJOINING PAVEMENTS, CURBING, GUTTERS AND SIDEWALKS. SET TOP OF NEW CURBING 6" ABOVE ADJOINING EXISTING PAVEMENT ELEVATIONS.

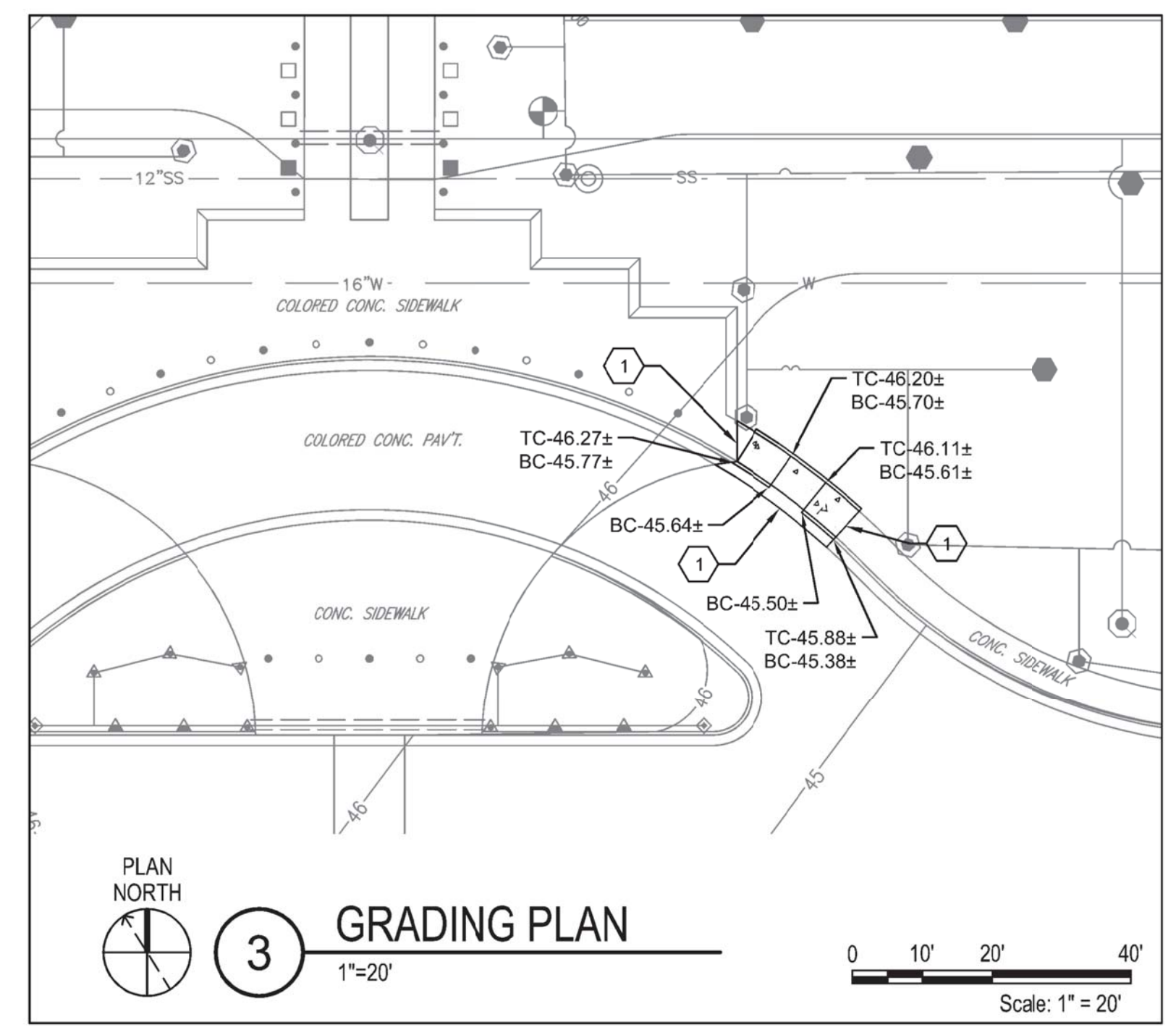
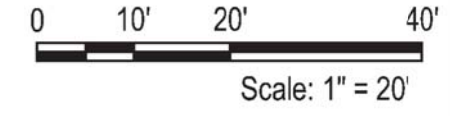
- KEYED NOTES:**
- MATCH EXISTING GRADE, SEE SHEET NOTE 3 THIS SHEET

- 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.

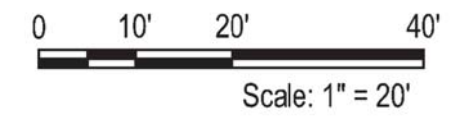


HI ARNG  
READINESS CENTER  
BUILDING 29

PLAN NORTH  
**2** GRADING PLAN  
1"=20'



PLAN NORTH  
**3** GRADING PLAN  
1"=20'



1250 N. FONTAINE TRAIL, WALLED LAKE, WA 98096  
WESTHEMER HOUSTON, TX 77602  
800 N. BROADWAY, OKLAHOMA CITY, OK 73114  
822 EMBURY ROAD, ST. LOUIS, MO 63141  
60 FLA TO EGGLESHAW ST, PALM, FL 33410  
ONE WEST THIRD STREET, TULSA, OK 74107



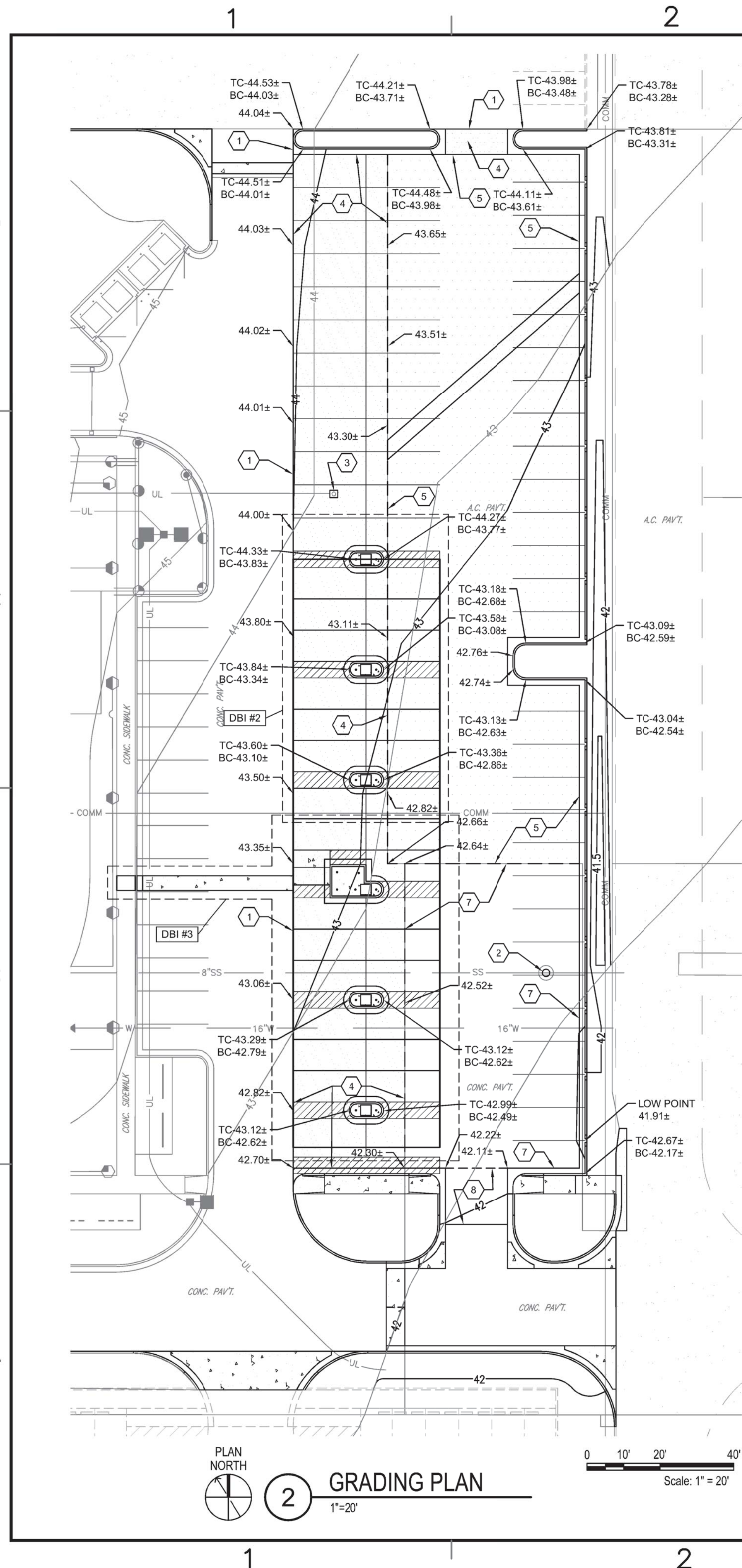
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DATE	DESCRIPTION	BY	APPR

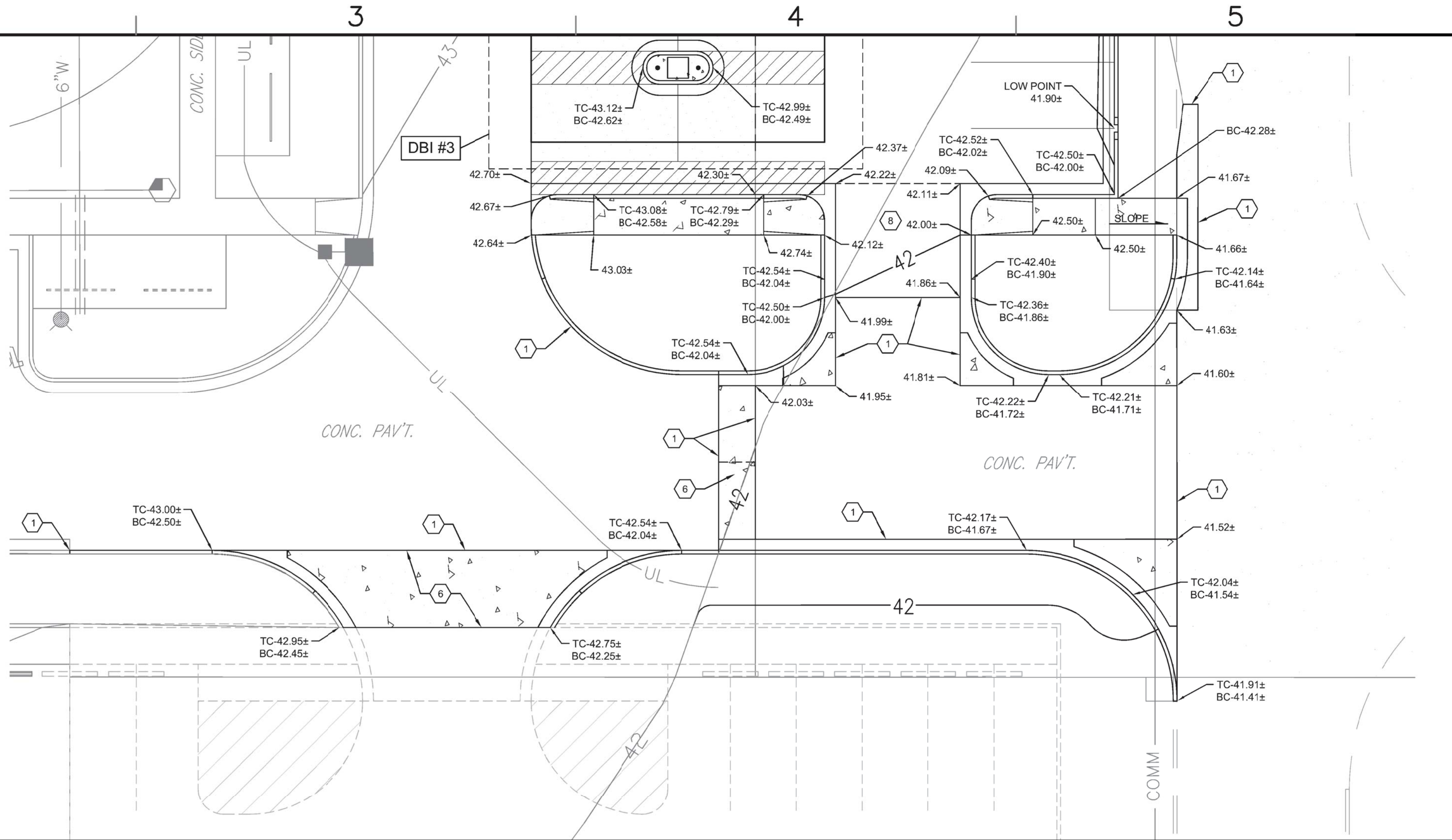
100% FINAL BID SET  
SUBMITAL DATE: 16/02/2018  
DES: GWS DRW: GWS CHK: MJS

DEPARTMENT OF DEFENSE  
HAWAII ARMY NATIONAL GUARD  
FACILITIES DESIGN & PROJECTS BRANCH  
KALAELOA, KAPOLEI, OAHU, HAWAII  
STATE OF HAWAII  
FACILITY MANAGEMENT OFFICE  
91-1387 SARATOGA AVENUE  
BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS  
CIVIL GRADING PLAN

SCALE: AS NOTED  
STATE JOB NO. CA-1512-C  
FEDERAL PROJECT NO. 15150023  
SHEET OF  
**C.300**



**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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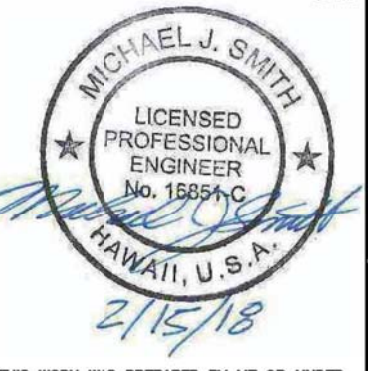
**SHEET NOTES:**

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.



**BENHAM**  
a harsco company

1250 N. FONTAINE TRAIL, WALLED LAKE, MI 48390  
WESTHEIMER HOUSTON, TX 77602  
800 N. BROADWAY, OKLAHOMA CITY, OK 73114  
622 EMBERSON ROAD, ST. LOUIS, MO 63141  
10 PLATTO ESKELBARGER ST. PAUL, MN 55107  
ONE WEST THIRD STREET, TULSA, OK 74103



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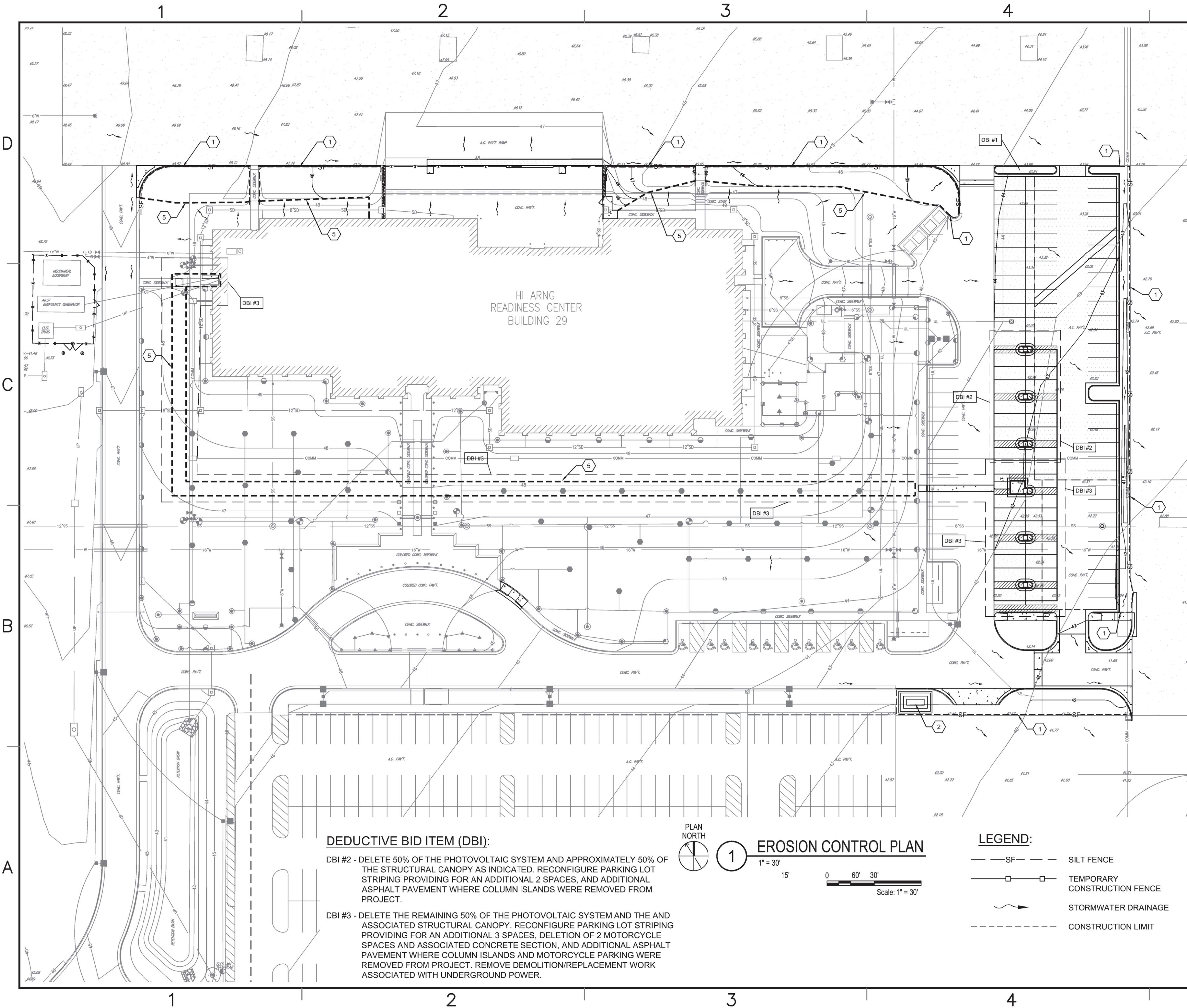
DATE	DESCRIPTION	BY	APPR.

