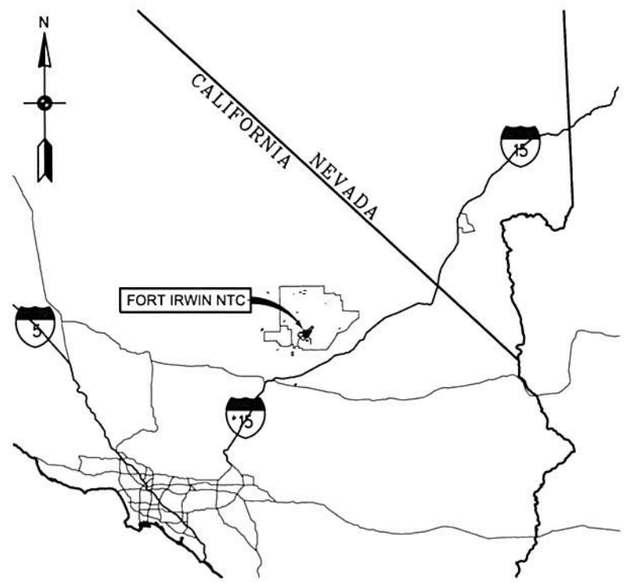
POCA NO. W912PL-14-R-0089
SECTION 3, CIVIL REPAIR
FORT IRWIN NTC
SAN BERNARDINO COUNTY, CALIFORNIA

PROJECT LOCATION
SCALE: 1 IN. = 1200 FT.

1200 600 0 1200 2400
SCALE: 1" = 1200'



VICINITY MAP
SCALE: 1 IN. = 40 MI.

40 20 0 40 80
SCALE: 1 IN. = 40 MI.

SCHEDULE OF DRAWINGS

SHEET NO.	DESCRIPTION	
T-1	COVER SHEET	1
T-2	GENERAL NOTES	
C-1	AREA 14 - BRIDGE 9 & CHANNELS PLANS	1
C-2	AREA 14 - BRIDGE 9 & CHANNELS SECTIONS	1
C-3	AREA 41 - INNER LOOP CHANNEL PLAN & SECTIONS	1
C-4	AREA 45 - PLAN & SECTIONS	
C-5	AREA 63 - ENERGY DISSIPATOR DETAILS	
M-1	MISCELLANEOUS DETAILS - METAL BEAM GUARDRAIL LAYOUT	
M-2	MISCELLANEOUS DETAILS - GUARDRAIL & DELINEATOR DETAILS	
M-3	MISCELLANEOUS DETAILS - GUARDRAIL DETAILS	
M-4	MISCELLANEOUS DETAILS - FENCING & TRENCHING DETAILS	
SP-1	DESIGNATED STOCKPILE LOCATION	1

THIS PROJECT WAS DESIGNED BY THE LOS ANGELES DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS. THE INITIALS OR SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE PROJECT DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY E.R. 1110-1-8152. SIGNATURES AFFIXED HEREON INDICATE OFFICIAL RECOMMENDATION AND APPROVAL OF ALL THE DRAWINGS IN THIS SET.

SYMBOL	SHEET REVISED	DESCRIPTIONS	DATE	APPROVAL
1	9/8/14	REVISIONS	9/8/14	MDN

FORT IRWIN NATIONAL TRAINING CENTER
STORM DAMAGE REPAIR
SAN BERNARDINO COUNTY, CALIFORNIA
SECTION 3, CIVIL REPAIR

COVER SHEET

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: XXX
DRAWN BY: XXX
CHECKED BY: XXX
APPROVED:
CHIEF, ENGINEERING DIVISION
DATE:

PREPARED UNDER THE DIRECTION OF:
COL. KIMBERLY M. COLLOTON
DISTRICT ENGINEER

SUBMITTED BY:
CHIEF, DESIGN BRANCH
DATE:

DISTRICT FILE NO.
POCA NO. W912PL-14-R-0089

FILE NAME: T-POCA3R1.DGN

Scale: AS SHOWN

SHEET
T-1

Plot Date: $date$

GENERAL NOTES:

1. All work shall conform to the following documents and standards

   a. FY14 Master POCA Specificaiton
   b. County of San Bernardino Transportation Department Standards and Specifications
   c. Fort Irwin Department of Public Works requirements and standards

2. The existing contours of elevation indicated on the drawings may not be accurate and may not represent the existing ground surface. The Contractor shall make his own evaluation of the existing ground surface and how it relates to the features to be constructed. Differences thereto will not be the basis for any contract modification or additional payments to the Contractor.

3. The location of existing utilities indicated on the drawings may not be accurate. The Contractor shall make his own evaluation as to the disposition of existing utilities. The Contractor shall notify the local underground service alert and the Fort Irwin Department of Public Works, and obtain existing utility location data prior to any demolition or excavation. The following potholing note applies to all work under this contract and appears throughout the drawings:

   "THE CONTRACTOR SHALL LOCATE AND POTHOLE ALL EXISTING UTILITIES (SEWER, WATER, ELECTRICAL, COMMUNICATIONS, GAS, ETC., WHETHER OR NOT INDICATED ON THE PLANS) IN THE VICINITY OF THE PROPOSED CONSTRUCTION AND PRIOR TO ANY DEMOLITION OR EXCAVATION WORK. THE CONTRACTOR SHALL RECORD THE HORIZONTAL AND VERTICAL LOCATION, SIZE, AND MATERIAL OF CONSTRUCTION OF THE POTHOLED UTILITIES. THIS INFORMATION, ALONG WITH ANY CONFLICTS WITH PROPOSED CONSTRUCTION, SHALL BE SUBMITTED IN WRITING TO THE CONTRACTING OFFICER, PRIOR TO ANY DEMOLITION OR EXCAVATION WORK."

4. All existing monumentation disturbed or destroyed by the Contractor or his operation, shall be replaced by the Contractor, at no additional cost to the Government.

5. Bench Marks and Basis of Bearings. The Contractor may contact the Contracting Officer to obtain horizontal and vertical control, when not indicated on the drawings.

6. The Contractor shall provide traffic control and detours as required by the Contracting Officer for all work under this contract. Refer to the POCA specifications and the Fort Irwin Department of Public Works for submittal and approvals of the Contractor's traffic control plan.

7. Contractor Facilities. The Contractor shall obtain written approval from the Contracting Officer for the use of any temporary facilities, including work or storage areas.

8. Disposal of Materials. Demolished materials, including but not limited to, concrete, AC pavement, plastic, metal items, and vegetation shall be disposed offsite from Government property, in an approved disposal facility. Excess materials from the cleanout of drainage courses and structures (excavated materials not reused in the work), may be disposed in the designated stockpile site shown on Sheet SP-1 or as space permits in the Ft. Irwin Inert Disposal Site, provided the material does not contain vegetation, trash, or rubble. The Inert Disposal Site is located off post on Fort Irwin Rd., approximately 4 miles from the controlled access. There will be no charge for disposal of materials at these locations; refer to Sheet SP-1 for conditions on stockpiling for that designated stockpile location. Other demolished or removed items not reused in the work or directed for Government salvage, shall become the property of the Contractor and shall be removed from Government property.

9. Earthwork. The source for fill materials will be:

   a. Satisfactory excavated materials resulting from the work under this contract.
   b. Satisfactory excavated materials resulting from the work of other contractors working on post.
   c. The existing stockpiles of material immediately north of the new Army Weed Hospital site. There will be no charge to the USACE Contractor for this material.
   d. Import from sources off post.

10. All temporary slopes shall meet OSHA Standards and shall not exceed a gradient of 1.5H:1V; otherwise the Contractor shall provide shoring of excavations where required or directed.

11. All overexcavation indicated, overexcavation required to remove unsuitable material, and the subsequent filling and compacting shall be performed in the presence of a representative of the USACE Los Angeles District, Geotechnical Branch.

12. Goldstone. As indicated or directed, provide a 3 inch layer of goldstone over graded areas to match existing, adjacent goldstone. Goldstone shall be imported, 1 1/8 inch minus crushed gravel, color: California Gold.

13. Concrete Removals. When removing concrete flatwork, the Contractor shall make removals to the nearest control joint in each direction. Sawcutting between joints will not be permitted unless otherwise directed. When removing concrete curb and gutter, the Contractor may sawcut in between control joints, as directed.

14. Guardrails. Timber components of guardrails shall be pressure treated and suitable for use when in direct contact with earth.

15. Pavement Striping and Markings. The Contractor shall provide new pavement striping and markings to match existing, whether over new work or to repair markings damaged by his operations. Contact the Fort Irwin Department of Public Works for requirements.

16. Overexcavation Requirements Beneath Riprap or Grouted stone. The Contractor shall test the subgrade for relative compaction prior to placing geofabric, bedding or stone. The Contractor shall submit to the Contracting Officer a Geotechnical Report, prepared by an independent laboratory licensed to practice in the State of California, that identifies relative compaction of the subgrade material. If the relative compaction is less than 90% of the maximum dry density (MDD) per ASTM D1557, then overexcavation to competent material, as determined by the Contracting Officer, shall be performed by the Contractor. The Contractor shall recompact material in the area of overexcavation to 90% MDD per ASTM D1557.

LEGEND

(1) REMOVE AND DISPOSE
(2) PROTECT IN PLACE
~~(3) REMAIN (DELETED)~~
(4) REMOVE AND REINSTALL
(5) TO BE RELOCATED BY OTHERS

HP = HIGH POINT
FS = FINISH SURFACE
FG = FINISH GRADE
TC = TOP OF CURB
CF = CURB FACE
FL = FLOWLINE
BW = BACK OF SIDEWALK
INV = INVERT
TG = TOP OF GRATE
EP = EDGE OF PAVEMENT
POB = POINT OF BEGINNING
POE = POINT OF ENDING
BCR = BEGIN OF CURB RETURN
ECR = END OF CURB RETURN
AC = ASPHALTIC CONCRETE
CSP = CORRUGATED STEEL PIPE
MH = MANHOLE
TBM = TEMPORARY BENCHMARK
WWF = WELDED WIRE FABRIC
MGBR = METAL BEAM GUARDRAIL
CMP = CORRUGATED METAL PIPE
RCB = REINFORCED CONCRETE BOX
CMU = CONCRETE MASONRY UNIT
HDPE = HIGH DENSITY POLYETHYLENE
PP = POWER POLE
MDD = MAXIMUM DRY DENSITY

EXISTING UTILITY POLE
EXISTING UTILITY POLE LINE
EXISTING TREE WITH DIAMETER INDICATED (16")
EXISTING LIGHT POLE
EXISTING IRRIGATION BOX
EXISTING VALVE WELL
EXISTING 16" SQUARE, 12" DEEP PRECAST DROP INLET WITH CAST IRON GRATE. 4" DIA SCH 40 PVC EXIT PIPE LOCATIONS UNKNOWN.
EXISTING POWER POLE
EXISTING OR NEW CONCRETE PAVEMENT
EXISTING AC PAVEMENT
EXISTING TRENCH DRAIN. EXIT PIPE LOCATION UNKNOWN.
METAL BEAM GUARD RAIL
REFLECTIVE DELINEATOR
SWALE
GROUTED STONE
RIPRAP

CONSTRUCTION NOTES:

[X] BOXED CONSTRUCTION NOTES ARE SPECIFIC TO EACH AREA AND CHANGE FROM AREA TO AREA WITHIN THE SET OF PLANS.

