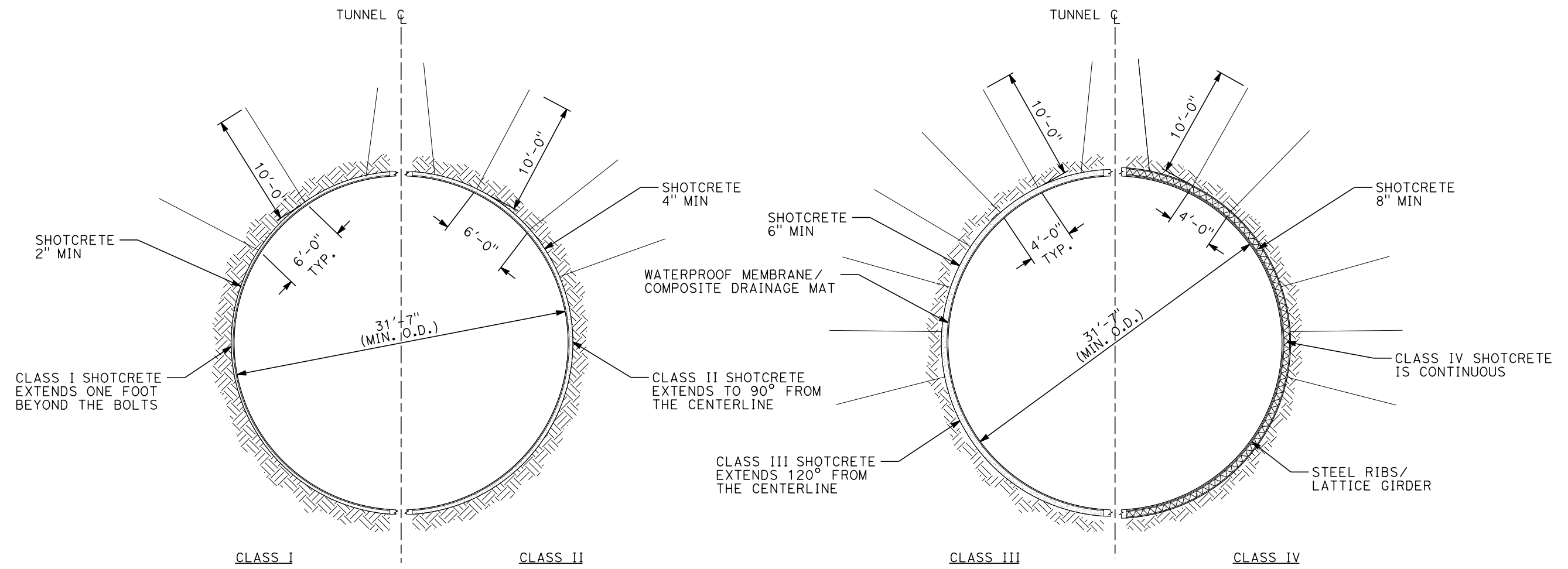


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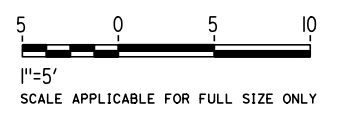
1/20/2021

ics\_user\_17609



**GENERAL NOTES:**

1. OPEN TBM METHODS ARE ADOPTED FOR THE 15% IN-PROGRESS DESIGN OF THE LONGER (GREATER THAN 1 MILE) TWIN, SINGLE TRACK 7, 8 & 9, SITED IN HARD ROCK UNITS.
2. EXCAVATION, GROUND SUPPORT, PILLAR WIDTH, LINING THICKNESS AND WATERTIGHTNESS PROVISIONS WILL BE OPTIMIZED BASED ON SITE INVESTIGATION RESULT AND TUNNEL SPECIFIC DESIGN WORK
3. TYPICAL CROSS-SECTION REQUIRES FURTHER STUDY TO EVALUATE DYNAMIC AIRFLOW/PRESSURE LEVELS UNDER HIGH SPEED OPERATING CONDITIONS, AND TO FURTHER REFINE SPACE ALLOTTED FOR STRUCTURES, EQUIPMENT, AND EGRESS.
4. PILLAR WIDTH BETWEEN TUNNELS TO BE ONE TUNNEL DIAMETER OR MORE BASED ON GUIDANCE IN TM 2.4.6
5. A DUAL DRAINAGE SYSTEM WILL BE USED IN TUNNEL 8 AT INVERT GRADIENTS OF LESS THAN 0.25% AND GREATER THAN -0.25%.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
DRAWN BY  
**K. BUNGER**  
CHECKED BY  
**R. KUNDU**  
IN CHARGE  
**J. MORRISON**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



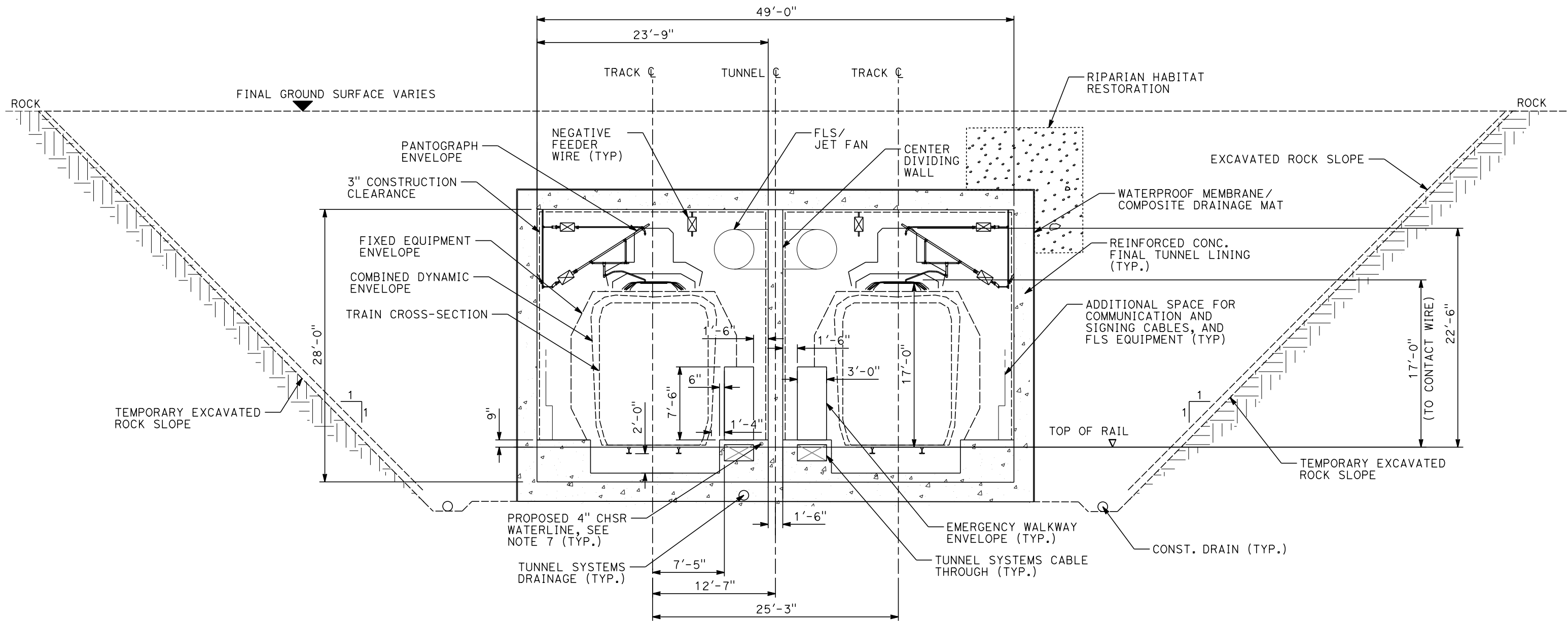
**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
ALTERNATIVE 1, 2, 3, 5  
TUNNEL TWIN TBM BORED TUNNELS  
INITIAL SUPPORT

CONTRACT NO.  
**HSR13-44**  
DRAWING NO.  
**TN-B3310**  
SCALE  
**AS SHOWN**  
SHEET NO.  
**1080**

Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\TNBP-TN-B3311

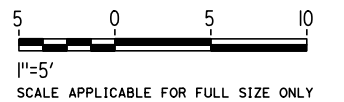
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1/20/2021

jcs\_user\_17609



**GENERAL NOTES:**

1. TEMPORARY SLOPE AND BENCH GEOMETRIES SHOWN ARE BASED ON GUIDANCE PROVIDED IN TM 2.6.7.
2. SLOPE PROTECTION, DRAINAGE, STRUCTURAL DIMENSIONS, AND STABILIZATION PROVISIONS WILL BE DEVELOPED BASED ON SITE INVESTIGATION RESULTS AND SLOPE-SPECIFIC DESIGN WORK.
3. TYPICAL CROSS-SECTION REQUIRES FURTHER STUDY TO EVALUATE DYNAMIC AIRFLOW/PRESSURE LEVELS UNDER HIGH SPEED OPERATING CONDITIONS, AND TO FURTHER REFINE SPACE ALLOTTED FOR STRUCTURES, EQUIPMENT, AND EGRESS.
4. EXCAVATION, GROUND SUPPORT, LINING AND WATERTIGHTNESS PROVISIONS WILL BE OPTIMIZED BASED ON SITE INVESTIGATION RESULTS AND CUT AND COVER-SPECIFIC DESIGN WORK.
5. CUT AND COVER BOX TYPICAL SECTION TO BE USED AT TUNNEL 4 AND 9, STATIONS 18362+50 TO 18368+00 AND 19594+00 TO 19687+50.
6. CENTER DIVIDING WALL SHALL CONFORM TO NFPA 130 AND HAVE A 2 HOUR FIRE RATING.
7. PROPOSED 4" WATER LINE PARALLELS ALIGNMENT FROM STATION 18034+00 TO 19687+50. IN THE TUNNELS IT IS INSTALLED BELOW THE EMERGENCY WALKWAY.
8. THERE ARE FIRE-RATED DOORS IN CENTER DIVIDING WALL.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**

DRAWN BY  
**K. BUNGER**

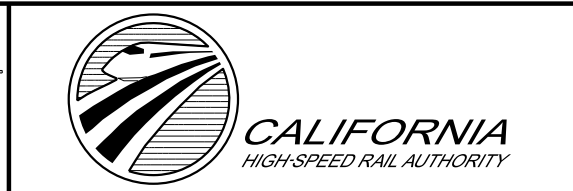
CHECKED BY  
**R. KUNDU**

IN CHARGE  
**J. MORRISON**

DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**

ALTERNATIVE 1, 2, 3, 5  
TUNNEL CUT AND COVER BOX  
(HABITAT RESTORATION)  
CLEARANCE DIAGRAM - TANGENT TRACK

CONTRACT NO.  
HSR13-44

DRAWING NO.  
TN-B3311

SCALE  
AS SHOWN

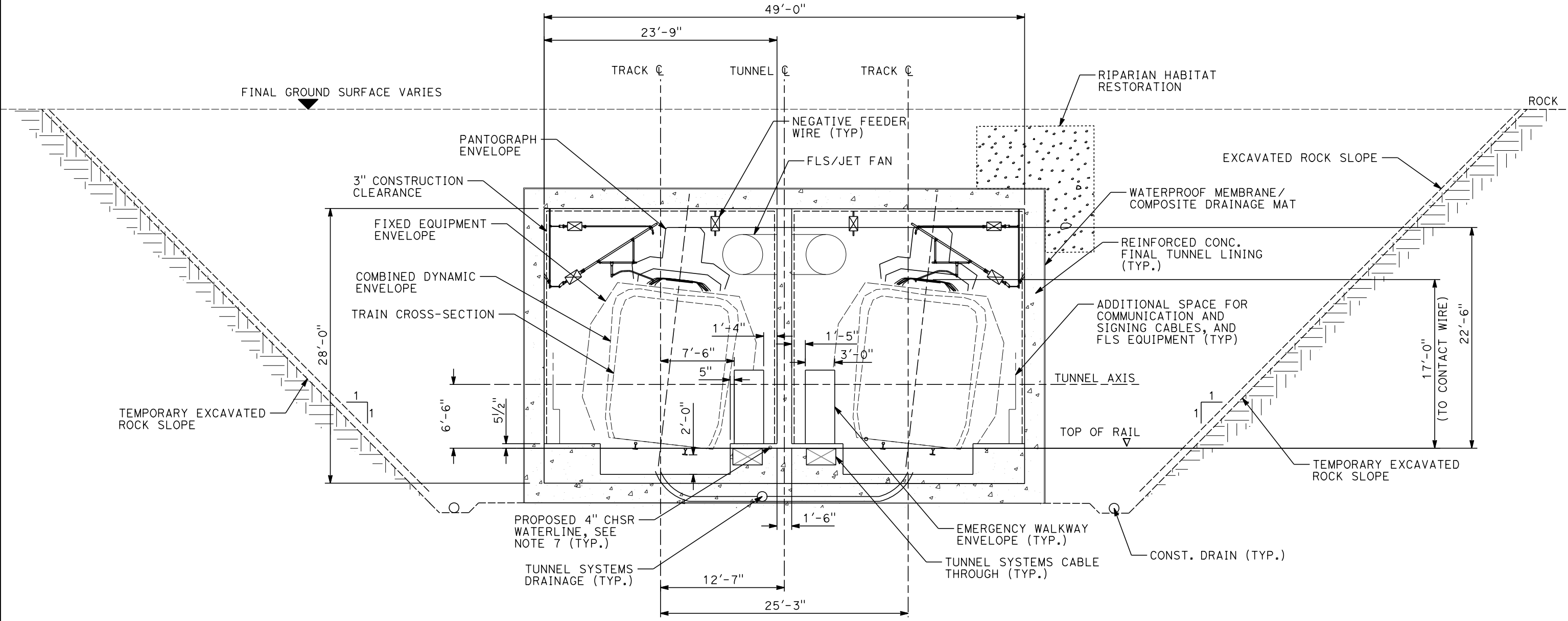
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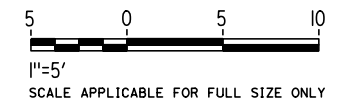
1/20/2021

jcs\_user\_17609



**GENERAL NOTES:**

1. TEMPORARY SLOPE AND BENCH GEOMETRIES SHOWN ARE BASED ON GUIDANCE PROVIDED IN TM 2.6.7.
2. SLOPE PROTECTION, DRAINAGE, STRUCTURAL DIMENSIONS, AND STABILIZATION PROVISIONS WILL BE DEVELOPED BASED ON SITE INVESTIGATION RESULTS AND SLOPE-SPECIFIC DESIGN WORK.
3. TYPICAL CROSS-SECTION REQUIRES FURTHER STUDY TO EVALUATE DYNAMIC AIRFLOW/PRESSURE LEVELS UNDER HIGH SPEED OPERATING CONDITIONS, AND TO FURTHER REFINE SPACE ALLOTTED FOR STRUCTURES, EQUIPMENT, AND EGRESS.
4. EXCAVATION, GROUND SUPPORT, LINING AND WATERTIGHTNESS PROVISIONS WILL BE OPTIMIZED BASED ON SITE INVESTIGATION RESULTS AND CUT AND COVER-SPECIFIC DESIGN WORK.
5. CUT AND COVER BOX TYPICAL SECTION TO BE USED AT TUNNEL 4 AND 9, STATIONS 18362+50 TO 18368+00 AND 19594+00 TO 19610+00.
6. CENTER DIVIDING WALL SHALL CONFORM TO NFPA 101 AND HAVE A 2 HOUR FIRE RATING.
7. PROPOSED 4" WATER LINE PARALLELS ALIGNMENT FROM STATION 18034+00 TO 19591+00. IN THE TUNNELS IT IS INSTALLED BELOW THE EMERGENCY WALKWAY.
8. THERE ARE FIRE-RATED DOORS IN CENTER DIVIDING WALL.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
DRAWN BY  
**K. BUNGER**  
CHECKED BY  
**R. KUNDU**  
IN CHARGE  
**J. MORRISON**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