SUBMITAL PHASE: 100% FINAL BID SET  
SUBMITAL DATE: 16/02/2018

DES: GWS DRW: GWS CHK: MJS

DEPARTMENT OF DEFENSE  
HAWAII ARMY NATIONAL GUARD  
FACILITIES DESIGN & PROJECTS BRANCH  
KALAELOA, KAPOLEI, OAHU, HAWAII  
STATE OF HAWAII  
FACILITY MANAGEMENT OFFICE  
91-1387 SARATOGA AVENUE  
**BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS**  
CIVIL GRADING PLAN

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



**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.
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**BEST MANAGEMENT PRACTICES:**

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

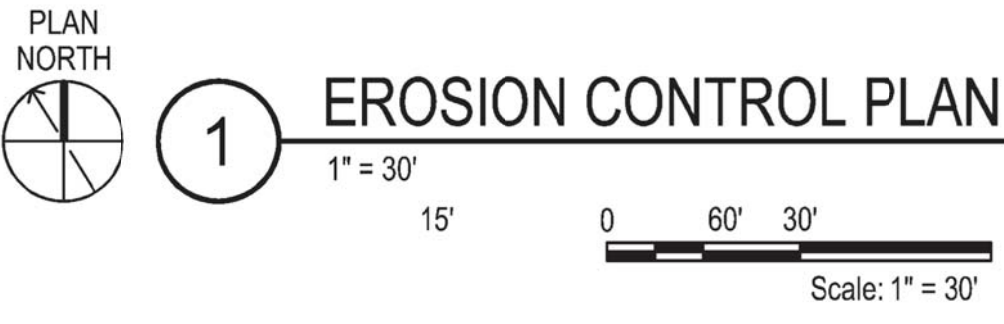
- THE CONTRACTOR SHALL COMPLY WITH ALL CURRENT ORDINANCES AND REGULATIONS FOR EROSION AND SEDIMENT CONTROL FOR THE CITY AND COUNTY OF HONOLULU (HAR 11-55, APPENDIX C, SECTION 5.1 EROSION AND SEDIMENT CONTROL REQUIREMENTS).
- THE CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL CONSTRUCTION ACTIVITIES WITH THE GOVERNMENTS REPRESENTATIVE.
- 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.
- CONTRACTOR IS TO INSTALL EROSION CONTROL DEVICES PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
- 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.
- THE CONTRACTOR SHALL INSTALL SILT FENCE AND OR SOCK BARRIERS ALONG THE PERIMETER OF THE WORK AREA AS REQUIRED.
- IN THE OCCASION THAT WIND EROSION BECOMES EVIDENT, THE CONTRACTOR SHALL SPRINKLE THE CONSTRUCTION SITE WITH WATER TO CONTROL DUST WITHIN WORK AREA.
- EXPOSED/DISTURBED AREAS SHALL BE GRASSED, LANDSCAPED, OR STABILIZED AFTER GRADING WORK IS COMPLETED AND NO FURTHER DISTURBANCE IS REQUIRED.
- 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:** ○

- SILT FENCE, SEE DETAIL 5 ON SHEET C.503
- 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)
- CONSTRUCTION STAGING AREA (ACTUAL SIZE AND LOCATION TO BE COORDINATED WITH THE GOVERNMENTS REPRESENTATIVE)
- HAZARDOUS MATERIAL STORAGE (ACTUAL SIZE AND LOCATION TO BE COORDINATED WITH THE GOVERNMENTS REPRESENTATIVE)
- CONSTRUCTION LIMITS

**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



1250 N. FONTAINE TRAIL, WALLEY LAKE, MO 64596  
 WESTHEMER HOUSTON, TX 77062  
 800 N. BROADWAY, OKLAHOMA CITY, OK 73104  
 622 E. MASON ROAD, ST. LOUIS, MO 63141  
 620 PLAZA, BOULEVARD, ST. PAUL, MN 55107  
 ONE WEST THIRD STREET, TULSA, OK 74107



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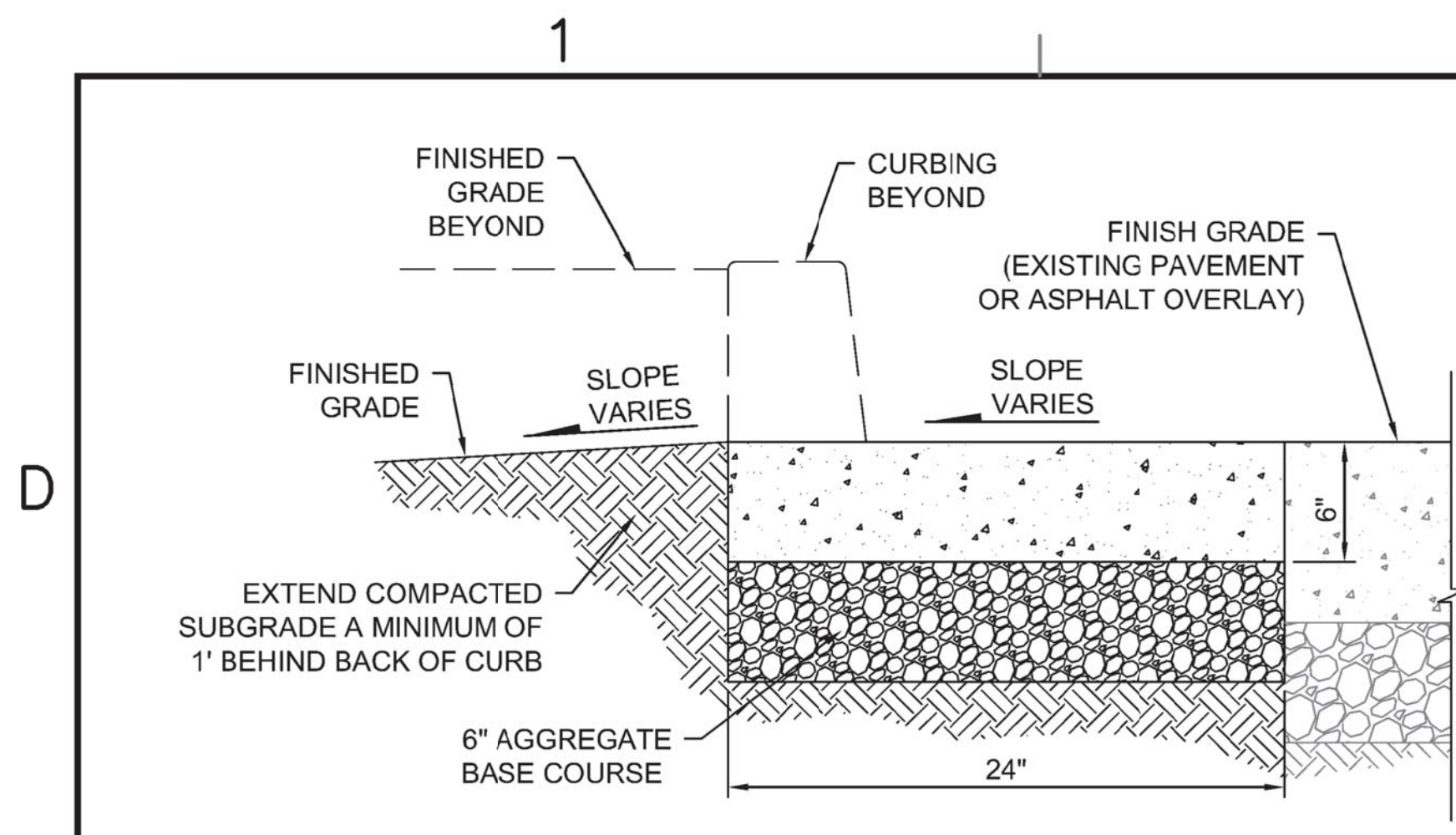
100% FINAL BID SET

SUBMITAL DATE: 16/02/2018  
 DES: GWS DRAW: GWS CHK: MJS

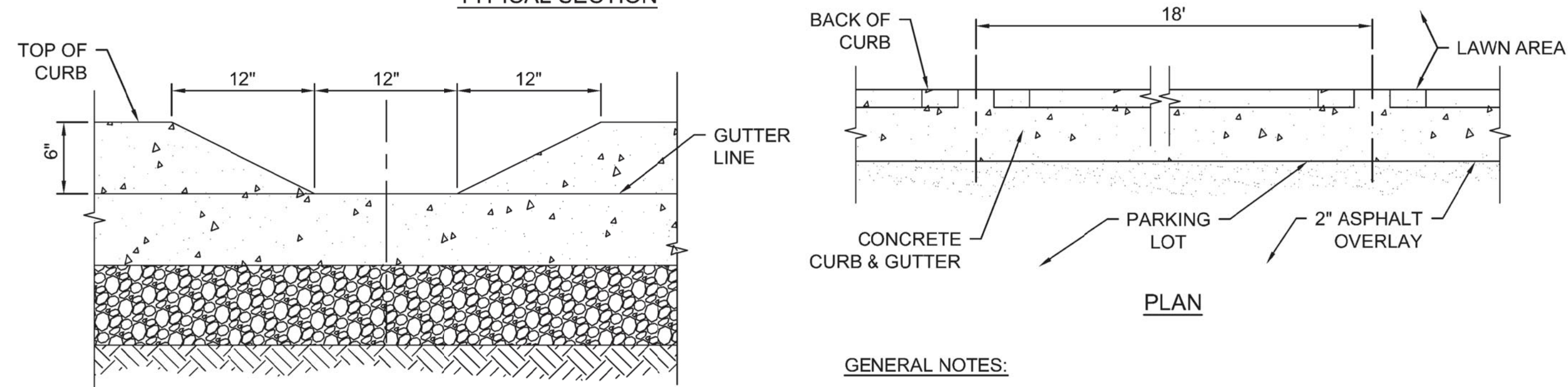
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 CIVIL EROSION CONTROL PLAN

SCALE: AS NOTED  
 STATE JOB NO. CA-1512-C  
 FEDERAL PROJECT NO. 15150023  
 SHEET OF  
**C.400**



TYPICAL SECTION



PLAN

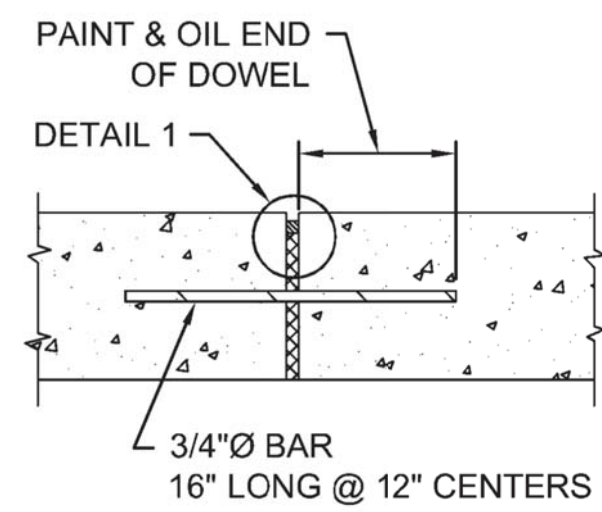
GENERAL NOTES:

- 1. CURB CUTS USED ON THE EAST SIDE OF THE NEW PARKING LOT.
- 2. CURB CUTS ARE SPACED AT 18\"/>

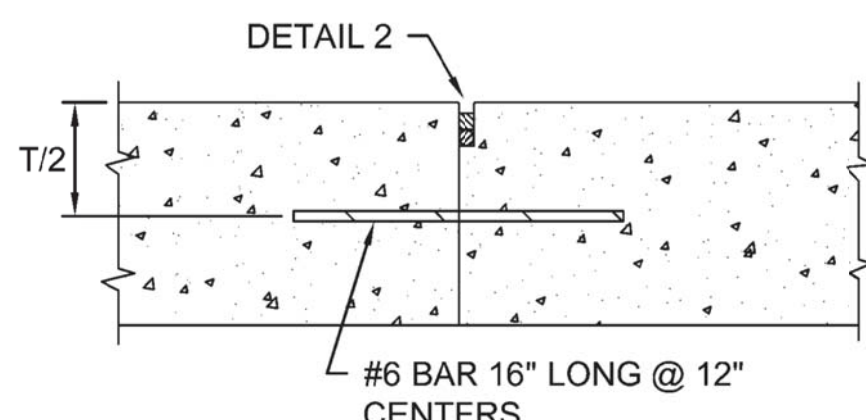
FRONT ELEVATION

8 CURB CUT - 6\"/>

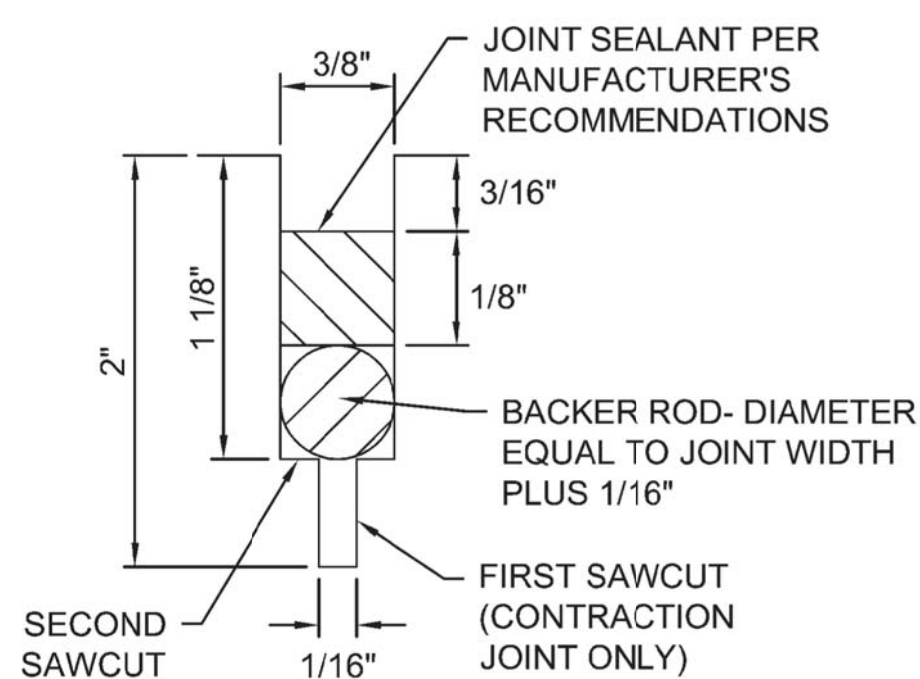
C.500 SCALE: NOT TO SCALE



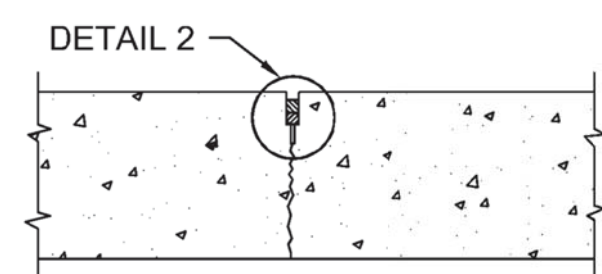
EXPANSION JOINT (EJ)