SYMBOL	DESCRIPTIONS REVISIONS	DATE	APPROVAL

FORT IRWIN NATIONAL TRAINING CENTER
STORM DAMAGE REPAIR
SAN BERNARDINO COUNTY, CALIFORNIA
SECTION 3, CIVIL REPAIR

GENERAL NOTES

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

SUBMITTED BY: ARTHUR Y. JUNG, PE, CHIEF, DESIGN BRANCH

DESIGNED BY: XXX
DRAWN BY: XXX
CHECKED BY: XXX

DISTRICT FILE NO. POCA NO. W912PL-14-R-0089 FILE NAME: T-2POCA3.DGN

Scale: AS SHOWN
SHEET T-2

Plot Date: $date$

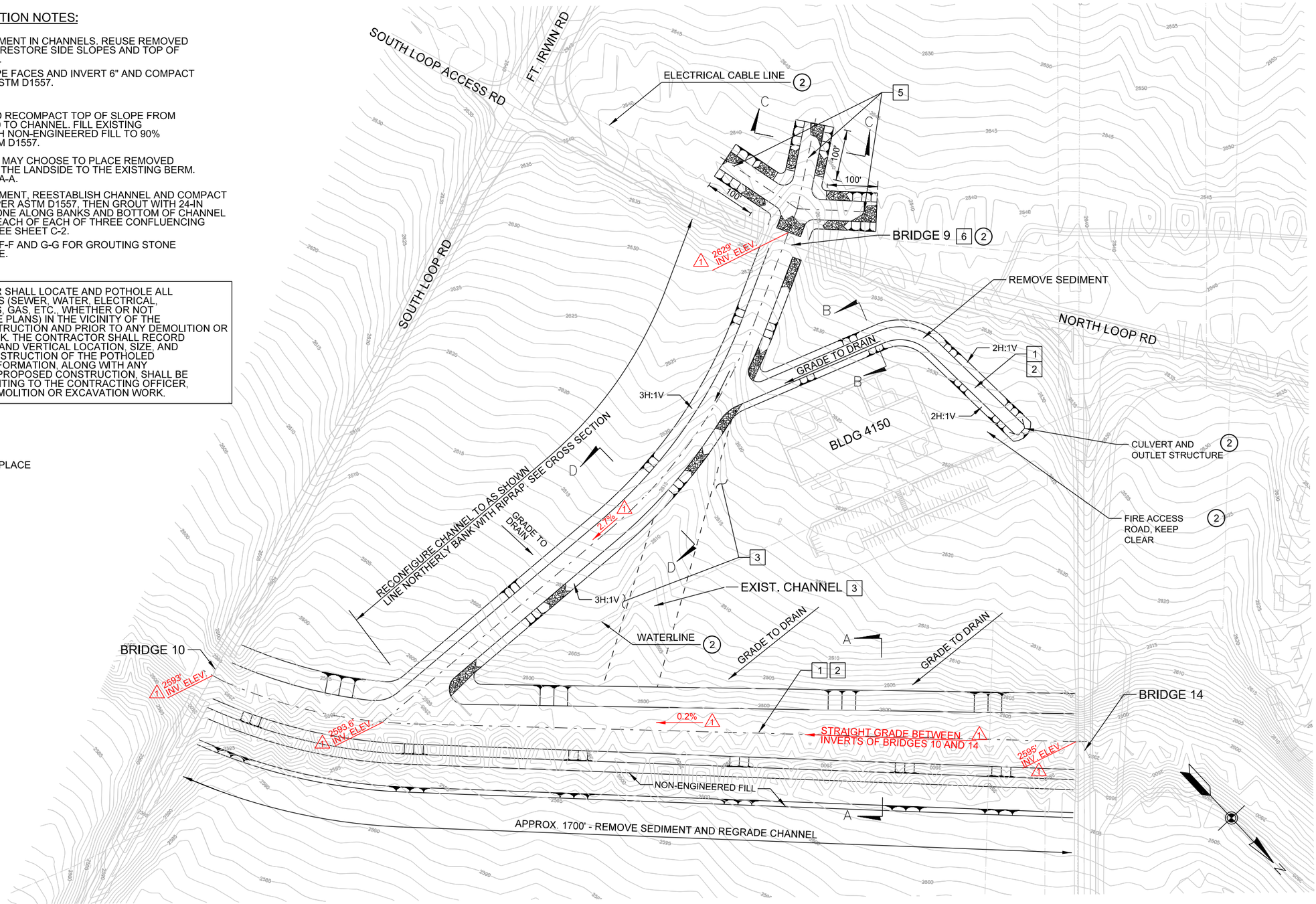
CONSTRUCTION NOTES:

1. REMOVE SEDIMENT IN CHANNELS. REUSE REMOVED SEDIMENT TO RESTORE SIDE SLOPES AND TOP OF EMBANKMENT.
2. SCARIFY SLOPE FACES AND INVERT 6" AND COMPACT TO 95% PER ASTM D1557.
3. REGRADE AND RECOMPACT TOP OF SLOPE FROM BUILDING 4150 TO CHANNEL. FILL EXISTING CHANNEL WITH NON-ENGINEERED FILL TO 90% MDD PER ASTM D1557.
4. CONTRACTOR MAY CHOOSE TO PLACE REMOVED SEDIMENT ON THE LANDSIDE TO THE EXISTING BERM. SEE SECTION A-A.
5. REMOVE SEDIMENT, REESTABLISH CHANNEL AND COMPACT TO 95% MDD PER ASTM D1557, THEN GROUT WITH 24-IN GROUTED STONE ALONG BANKS AND BOTTOM OF CHANNEL ALONG 100' REACH OF EACH OF THREE CONFLUENCING CHANNELS. SEE SHEET C-2.
6. SEE SECTION F-F AND G-G FOR GROUTING STONE UNDER BRIDGE.

THE CONTRACTOR SHALL LOCATE AND POTHOLE ALL EXISTING UTILITIES (SEWER, WATER, ELECTRICAL, COMMUNICATIONS, GAS, ETC., WHETHER OR NOT INDICATED ON THE PLANS) IN THE VICINITY OF THE PROPOSED CONSTRUCTION AND PRIOR TO ANY DEMOLITION OR EXCAVATION WORK. THE CONTRACTOR SHALL RECORD THE HORIZONTAL AND VERTICAL LOCATION, SIZE, AND MATERIAL OF CONSTRUCTION OF THE POTHOLED UTILITIES. THIS INFORMATION, ALONG WITH ANY CONFLICTS WITH PROPOSED CONSTRUCTION, SHALL BE SUBMITTED IN WRITING TO THE CONTRACTING OFFICER, PRIOR TO ANY DEMOLITION OR EXCAVATION WORK.

LEGEND

(2) PROTECT IN PLACE



PLAN
SCALE: 1 IN. = 100FT.

100 50 0 100 200
SCALE: 1" = 100'

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
1	MISC. REVISIONS.	9/11/14	MDN

REVISIONS

FORT IRWIN NATIONAL TRAINING CENTER
STORM DAMAGE REPAIR
SAN BERNARDINO COUNTY, CALIFORNIA
SECTION 3, CIVIL REPAIR

AREA 14
BRIDGE 9 & CHANNELS PLAN

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

SUBMITTED BY: ARTHUR Y. JUNG, PE, CHIEF, DESIGN BRANCH

DESIGNED BY: C.W
DRAWN BY: LHD
CHECKED BY: MDN
FILE NAME: C-1AREA14R1.DGN
POCA NO. W912PL-14-R-0089
DISTRICT FILE NO.

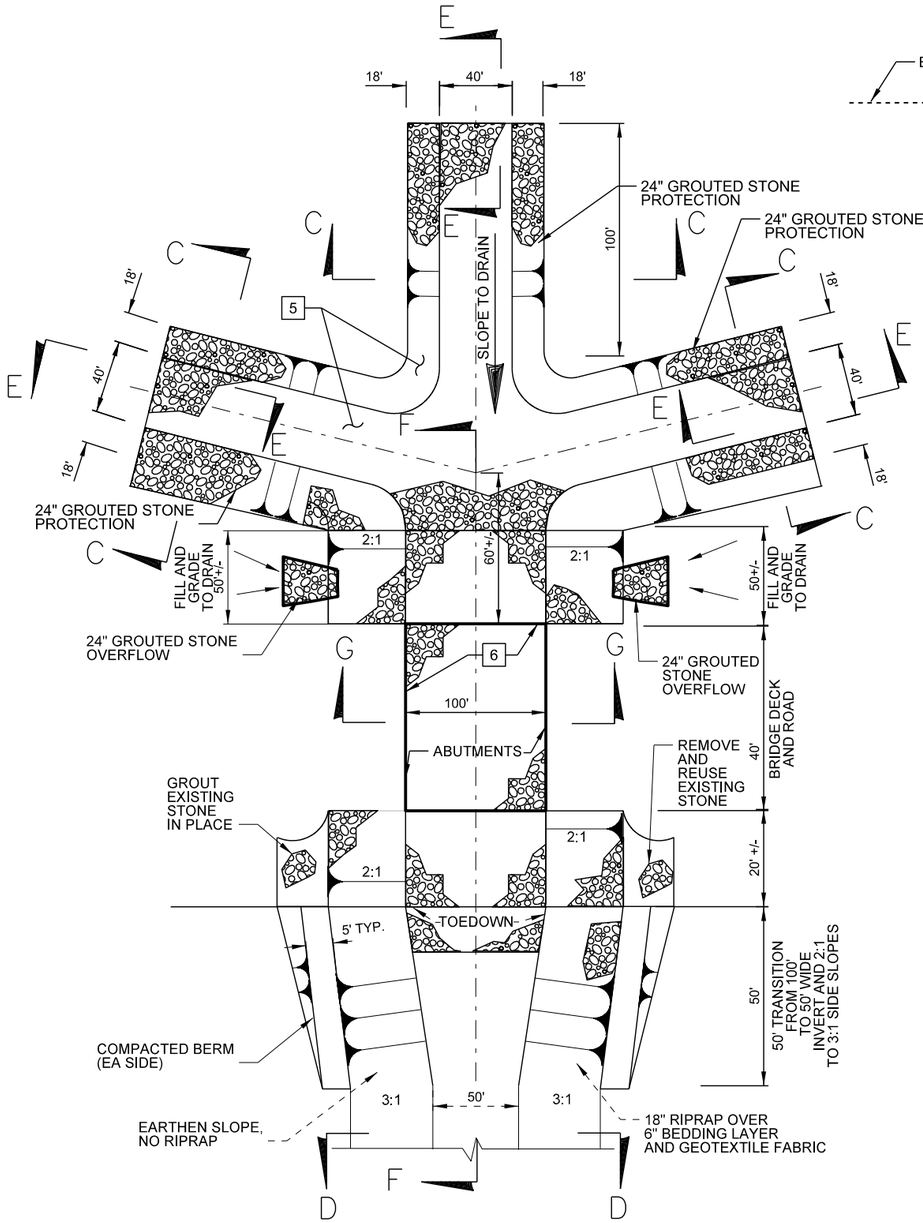
Scale: AS SHOWN
SHEET C-1

Plot Date: $date$

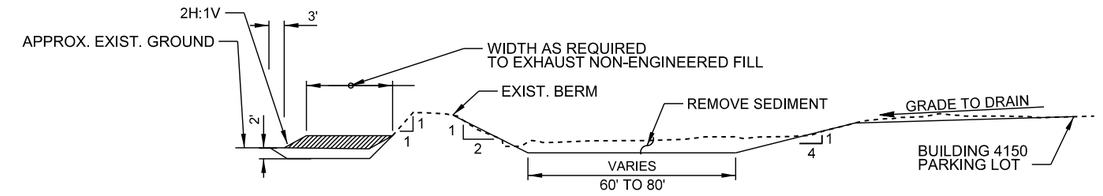
CONSTRUCTION NOTES:

5 REMOVE SEDIMENT, REESTABLISH CHANNEL AND COMPACT TO 95% MDD PER ASTM D1557. THEN GROUT WITH 24-IN GROUTED STONE ALONG BANKS AND BOTTOM OF CHANNEL ALONG 100' REACH OF EACH OF THREE CONFLUENCING CHANNELS.

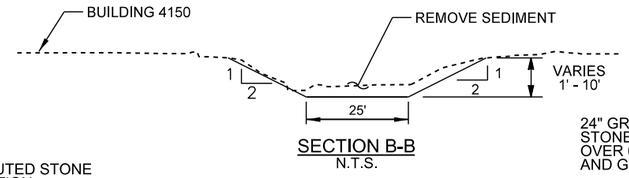
6 SEE SECTION F-F AND G-G FOR GROUTING STONE UNDER BRIDGE.