ALTERNATIVE 1, 2, 3, 5  
TUNNEL CUT AND COVER BOX  
(HABITAT RESTORATION)  
CLEARANCE DIAGRAM - SUPER ELEVATED TRACK

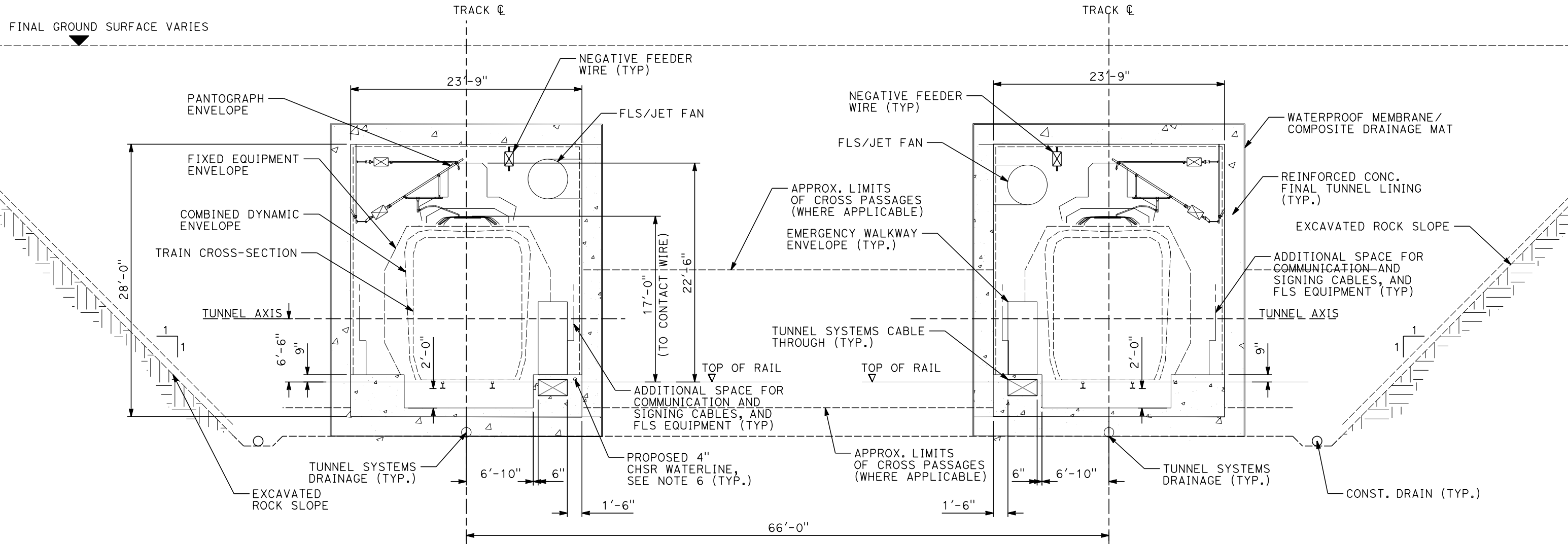
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AS SHOWN  
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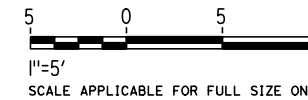
1/20/2021

jcs\_user\_17609



**GENERAL NOTES:**

1. TEMPORARY SLOPE AND BENCH GEOMETRIES SHOWN ARE BASED ON GUIDANCE PROVIDED IN TM 2.6.7.
2. SLOPE PROTECTION, DRAINAGE, STRUCTURAL DIMENSIONS, AND STABILIZATION PROVISIONS WILL BE DEVELOPED BASED ON SITE INVESTIGATION RESULTS AND SLOPE-SPECIFIC DESIGN WORK.
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6. PROPOSED 4" WATER LINE PARALLELS ALIGNMENT FROM STATION 18034+00 TO 19591+00. IN THE TUNNELS IT IS INSTALLED BELOW THE EMERGENCY WALKWAY.

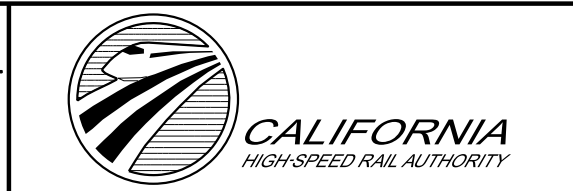


REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
DRAWN BY  
**K. BUNGER**  
CHECKED BY  
**R. KUNDU**  
IN CHARGE  
**J. MORRISON**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

ALTERNATIVE 1, 2, 3, 5  
TUNNEL CUT AND COVER BOX  
TWIN TUNNEL SINGLE TRACK  
CLEARANCE DIAGRAM - TANGENT TRACK

CONTRACT NO.  
**HSR13-44**

DRAWING NO.  
**TN-B3313**

SCALE  
**AS SHOWN**

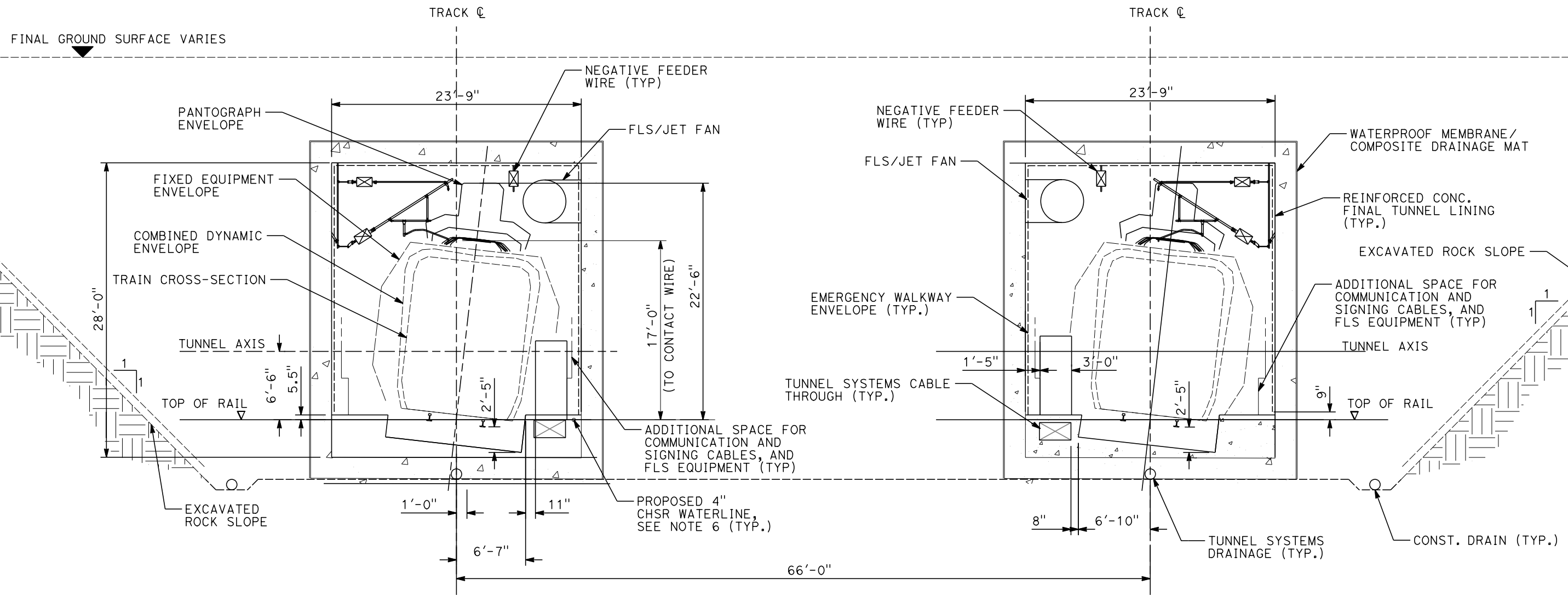
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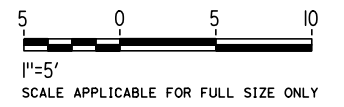
1/20/2021

jcs\_user\_17609



**GENERAL NOTES:**

1. TEMPORARY SLOPE AND BENCH GEOMETRIES SHOWN ARE BASED ON GUIDANCE PROVIDED IN TM 2.6.7.
2. SLOPE PROTECTION, DRAINAGE, STRUCTURAL DIMENSIONS, AND STABILIZATION PROVISIONS WILL BE DEVELOPED BASED ON SITE INVESTIGATION RESULTS AND SLOPE-SPECIFIC DESIGN WORK.
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6. PROPOSED 4" WATER LINE PARALLELS ALIGNMENT FROM STATION 18034+00 TO 19591+00. IN THE TUNNELS IT IS INSTALLED BELOW THE EMERGENCY WALKWAY.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**

DRAWN BY  
**K. BUNGER**

CHECKED BY  
**R. KUNDU**

IN CHARGE  
**J. MORRISON**

DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**

ALTERNATIVE 1, 2, 3, 5  
TUNNEL CUT AND COVER BOX  
TWIN TUNNEL SINGLE TRACK  
CLEARANCE DIAGRAM - SUPER ELEVATED TRACK

CONTRACT NO.  
HSR13-44

DRAWING NO.  
TN-B3314

SCALE  
AS SHOWN

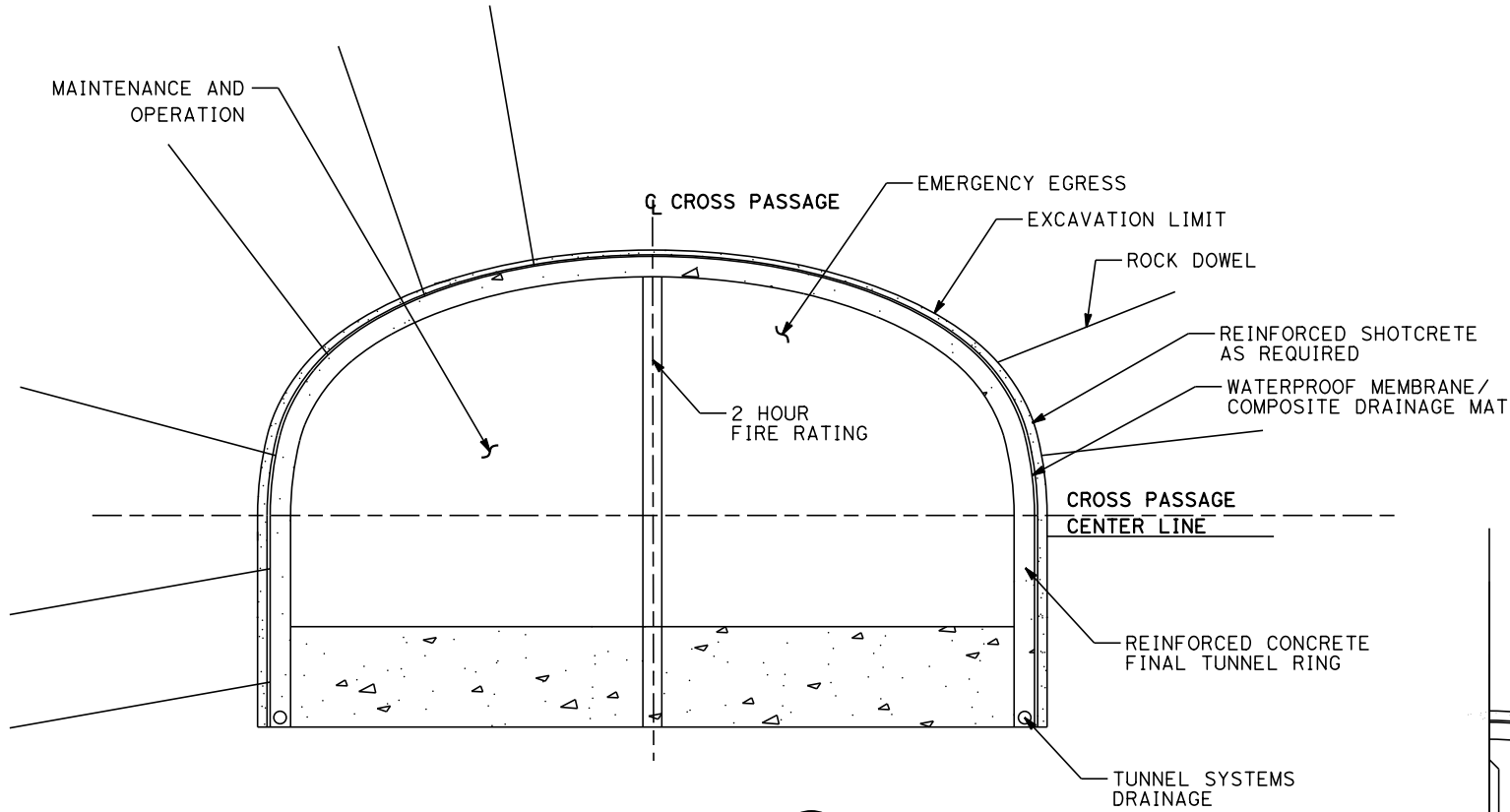
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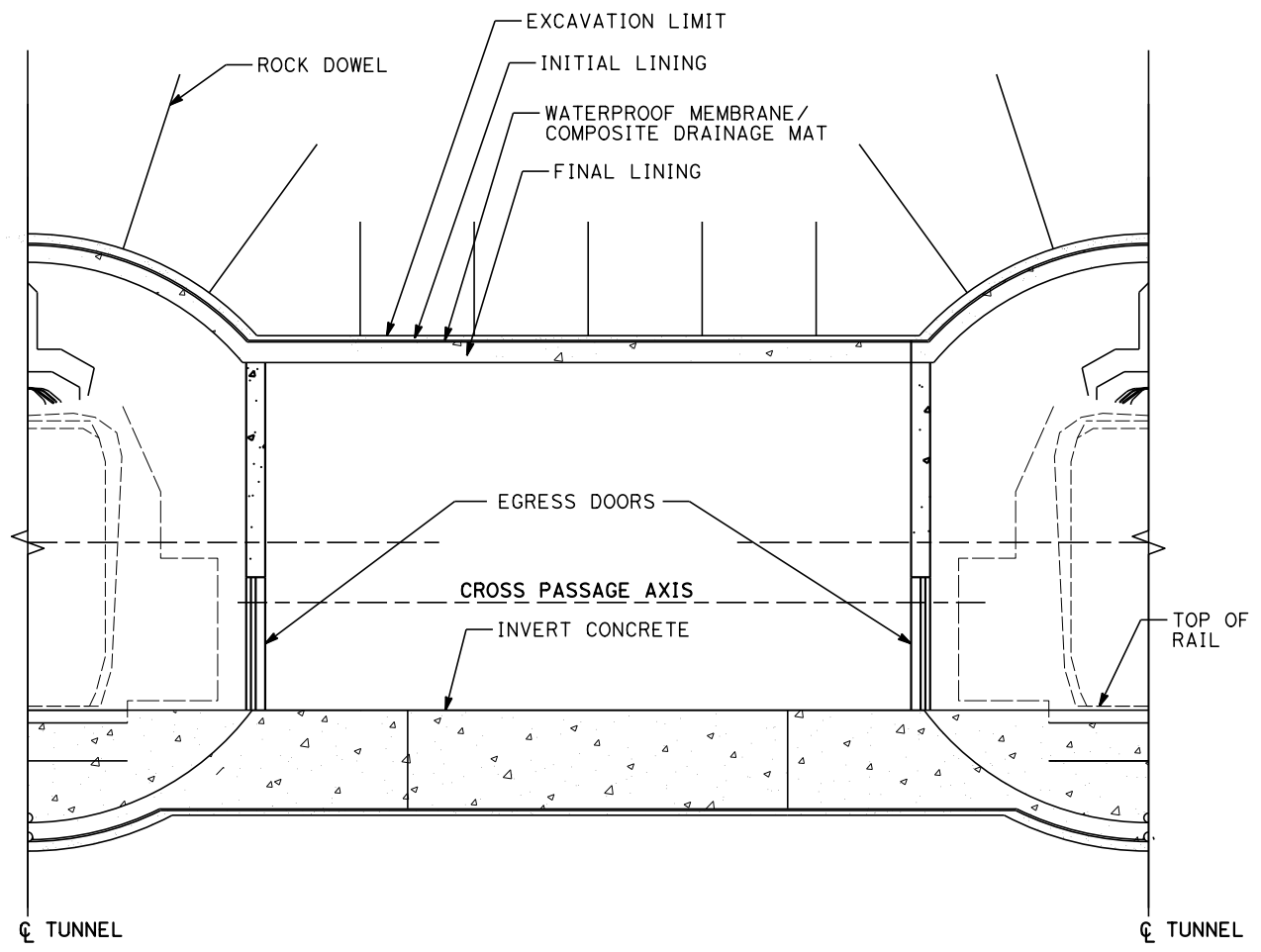
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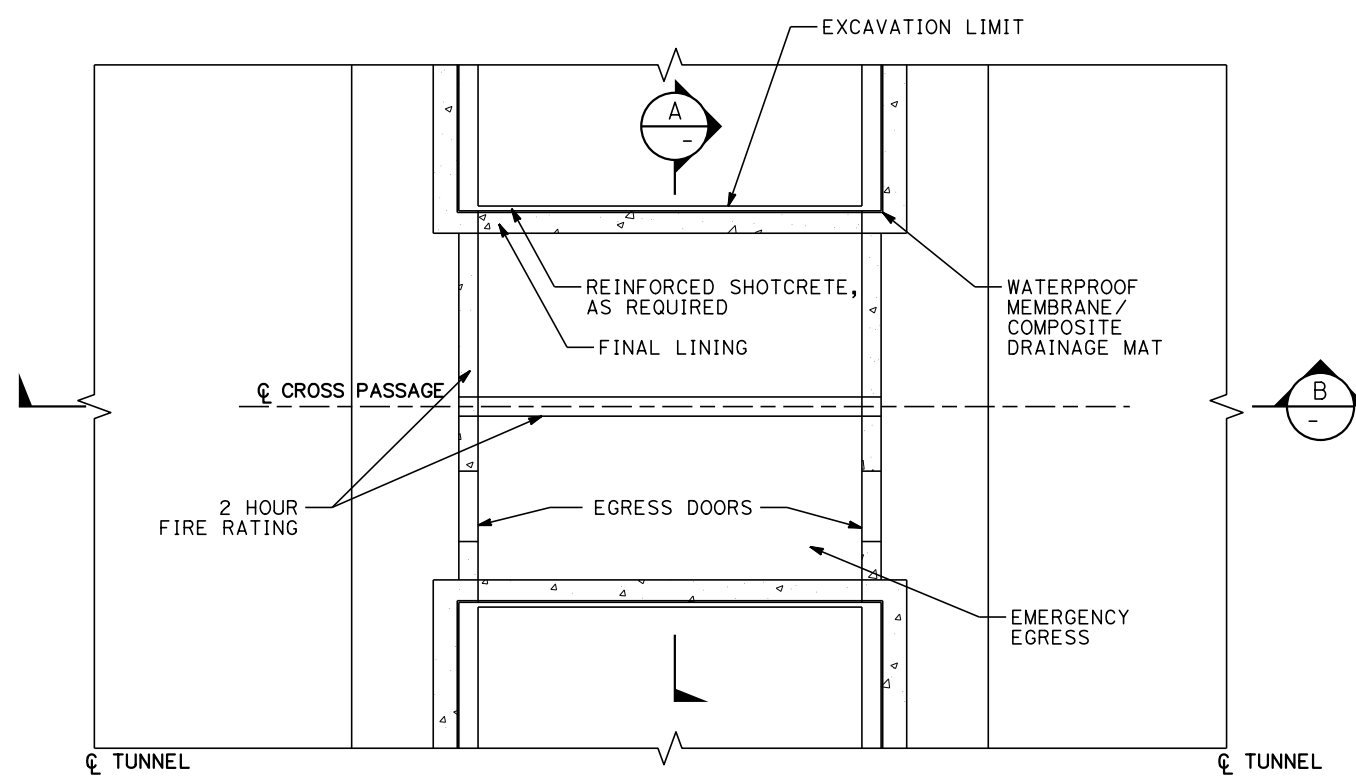
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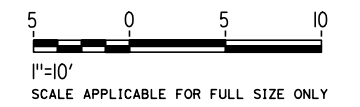
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NOT TO SCALE