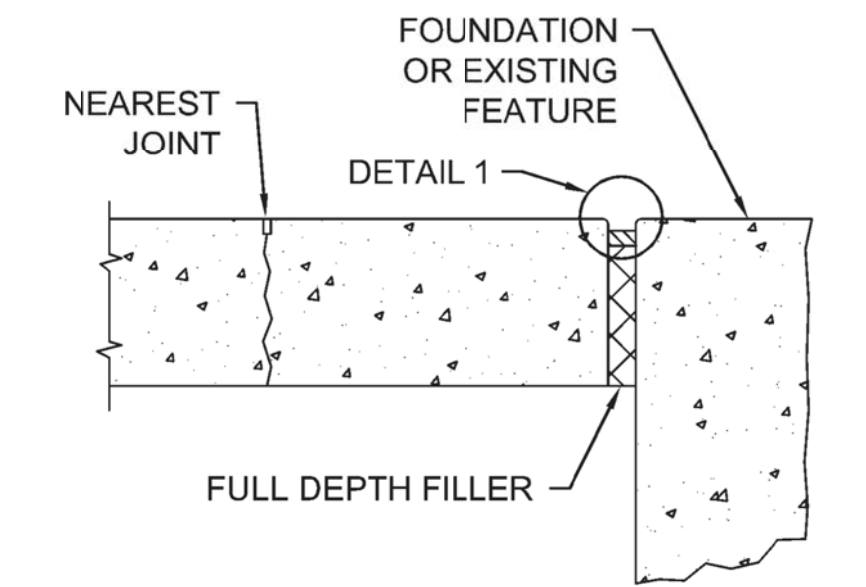
TIED CONTRACTION JOINT



DETAIL 2



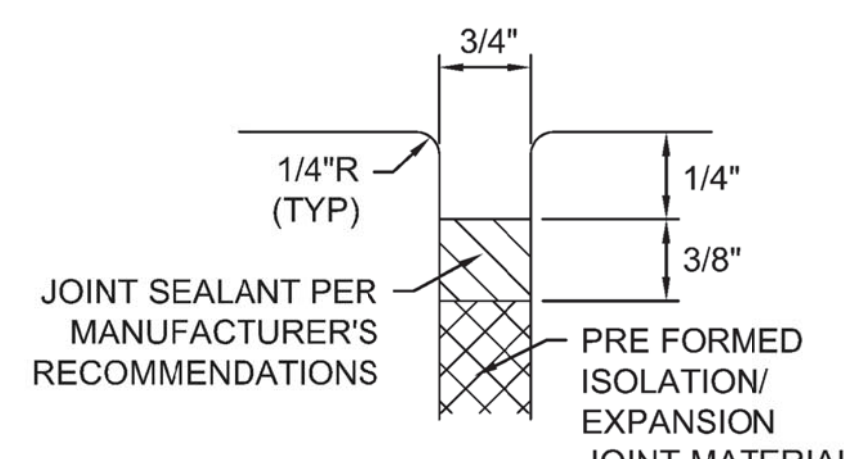
CONTRACTION JOINT (CJ)



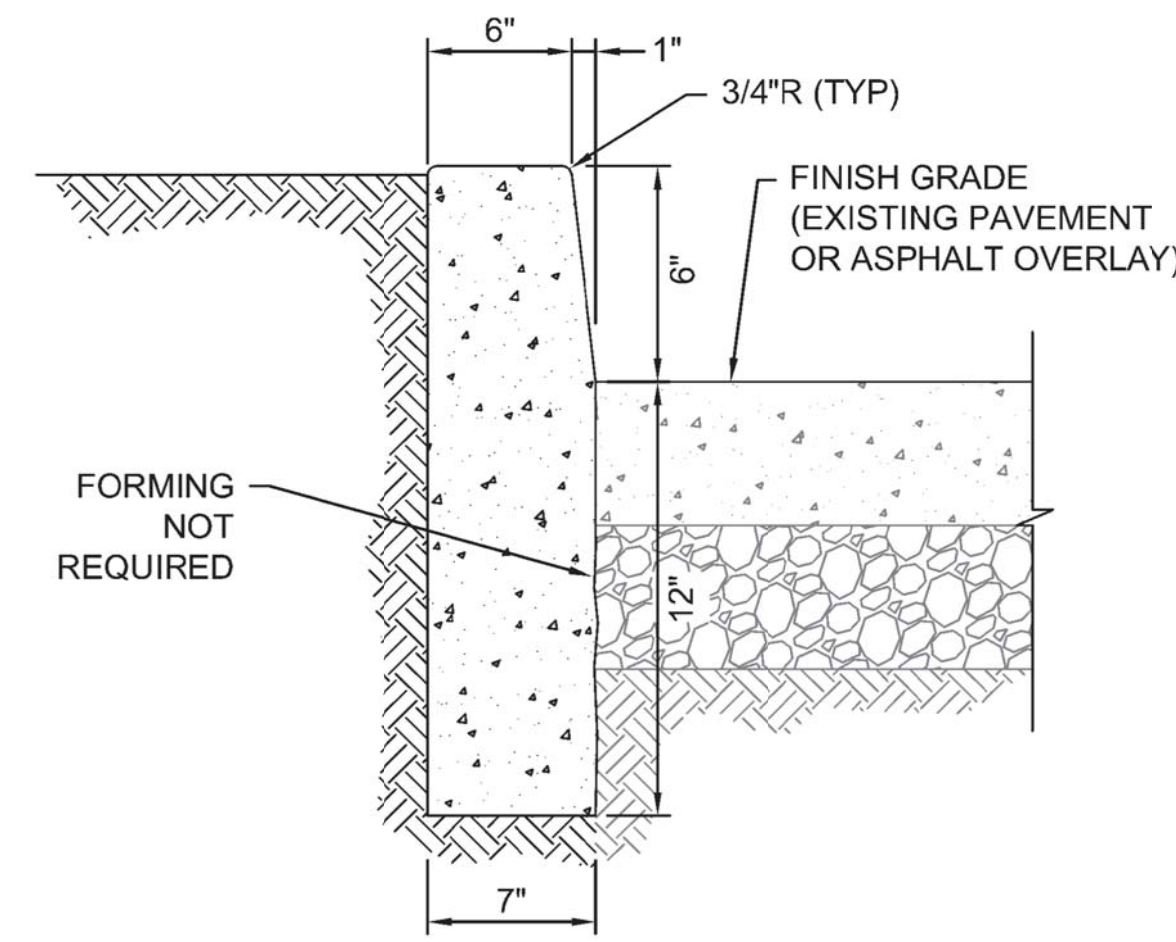
ISOLATION JOINT (IJ)

9 PAVEMENT JOINT DETAILS

C.500 SCALE: NOT TO SCALE



DETAIL 1

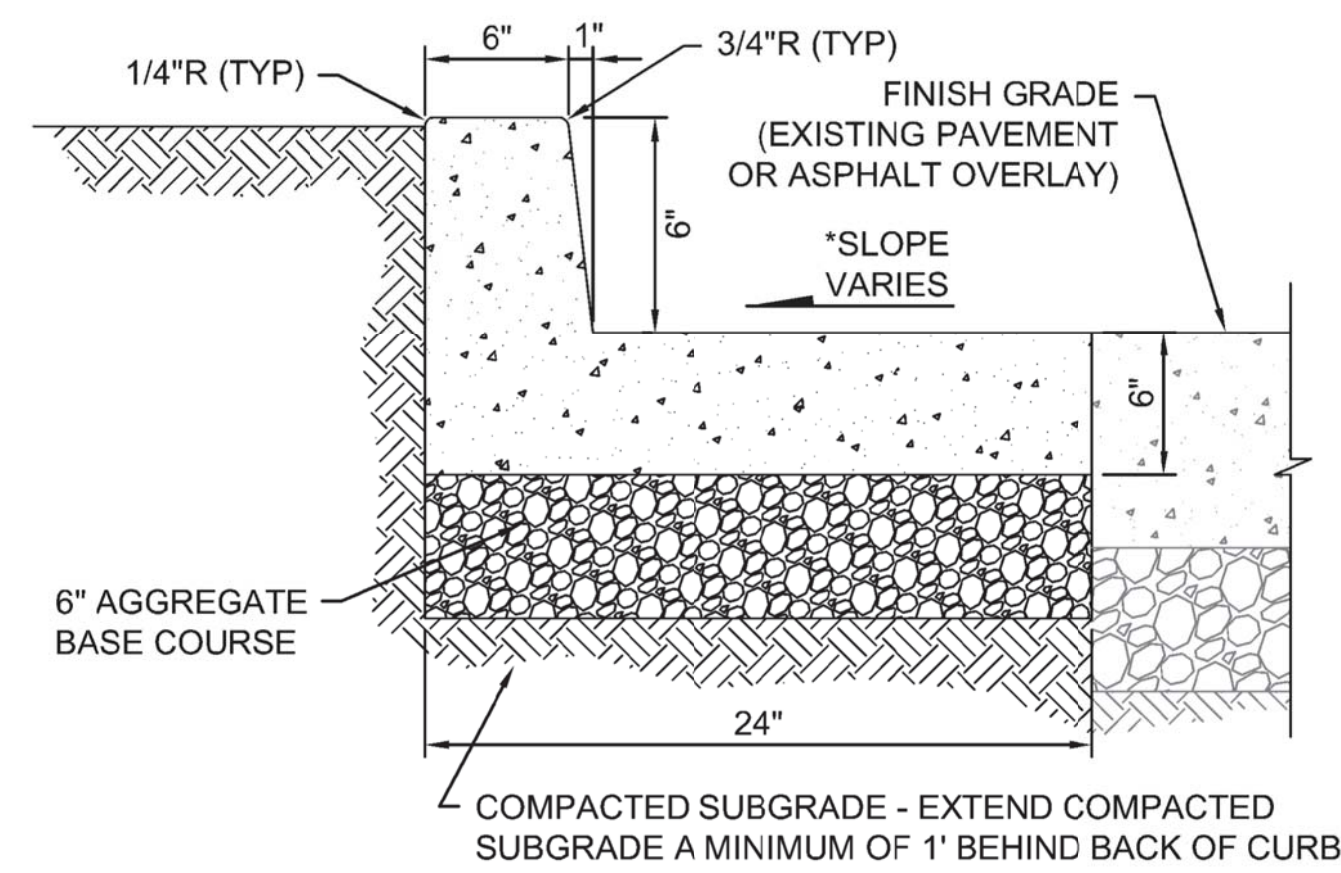


GENERAL NOTES:

- 1. MATCH EXISTING CURB AND GUTTER SECTION.
- 2. VERTICAL CURB SHALL HAVE EXPANSION JOINTS SPACED AT 100 FEET C/C MAX. AND AT RADIUS POINTS OF ALL CURVES.
- 3. CONSTRUCTION OR CONTRACTION JOINTS SHALL BE SPACED AT FROM 5 FEET TO 15 FEET C/C BETWEEN EXPANSION JOINTS.

5 6\"/>

C.500 SCALE: NOT TO SCALE

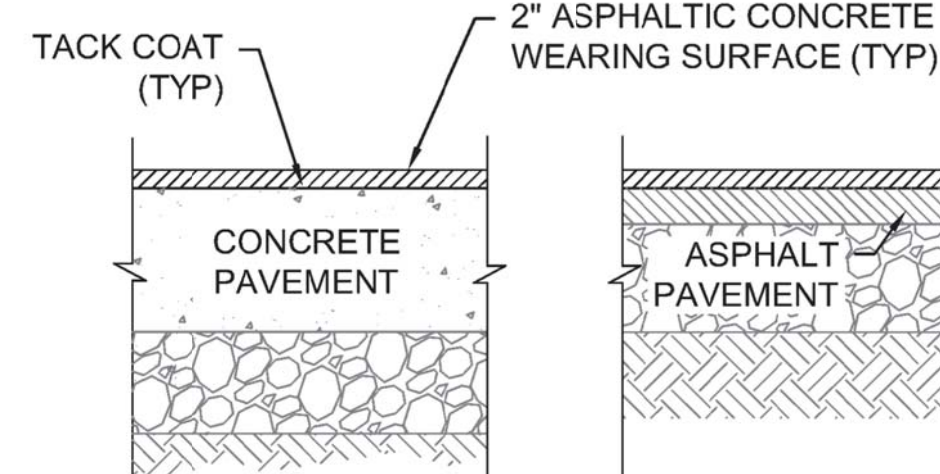


GENERAL NOTES:

- 1. MATCH EXISTING CURB AND GUTTER SECTION.
- 2. CROSS SLOPE OF GUTTER SAME AS PAVEMENT.
- 3. VERTICAL CURB AND GUTTER SHALL HAVE EXPANSION JOINTS SPACED AT 100 FEET C/C MAX. AND AT RADIUS POINTS OF ALL CURVES.
- 4. CONSTRUCTION OR CONTRACTION JOINTS SHALL BE SPACED AT FROM 5 FEET TO 15 FEET C/C BETWEEN EXPANSION JOINTS.

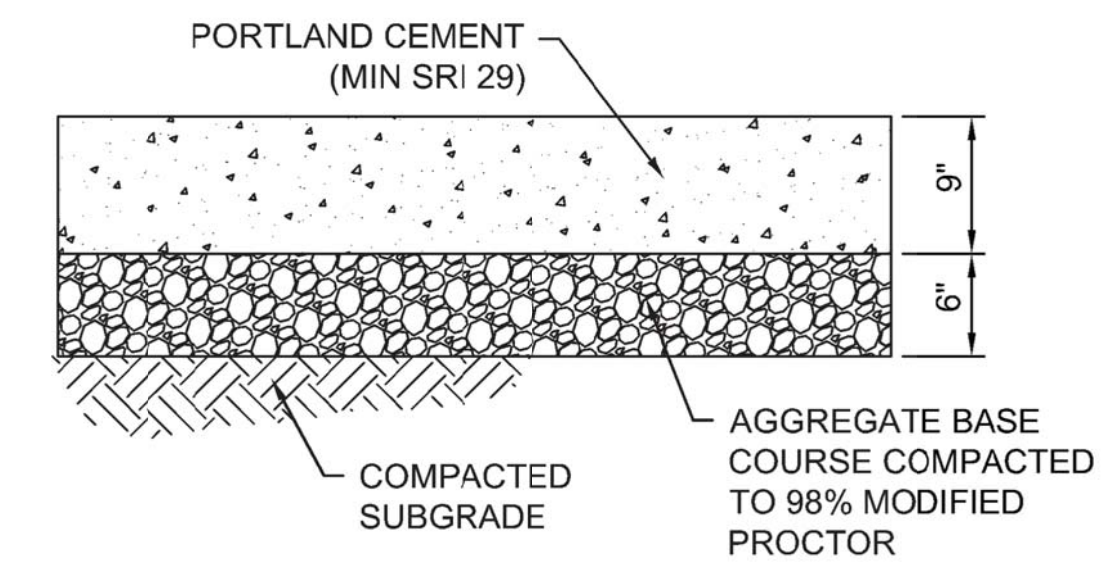
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C.500 SCALE: NOT TO SCALE