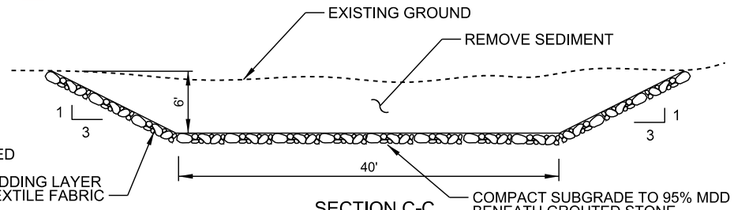
1 BRIDGE 9 PLAN
N.T.S.



1 SECTION A-A
N.T.S.



SECTION B-B
N.T.S.



SECTION C-C
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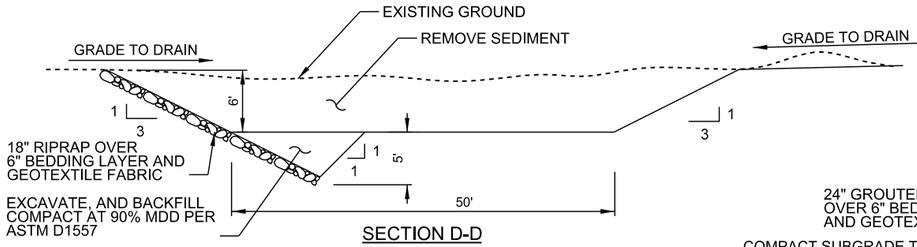

SECTION D-D
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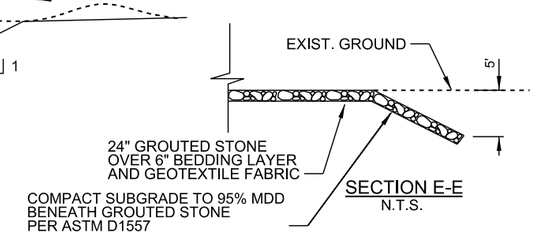
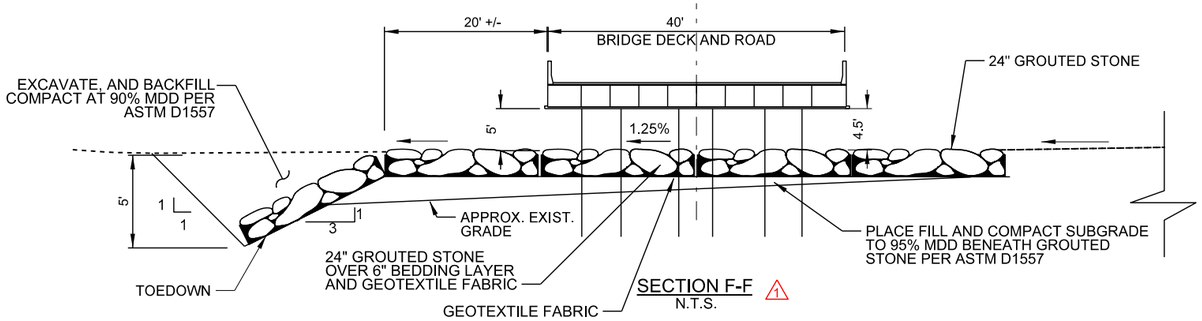
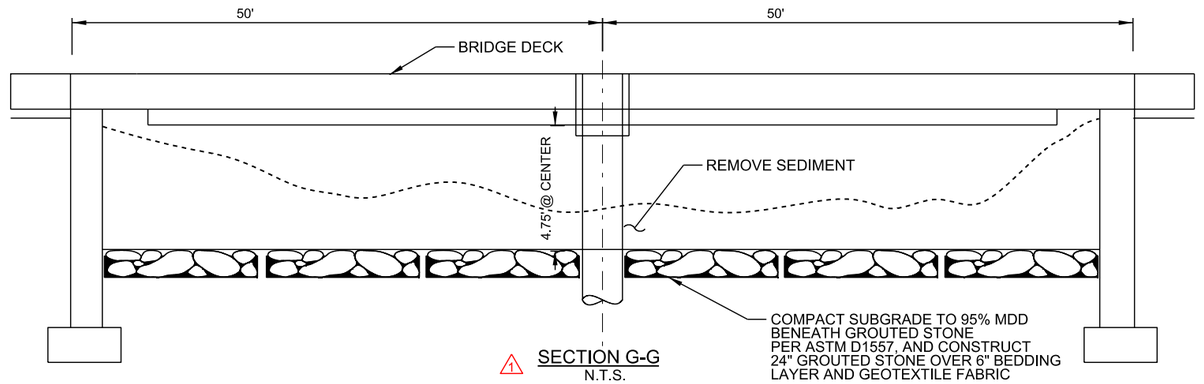


SECTION E-E
N.T.S.



SECTION F-F
N.T.S.



1 SECTION G-G
N.T.S.

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
1	MISC. REVISIONS.	9/11/14	MDN

REVISIONS

FORT IRWIN NATIONAL TRAINING CENTER
STORM DAMAGE REPAIR
SAN BERNARDINO COUNTY, CALIFORNIA
SECTION 3, CIVIL REPAIR

AREA 14
BRIDGE 9 & CHANNELS SECTIONS
BRIDGE

DESIGNED BY: CW
DRAWN BY: LHD
CHECKED BY: MDN
FILE NAME: C-2AREA14R1.DGN

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

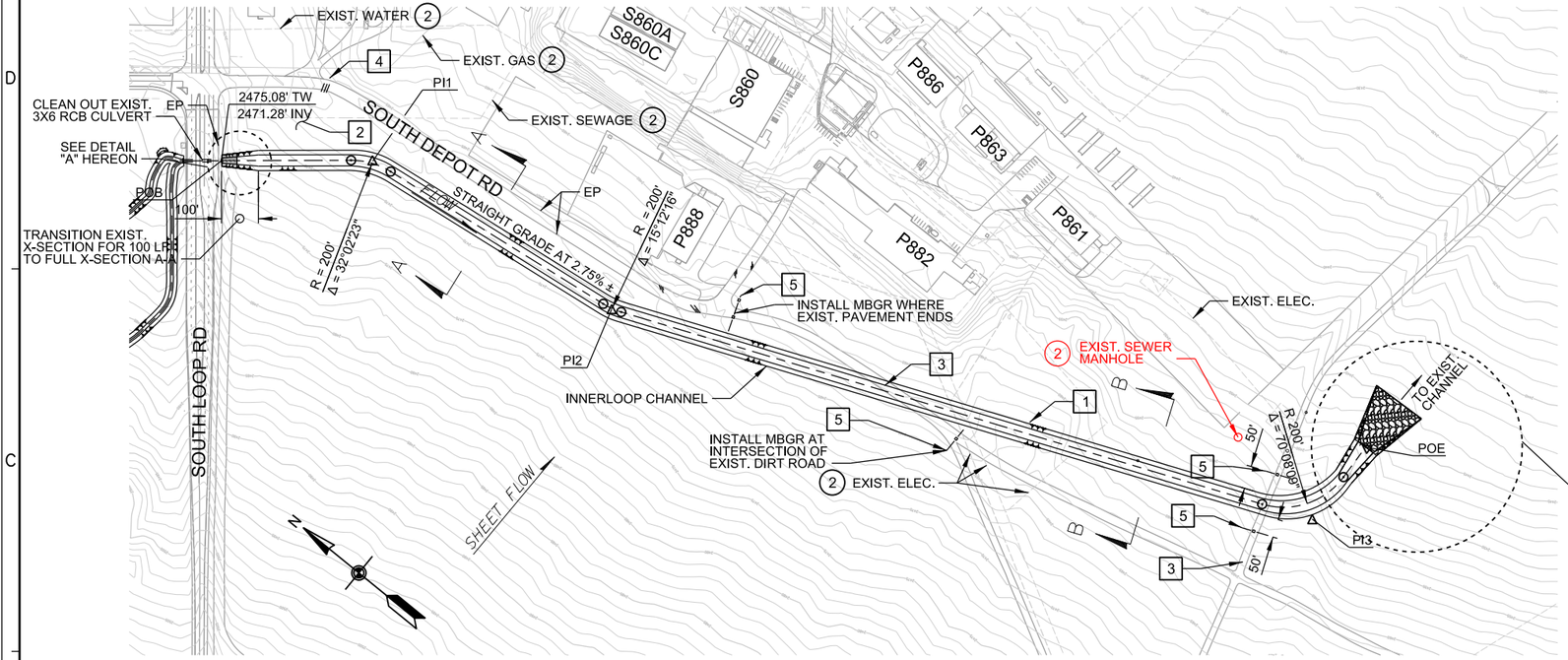
SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

POCA NO. W912PL-14-R-0089
DISTRICT FILE NO.

Scale: AS SHOWN
SHEET
C-2

Plot Date: $date$

THE CONTRACTOR SHALL LOCATE AND POTHOLE ALL EXISTING UTILITIES (SEWER, WATER, ELECTRICAL, COMMUNICATIONS, GAS, ETC., WHETHER OR NOT INDICATED ON THE PLANS) IN THE VICINITY OF THE PROPOSED CONSTRUCTION AND PRIOR TO ANY DEMOLITION OR EXCAVATION WORK. THE CONTRACTOR SHALL RECORD THE HORIZONTAL AND VERTICAL LOCATION, SIZE, AND MATERIAL OF CONSTRUCTION OF THE POTHOLE UTILITIES. THIS INFORMATION, ALONG WITH ANY CONFLICTS WITH PROPOSED CONSTRUCTION, SHALL BE SUBMITTED IN WRITING TO THE CONTRACTING OFFICER, PRIOR TO ANY DEMOLITION OR EXCAVATION WORK.



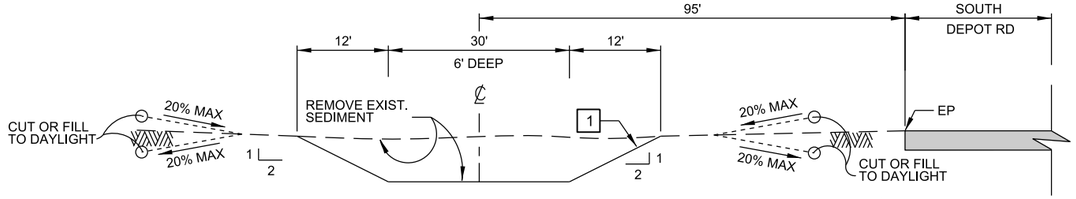
PLAN
SCALE: 1 IN. = 200 FT.
400 200 0 200 400
SCALE: 1" = 200'

VERT DATUM = NAVD 88
HORI DATUM = NAD 1983
PROJECTION = CA ZONE V

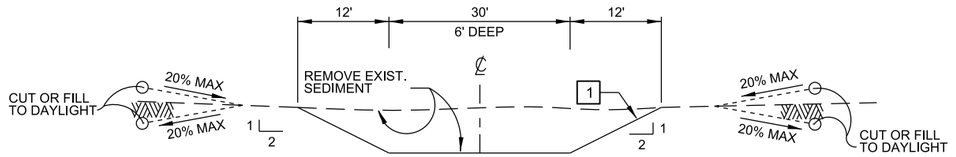
BASIS OF BEARING

	BEARING	LENGTH
CL SO. LOOP RD.	S50°55'25"W	N/A

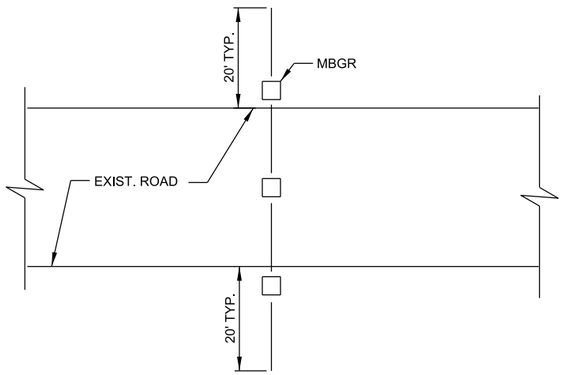
	INNERLOOP CHANNEL ℄ DATA	
	BEARING	DISTANCE
POB	S39°18' 34"E	404.84'
PI1		
PI2	S7°16' 12"E	755.21'
PI2	S22°28' 28"E	1960.54'
PI3		
POE	N87°23' 23"E	240.40'