**SECTION B**  
NOT TO SCALE



**PLAN**  
NOT TO SCALE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
DRAWN BY  
**K. BUNGER**  
CHECKED BY  
**R. KUNDU**  
IN CHARGE  
**J. MORRISON**  
DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
ALTERNATIVE 1, 2, 3, 5  
TUNNEL EMERGENCY CROSS PASSAGE

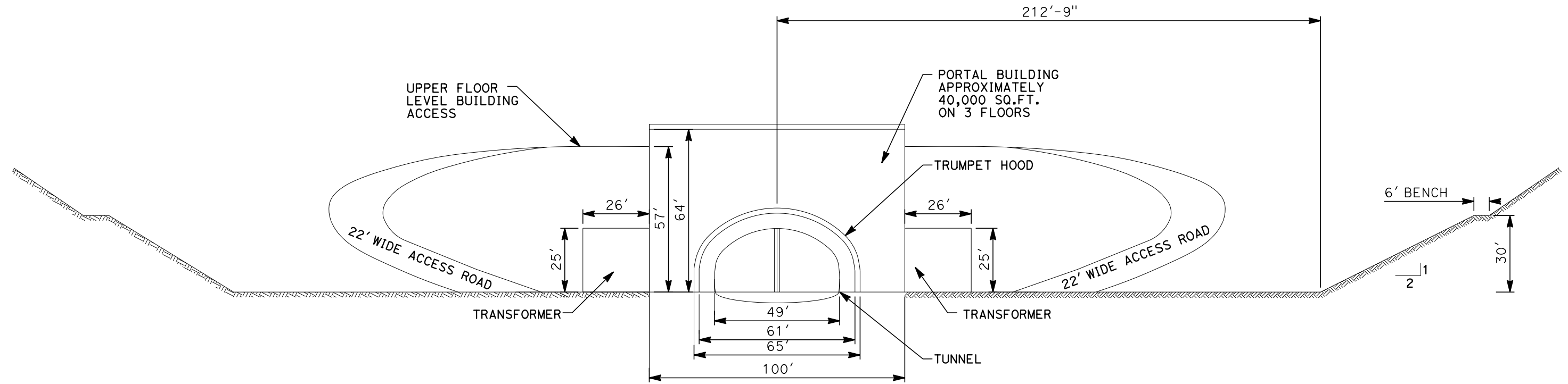
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1/20/2021

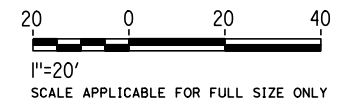
ics\_user\_17609



**SECTION X** B  
TN-B3318

**GENERAL NOTES:**

1. TRANSFORMERS, IF REQUIRED TO BE LOCATED OUTSIDE BUILDING, WITH NO STRUCTURES ABOVE TRANSFORMER. CLEAR SPACE INCLUDES ELECTRICAL CLEARANCE.
2. PERMANENT SLOPE PROTECTION, DRAINAGE AND STABILIZATION PROVISIONS WILL BE DEVELOPED BASED ON SITE INVESTIGATION RESULTS AND SLOPE-SPECIFIC DESIGN WORK.
3. LOW COVER TUNNELING OPTIONS TO BE EVALUATED AT EACH PORTAL.
4. PORTAL LAYOUTS WERE DEVELOPED FOLLOWING TM 2.4.6 HIGH SPEED TRAIN TUNNEL PORTAL FACILITIES



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
DRAWN BY  
**K. BUNGER**  
CHECKED BY  
**R. KUNDU**  
IN CHARGE  
**J. MORRISON**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
ALTERNATIVE 1, 2, 3, 5  
TYPICAL TRANSVERSE SECTION  
PORTAL FACILITIES  
FOR SINGLE TUNNEL CONFIGURATION

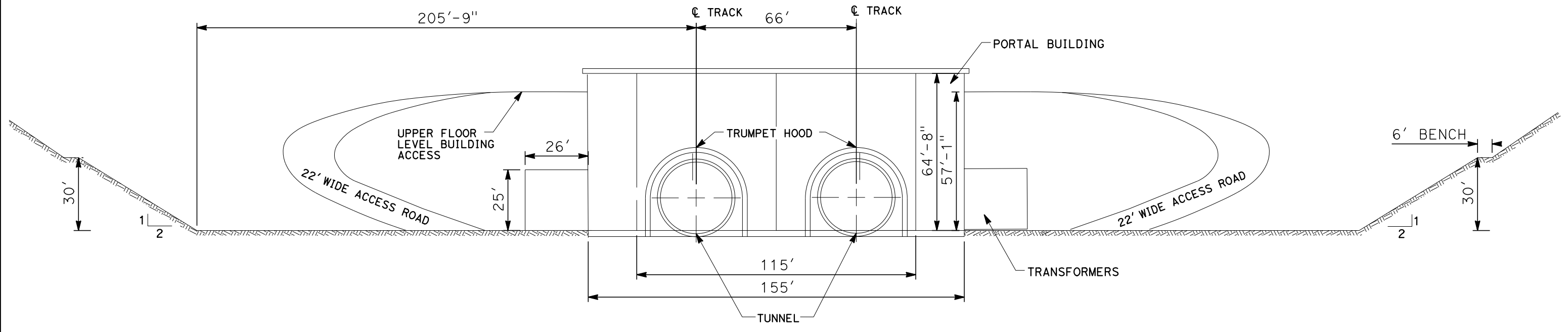
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SCALE  
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1086

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1/20/2021

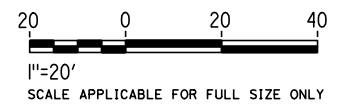
ics\_user\_17609



**SECTION X** A  
TN-B3319

**GENERAL NOTES:**

1. TRANSFORMERS, IF REQUIRED TO BE LOCATED OUTSIDE BUILDING, WITH NO STRUCTURES ABOVE TRANSFORMER. CLEAR SPACE INCLUDES ELECTRICAL CLEARANCE.
2. PERMANENT SLOPE PROTECTION, DRAINAGE AND STABILIZATION PROVISIONS WILL BE DEVELOPED BASED ON SITE INVESTIGATION RESULTS AND SLOPE-SPECIFIC DESIGN WORK.
3. LOW COVER TUNNELING OPTIONS TO BE EVALUATED AT EACH PORTAL.
4. PORTAL LAYOUTS WERE DEVELOPED FOLLOWING TM 2.4.6 HIGH SPEED TRAIN TUNNEL PORTAL FACILITIES



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
DRAWN BY  
**K. BUNGER**  
CHECKED BY  
**R. KUNDU**  
IN CHARGE  
**J. MORRISON**  
DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

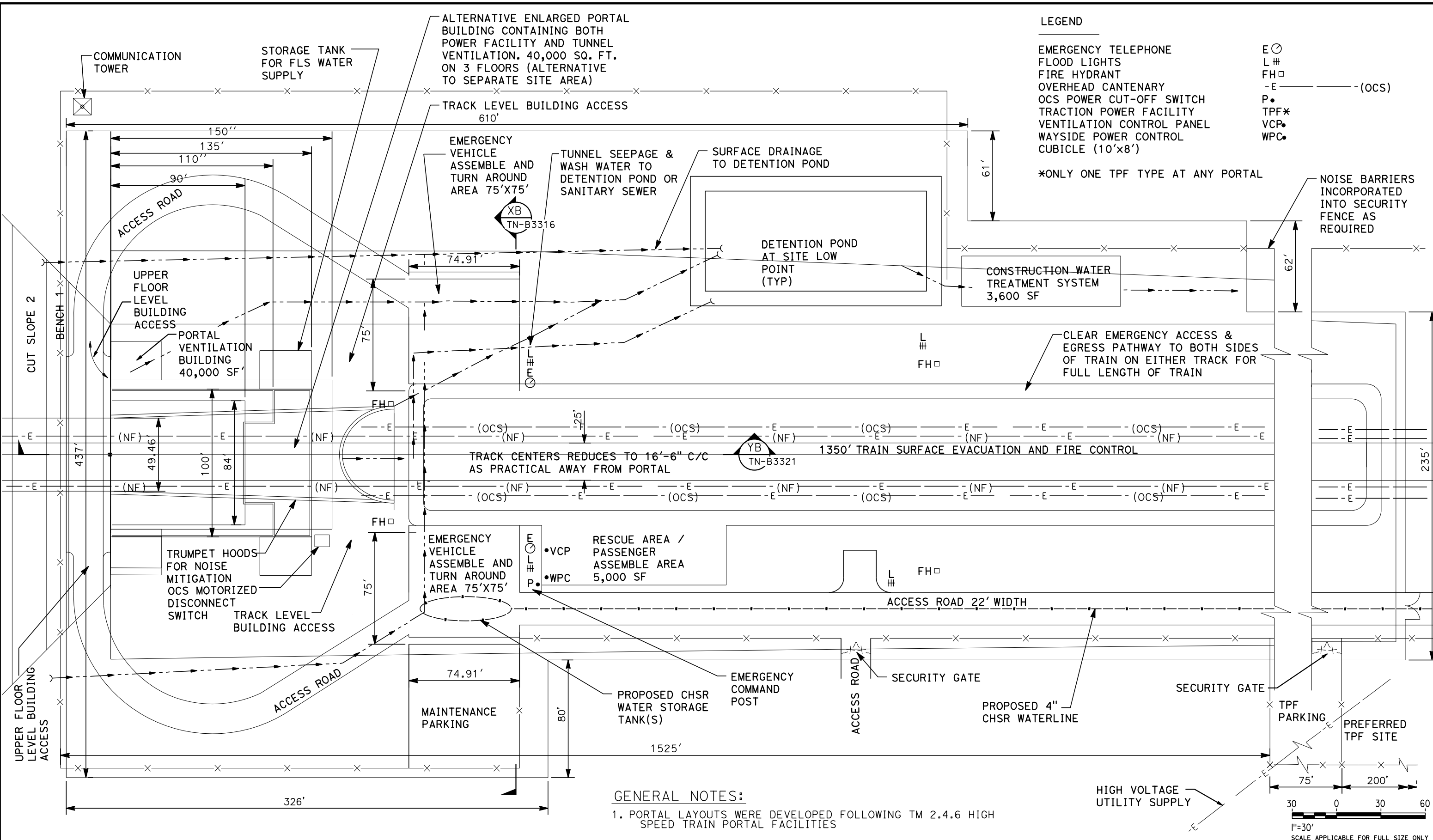


**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
ALTERNATIVE 1, 2, 3, 5  
TYPICAL TRANSVERSE SECTION  
PORTAL FACILITIES  
FOR TWIN TUNNEL CONFIGURATION

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
TN-B3317  
SCALE  
AS SHOWN  
SHEET NO.  
1087



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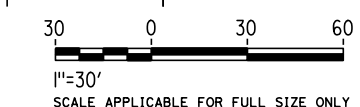


**LEGEND**

EMERGENCY TELEPHONE E ⊙  
 FLOOD LIGHTS L #  
 FIRE HYDRANT FH □  
 OVERHEAD CANTENARY -E  
 OCS POWER CUT-OFF SWITCH - (OCS)  
 TRACTION POWER FACILITY P  
 VENTILATION CONTROL PANEL TPF\*  
 WAYSIDE POWER CONTROL VCP  
 CUBICLE (10'x8') WPC