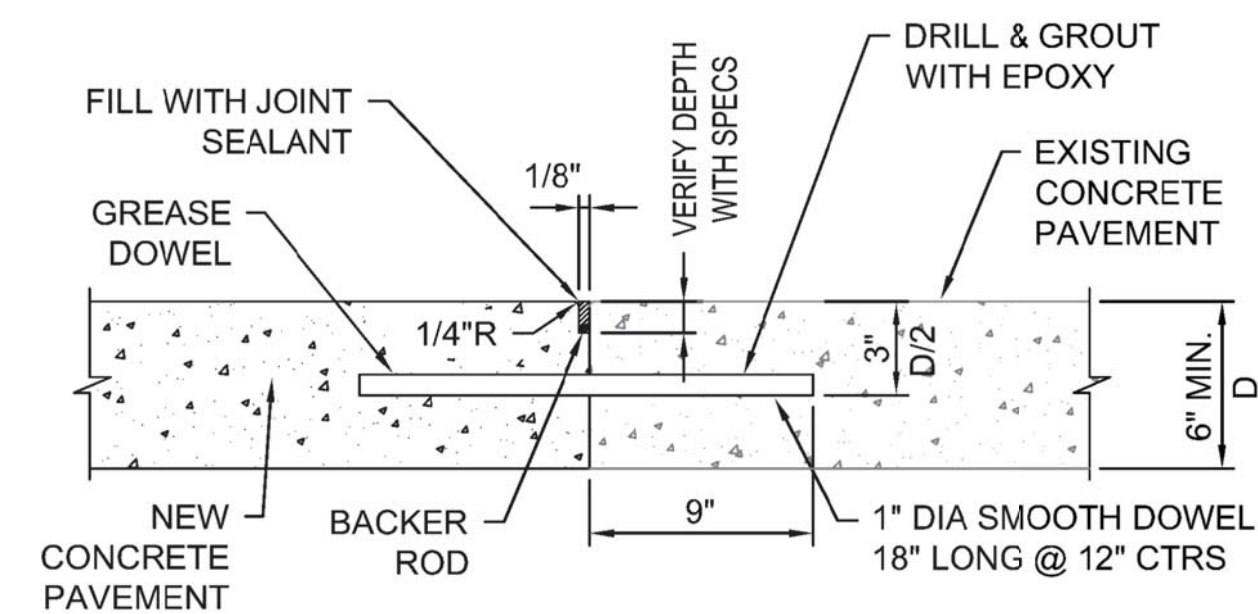
ASPHALT PAVEMENT OVERLAY DETAIL

C.500 SCALE: NOT TO SCALE



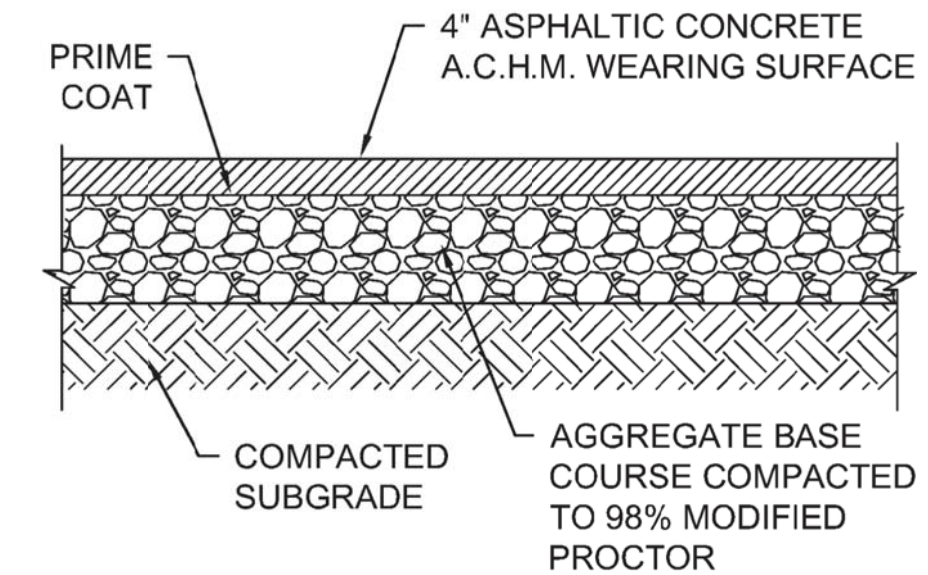
1 CONCRETE PAVEMENT SECTION

C.500 SCALE: NOT TO SCALE



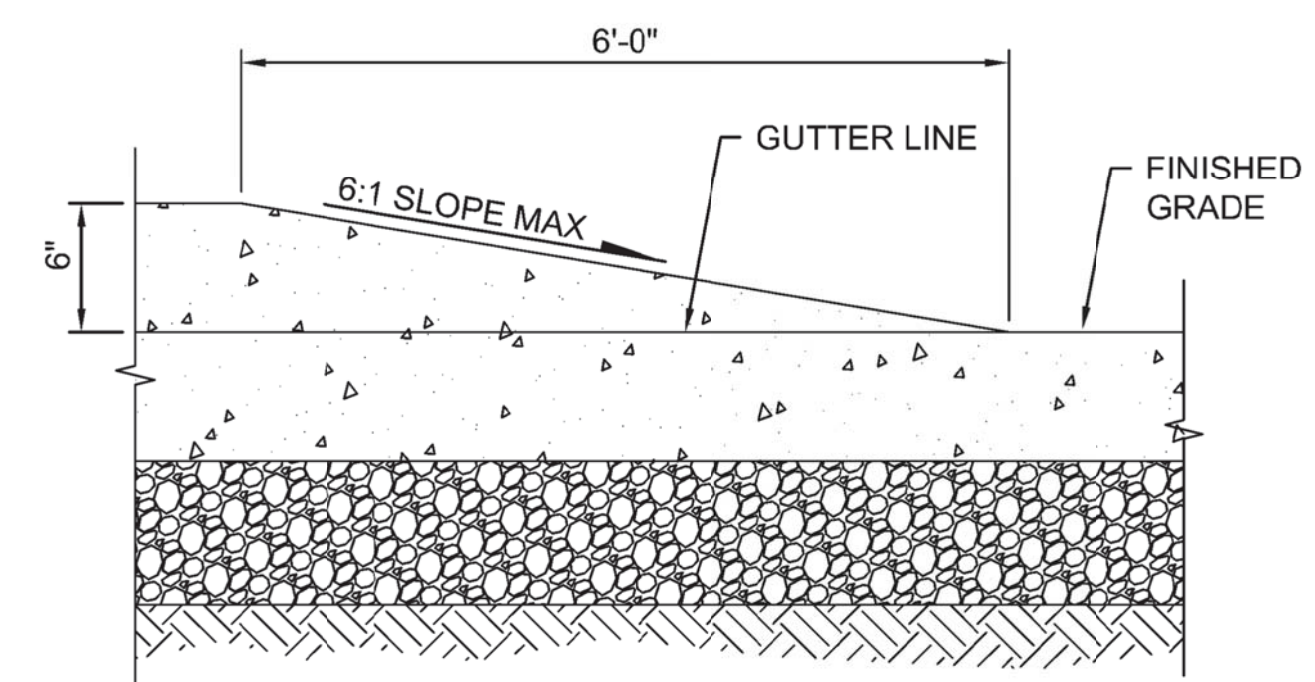
2 DOWEL DETAIL AT EXISTING CONCRETE PAVEMENT

C.500 SCALE: NOT TO SCALE



3 ASPHALT PAVEMENT SECTION

C.500 SCALE: NOT TO SCALE

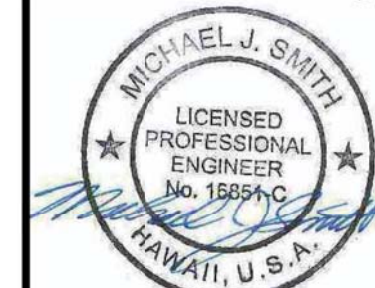


4 VERTICAL CONCRETE CURB & GUTTER TRANSITION DETAIL

C.500 SCALE: NOT TO SCALE



1250 N. FONTAC TRAIL, WALLLED LAKE, MI 48390  
WESTHEMER HONOLULU, HI 96814  
800 N. BROADWAY, OKLAHOMA CITY, OK 73114  
822 EMERSON ROAD, ST. LOUIS, MO 63141  
10 PLAZA E. KENNESAW, WASH. DC 20007  
ONE WEST THIRD STREET, TULSA, OK 74103



THE WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.  
EXPIRATION DATE OF LICENSE: 4/30/2018

DATE	DESCRIPTION	BY	APPR

SUBMITAL PHASE

100% FINAL BID SET

SUBMITAL DATE: 16/02/2018

DES: GWS DRW: GWS CHK: MJS

STATE OF HAWAII  
FACILITY MANAGEMENT OFFICE  
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  
PAVEMENT DETAILS

SCALE:

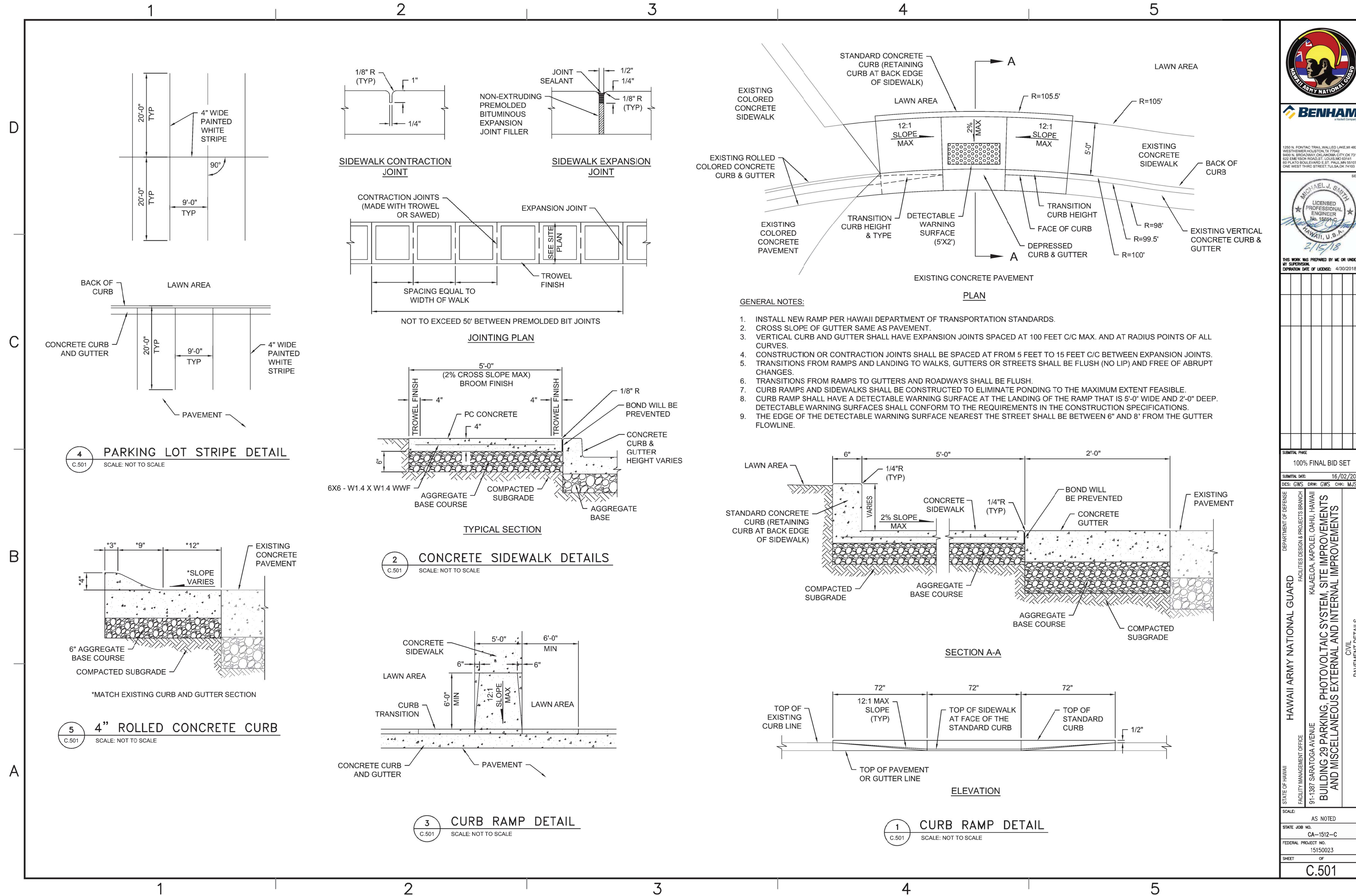
AS NOTED

STATE JOB NO. CA-1512-C

FEDERAL PROJECT NO. 15150023

SHEET OF

C.500



- 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.



1250 N. FONTAINE TRAIL, WALLED LAKE, MI 48390  
 WESTHEMER HOUSTON, TX 77602  
 800 N. BROADWAY, OKLAHOMA CITY, OK 73114  
 822 EMBERSON ROAD, ST. LOUIS, MO 63141  
 60 PLATO EKOLENARIS ST., PAUL, MN 55107  
 ONE WEST THIRD STREET, TULSA, OK 74103



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 EXPIRATION DATE OF LICENSE: 4/30/2018

DATE	DESCRIPTION	APP'R

100% FINAL BID SET

SUBMITAL DATE: 16/02/2018  
 DES: GWS DRW: GWS CHK: MJS

STATE OF HAWAII  
 FACILITY MANAGEMENT OFFICE  
 91-1387 SARATOGA AVENUE  
 BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS  
 CIVIL PAVEMENT DETAILS

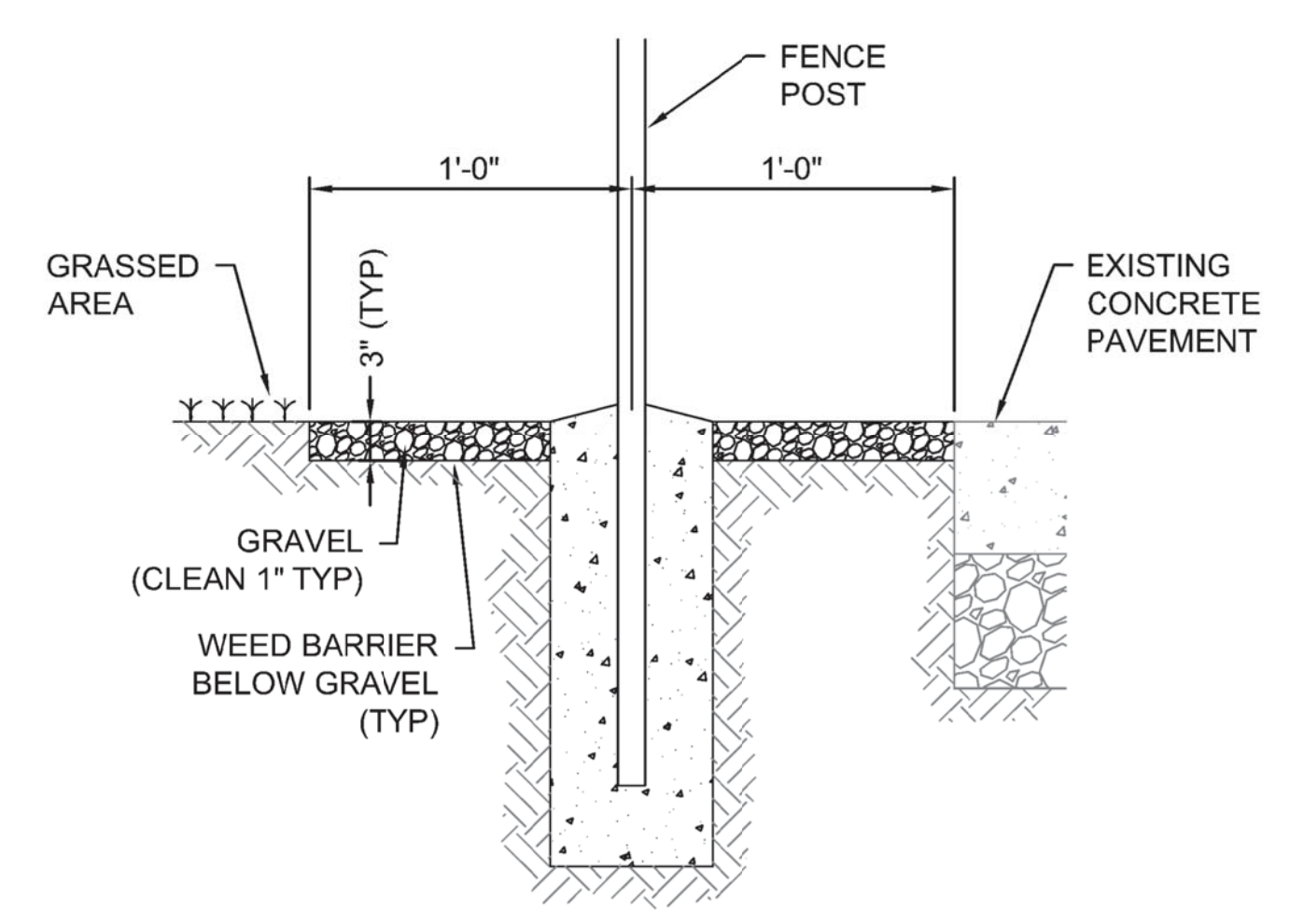
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 STATE JOB NO. CA-1512-C  
 FEDERAL PROJECT NO. 15150023