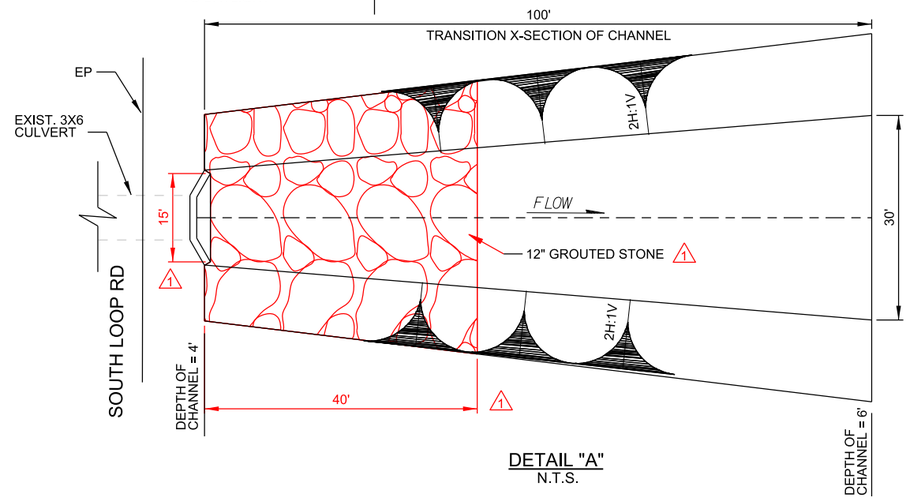
SECTION A-A
N.T.S. (LOOKING U/S)



SECTION B-B
N.T.S. (LOOKING U/S)



5 GUARDRAIL PLAN
N.T.S.



DETAIL "A"
N.T.S.

LEGEND

(2) PROTECT IN PLACE

CONSTRUCTION NOTES:

1. CONSTRUCT CHANNEL. SEE DETAILS ABOVE.
2. FILL EXIST. CHANNELS TO EXIST. ADJACENT GRADE WITH NON-ENGINEERED FILL AND SLOPE TO DRAIN TOWARDS NEW CHANNEL. COMPACT TO 90% MDD PER ASTM D 1557.
3. DIRT ROAD ACCESS TO BE ABANDONED AND REROUTED BY OTHERS.
4. ABANDON 3 EXIST. 30" CMP ON BOTH ENDS. PLUG SOLID WITH 2000 PSI CONCRETE.
5. INSTALL METAL BEAM GUARDRAIL PER MISCELLANEOUS DETAILS SHEETS. METAL BEAM GUARDRAILS SHALL BE INSTALLED AT MIN 20 LF FROM EDGE OF EACH SIDE OF EXIST. ROAD. SEE MBGR PLAN HEREON.

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
1	ADDED 12" GROUTED STONE AND MISC. REVISIONS	9/10/14	MDN

REVISIONS

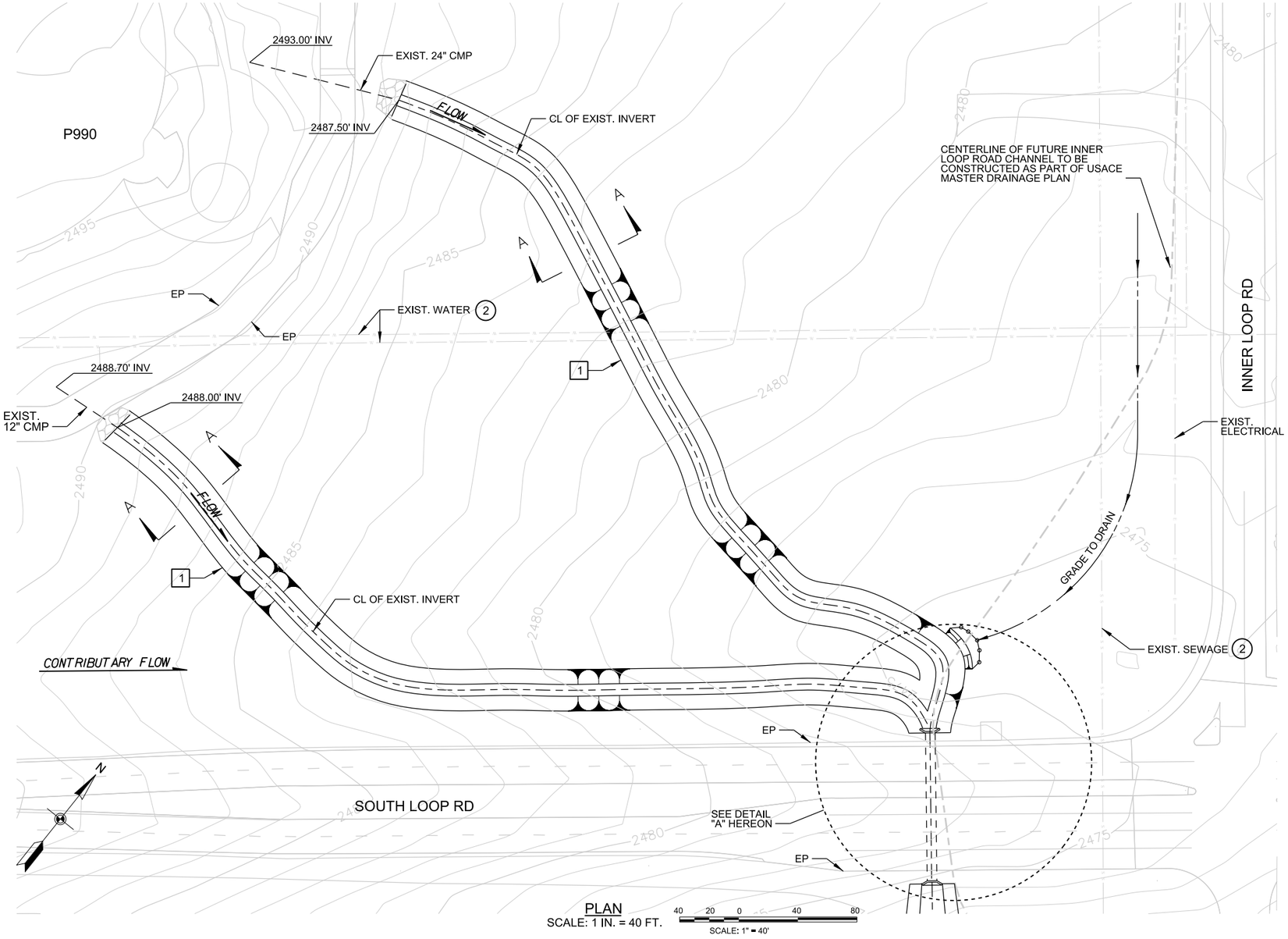
FORT IRWIN NATIONAL TRAINING CENTER
STORM DAMAGE REPAIR
SAN BERNARDINO COUNTY, CALIFORNIA
SECTION 3, CIVIL REPAIR

AREA 41
INNERLOOP CHANNEL PLAN & SECTIONS

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

SUBMITTED BY: ARTHUR Y. JUNG, PE, CHIEF, DESIGN BRANCH
DESIGNED BY: MM
DRAWN BY: MM
CHECKED BY: MDN
DISTRICT FILE NO. POCA NO. W912PL-14-R-0089
FILE NAME: C-3ARE41R1.DGN
Scale: AS SHOWN
SHEET C-3

Plot Date: $date$



PLAN
SCALE: 1 IN. = 40 FT.

40 20 0 40 80
SCALE: 1" = 40'

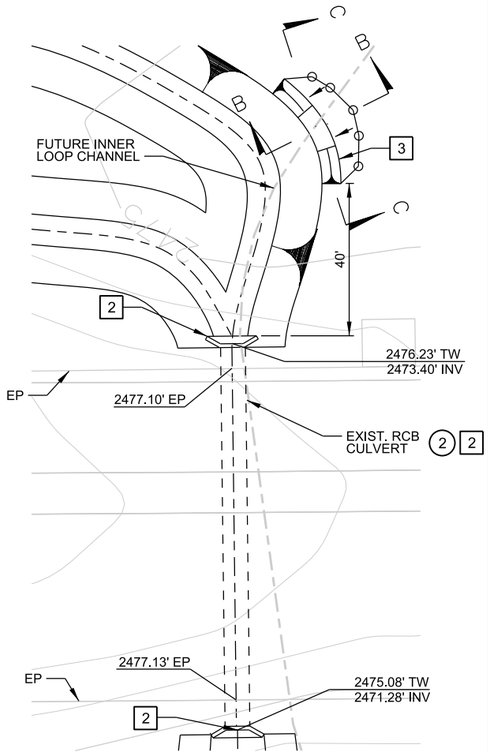
THE CONTRACTOR SHALL LOCATE AND POTHOLE ALL EXISTING UTILITIES (SEWER, WATER, ELECTRICAL, COMMUNICATIONS, GAS, ETC., WHETHER OR NOT INDICATED ON THE PLANS) IN THE VICINITY OF THE PROPOSED CONSTRUCTION AND PRIOR TO ANY DEMOLITION OR EXCAVATION WORK. THE CONTRACTOR SHALL RECORD THE HORIZONTAL AND VERTICAL LOCATION, SIZE, AND MATERIAL OF CONSTRUCTION OF THE POTHOLE UTILITIES. THIS INFORMATION, ALONG WITH ANY CONFLICTS WITH PROPOSED CONSTRUCTION, SHALL BE SUBMITTED IN WRITING TO THE CONTRACTING OFFICER, PRIOR TO ANY DEMOLITION OR EXCAVATION WORK.

CONSTRUCTION NOTES:

1. REPAIR EXIST. CHANNEL. UNCOMPACTED EXCAVATED MATERIAL SHALL BE SPREAD AT 6" MAX LAYER ON TOP OF BANK. SEE DETAILS BELOW.
2. CLEAN OUT EXIST. RCB CULVERT.
3. CONSTRUCT EARTHEN SPILLWAY. SEE DETAILS BELOW.

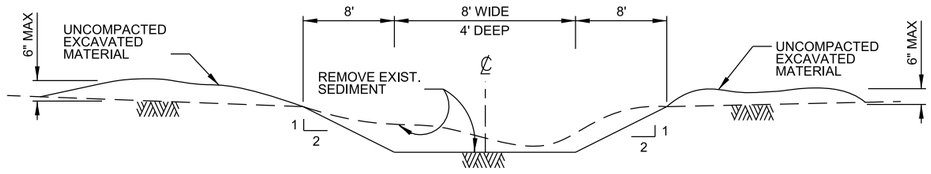
LEGEND

(2) PROTECT IN PLACE

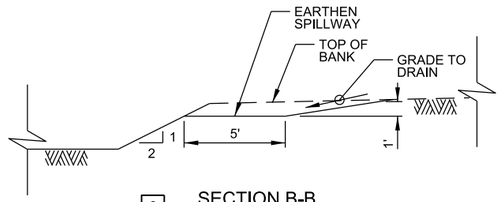


DETAIL "A"
SCALE: 1 IN. = 20 FT.