\*ONLY ONE TPF TYPE AT ANY PORTAL

**GENERAL NOTES:**  
 1. PORTAL LAYOUTS WERE DEVELOPED FOLLOWING TM 2.4.6 HIGH SPEED TRAIN PORTAL FACILITIES



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
 DRAWN BY  
**K. BUNGER**  
 CHECKED BY  
**R. KUNDU**  
 IN CHARGE  
**J. MORRISON**  
 DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**

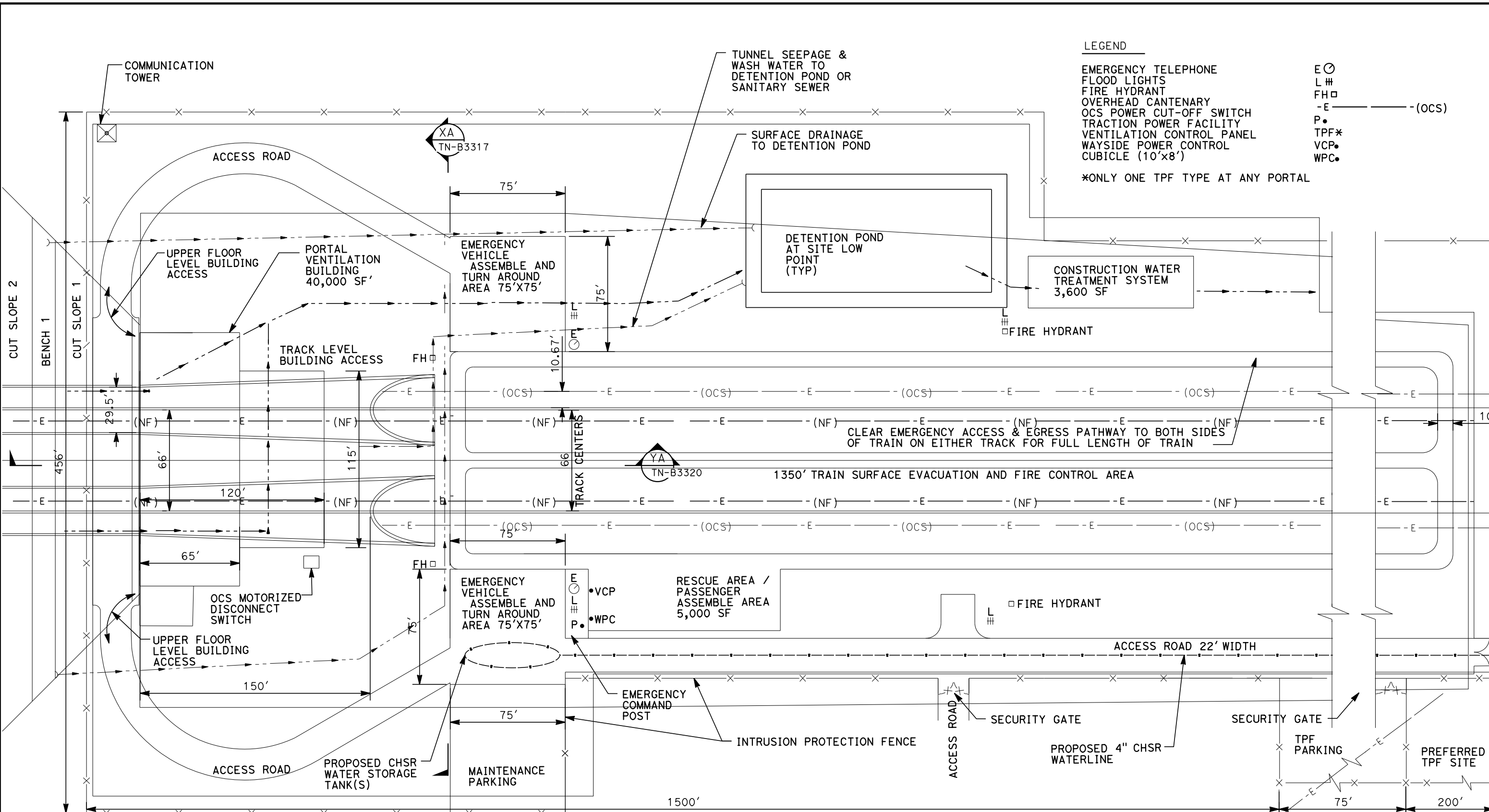
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**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
 ALTERNATIVE 1, 2, 3, 5  
 TYPICAL TUNNEL PORTAL FACILITIES PLAN  
 SINGLE TUNNEL CONFIGURATION

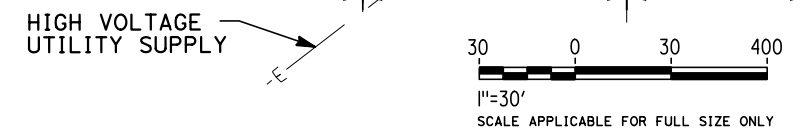
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**1088**

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 1/20/2021 5:34:19 AM  
 jcs\_user\_17609



- LEGEND**
- EMERGENCY TELEPHONE
  - FLOOD LIGHTS
  - FIRE HYDRANT
  - OVERHEAD CANTENARY
  - OCS POWER CUT-OFF SWITCH
  - TRACTION POWER FACILITY
  - VENTILATION CONTROL PANEL
  - WAYSIDE POWER CONTROL
  - CUBICLE (10'x8')
- E ⊙
  - L #
  - FH □
  - E --- (OCS)
  - P •
  - TPF\*
  - VCP •
  - WPC •
- \*ONLY ONE TPF TYPE AT ANY PORTAL

**GENERAL NOTES:**  
 1. PORTAL LAYOUTS WERE DEVELOPED FOLLOWING TM 2.4.6  
 HIGH-SPEED TRAIN PORTAL FACILITIES



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**

DRAWN BY  
**K. BUNGER**

CHECKED BY  
**R. KUNDU**

IN CHARGE  
**J. MORRISON**

DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
 ALTERNATIVE 1, 2, 3, 5  
 TYPICAL TUNNEL PORTAL FACILITIES PLAN  
 TWIN TUNNEL CONFIGURATION

CONTRACT NO.  
**HSR13-44**

DRAWING NO.  
**TN-B3319**

SCALE  
**AS SHOWN**

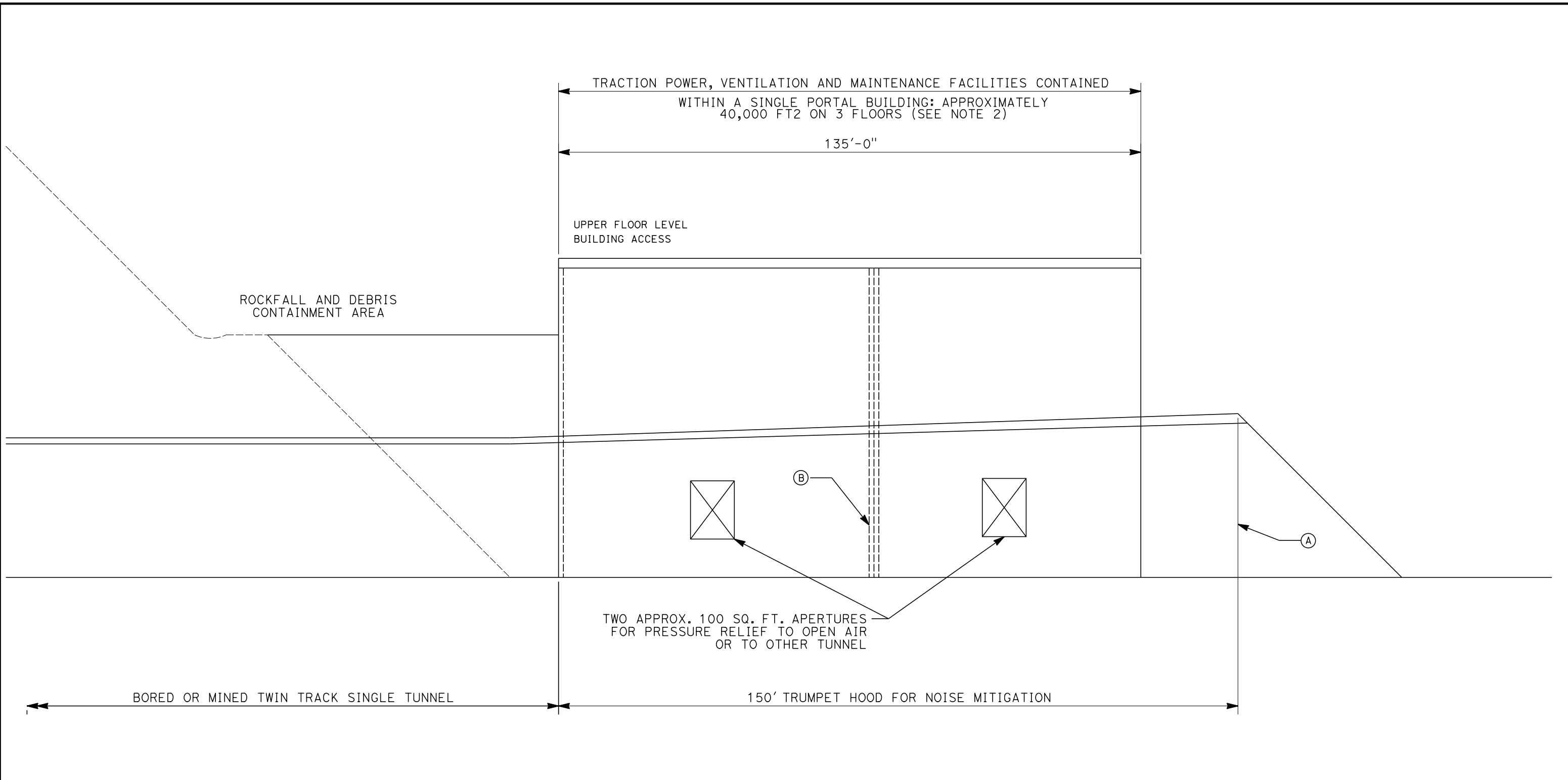
SHEET NO.  
**1089**

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1/20/2021

jcs\_user\_17609



TRACTION POWER, VENTILATION AND MAINTENANCE FACILITIES CONTAINED  
WITHIN A SINGLE PORTAL BUILDING: APPROXIMATELY  
40,000 FT2 ON 3 FLOORS (SEE NOTE 2)

135'-0"

UPPER FLOOR LEVEL  
BUILDING ACCESS

ROCKFALL AND DEBRIS  
CONTAINMENT AREA

TWO APPROX. 100 SQ. FT. APERTURES  
FOR PRESSURE RELIEF TO OPEN AIR  
OR TO OTHER TUNNEL

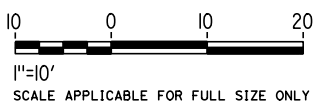
BORED OR MINED TWIN TRACK SINGLE TUNNEL

150' TRUMPET HOOD FOR NOISE MITIGATION

**SECTION Y** A  
TN-B3319

GENERAL NOTES:

1. FREE AREA CSA (A) = 150% OF FREE AREA CSA (B)
2. FLOOR AREA EXCLUDES TRACTION POWER TRANSFORMERS WHICH ARE LOCATED OUTSIDE THE BUILDING.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
DRAWN BY  
**K. BUNGER**  
CHECKED BY  
**R. KUNDU**  
IN CHARGE  
**J. MORRISON**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

ALTERNATIVE 1, 2, 3, 5  
TYPICAL TUNNEL PORTAL FACILITIES PLAN  
AT GRADE TWIN TUNNEL CONFIGURATION  
LONG SECTION

CONTRACT NO.  
**HSR13-44**

DRAWING NO.  
**TN-B3320**

SCALE  
**AS SHOWN**

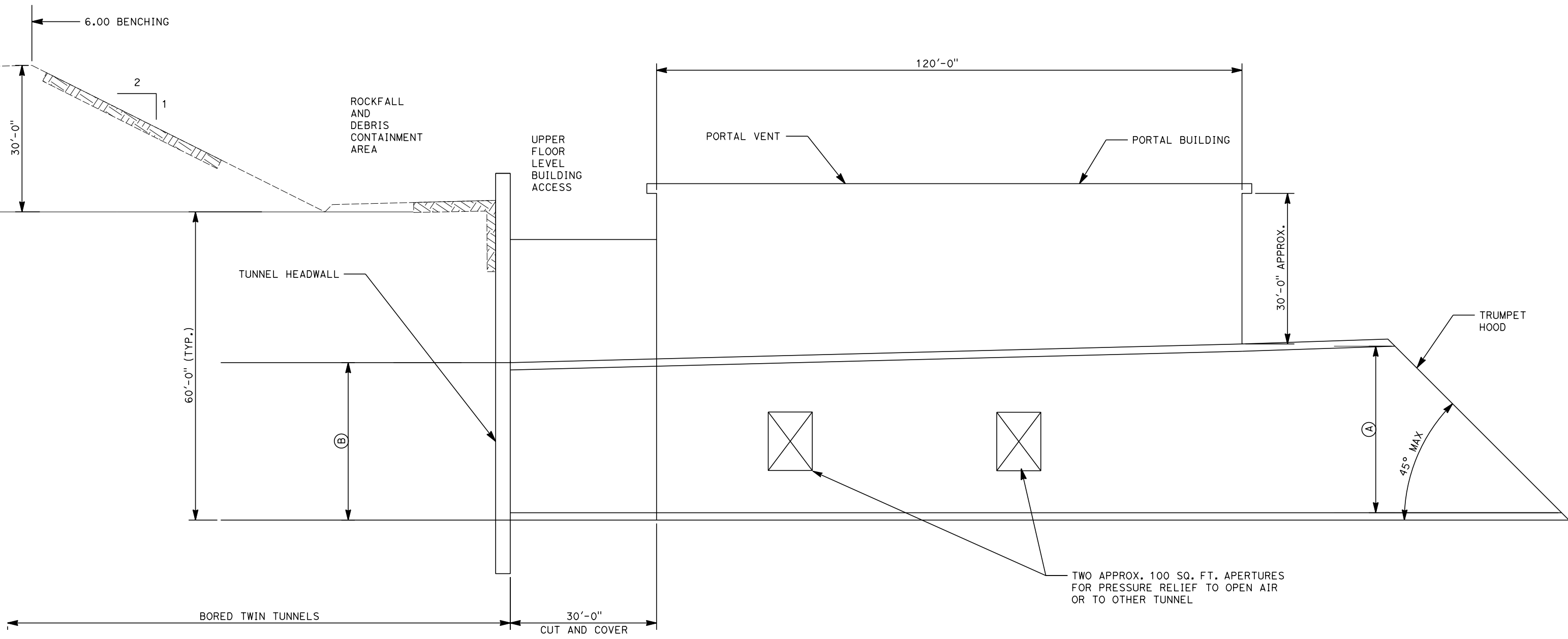
SHEET NO.  
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Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\TNBP-TN-B3321

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1/20/2021

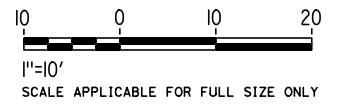
ics\_user\_17609



**SECTION Y** B  
TN-B3318

**GENERAL NOTES:**

1. FREE AREA CSA (A) = 150% OF FREE AREA CSA (B)
2. FLOOR AREA EXCLUDES TRACTION POWER TRANSFORMERS WHICH ARE LOCATED OUTSIDE THE BUILDING.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
DRAWN BY  
**K. BUNGER**  
CHECKED BY  
**R. KUNDU**  
IN CHARGE  
**J. MORRISON**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