SHEET OF  
**C.501**

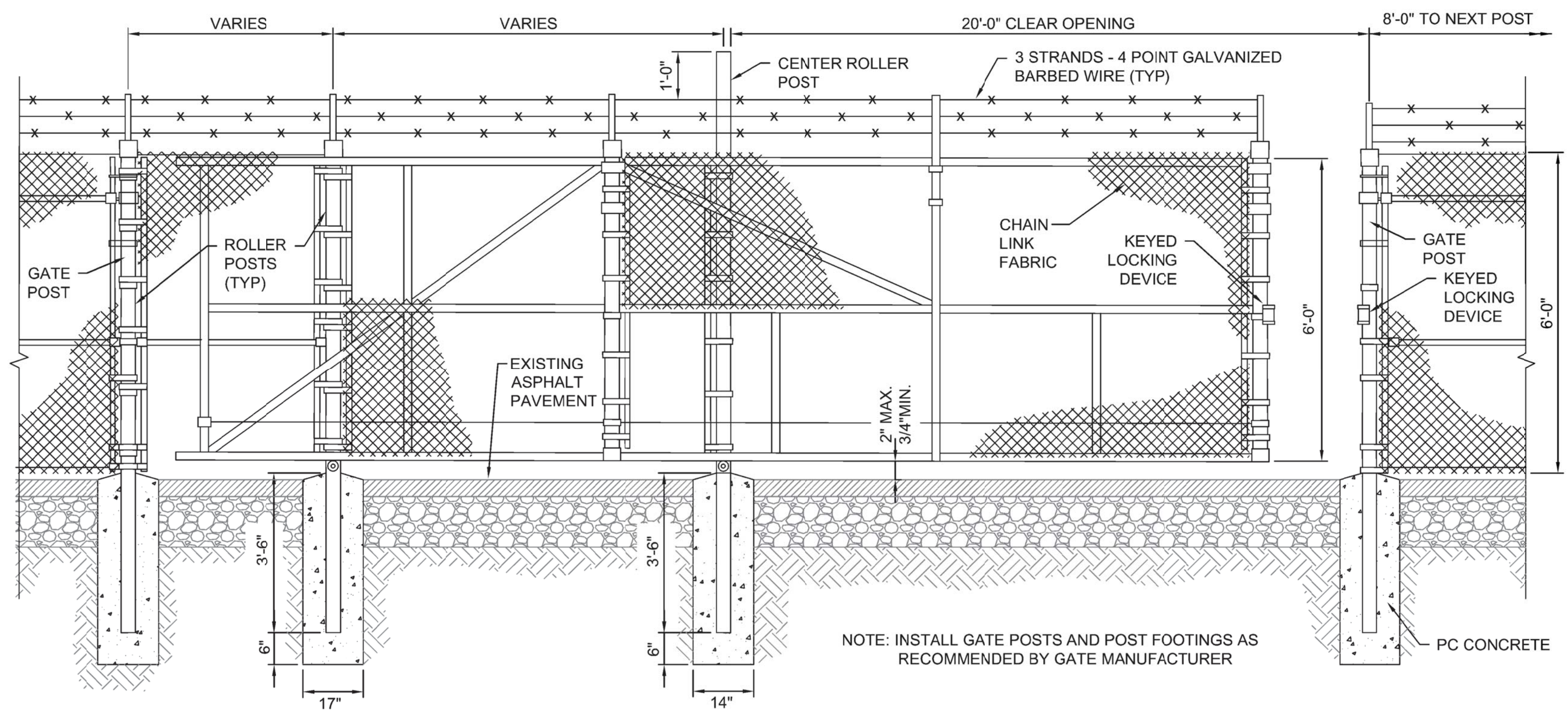
1 2 3 4 5

D

C



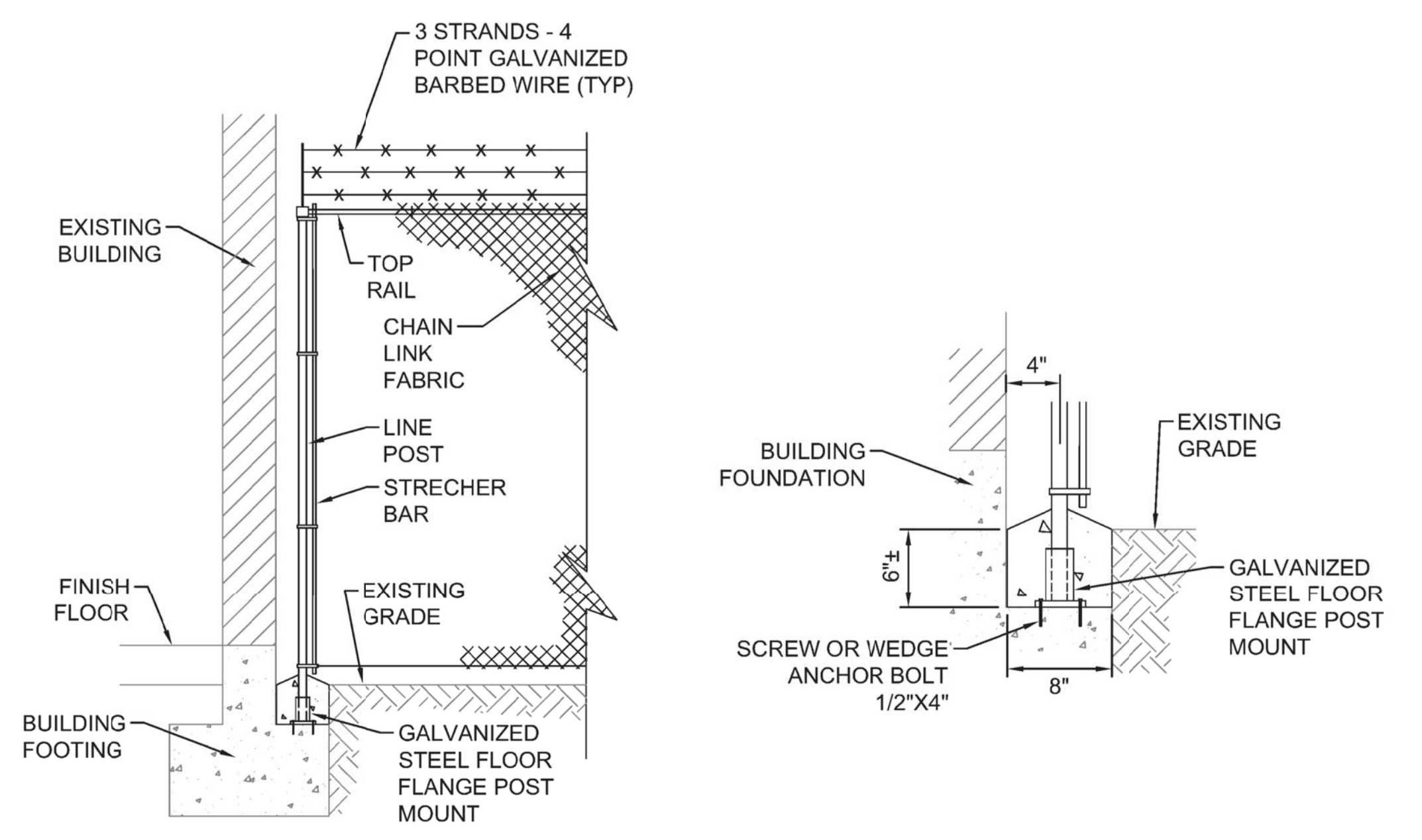
**3 FENCE MOW STRIP DETAIL**  
SCALE: NOT TO SCALE



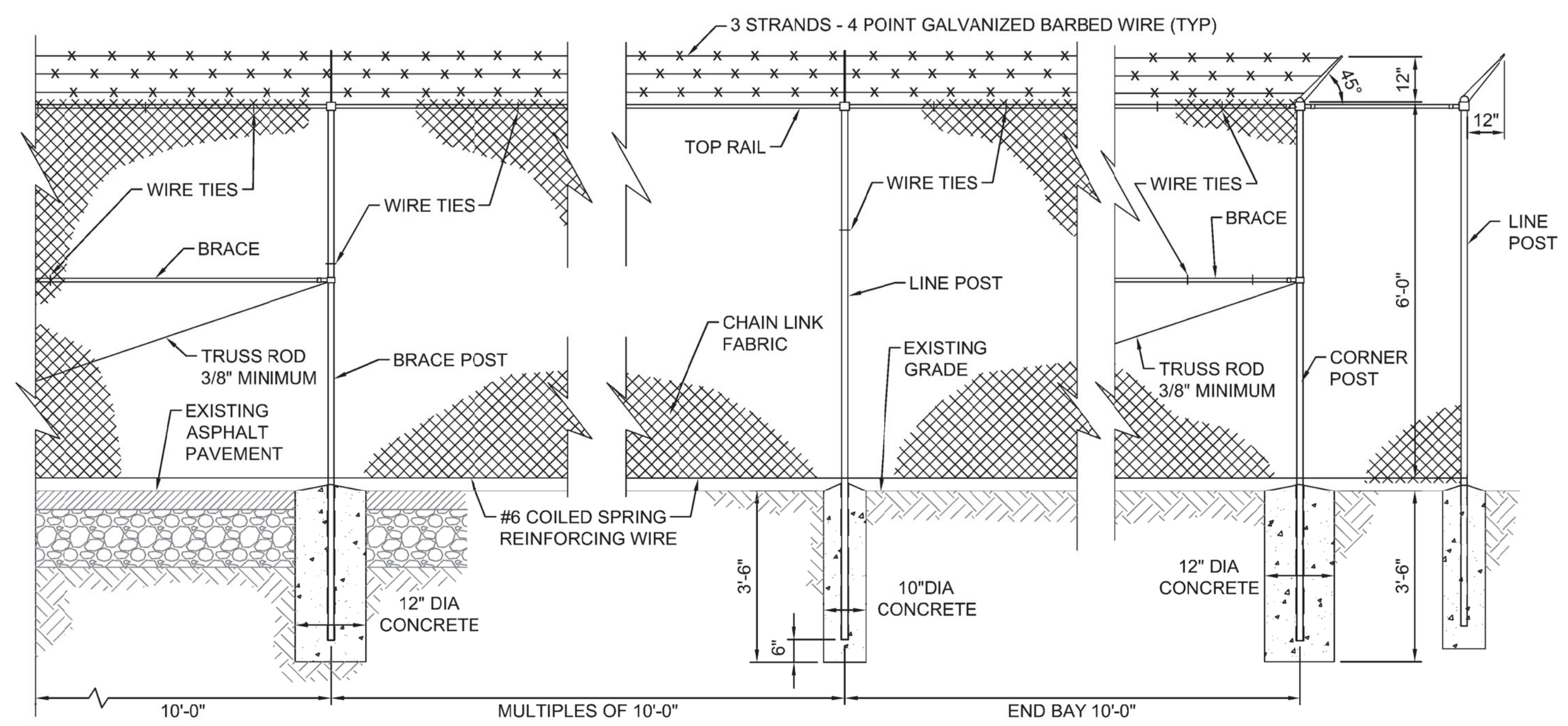
**1 CANTILEVERED SLIDE GATE**  
SCALE: NOT TO SCALE

B

A



**4 FENCE POST AT WALL DETAIL**  
SCALE: NOT TO SCALE



**2 CHAIN LINK FABRIC FENCE**  
SCALE: NOT TO SCALE

1 2 3 4 5



1250 N. FONTAINE TRAIL, WALL LAKE, MO 64890  
WESTHEIMER HOUSTON, TX 77042  
800 N. BROADWAY, OKLAHOMA CITY, OK 73114  
822 EMBERSON ROAD, ST. LOUIS, MO 63141  
60 PLATO SQUARE, CHARLESTON, SC 29407  
ONE WEST THIRD STREET, TULSA, OK 74103



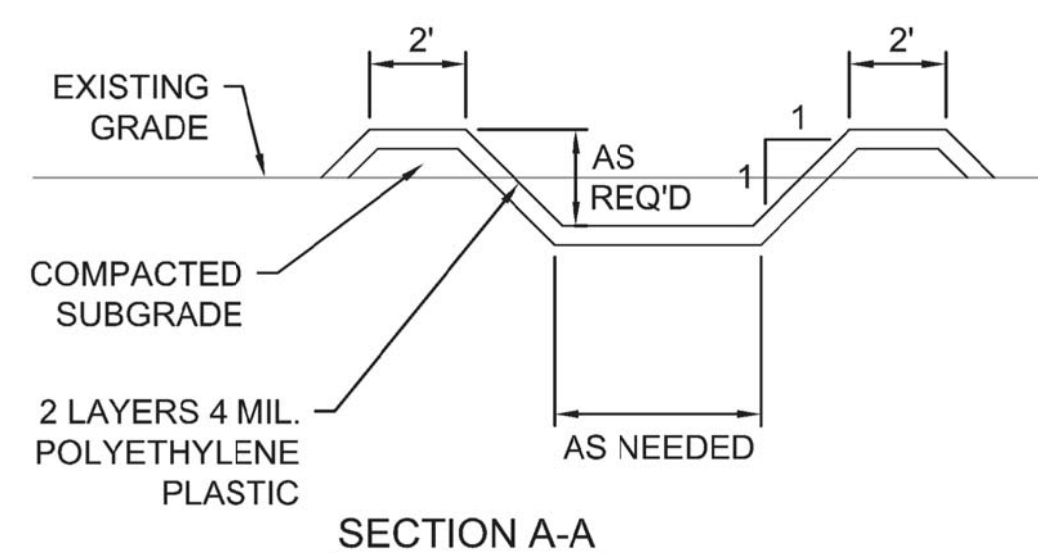
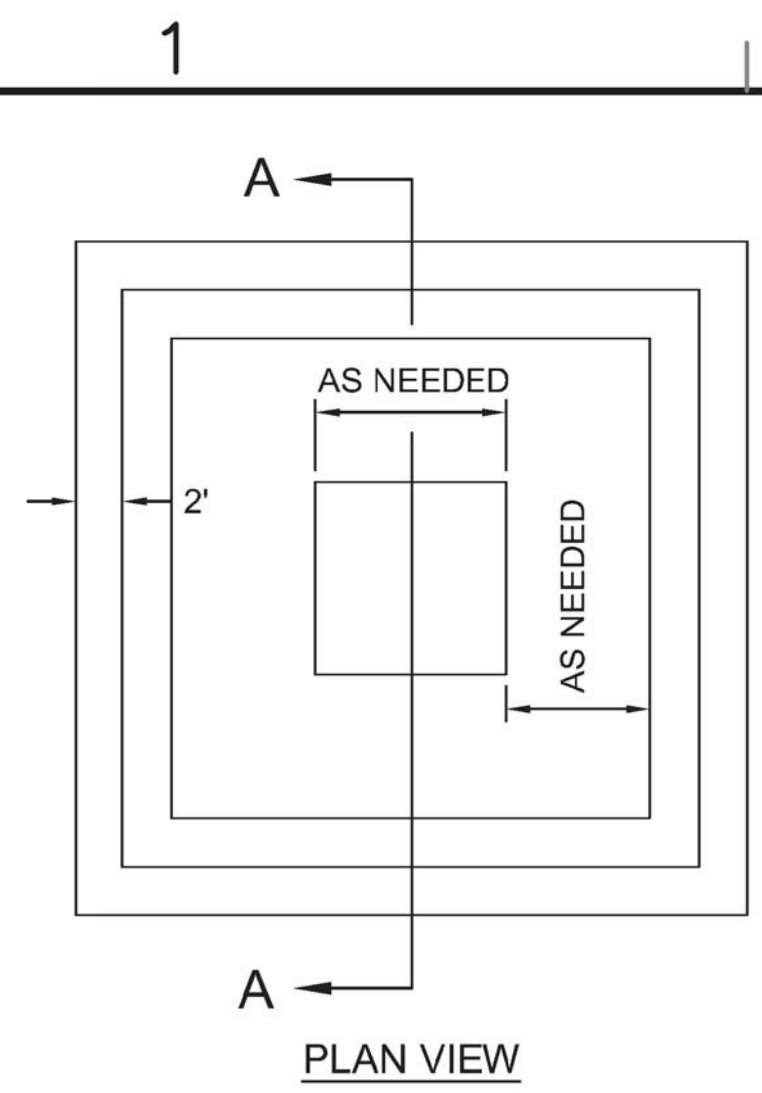
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EXPIRATION DATE OF LICENSE: 4/30/2018

DATE	DESCRIPTION

SUBMITAL PHASE: 100% FINAL BID SET  
SUBMITAL DATE: 16/02/2018  
DES: GWS, DRAW: GWS, CHK: MJS

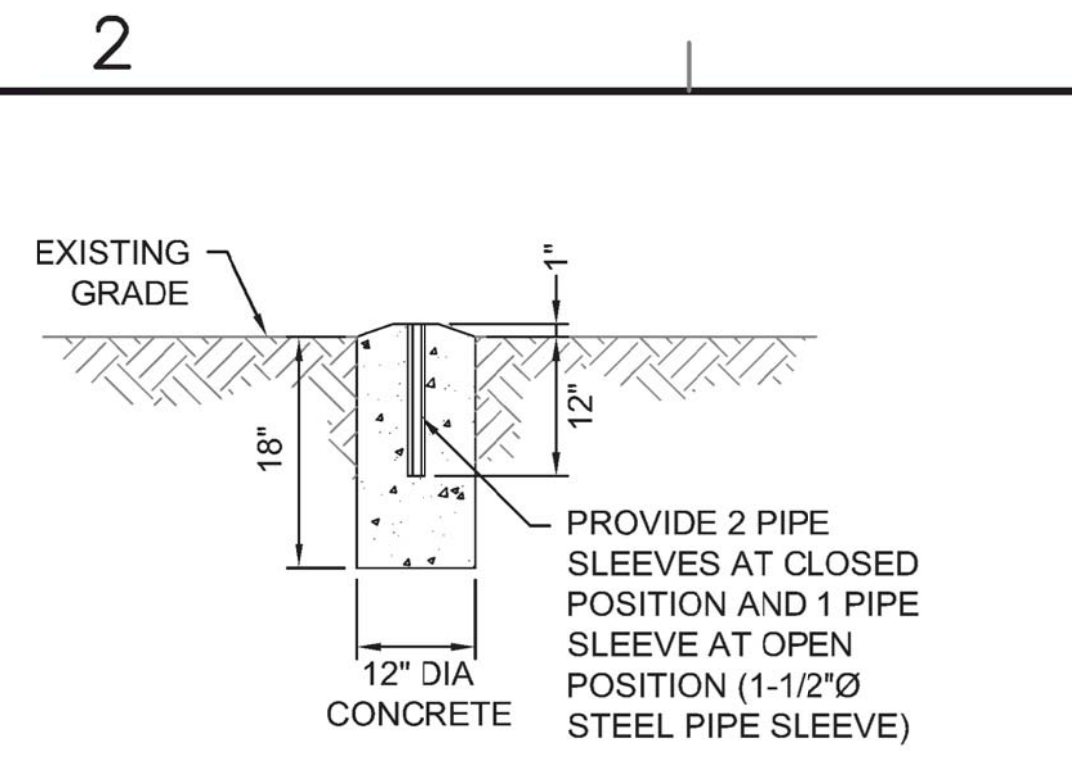
STATE OF HAWAII  
FACILITY MANAGEMENT OFFICE  
HAWAII ARMY NATIONAL GUARD  
FACILITIES DESIGN & PROJECTS BRANCH  
KALAELOA, KAPOLEI, OAHU, HAWAII  
BUILDING 29 PARKING, PHOTOVOLTAIC SYSTEM, SITE IMPROVEMENTS AND MISCELLANEOUS EXTERNAL AND INTERNAL IMPROVEMENTS  
CIVIL  
FENCE DETAILS