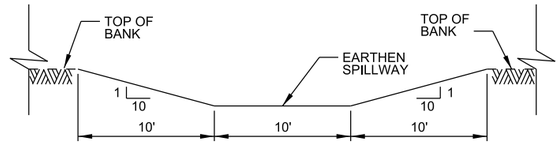
20 10 0 20 40
SCALE: 1" = 20'



1 SECTION A-A
N.T.S. (LOOKING U/S)



3 SECTION B-B
N.T.S.



3 SECTION C-C
N.T.S.

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

FORT IRWIN NATIONAL TRAINING CENTER
STORM DAMAGE REPAIR
SAN BERNARDINO COUNTY, CALIFORNIA
SECTION 3, CIVIL REPAIR

AREA 45
PLAN & SECTIONS

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

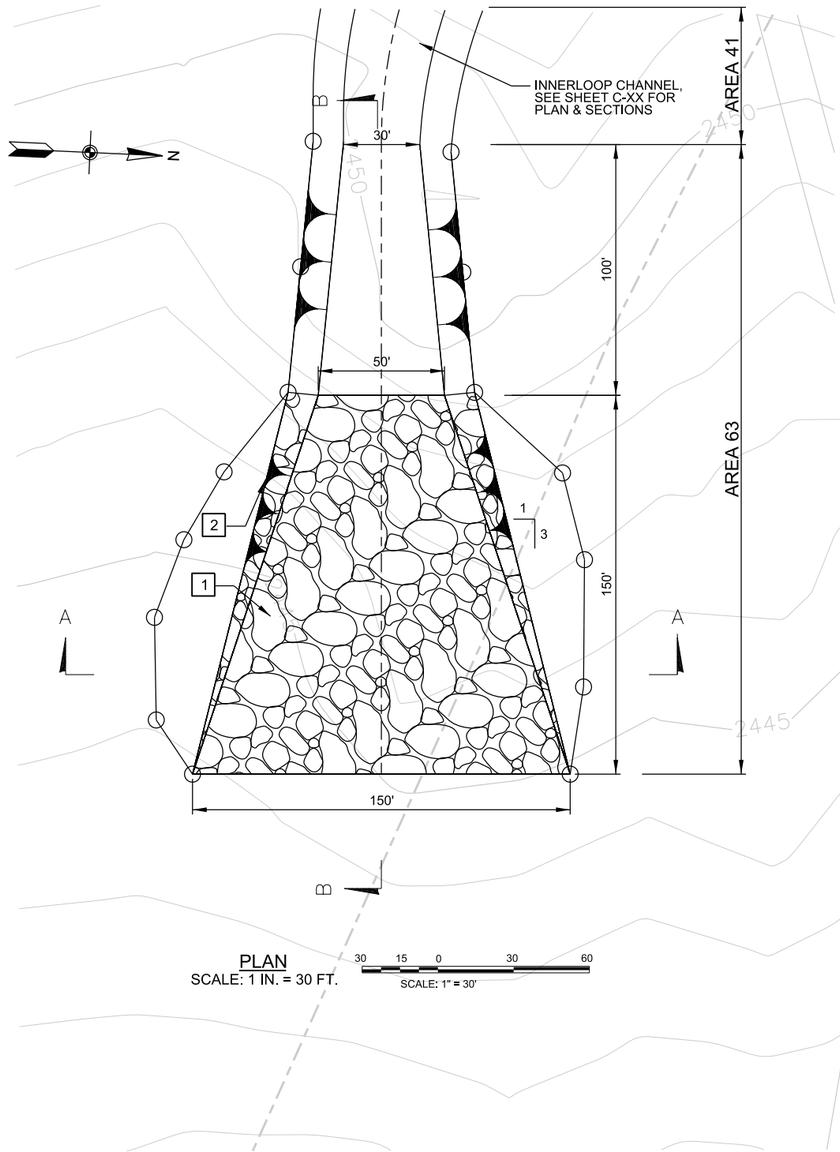
DESIGNED BY:	MM	CHECKED BY:	MDN	FILE NAME: C-4AREA45
DRAWN BY:	MM			

SUBMITTED BY: ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

DISTRICT FILE NO. POCA NO. W912PL-14-R-0089

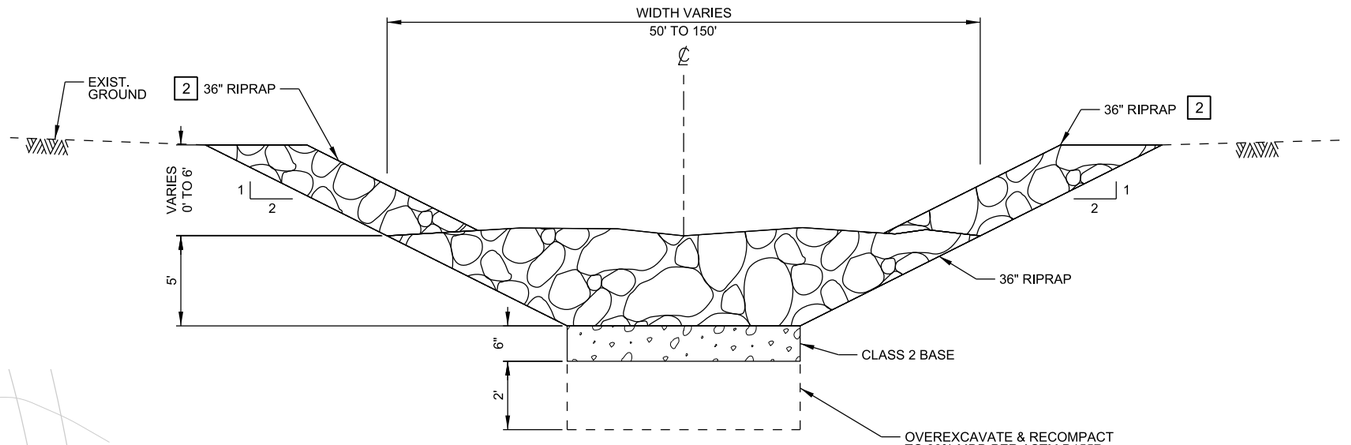
Scale: AS SHOWN
SHEET C-4

Plot Date: $date$

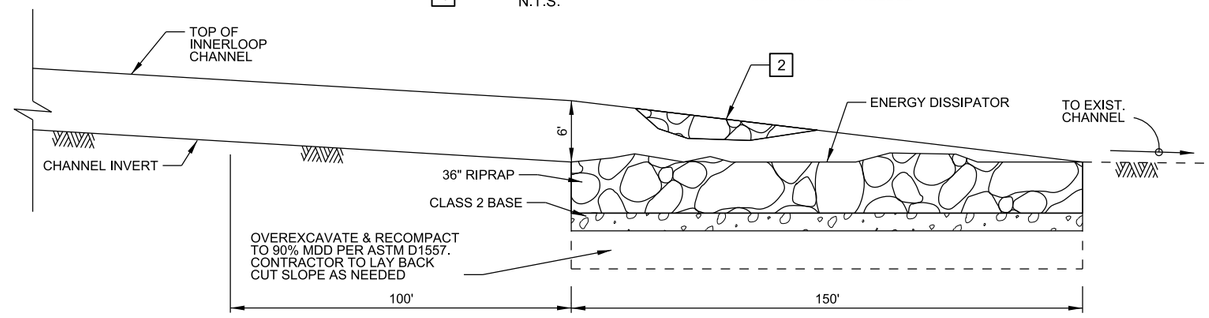


PLAN
SCALE: 1 IN. = 30 FT.

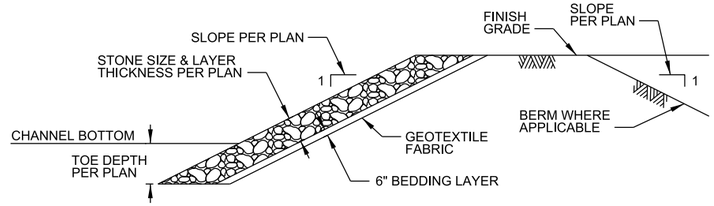
30 15 0 30 60
SCALE: 1" = 30'



1 SECTION A-A
N.T.S.



1 SECTION B-B
N.T.S.



2 TYP. RIPRAP SECTION
N.T.S.

CONSTRUCTION NOTES:

1. CONSTRUCT ENERGY DISSIPATOR WITH 36" RIPRAP. SEE DETAILS ABOVE.
2. PLACE 1 LAYER OF 36" RIPRAP ON SLOPE. SEE DETAILS ABOVE.

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

FORT IRWIN NATIONAL TRAINING CENTER
STORM DAMAGE REPAIR
SAN BERNARDINO COUNTY, CALIFORNIA
SECTION 3, CIVIL REPAIR

AREA 63
ENERGY DISSIPATOR DETAILS

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

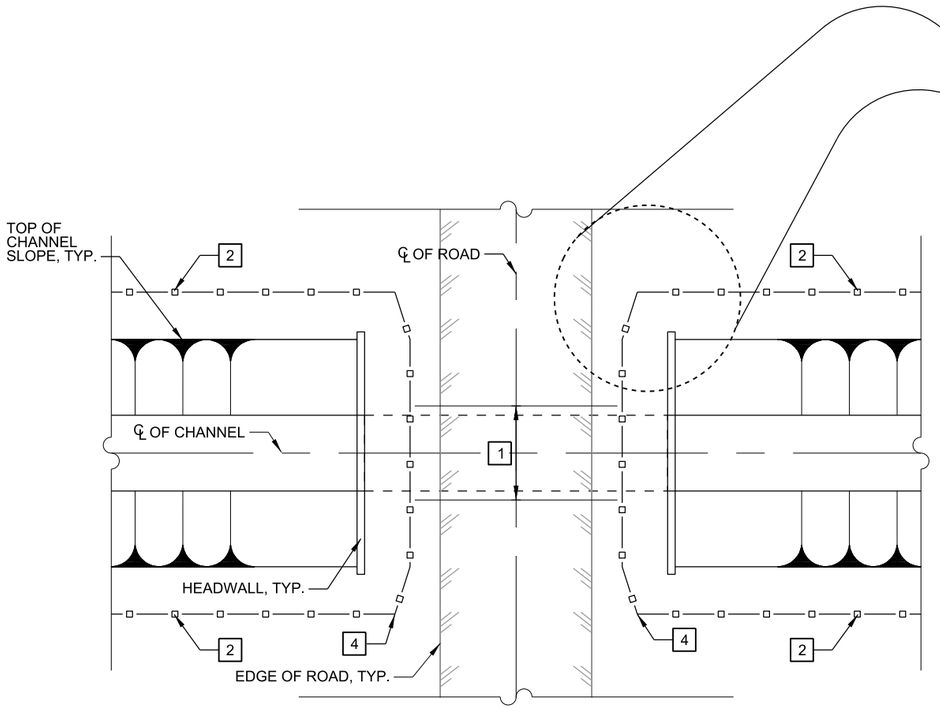
SUBMITTED BY:
ARTHUR Y. JUING, PE
CHIEF, DESIGN BRANCH

DESIGNED BY: MM
DRAWN BY: MM
CHECKED BY: MDN

DISTRICT FILE NO. POCA NO. W912PL-14-R-0089
FILE NAME: C-5AREA63.DGN

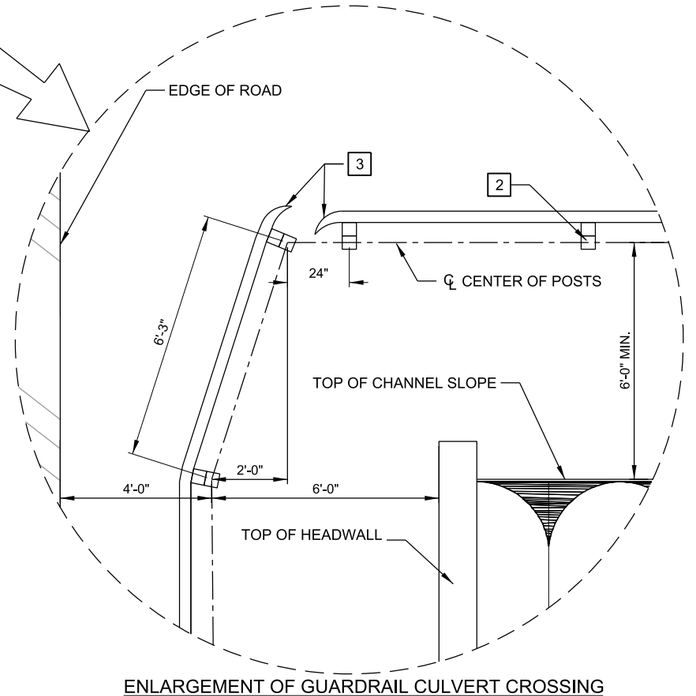
Scale: AS SHOWN
SHEET C-5

Plot Date: $date$



10 5 0 10 20
SCALE: 1" = 10'