ALTERNATIVE 1, 2, 3, 5  
TYPICAL TUNNEL PORTAL FACILITIES PLAN  
AT GRADE SINGLE TUNNEL CONFIGURATION  
LONG SECTION

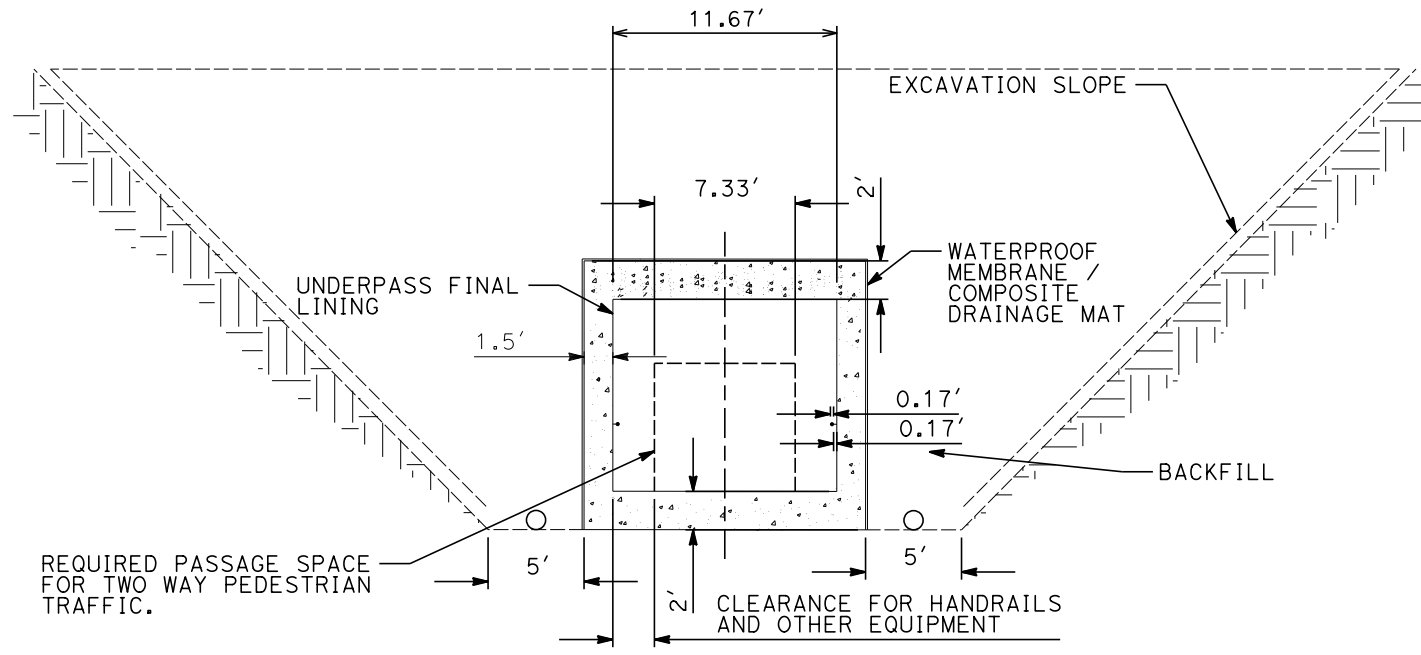
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HSR13-44  
DRAWING NO.  
TN-B3321  
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AS SHOWN  
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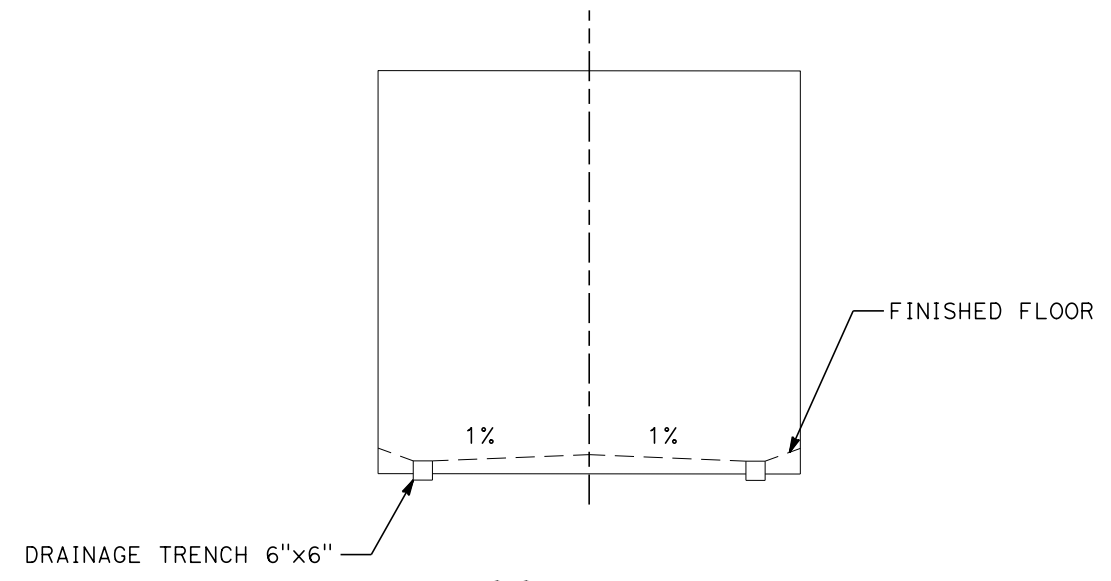
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jcs\_user\_17609

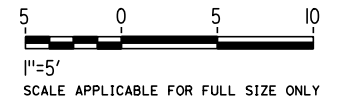


PEDESTRIAN UNDERPASS

**SECTION** T  
 SCALE 1"=5'-0"  
 TN-Y1201  
 TN-C4201  
 TN-C4202



**FLOOR DETAIL**  
 NOT TO SCALE



DESIGNED BY  
**Z. SKOVAJSOVA**  
 DRAWN BY  
**K. BUNGER**  
 CHECKED BY  
**R. KUNDU**  
 IN CHARGE  
**J. MORRISON**  
 DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
 ALTERNATIVE 1, 2, 3, 5  
 TUNNEL CUT AND COVER BOX  
 PEDESTRIAN UNDERPASS

CONTRACT NO.  
**HSR13-44**  
 DRAWING NO.  
**TN-B3322**  
 SCALE  
**AS SHOWN**  
 SHEET NO.  
**1092**

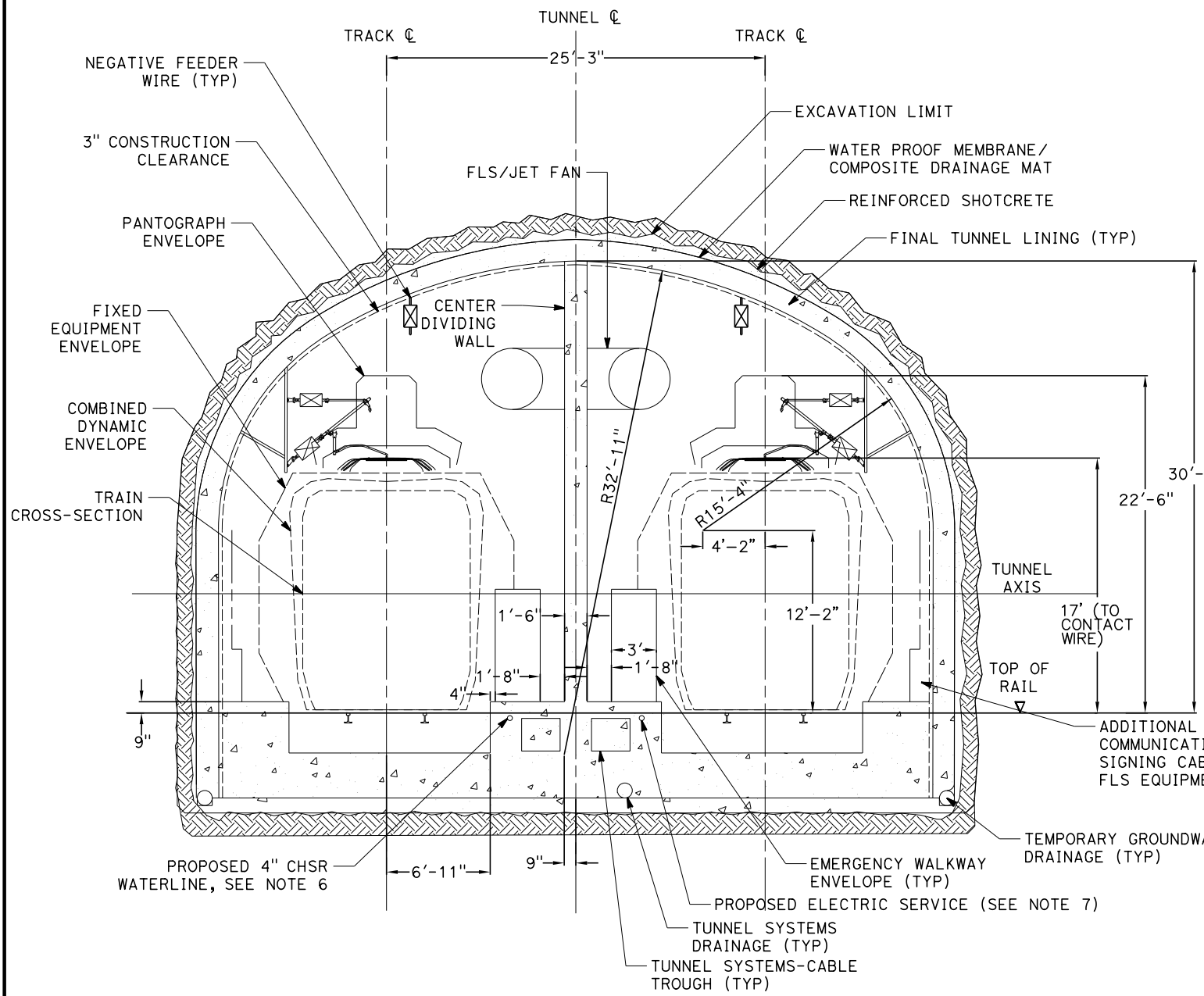
REV	DATE	BY	CHK	APP	DESCRIPTION

Projects\701206\_00\_CHSRBP\00\_CADD\CCNM Option D\Sheets\TN-D3101

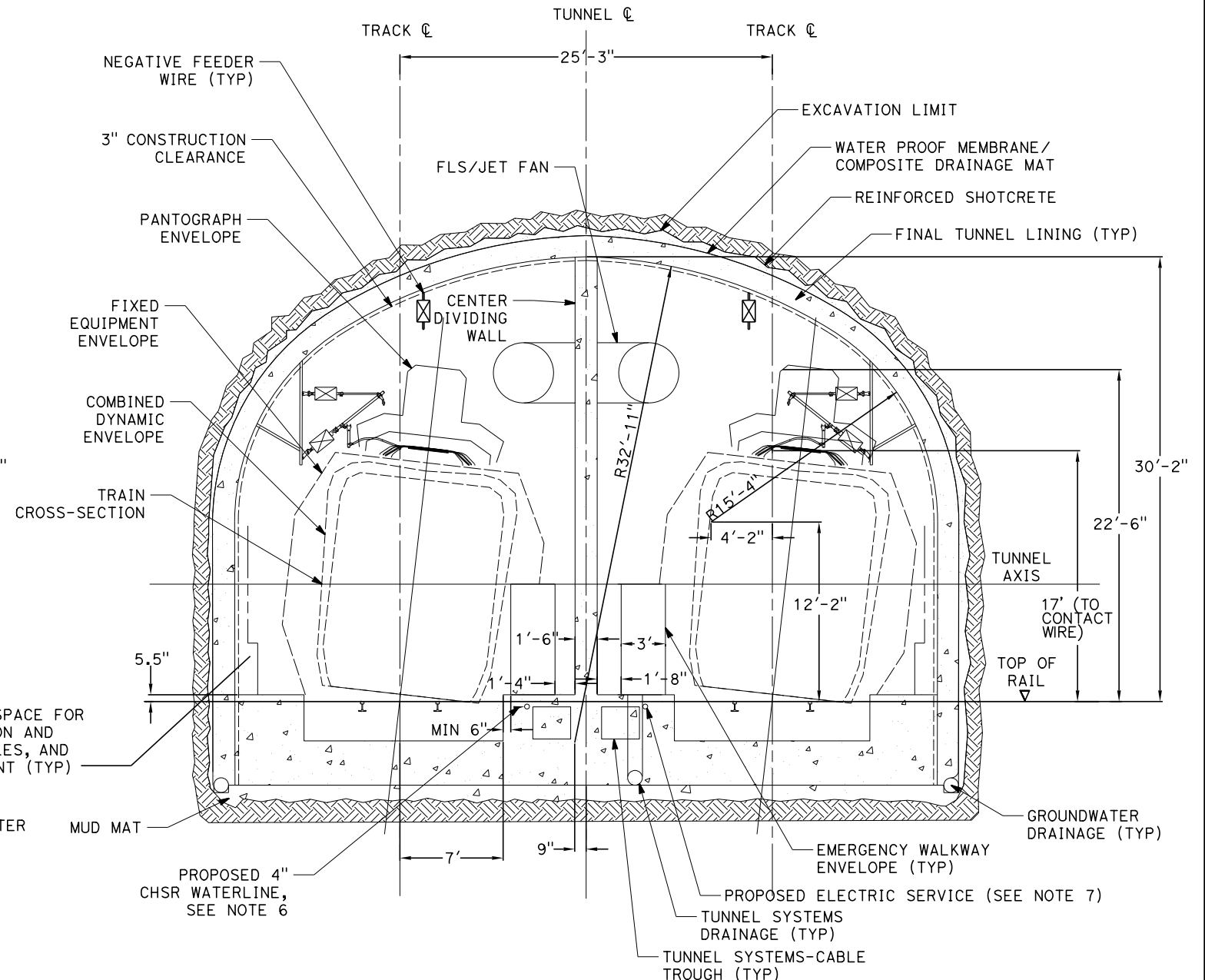
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1/20/2021

ics\_user\_17609



**TANGENT TRACK**



**SUPER ELEVATED TRACK**

**GENERAL NOTES:**

1. DRILL AND BLAST METHOD IS IDENTIFIED FOR THE 15% IN-PROGRESS DESIGN OF DOUBLE TRACK TUNNEL FOR TUNNEL 4, 5, AND 6 IN HARD ROCK UNITS.
2. EXCAVATION, GROUND SUPPORT, LINING THICKNESS AND WATERTIGHTNESS PROVISIONS WILL BE OPTIMIZED BASED ON SITE INVESTIGATION RESULTS AND TUNNEL-SPECIFIC DESIGN WORK.
3. TYPICAL CROSS-SECTION REQUIRES FURTHER STUDY TO EVALUATE DYNAMIC AIRFLOW/PRESSURE LEVELS UNDER HIGH SPEED OPERATING CONDITIONS, AND TO FURTHER REFINE SPACE ALLOTTED FOR STRUCTURES, EQUIPMENT, AND EGRESS.
4. CENTER DIVIDING WALL SHALL CONFORM TO NFPA 130 AND HAVE A 2 HOUR FIRE RATING.
5. THE COMPOSITE VEHICLE STATIC AND DYNAMIC ENVELOPES SHOWN FOLLOW TM1.1.10-A AND C.
6. PROPOSED 4" WATER LINE PARALLELS ALIGNMENT FROM STATION 18034+00 TO 19591+00.
7. PROPOSED ELECTRIC SERVICE PARALLELS ALIGNMENT FROM STATION 18034+00 TO 19591+00.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**