SCALE: AS NOTED  
STATE JOB NO. CA-1512-C  
FEDERAL PROJECT NO. 15150023  
SHEET OF  
**C.502**



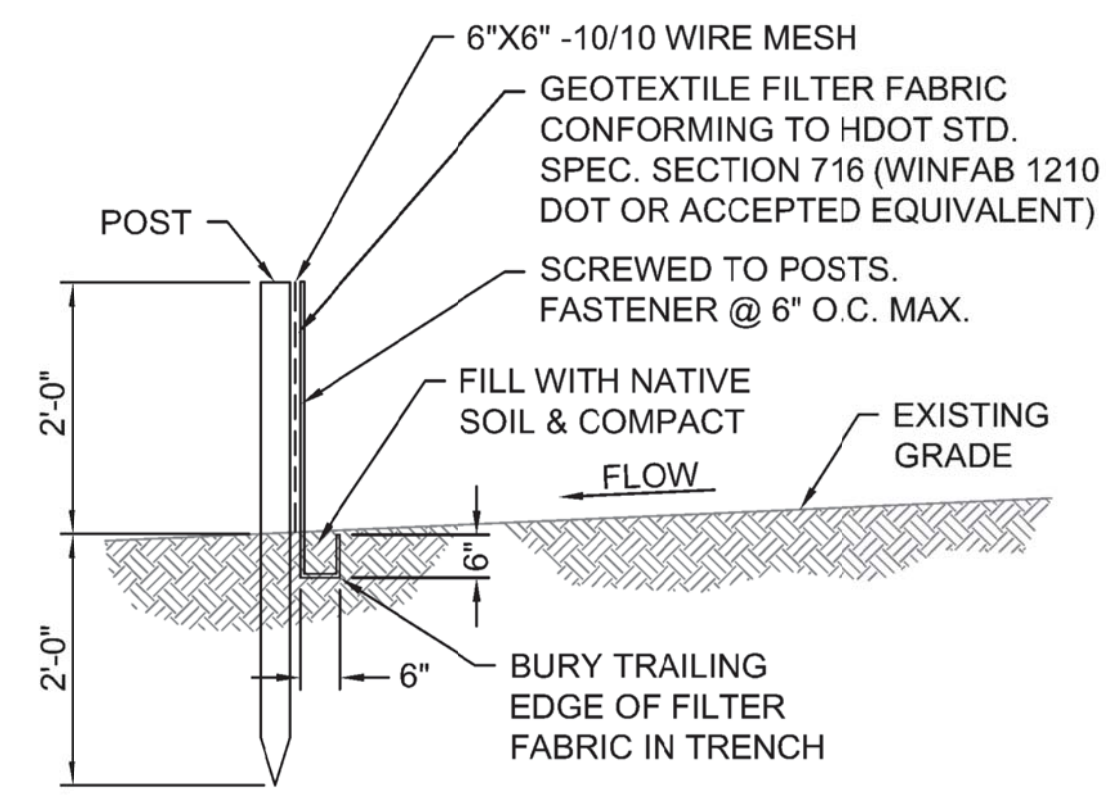
- NOTE:**
- ACTUAL SIZE AND LOCATION OF THE WASHOUT BASIN WILL BE COORDINATED WITH THE GOVERNMENTS REPRESENTATIVE.
  - CLEAN OUT THE FACILITY ONCE STORED MATERIALS HAVE REACHED 2' IN DEPTH (NOT TO EXCEED 50% CAPACITY).
  - A PRE-MANUFACTURED WASHOUT FACILITY MAY BE USED IF APPROVED.
  - PLACEMENT, MAINTENANCE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

**6 CONCRETE TRUCK WASHOUT BASIN**  
SCALE: NOT TO SCALE

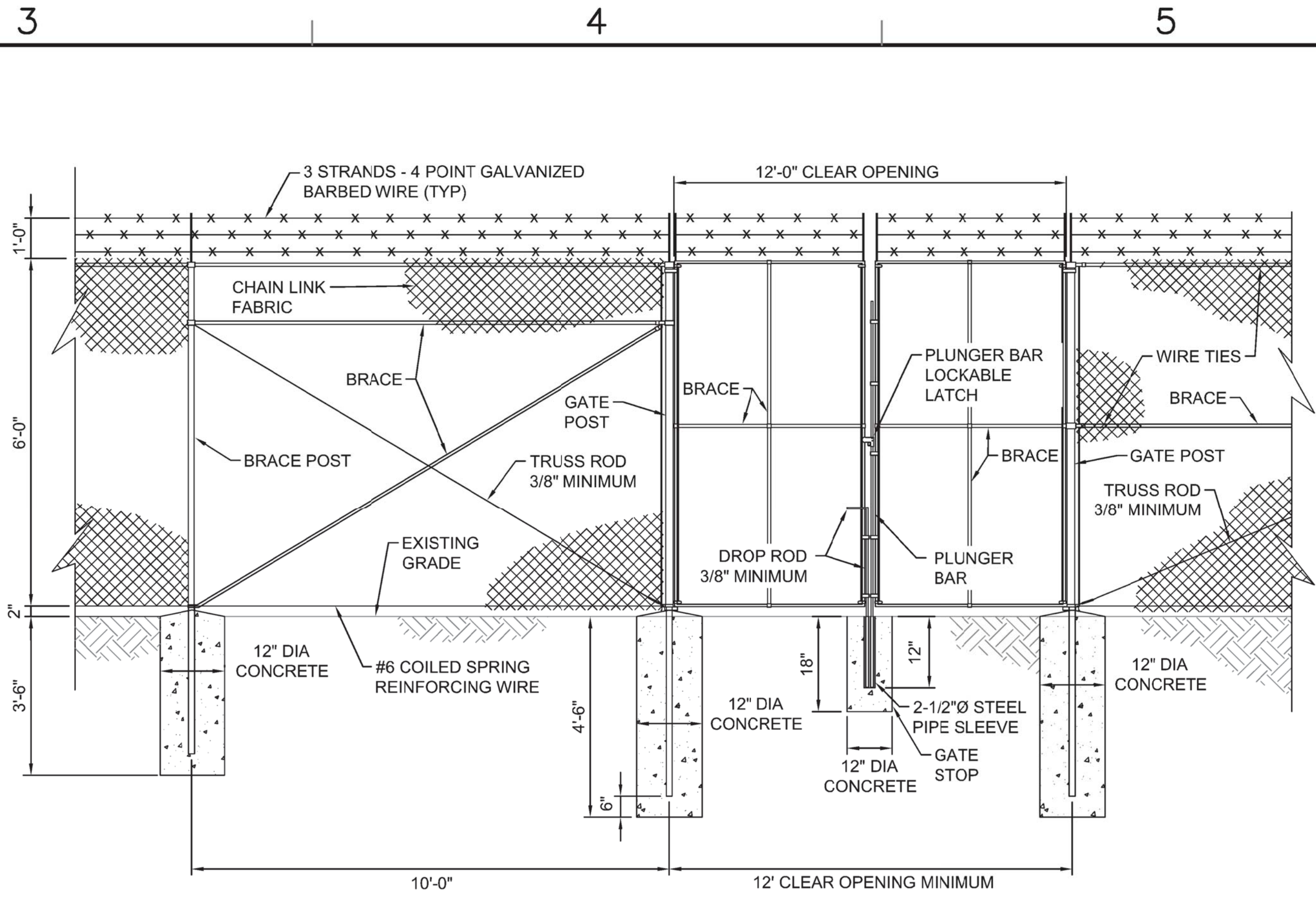


NOTE: INSTALL GATE STOPS AT FULL OPEN GATE SWING POSITION AND AT CLOSED POSITION

**3 GATE STOP DETAIL**  
SCALE: NOT TO SCALE

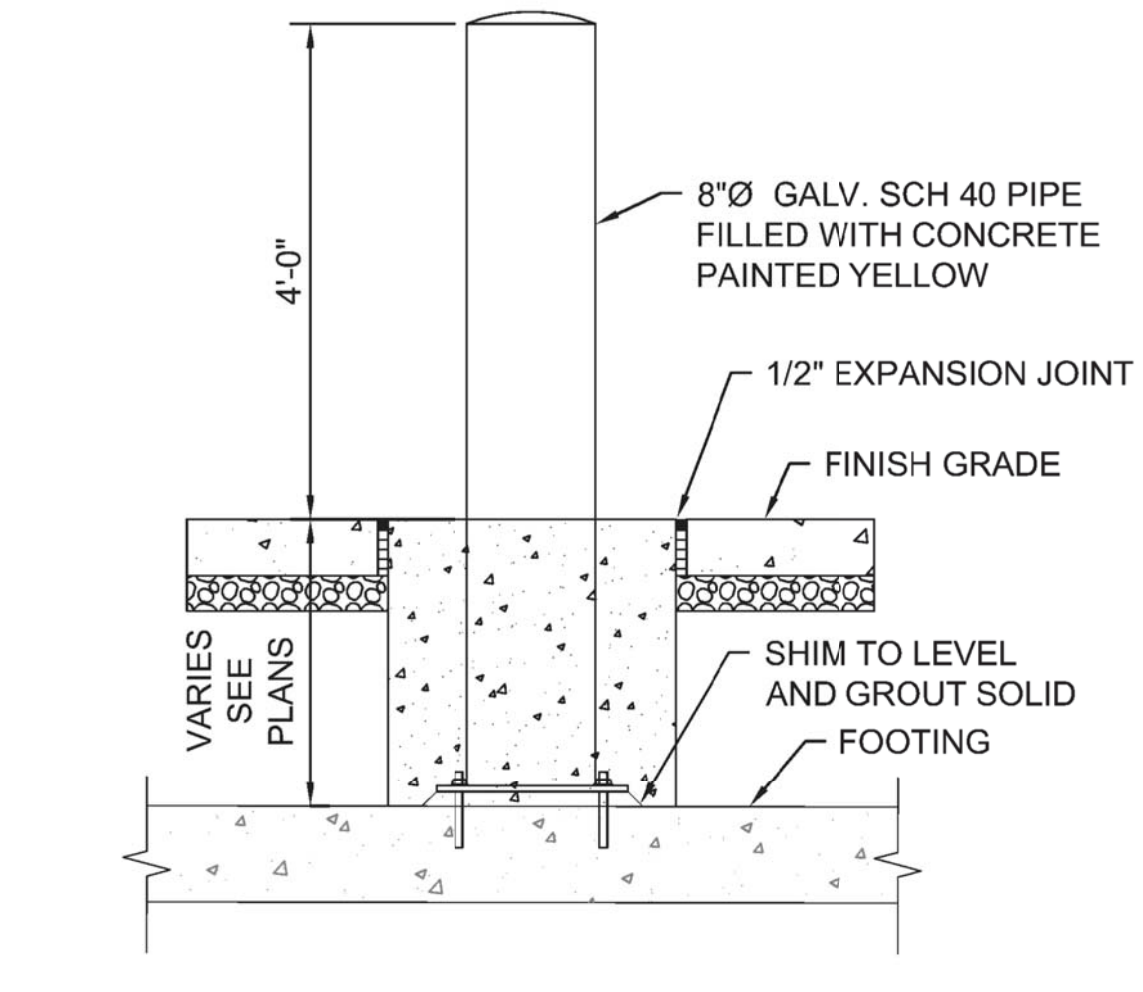
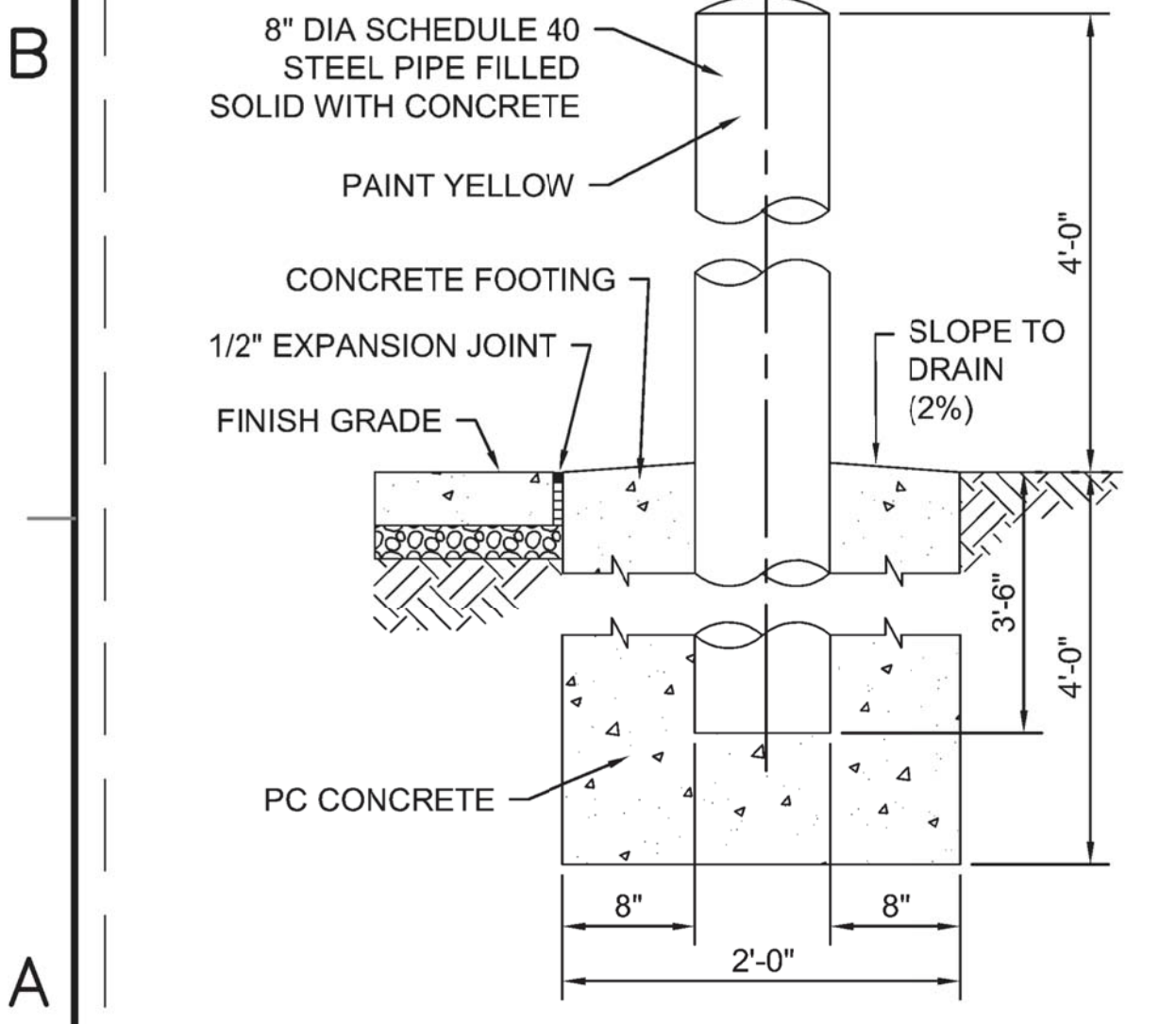


**5 SILT FENCE DETAIL**  
SCALE: NOT TO SCALE



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

**1 DOUBLE SWING GATE**  
SCALE: NOT TO SCALE

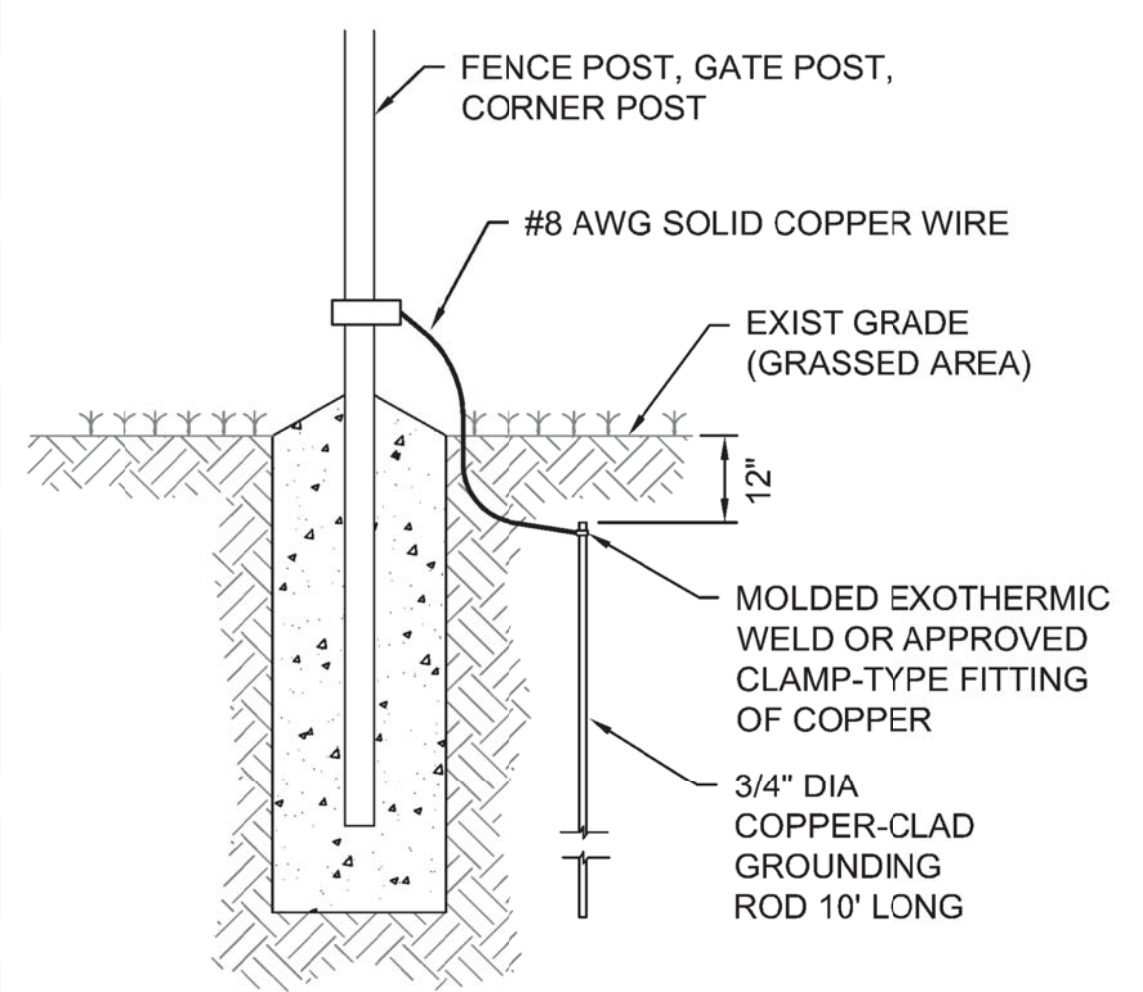


- NOTES:**
- CONSTRUCT SQUARE CONCRETE FOOTING IN ALL PAVED AREAS.
  - CONSTRUCT ROUND CONCRETE FOOTING IN ALL GRASSED AREAS.