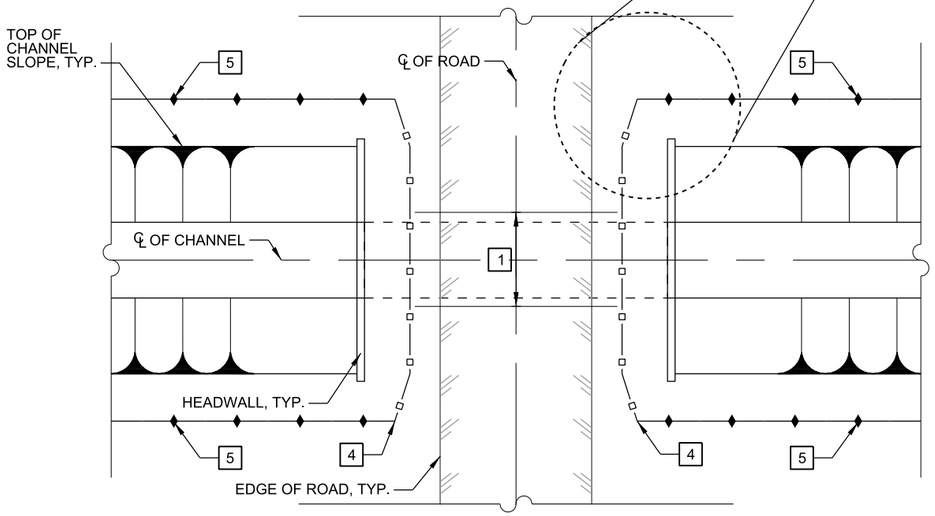
TYPICAL GUARDRAIL CULVERT CROSSING PLAN
WITH GUARDRAIL PARALLEL TO CHANNEL
SCALE: 1 IN. = 10 FT.



ENLARGEMENT OF GUARDRAIL CULVERT CROSSING
WITH MBGR PARALLEL TO CHANNEL
N.T.S.

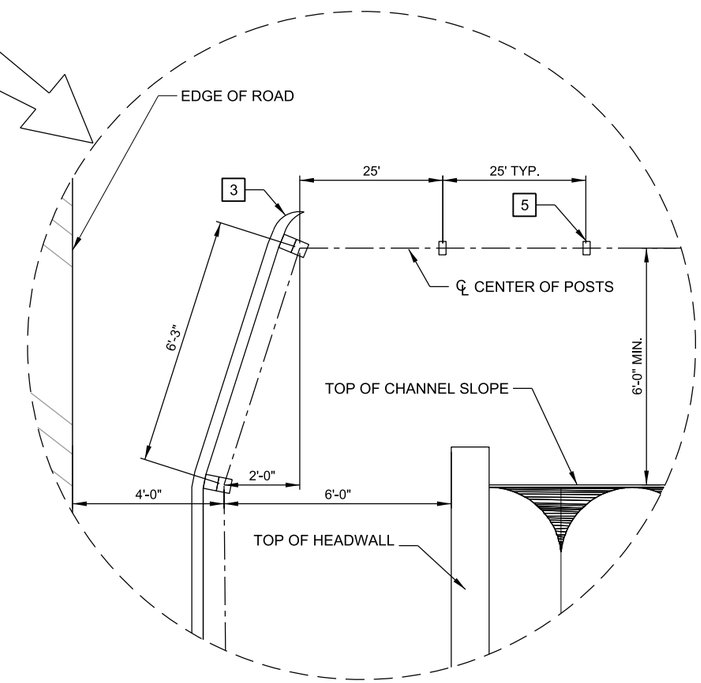
CONSTRUCTION NOTES:

1. SEE TYPICAL MBGR INSTALLATION ABOVE CULVERT DETAIL.
2. SEE TYPICAL MBGR ROADWAY INSTALLATION DETAIL FOR ALL MBGR POSTS NOT OVER A CULVERT.
3. SEE TERMINAL SECTION DETAIL.
4. SEE MBGR POST DELINEATOR DETAIL.
5. SEE METAL POST DELINEATOR DETAIL FOR ALL DELINEATORS RUNNING PARALLEL TO CHANNEL.



10 5 0 10 20
SCALE: 1" = 10'

TYPICAL GUARDRAIL CULVERT CROSSING PLAN
WITH DELINEATORS PARALLEL TO CHANNEL
SCALE: 1 IN. = 10 FT.



ENLARGEMENT OF GUARDRAIL CULVERT CROSSING
WITH DELINEATORS PARALLEL TO CHANNEL
N.T.S.

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

FORT IRWIN NATIONAL TRAINING CENTER
STORM DAMAGE REPAIR
SAN BERNARDINO COUNTY, CALIFORNIA
SECTION 3, CIVIL REPAIR

MISCELLANEOUS DETAILS
METAL BEAM GUARDRAIL LAYOUT

DESIGNED BY: DW
DRAWN BY: DW
CHECKED BY: MDN
FILE NAME: M-1.DGN

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

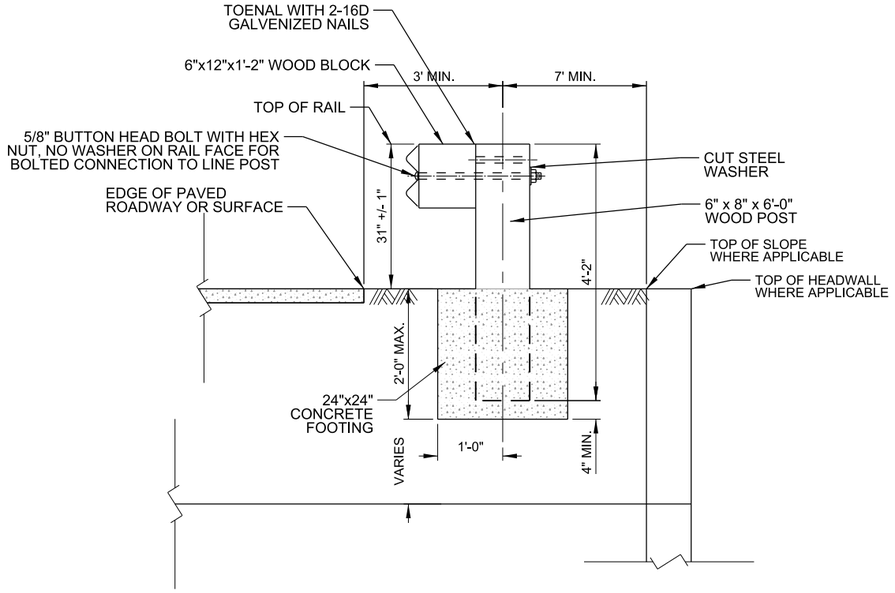
POCA NO. W912PL-14-R-0089

DISTRICT FILE NO.

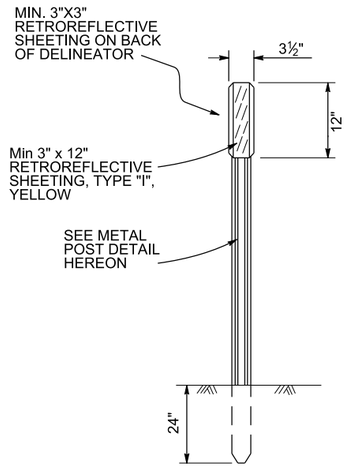
Scale: AS SHOWN
SHEET
M-1

Plot Date: $date$

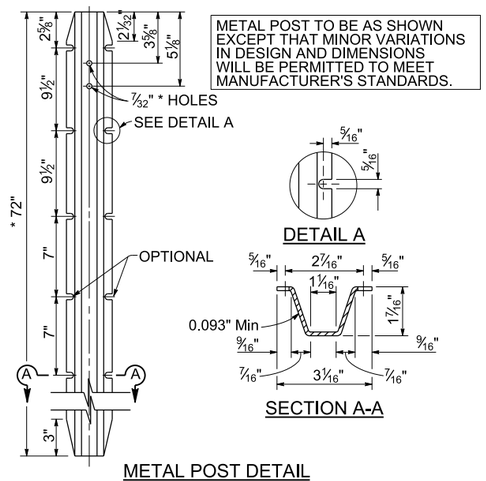
VALUE ENGINEERING PAYS



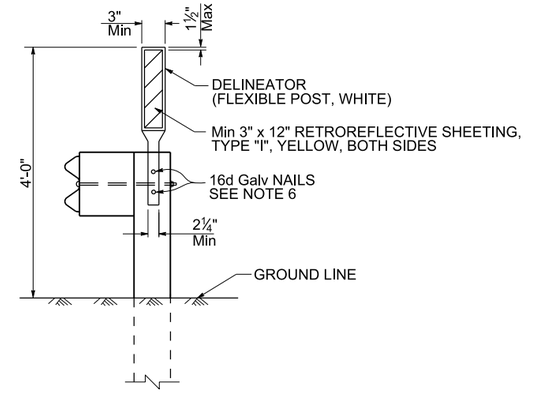
2 TYPICAL GUARDRAIL ROADWAY INSTALLATION
N.T.S.



5 METAL POST DELINEATOR
N.T.S.



METAL POST DETAIL
N.T.S.



4 GUARDRAIL POST DELINEATOR
N.T.S.

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

FORT IRWIN NATIONAL TRAINING CENTER
STORM DAMAGE REPAIR
SAN BERNARDINO COUNTY, CALIFORNIA
SECTION 3, CIVIL REPAIR

MISCELLANEOUS DETAILS
GUARDRAIL & DELINEATOR DETAILS

DESIGNED BY: DW
DRAWN BY: DW
CHECKED BY: MDN
FILE NAME: M-2.DGN

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

DISTRICT FILE NO.

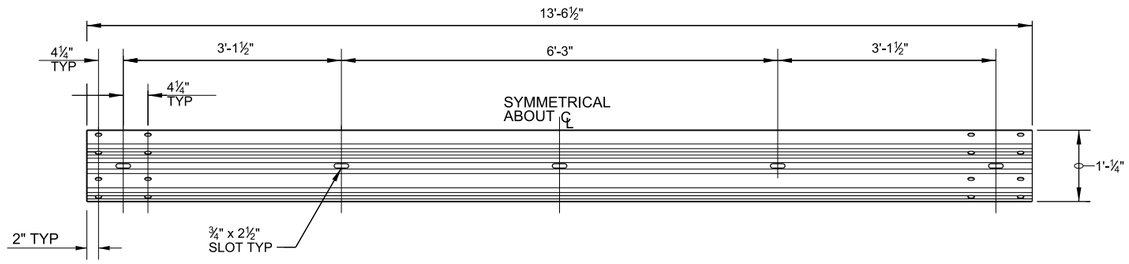
POCA NO. W912PL-14-R-0089

Scale: AS SHOWN

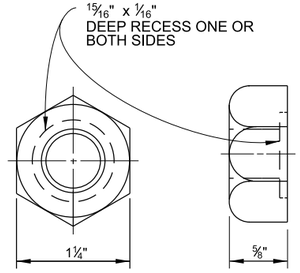
SHEET
M-2

SAFETY! PAYS

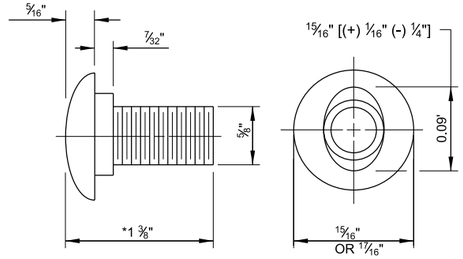
Plot Date: $date$



TYPICAL RAIL ELEMENT
N.T.S.