DRAWN BY  
**K. BUNGER**

CHECKED BY  
**R. KUNDU**

IN CHARGE  
**J. MORRISON**

DATE  
**01/29/2021**

**RECORD SET**

**PEPD**

**SUBMITTAL**

**NOT FOR**

**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**

**BAKERSFIELD TO PALMDALE**

REFINED CCNM DESIGN OPTION

TUNNEL DRILL AND BLAST METHOD

SINGLE TUNNEL CLEARANCE DIAGRAM

CONTRACT NO.  
**HSR13-44**

DRAWING NO.  
**TN-D3101**

SCALE  
**AS SHOWN**

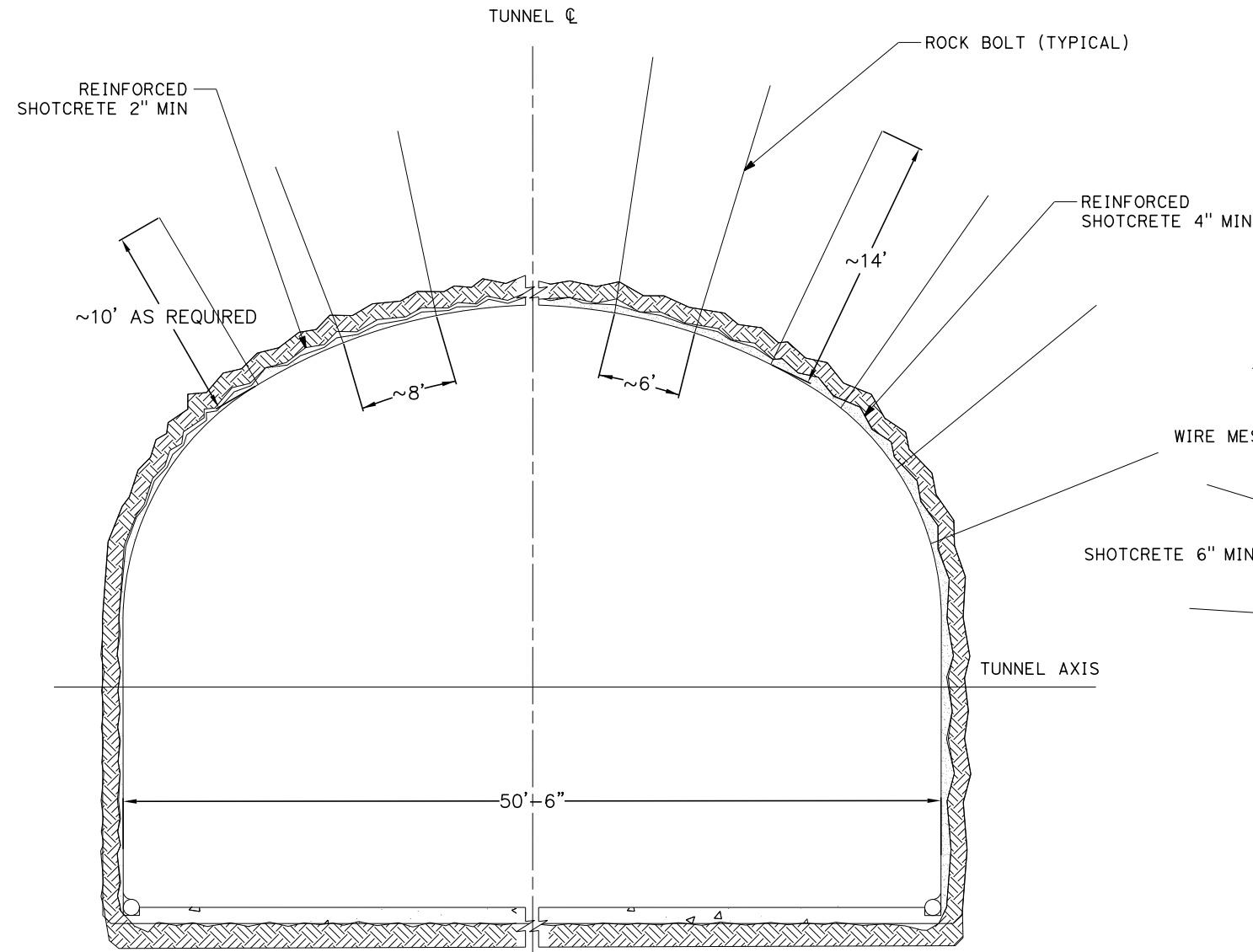
SHEET NO.  
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Projects\701206.00\_CHSRBP\00\_CADD\CCNM Option D\Sheets\TN\TN-D3102

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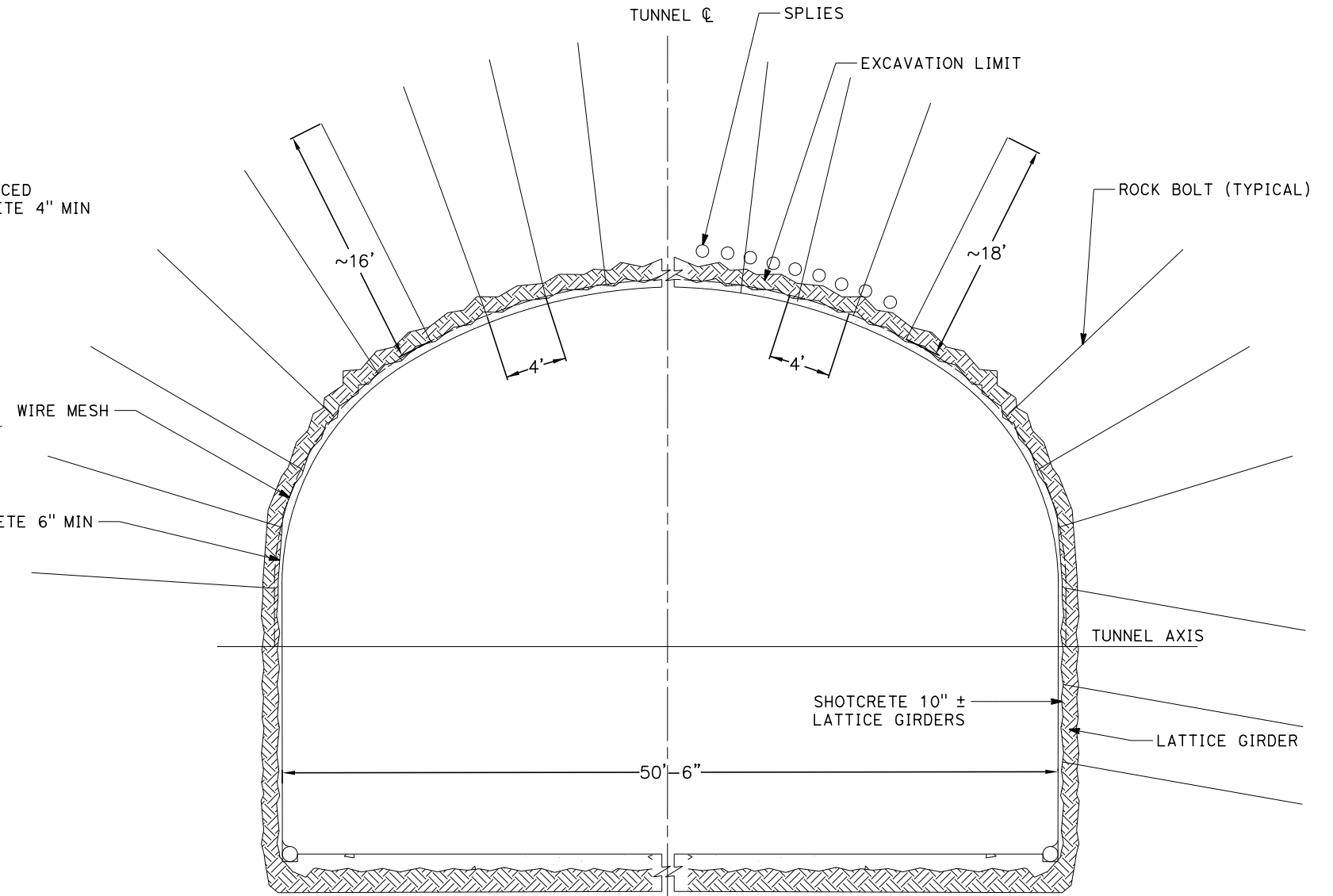
1/20/2021

jcs\_user\_17609



**CLASS I**  
RMR > 80

**CLASS II**  
60 < RMR < 80

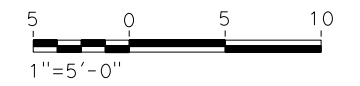


**CLASS III**  
40 < RMR < 60

**CLASS IV**  
20 < RMR < 40

**GENERAL NOTES:**

1. A DRILL AND BLAST OPTION IS IDENTIFIED FOR THE 15% IN-PROGRESS DESIGN OF TWIN, SINGLE TRACK TUNNELS FOR TUNNEL 4, 5, AND 6 IN HARD ROCK UNITS.
2. EXCAVATION, GROUND SUPPORT, LINING THICKNESS AND WATERTIGHTNESS PROVISIONS WILL BE OPTIMIZED BASED ON SITE INVESTIGATION RESULTS AND TUNNEL-SPECIFIC DESIGN WORK.
3. TYPICAL CROSS-SECTION REQUIRES FURTHER STUDY TO EVALUATE DYNAMIC AIRFLOW/PRESSURE LEVELS UNDER HIGH SPEED OPERATING CONDITIONS, AND TO FURTHER REFINE SPACE ALLOTTED FOR STRUCTURES, EQUIPMENT, AND EGRESS.
4. CLASS I AND II MAY BE EXCAVATED FULL FACE. CLASS III MAY REQUIRE HEADING AND BENCH EXCAVATION WITH FACE SUPPORT AS REQUIRED. CLASS IV MAY REQUIRE TOP HEADING AND BENCH WITH SIDE SLASH, SPILES, AND FACE SUPPORT AS NEEDED. CLASS IV MAY REQUIRE A CHANGE IN EXCAVATION METHOD TO AN SEM CONSTRUCTION ALTERNATIVE.
5. THE COMPOSITE VEHICLE STATIC AND DYNAMIC ENVELOPES SHOWN FOLLOW TM1.1.10-A AND C.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
DRAWN BY  
**K. BUNGER**  
CHECKED BY  
**R. KUNDU**  
IN CHARGE  
**J. MORRISON**  
DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



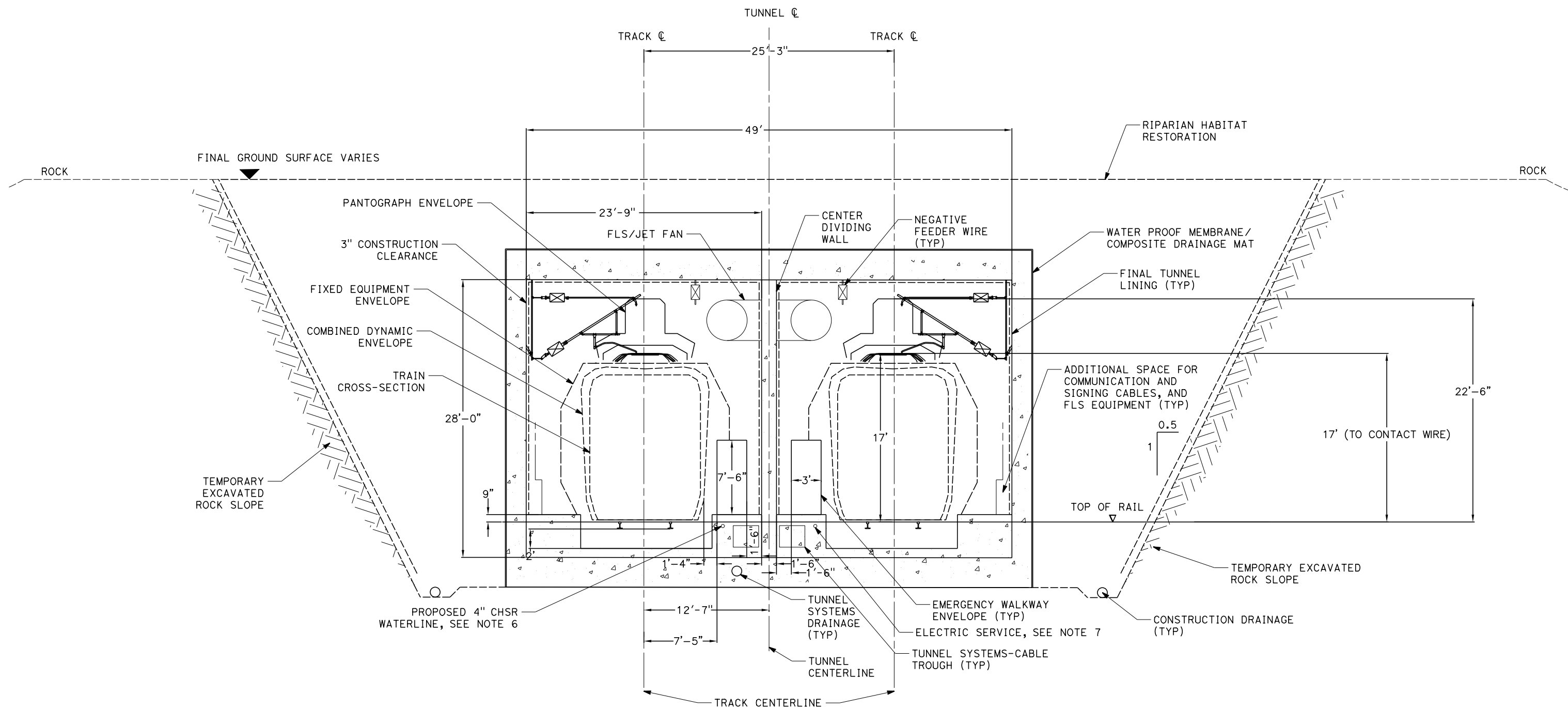
**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
REFINED CCNM DESIGN OPTION  
TUNNEL DRILL AND BLAST METHOD  
SINGLE TUNNEL - INITIAL SUPPORT

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
TN-D3102  
SCALE  
AS SHOWN  
SHEET NO.  
1094

Projects\701206\_00\_CHSRBP\00\_CADD\CCNM Option D\Sheets\TN-D3103

6:22:39 AM  
1/20/2021

jcs\_user\_17609



**GENERAL NOTES:**

1. TEMPORARY SLOPE AND BENCH GEOMETRIES SHOWN ARE BASED ON GUIDANCE PROVIDED IN TM 2.6.7.
2. SLOPE PROTECTION, DRAINAGE, STRUCTURAL DIMENSIONS, AND STABILIZATION PROVISIONS WILL BE DEVELOPED BASED ON SITE INVESTIGATION RESULTS AND SLOPE-SPECIFIC DESIGN WORK.
3. TYPICAL CROSS-SECTION REQUIRES FURTHER STUDY TO EVALUATE DYNAMIC AIRFLOW/PRESSURE LEVELS UNDER HIGH SPEED OPERATING CONDITIONS, AND TO FURTHER REFINE SPACE ALLOTTED FOR STRUCTURES, EQUIPMENT, AND EGRESS.
4. EXCAVATION, GROUND SUPPORT, LINING AND WATERTIGHTNESS PROVISIONS WILL BE OPTIMIZED BASED ON SITE INVESTIGATION RESULTS AND CUT AND COVER-SPECIFIC DESIGN WORK.
5. CENTER DIVIDING WALL SHALL CONFORM TO NFPA 130 AND HAVE A 2 HOUR FIRE RATING.
6. PROPOSED 4" WATER LINE PARALLELS ALIGNMENT FROM STATION 18034+00 TO 19591+00.
7. PROPOSED ELECTRIC SERVICE PARALLELS ALIGNMENT FROM STATION 18034+00 TO 19591+00.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
DRAWN BY  
**K. BUNGER**  
CHECKED BY  
**R. KUNDU**  
IN CHARGE  
**J. MORRISON**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
REFINED CCNM DESIGN OPTION  
TUNNEL CUT AND COVER BOX  
CLEARANCE DIAGRAM - TANGENT TRACK

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
TN-D3103  
SCALE  
AS SHOWN  
SHEET NO.  
1095