**7 BOLLARD DETAIL**  
SCALE: NOT TO SCALE

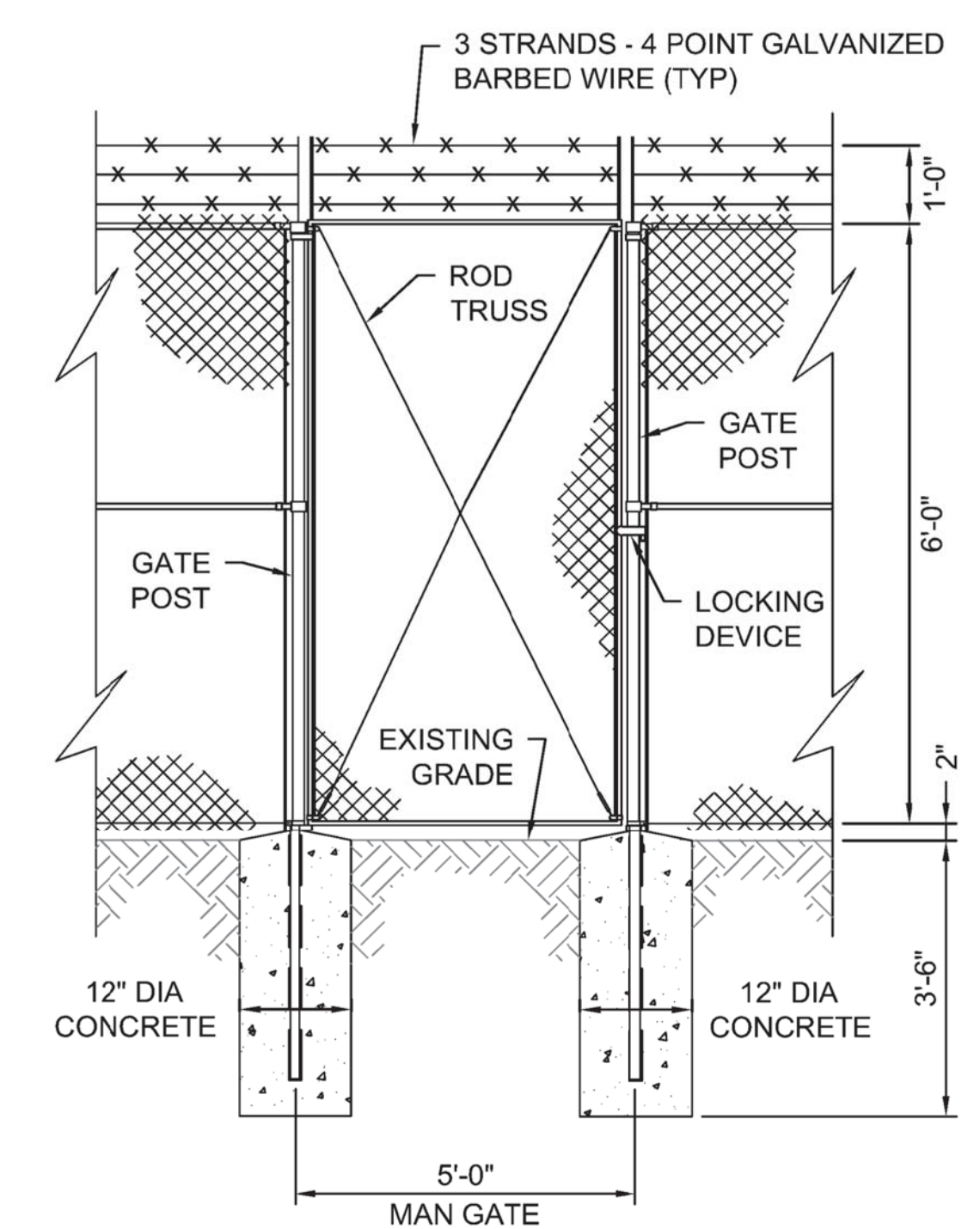
**DEDUCTIVE BID ITEM (DBI):**

- 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.



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

**4 FENCE GROUNDING ROD DETAIL**  
SCALE: NOT TO SCALE



**2 MAN GATE DETAIL**  
SCALE: NOT TO SCALE



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WESTHEMER HOUSTON, TX 77602  
8000 N. BROADWAY, OKLAHOMA CITY, OK 73114  
622 EMBURY ROAD, ST. LOUIS, MO 63141  
60 PLATO SQUARE, ST. PAUL, MN 55107  
ONE WEST THIRD STREET, TULSA, OK 74103



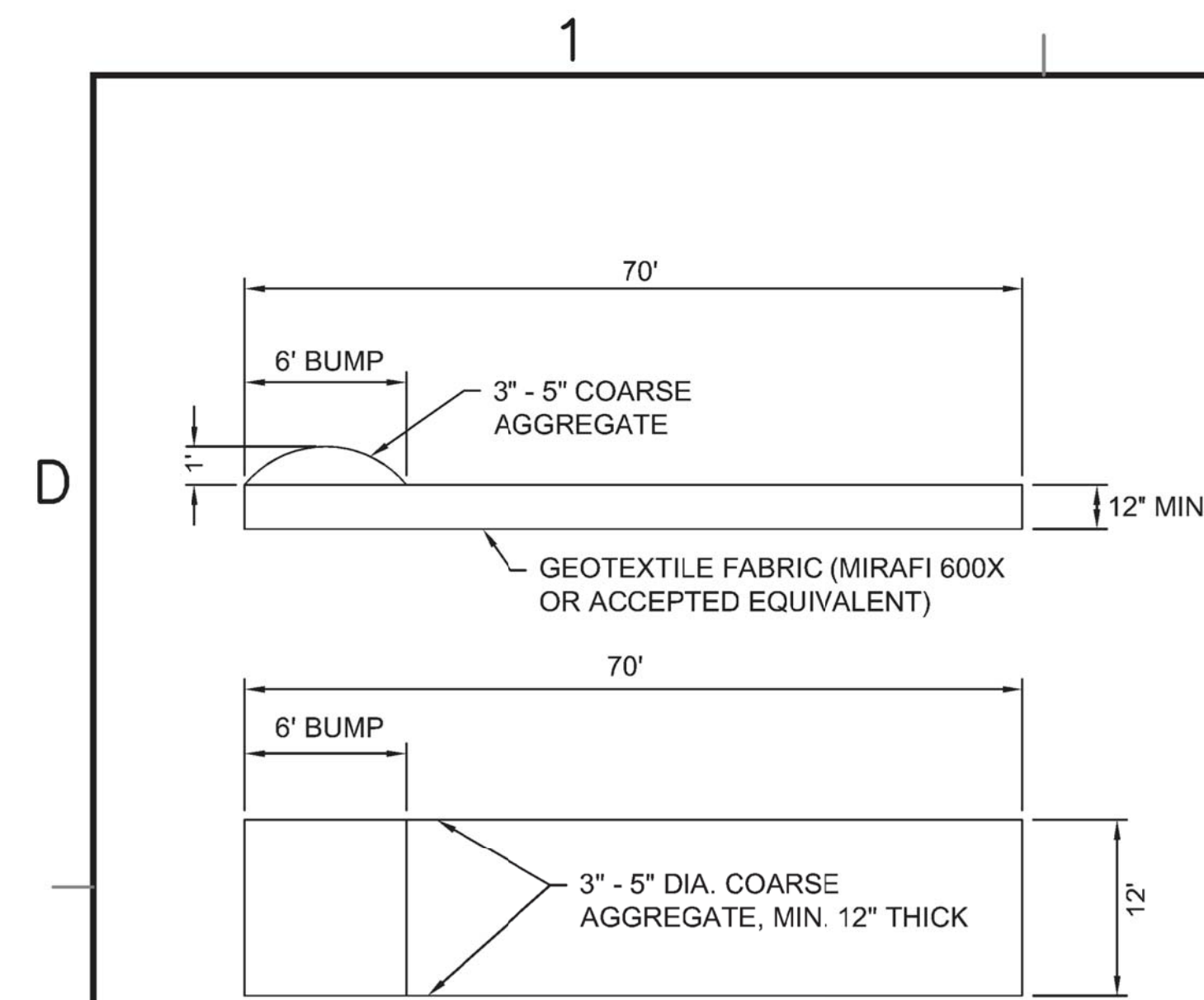
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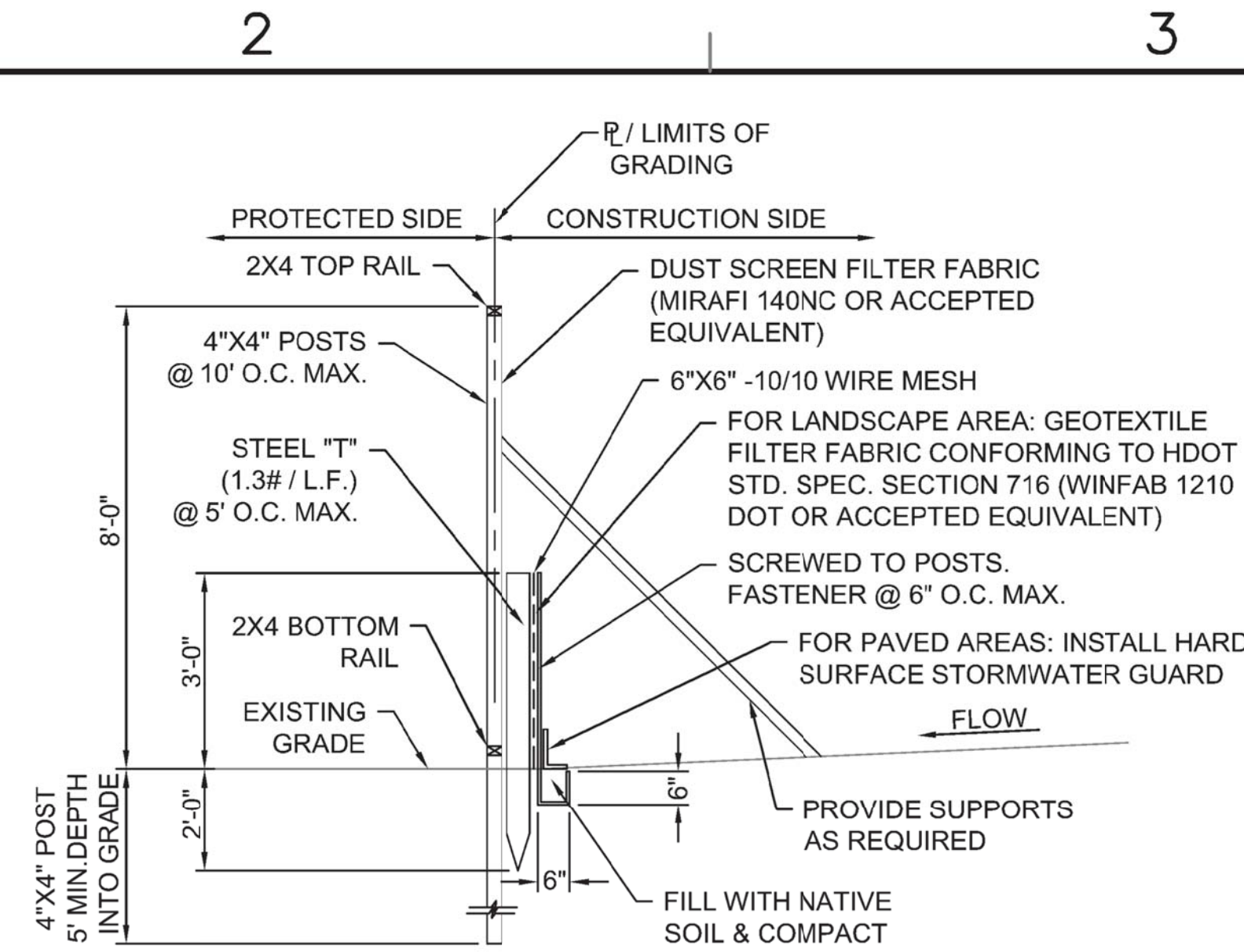
100% FINAL BID SET  
SUBMITAL DATE: 16/02/2018  
DES: GWS, DRAW: GWS, CHK: M.J.S.

STATE OF HAWAII  
FACILITY MANAGEMENT OFFICE  
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 AND EROSION CONTROL DETAILS

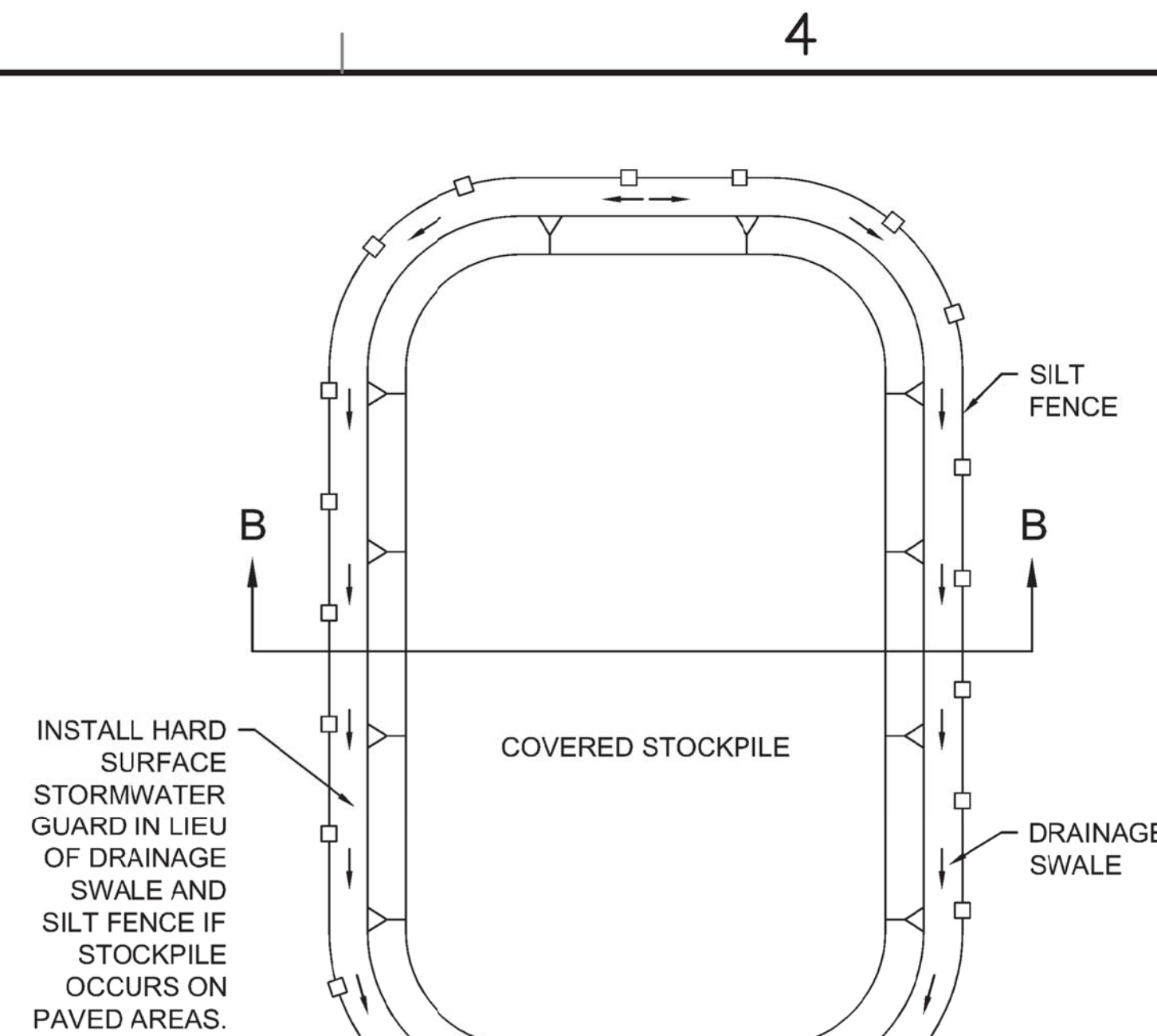
SCALE: AS NOTED  
STATE JOB NO. CA-1512-C  
FEDERAL PROJECT NO. 15150023  
SHEET OF  
**C.503**