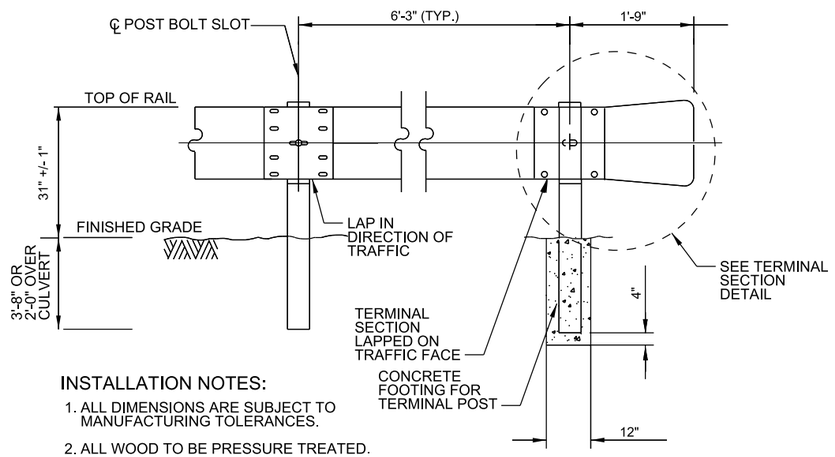


5/8" RECESS NUT
N.T.S.



*POST BOLT: SIMILAR EXCEPT LENGTH

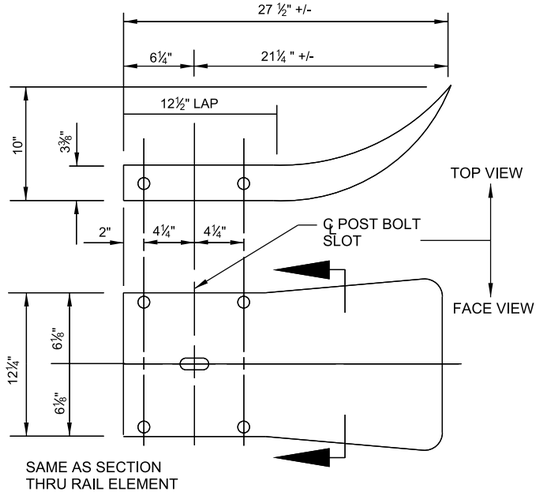
5/8" BUTTON HEAD BOLT
N.T.S.



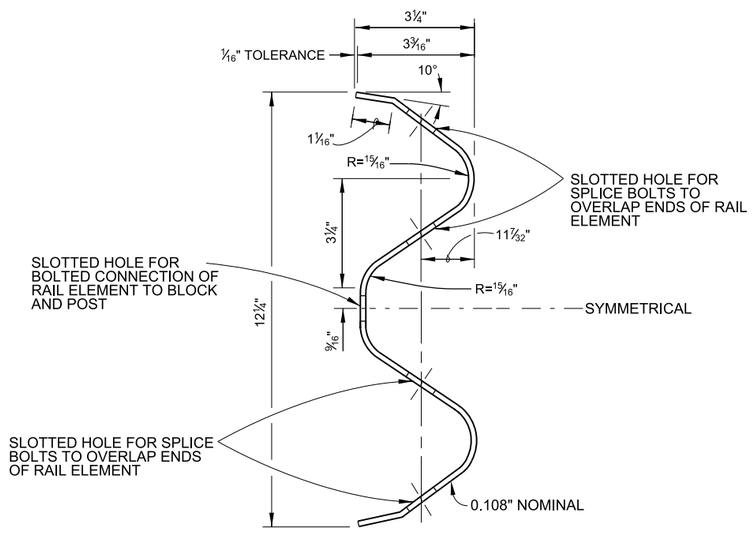
INSTALLATION NOTES:

1. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
2. ALL WOOD TO BE PRESSURE TREATED.

METAL BEAM GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS
N.T.S.



3 TERMINAL SECTION
N.T.S.



SECTION THRU RAIL ELEMENT
N.T.S.

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

FORT IRWIN NATIONAL TRAINING CENTER
STORM DAMAGE REPAIR
SAN BERNARDINO COUNTY, CALIFORNIA
SECTION 3, CIVIL REPAIR

MISCELLANEOUS DETAILS
GUARDRAIL DETAILS

DESIGNED BY: DW
DRAWN BY: DW
CHECKED BY: MDN
FILE NAME: M-3.DGN

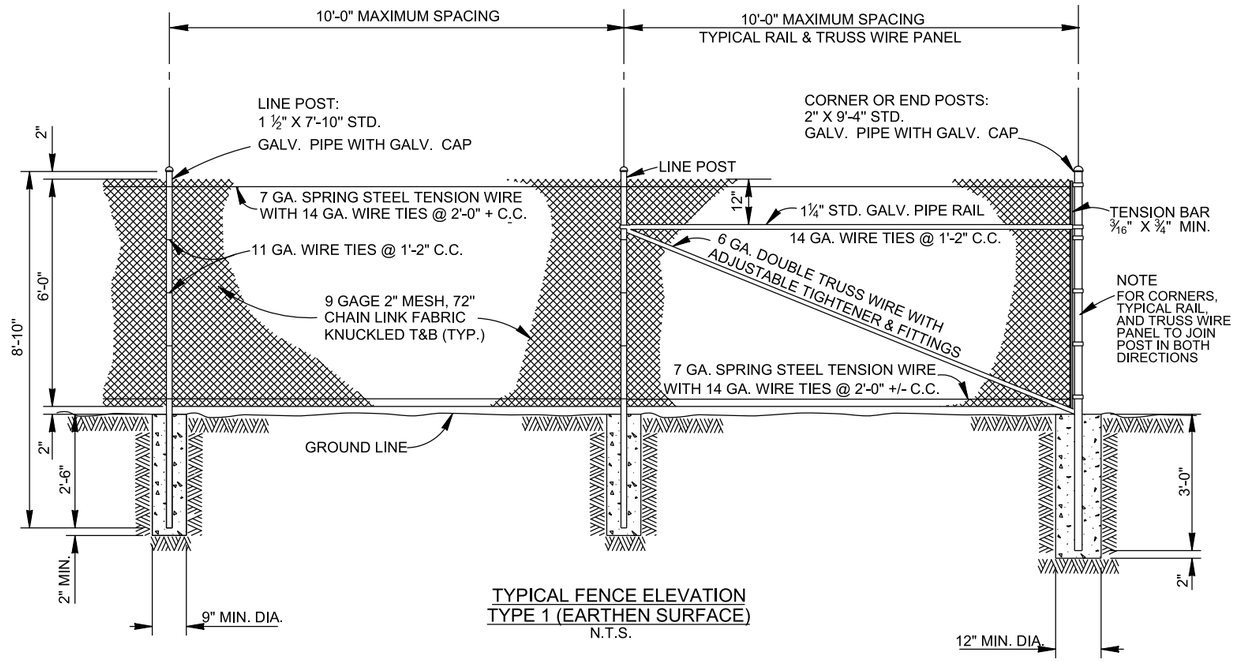
U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

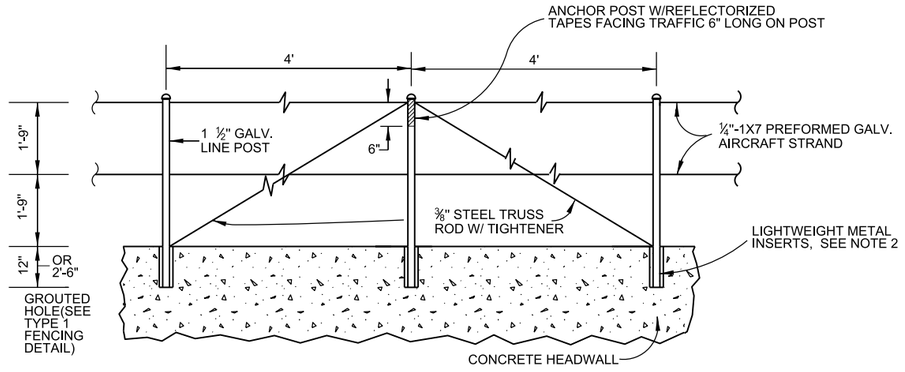
POCA NO. W912PL-14-R-0089
DISTRICT FILE NO.

Scale: AS SHOWN
SHEET
M-3

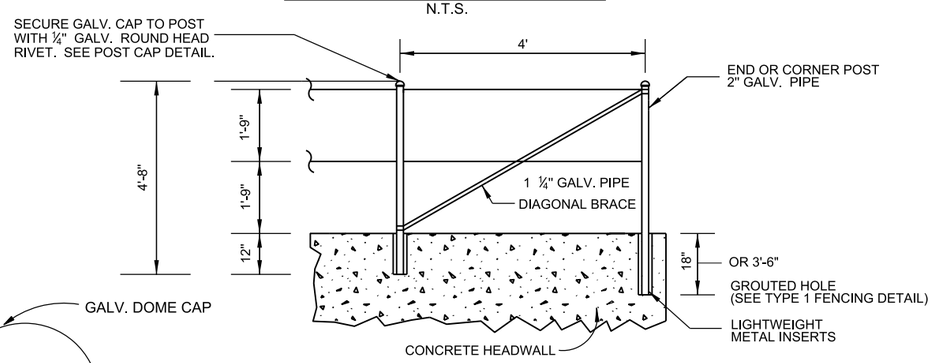
Plot Date: $date$



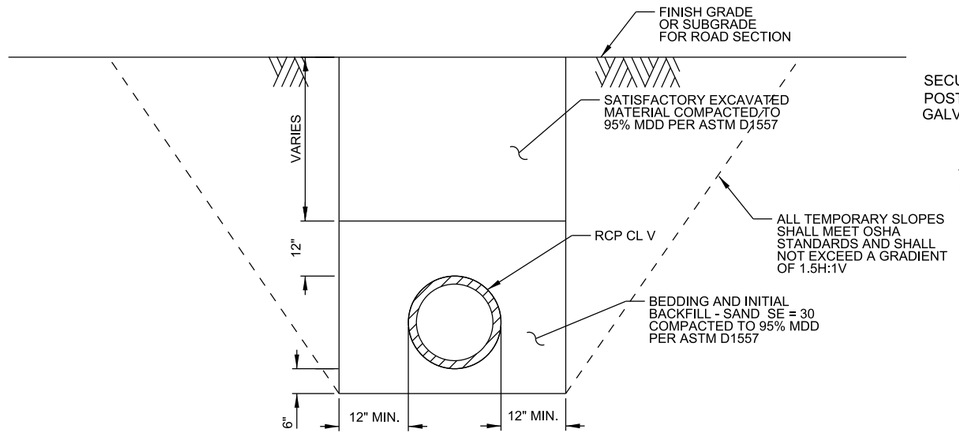
TYPICAL FENCE ELEVATION
TYPE 1 (EARTHEN SURFACE)
N.T.S.



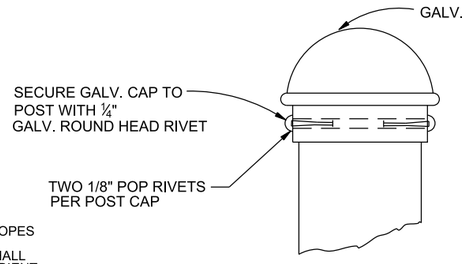
TYPICAL TYPE 2 FENCE ELEVATION
N.T.S.