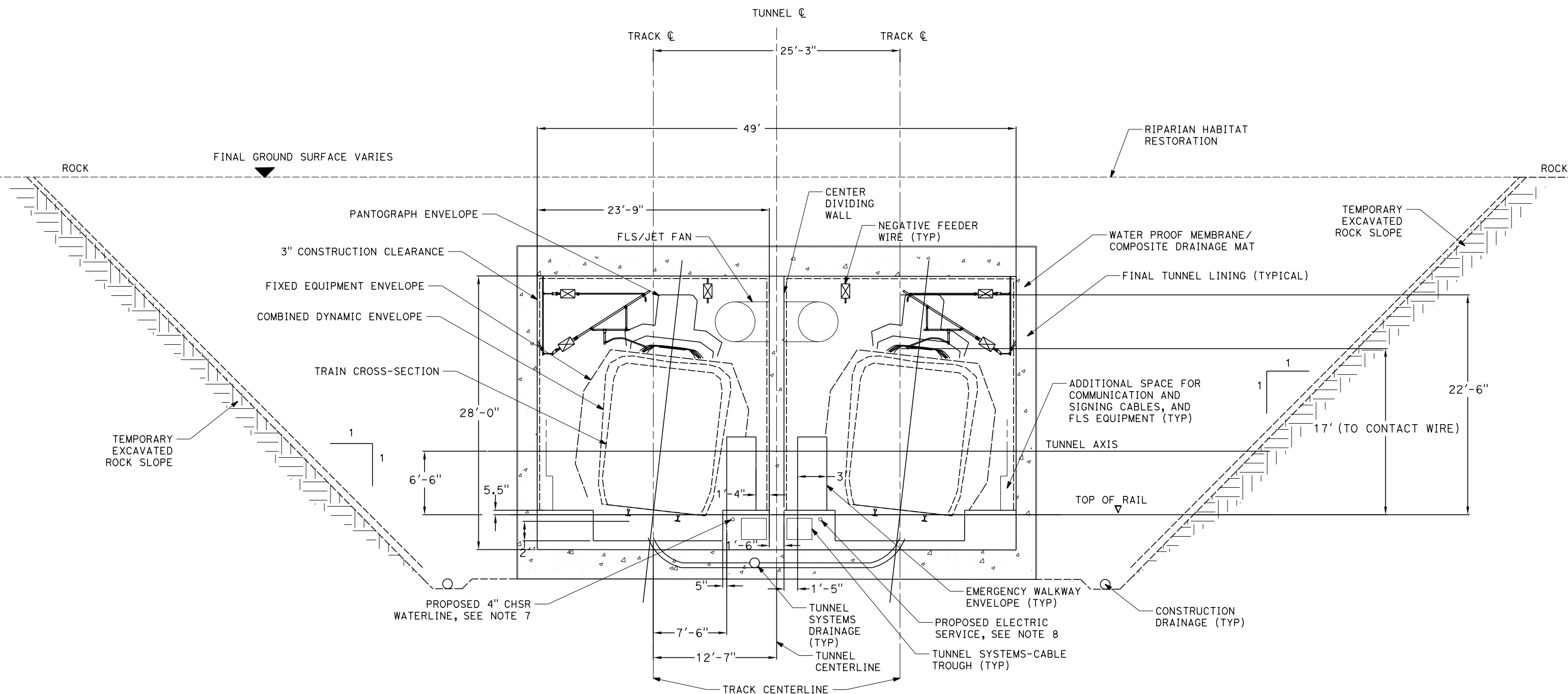


Projects\701206.00\_CHSRBP\00\_CADD\CCNM\_Option\_D\Sheets\TN-D3104

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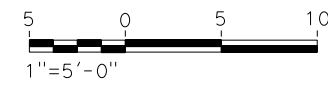
1/20/2021

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**GENERAL NOTES:**

1. TEMPORARY SLOPE AND BENCH GEOMETRIES SHOWN ARE BASED ON GUIDANCE PROVIDED IN TM 2.6.7
2. SLOPE PROTECTION, DRAINAGE, STRUCTURAL DIMENSIONS, AND STABILIZATION PROVISIONS WILL BE DEVELOPED BASED ON SITE INVESTIGATION RESULTS AND SLOPE-SPECIFIC DESIGN WORK.
3. TYPICAL CROSS-SECTION REQUIRES FURTHER STUDY TO EVALUATE DYNAMIC AIRFLOW/PRESSURE LEVELS UNDER HIGH SPEED OPERATING CONDITIONS, AND TO FURTHER REFINE SPACE ALLOTTED FOR STRUCTURES, EQUIPMENT, AND EGRESS.
4. EXCAVATION, GROUND SUPPORT, LINING AND WATERTIGHTNESS PROVISIONS WILL BE OPTIMIZED BASED ON SITE INVESTIGATION RESULTS AND CUT AND COVER-SPECIFIC DESIGN WORK.
5. CUT AND COVER BOX TYPICAL SECTION TO BE USED AT TUNNEL 4, STATION 18362+50 TO 18368+50.
6. CENTER DIVIDING WALL SHALL CONFORM TO NFPA 101 AND HAVE A 2 HOUR FIRE RATING.
7. PROPOSED 4" WATER LINE PARALLELS ALIGNMENT FROM STATION 18034+00 TO 19591+00.
8. PROPOSED ELECTRIC SERVICE PARALLELS ALIGNMENT FROM STATION 18034+00 TO 19591+00.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**

DRAWN BY  
**K. BUNGER**

CHECKED BY  
**R. KUNDU**

IN CHARGE  
**J. MORRISON**

DATE  
**01/29/2021**

**RECORD SET**

**PEPD**

**SUBMITTAL**

**NOT FOR**

**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**

**BAKERSFIELD TO PALMDALE**

REFINED CCNM DESIGN OPTION

TUNNEL CUT AND COVER BOX

CLEARANCE DIAGRAM - SUPER ELEVATED TRACK

CONTRACT NO.  
**HSR13-44**

DRAWING NO.  
**TN-D3104**

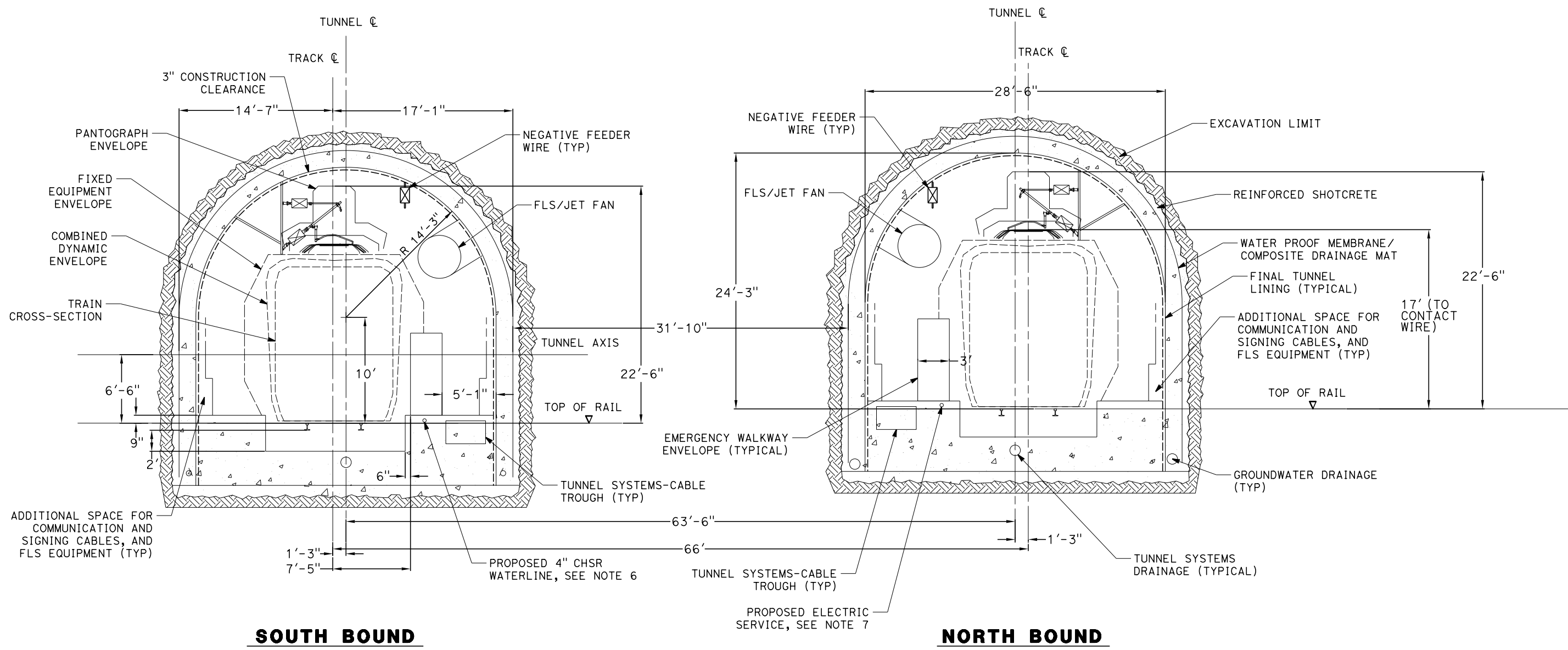
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SHEET NO.  
**1096**

Projects\701206.00\_CHSRBP\00\_CADD\CCNM\_Option\_D\Sheets\TN-D3105

6:27:26 AM

1/20/2021



**SOUTH BOUND**

**NORTH BOUND**

**GENERAL NOTES:**

1. A DRILL AND BLAST OPTION IS IDENTIFIED FOR THE 15% IN-PROGRESS DESIGN OF TWIN, SINGLE TRACK TUNNELS FOR TUNNEL 7 THROUGH THE TEHACHAPI FAULT ZONE.
2. EXCAVATION, GROUND SUPPORT, PILLAR WIDTH, LINING THICKNESS AND WATERTIGHTNESS PROVISIONS WILL BE OPTIMIZED BASED ON SITE INVESTIGATION RESULTS AND TUNNEL-SPECIFIC DESIGN WORK.
3. TYPICAL CROSS-SECTION REQUIRES FURTHER STUDY TO EVALUATE DYNAMIC AIRFLOW/PRESSURE LEVELS UNDER HIGH SPEED OPERATING CONDITIONS, AND TO FURTHER REFINE SPACE ALLOTTED FOR STRUCTURES, EQUIPMENT, AND EGRESS.
4. PILLAR WIDTH BETWEEN TUNNELS TO BE ONE TUNNEL DIAMETER OR MORE BASED ON GUIDANCE IN TM 2.4.6.
5. THE COMPOSITE VEHICLE STATIC AND DYNAMIC ENVELOPES SHOWN FOLLOW TM 1.1.10-A AND C.
6. PROPOSED 4" WATER LINE PARALLELS ALIGNMENT FROM STATION 18034+00 TO 19591+00.
7. PROPOSED ELECTRIC SERVICE PARALLELS ALIGNMENT FROM STATION 18034+00 TO 19591+00.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**

DRAWN BY  
**K. BUNGER**

CHECKED BY  
**R. KUNDU**

IN CHARGE  
**J. MORRISON**

DATE  
**01/29/2021**

**RECORD SET**

**PEPD**

**SUBMITTAL**

**NOT FOR**

**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**

**BAKERSFIELD TO PALMDALE**

REFINED CCNM DESIGN OPTION

TWIN TUNNEL DRILL AND BLAST METHOD

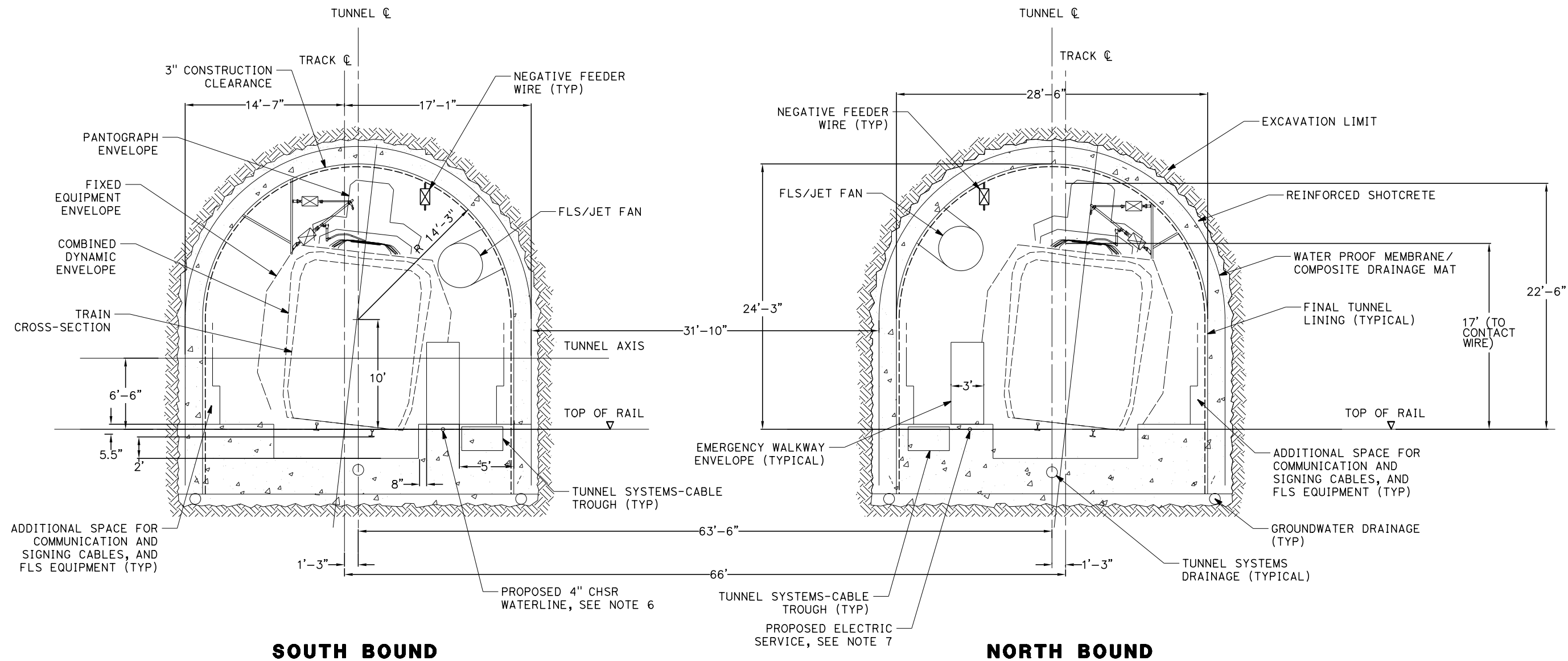
CLEARANCE DIAGRAM - TANGENT TRACK

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**HSR13-44**

DRAWING NO.  
**TN-D3105**

SCALE  
**AS SHOWN**

SHEET NO.  
**1097**

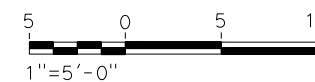


**SOUTH BOUND**

**NORTH BOUND**

**GENERAL NOTES:**

1. A DRILL AND BLAST OPTION IS IDENTIFIED FOR THE 15% IN-PROGRESS DESIGN OF TWIN, SINGLE TRACK TUNNELS FOR TUNNEL 7 THROUGH THE TEHACHAPI FAULT ZONE.
2. EXCAVATION, GROUND SUPPORT, PILLAR WIDTH, LINING THICKNESS AND WATERTIGHTNESS PROVISIONS WILL BE OPTIMIZED BASED ON SITE INVESTIGATION RESULTS AND TUNNEL-SPECIFIC DESIGN WORK.
3. TYPICAL CROSS-SECTION REQUIRES FURTHER STUDY TO EVALUATE DYNAMIC AIRFLOW/PRESSURE LEVELS UNDER HIGH SPEED OPERATING CONDITIONS, AND TO FURTHER REFINE SPACE ALLOTTED FOR STRUCTURES, EQUIPMENT, AND EGRESS.
4. PILLAR WIDTH BETWEEN TUNNELS TO BE ONE TUNNEL DIAMETER OR MORE BASED ON GUIDANCE IN TM 2.4.6.
5. THE COMPOSITE VEHICLE STATIC AND DYNAMIC ENVELOPES SHOWN FOLLOW TM 1.1.10-A AND C.
6. PROPOSED 4" WATER LINE PARALLELS ALIGNMENT FROM STATION 18034+00 TO 19591+00.
7. PROPOSED ELECTRIC SERVICE PARALLELS ALIGNMENT FROM STATION 18034+00 TO 19591+00.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>Z. SKOVAJSOVA</b>
DRAWN BY <b>K. BUNGER</b>
CHECKED BY <b>R. KUNDU</b>
IN CHARGE <b>J. MORRISON</b>
DATE <b>01/29/2021</b>