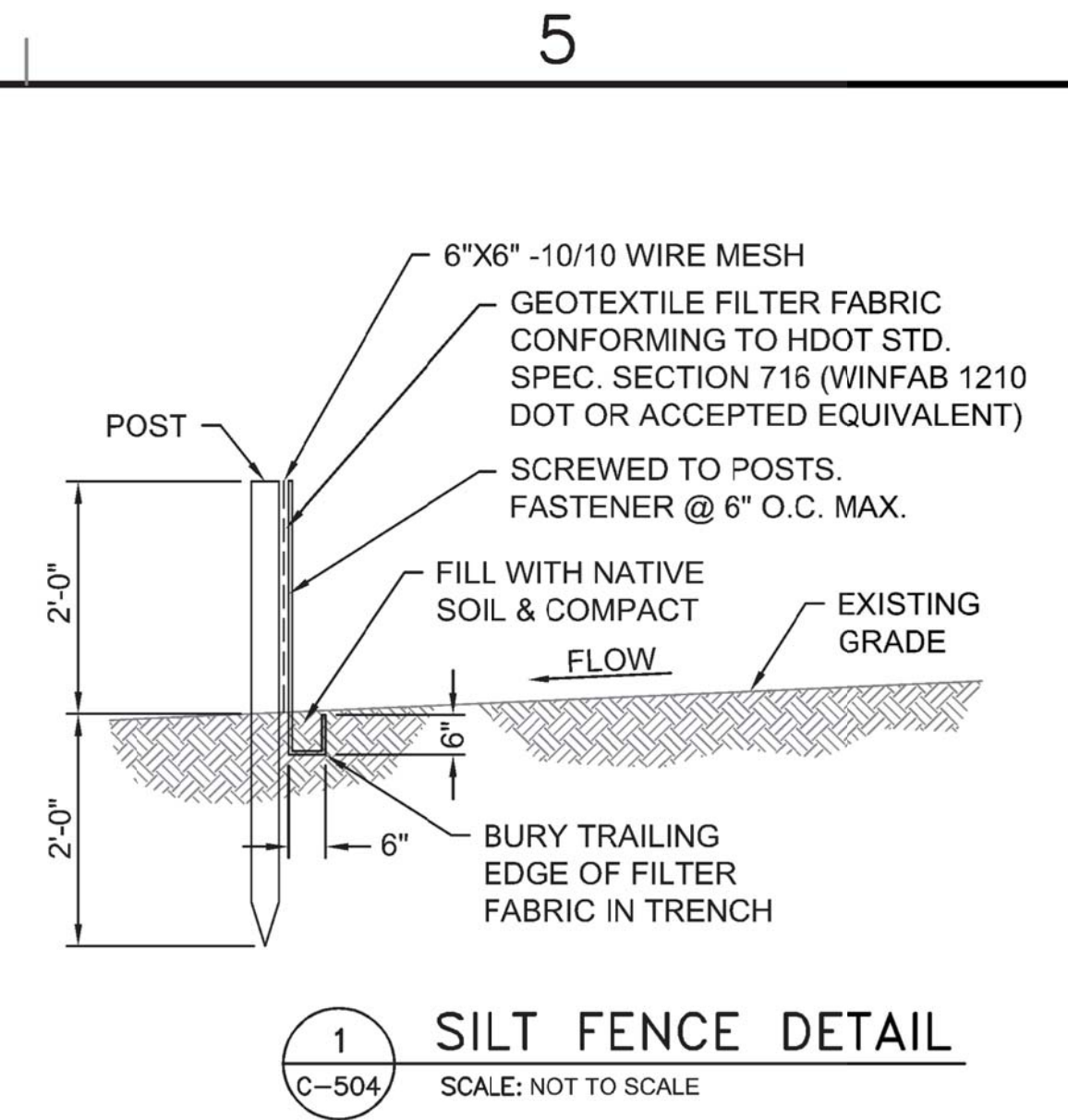
**6** STABILIZED CONSTRUCTION ENTRANCE DETAIL  
C-504 SCALE: NOT TO SCALE



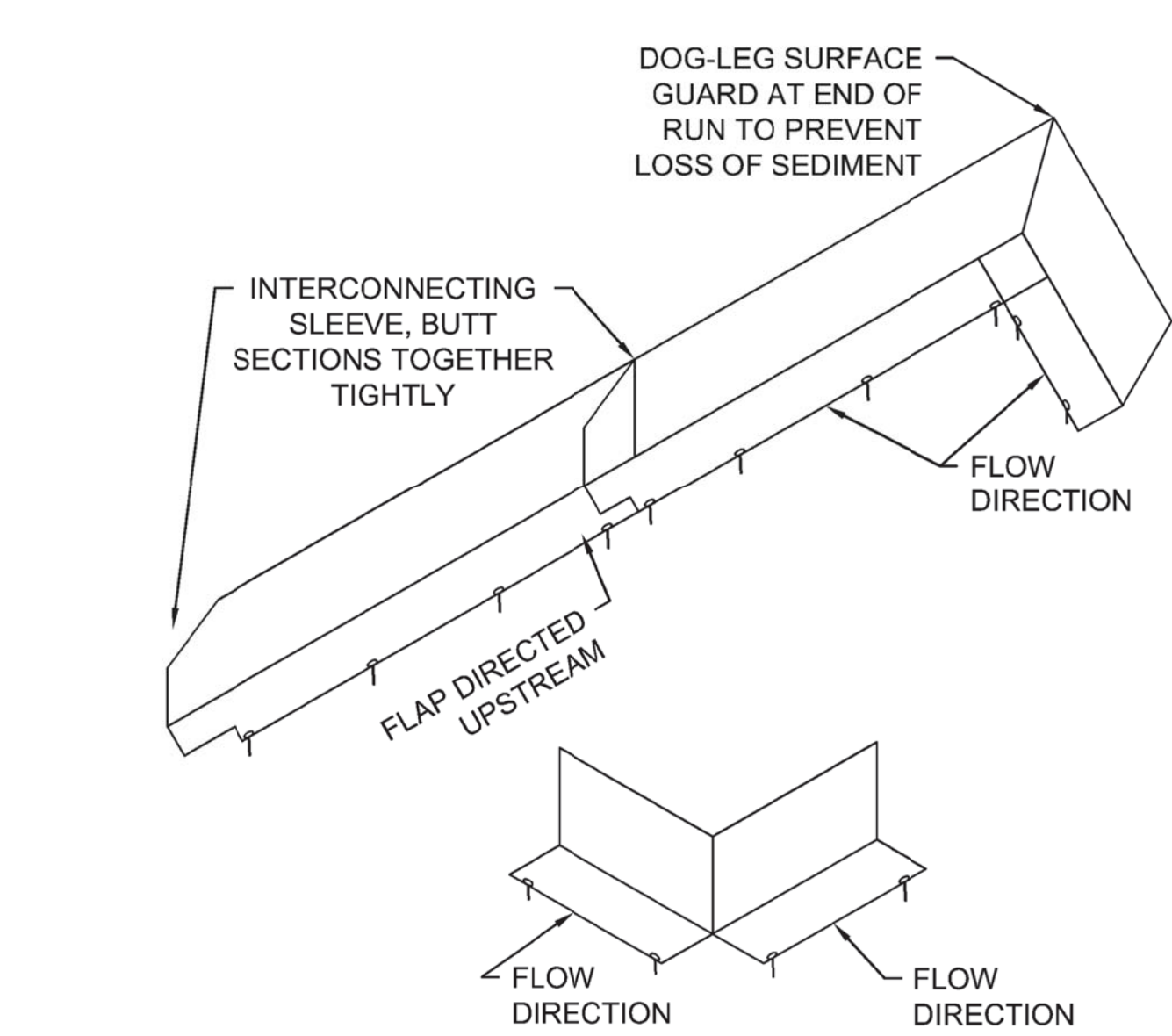
**5** TEMPORARY DUST FENCE WITH RUN-OFF PROTECTION  
C-504 SCALE: NOT TO SCALE



**3** STOCKPILE MANAGEMENT  
C-504 SCALE: NOT TO SCALE

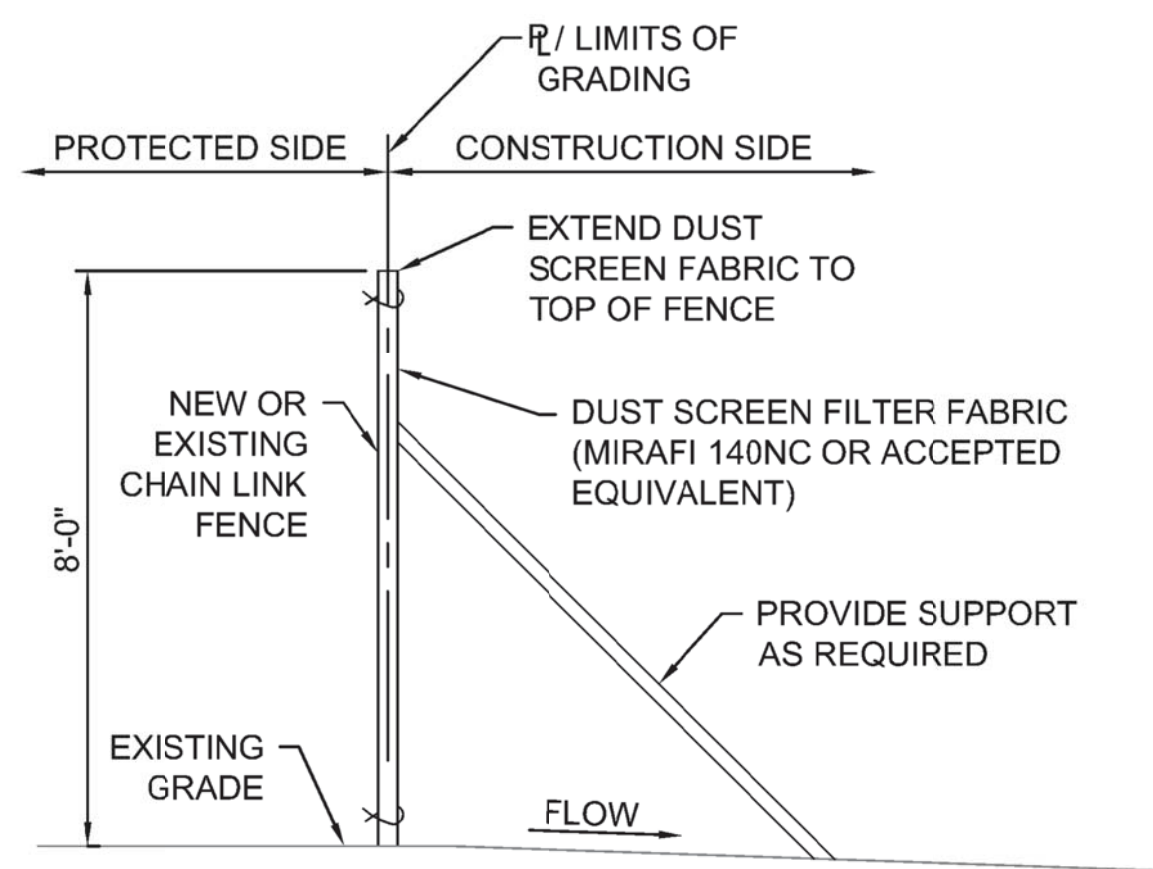
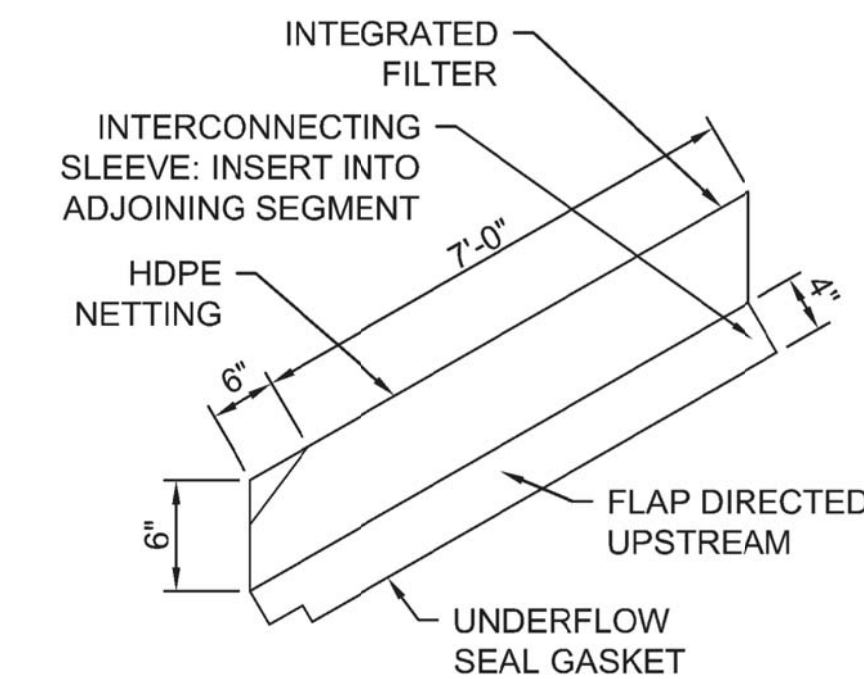


**1** SILT FENCE DETAIL  
C-504 SCALE: NOT TO SCALE



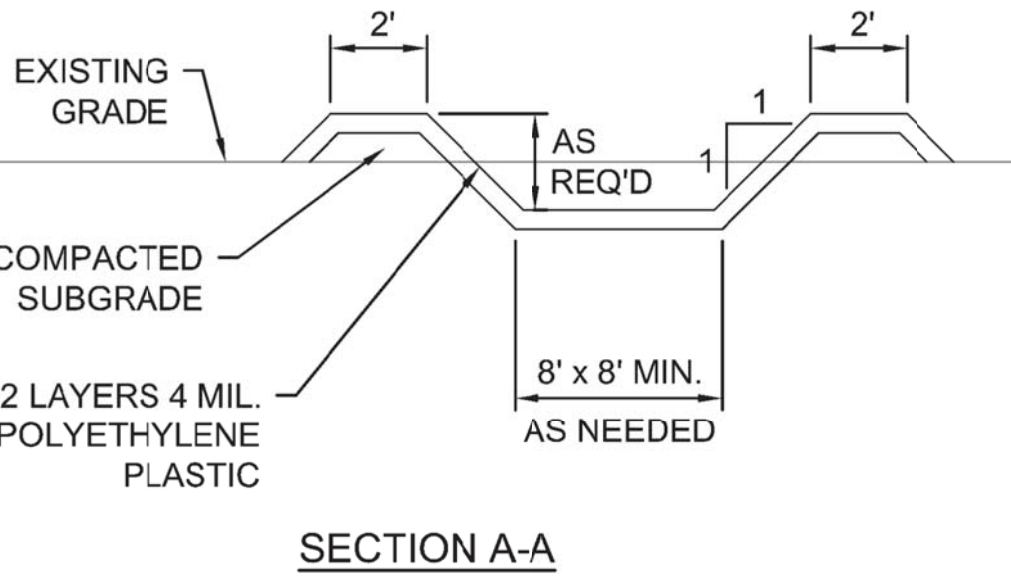
**7** HARD SURFACE STORMWATER GUARD  
C-504 SCALE: NOT TO SCALE

- NOTE:
1. TO BEND HARD SURFACE GUARD AROUND OBSTACLES, FIRST SLIT FLAP AND GASKET THROUGH TO THE HORIZONTAL CREASE WITH SHARP KNIFE OR SHEARS.
  2. THEN BEND TO DESIRED ANGLE, IN EITHER DIRECTION, AS SHOWN.
  3. ANCHOR HARD SURFACE STORMWATER GUARD TO PAVEMENT USING ONE (OR A COMBINATION OF) THE ANCHORAGE DETAILS SHOWN ON THIS SHEET.



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

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



- NOTE:
1. PROVIDE STOCKPILE MANAGEMENT AT ALL MATERIAL STOCKPILE LOCATIONS.
  2. LOCATE STOCKPILES A MINIMUM OF 50 FT. AWAY FROM CONCENTRATED FLOWS OF STORMWATER, DRAINAGE COURSES AND INLETS.
  3. STOCKPILING OF MATERIALS SHALL OCCUR WITHIN THE "LIMIT OF GRADING" LINE SHOWN ON PLANS.



**BENHAM**  
a truck company

1250 N. FORTYAC TRAIL, WALL LAKE, MO 64590  
WESTHEMER HOUSTON, TX 77602  
800 N. BROADWAY, OKLAHOMA CITY, OK 73114  
822 EMBERSO ROAD ST. LOUIS, MO 63141  
62 PLATO ESQUIRE BLVD. PAUL, MISSISSIPPI 39307  
ONE WEST THIRD STREET, TULSA, OK 74103



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DEPARTMENT OF DEFENSE  
FACILITIES DESIGN & PROJECTS BRANCH  
KALAELOA, KAPOLEI, OAHU, HAWAII  
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CIVIL  
EROSION CONTROL DETAILS

SCALE: AS NOTED  
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