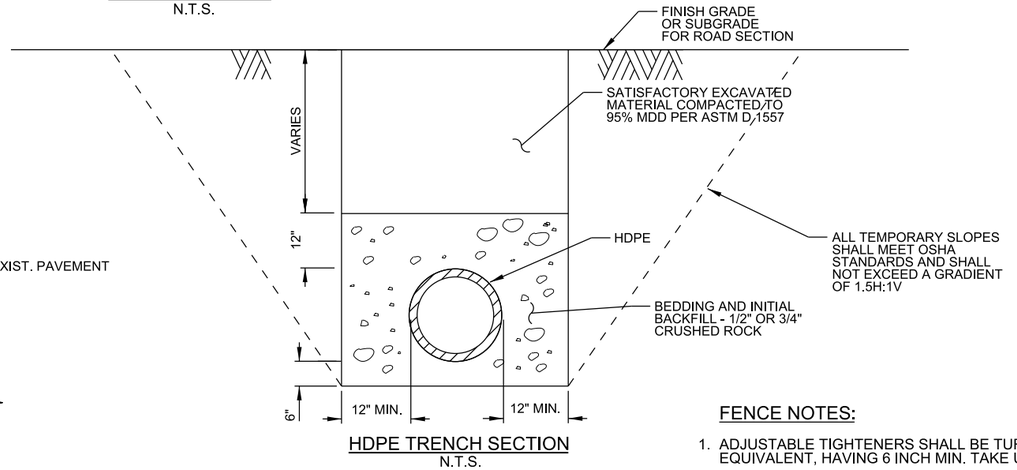
TYPICAL TYPE 2 END POST DETAIL
N.T.S.



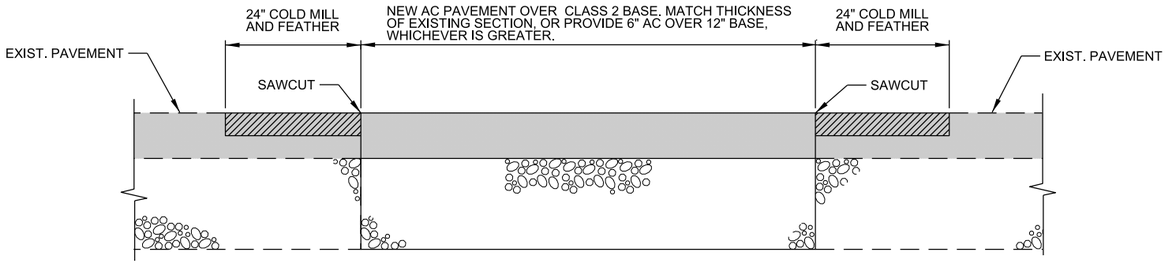
RCP TRENCH SECTION
N.T.S.



POST CAP DETAIL
N.T.S.



HDPE TRENCH SECTION
N.T.S.



AC PAVEMENT REPAIR SECTION
N.T.S.

FENCE NOTES:

1. ADJUSTABLE TIGHTENERS SHALL BE TURNBUCKLE OR EQUIVALENT, HAVING 6 INCH MIN. TAKE UP.
2. LIGHTWEIGHT METAL INSERTS SHALL BE METAL TUBES WITH I.D. 2" GREATER THAN O.D. OF PIPE USED. POSTS ARE TO BE GROUTED INTO INSERTS.

SYMBOL	DESCRIPTIONS REVISIONS	DATE	APPROVAL

FORT IRWIN NATIONAL TRAINING CENTER
STORM DAMAGE REPAIR
SAN BERNARDINO COUNTY, CALIFORNIA
SECTION 3, CIVIL REPAIR

MISCELLANEOUS DETAILS
FENCING & TRENCHING DETAILS

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

SUBMITTED BY: ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

DESIGNED BY: DW
DRAWN BY: DW
CHECKED BY: MDN

DISTRICT FILE NO. | POCA NO. W912PL-14-R-0089 | FILE NAME: M-4.DGN

Scale: AS SHOWN

SHEET
M-4

Plot Date: $date$

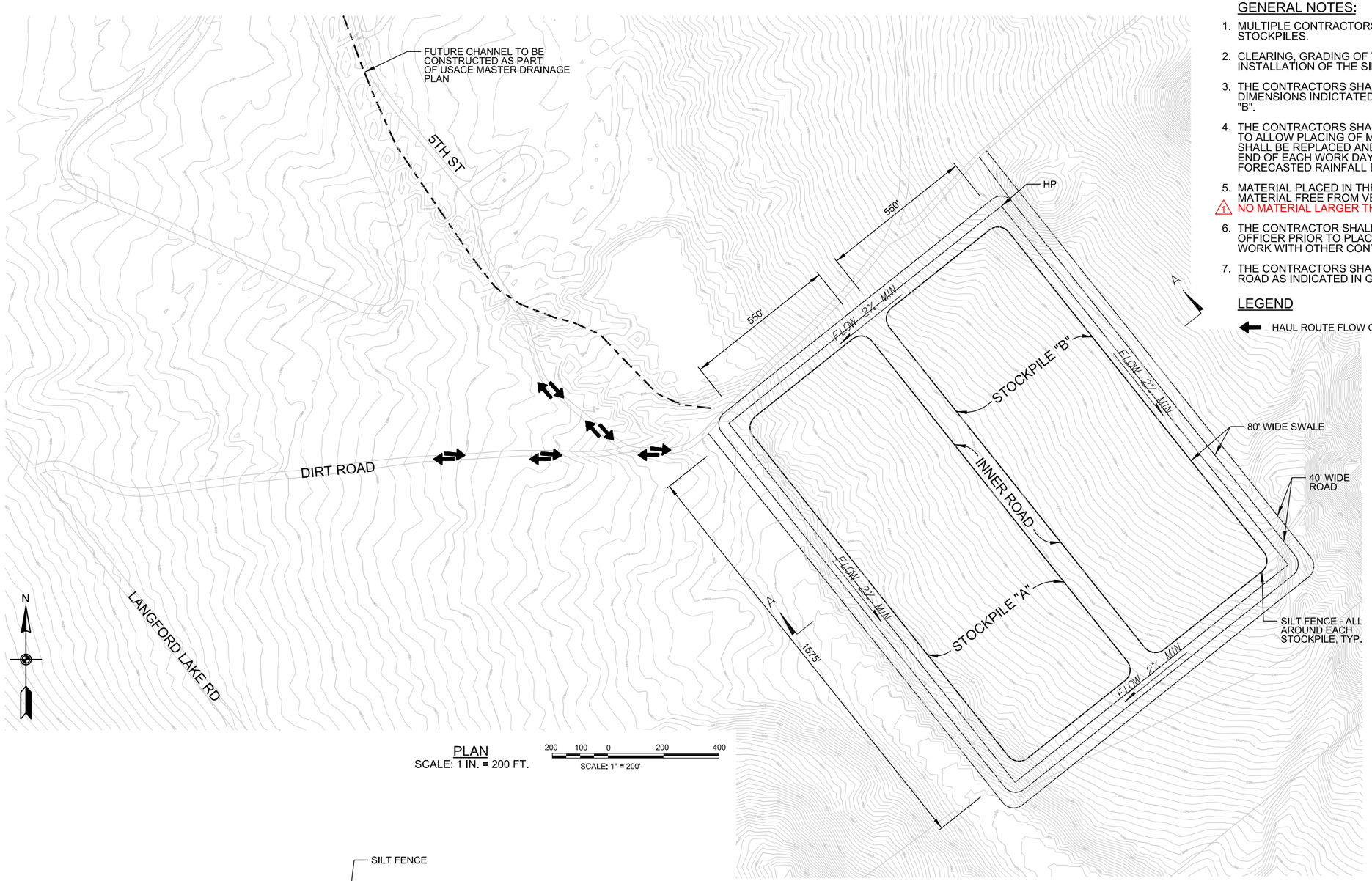
8 7 6 5 VALUE ENGINEERING PAYS 4 3 2 1

GENERAL NOTES:

1. MULTIPLE CONTRACTORS WILL BE DEPOSITING MATERIAL IN THESE STOCKPILES.
2. CLEARING, GRADING OF THE PERIMETER ROADS & SWALE AND INSTALLATION OF THE SILT FENCE, WILL BE DONE BY OTHERS.
3. THE CONTRACTORS SHALL FILL STOCKPILE "A" TO 10' HIGH AND THE DIMENSIONS INDICTATED PRIOR TO PLACING MATERIAL IN STOCKPILE "B".
4. THE CONTRACTORS SHALL REMOVE AND REPLACE THE SILT FENCING TO ALLOW PLACING OF MATERIAL IN THE STOCKPILES. SILT FENCE SHALL BE REPLACED AND INTACT AROUND BOTH STOCKPILES AT THE END OF EACH WORK DAY, AND IMMEDIATELY PRIOR TO ANY FORECASTED RAINFALL EVENT.
5. MATERIAL PLACED IN THE STOCKPILES SHALL BE CLEAN, EXCAVATED MATERIAL FREE FROM VEGETATION, TRASH, OR RUBBLE.
   ⚠1 NO MATERIAL LARGER THAN 8" SHALL BE PLACED IN THE STOCKPILE.
6. THE CONTRACTOR SHALL COORDINATE WITH THE CONTRACTING OFFICER PRIOR TO PLACEMENT OF MATERIAL IN THE STOCKPILE AND WORK WITH OTHER CONTRACTORS TO AVOID CONFLICTS.
7. THE CONTRACTORS SHALL MAINTAIN SWALE, SILT FENCE, GRADED ROAD AS INDICATED IN GOOD WORKING ORDER.

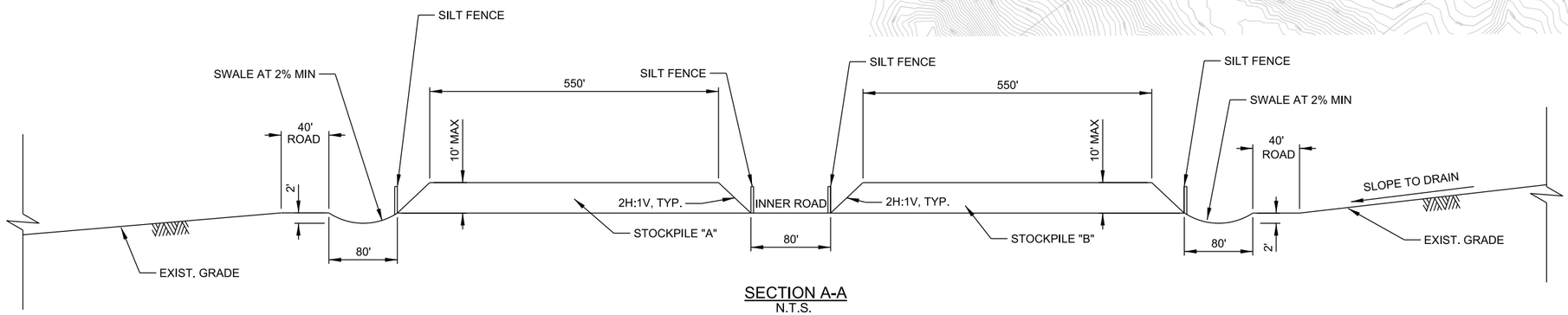
LEGEND

HAUL ROUTE FLOW OF TRAFFIC



PLAN
SCALE: 1 IN. = 200 FT.

200 100 0 200 400
SCALE: 1" = 200'



SECTION A-A
N.T.S.

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
1	NOTE 5 REVISION	9/10/14	MDN

REVISIONS

FORT IRWIN NATIONAL TRAINING CENTER
STORM DAMAGE REPAIR
SAN BERNARDINO COUNTY, CALIFORNIA
SECTION 3, CIVIL REPAIR

DESIGNATED STOCKPILE LOCATION

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

SUBMITTED BY: ARTHUR Y. JUNG, PE, CHIEF, DESIGN BRANCH

DESIGNED BY: CW
DRAWN BY: CW
CHECKED BY: MDN

DISTRICT FILE NO. POCA NO. W912PL-14-R-0089 FILE NAME: SP-1R1.DGN

Scale: AS SHOWN
SHEET SP-1

8 7 6 5 SAFETY! PAYS 4 3 2 1

Plot Date: $date$