**RECORD SET  
PEPD  
SUBMITTAL**

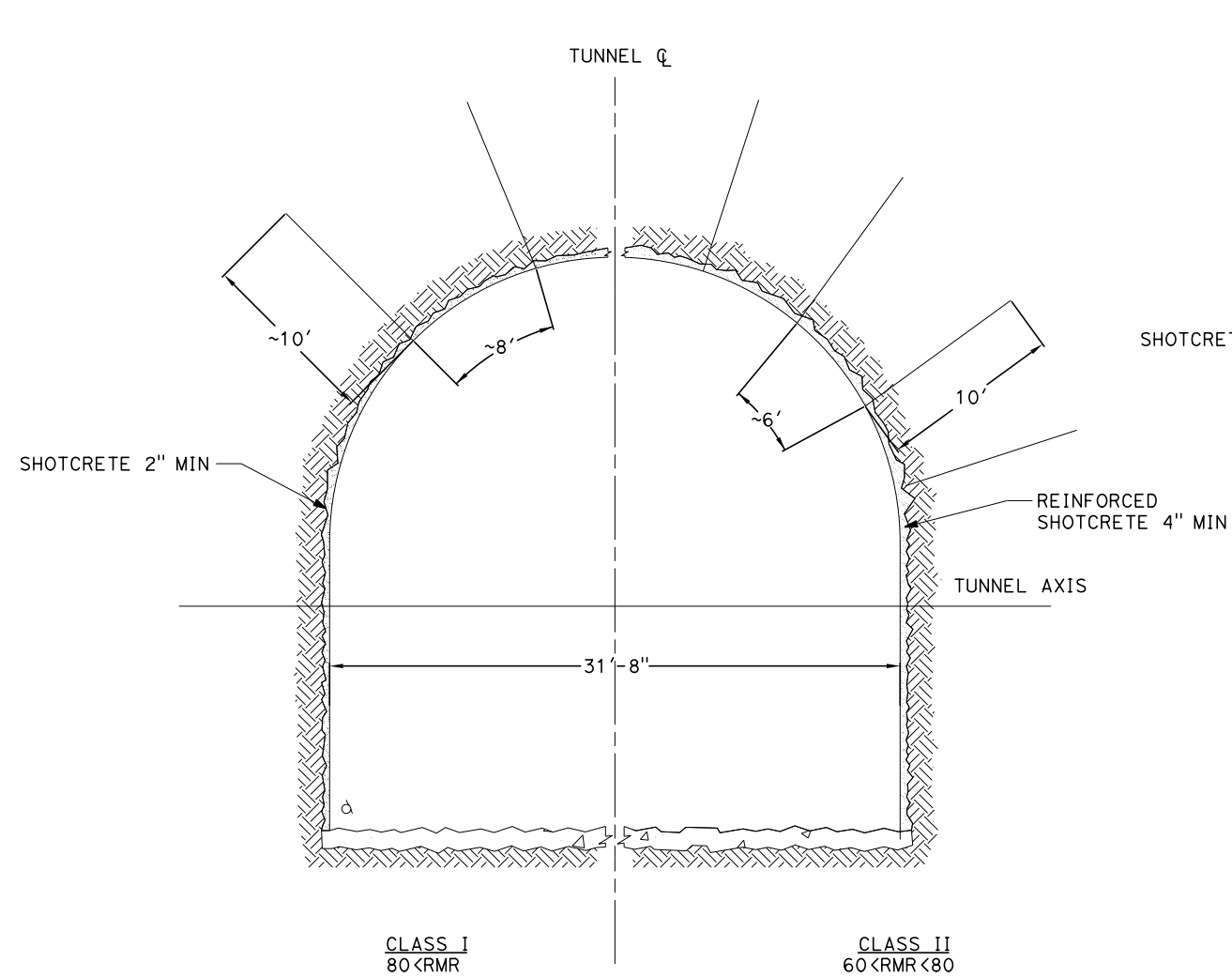
**NOT FOR  
CONSTRUCTION**



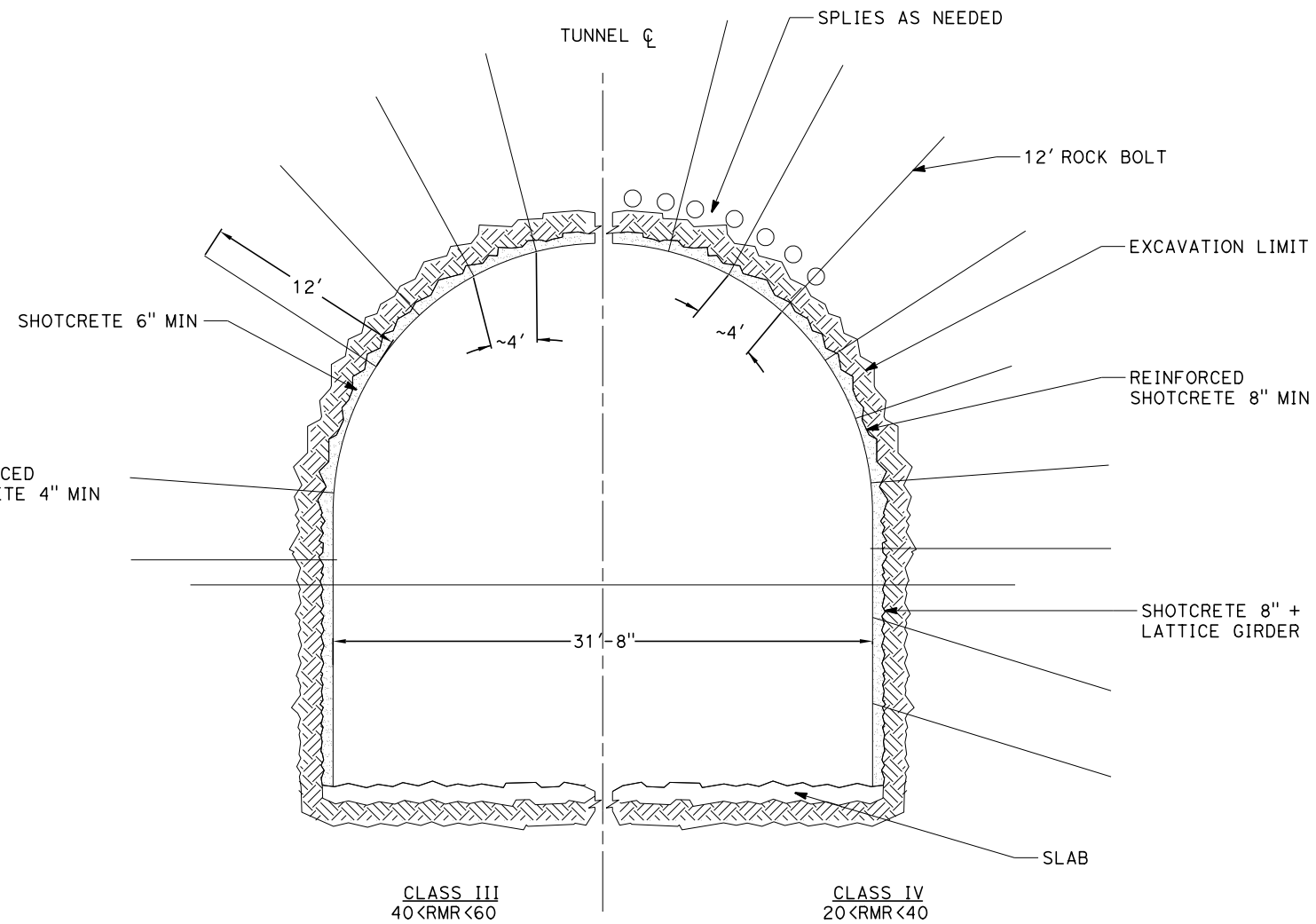
**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

REFINED CCNM DESIGN OPTION  
TWIN TUNNEL DRILL AND BLAST METHOD  
CLEARANCE DIAGRAM - SUPER ELEVATED TRACK

CONTRACT NO. <b>HSR13-44</b>
DRAWING NO. <b>TN-D3106</b>
SCALE <b>AS SHOWN</b>
SHEET NO. <b>1098</b>



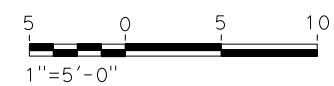
**SOUTH BOUND**



**NORTH BOUND**

**GENERAL NOTES:**

1. DRILL AND BLAST OPTION IS IDENTIFIED FOR THE 15% IN-PROGRESS DESIGN OF TWIN, SINGLE TRACK TUNNELS FOR TUNNEL 7 THROUGH THE TEHACHAPI FAULT ZONE FROM STA 18930+70 TO STA 18940+84.
2. EXCAVATION, GROUND SUPPORT, PILLAR WIDTH, LINING THICKNESS AND WATERTIGHTNESS PROVISIONS WILL BE OPTIMIZED BASED ON SITE INVESTIGATION RESULTS AND TUNNEL-SPECIFIC DESIGN WORK.
3. TYPICAL CROSS-SECTION REQUIRES FURTHER STUDY TO EVALUATE DYNAMIC AIRFLOW/PRESSURE LEVELS UNDER HIGH SPEED OPERATING CONDITIONS, AND TO FURTHER REFINE SPACE ALLOTTED FOR STRUCTURES, EQUIPMENT, AND EGRESS.
4. PILLAR WIDTH BETWEEN TUNNELS TO BE ONE TUNNEL DIAMETER OR MORE BASED ON GUIDANCE IN TM 2.4.6
5. CLASSES I AND II MAY BE EXCAVATED FULL FACE. CLASS III MAY REQUIRE HEADING AND BENCH EXCAVATION WITH FACE SUPPORT AS REQUIRED. CLASS IV MAY REQUIRE TOP HEADING AND BENCH WITH SIDE SLASH, SPILES, AND FACE SUPPORT AS NEEDED. CLASS IV MAY REQUIRE A CHANGE IN EXCAVATION METHOD TO AN SEM CONSTRUCTION ALTERNATIVE.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
DRAWN BY  
**K. BUNGER**  
CHECKED BY  
**R. KUNDU**  
IN CHARGE  
**J. MORRISON**  
DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
REFINED CCNM DESIGN OPTION  
TWIN TUNNEL DRILL AND BLAST METHOD  
INITIAL SUPPORT

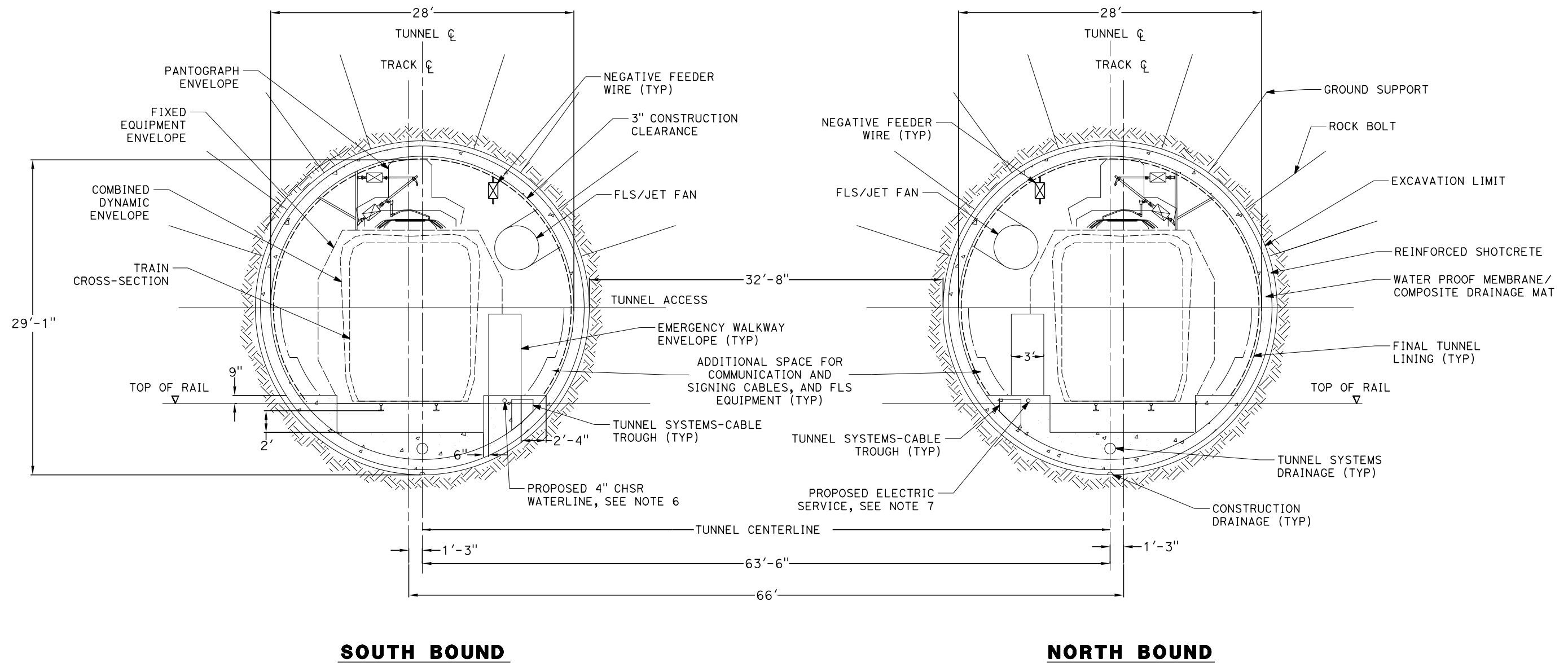
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**HSR13-44**  
DRAWING NO.  
**TN-D3107**  
SCALE  
**AS SHOWN**  
SHEET NO.  
**1099**

Projects\701206\_00\_CHSRBP\00\_CADD\CCNM Option D\Sheets\TN-D3108

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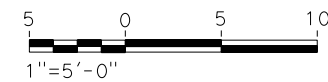
1/20/2021

jcs\_user\_17609



**GENERAL NOTES:**

1. OPEN TBM METHODS ARE ADOPTED FOR THE 15% IN-PROGRESS DESIGN OF THE LONGER (GREATER THAN 1 MILE) TWIN, SINGLE TRACK 7, SITED IN HARD ROCK UNITS.
2. EXCAVATION, GROUND SUPPORT, PILLAR WIDTH, LINING THICKNESS AND WATERTIGHTNESS PROVISIONS WILL BE OPTIMIZED BASED ON SITE INVESTIGATION RESULT AND TUNNEL SPECIFIC DESIGN WORK
3. TYPICAL CROSS-SECTION REQUIRES FURTHER STUDY TO EVALUATE DYNAMIC AIRFLOW/PRESSURE LEVELS UNDER HIGH SPEED OPERATING CONDITIONS, AND TO FURTHER REFINE SPACE ALLOTTED FOR STRUCTURES, EQUIPMENT, AND EGRESS.
4. PILLAR WIDTH BETWEEN TUNNELS TO BE ONE TUNNEL DIAMETER OR MORE BASED ON GUIDANCE IN TM 2.4.6.
5. THE COMPOSITE VEHICLE STATIC AND DYNAMIC ENVELOPES SHOWN FOLLOW TM 1.1.10-A AND C.
6. PROPOSED 4" WATER LINE PARALLELS ALIGNMENT FROM STATION 18034+00 TO 19591+00.
7. PROPOSED ELECTRIC SERVICE PARALLELS ALIGNMENT FROM STATION 18034+00 TO 19591+00.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
DRAWN BY  
**K. BUNGER**  
CHECKED BY  
**R. KUNDU**  
IN CHARGE  
**J. MORRISON**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



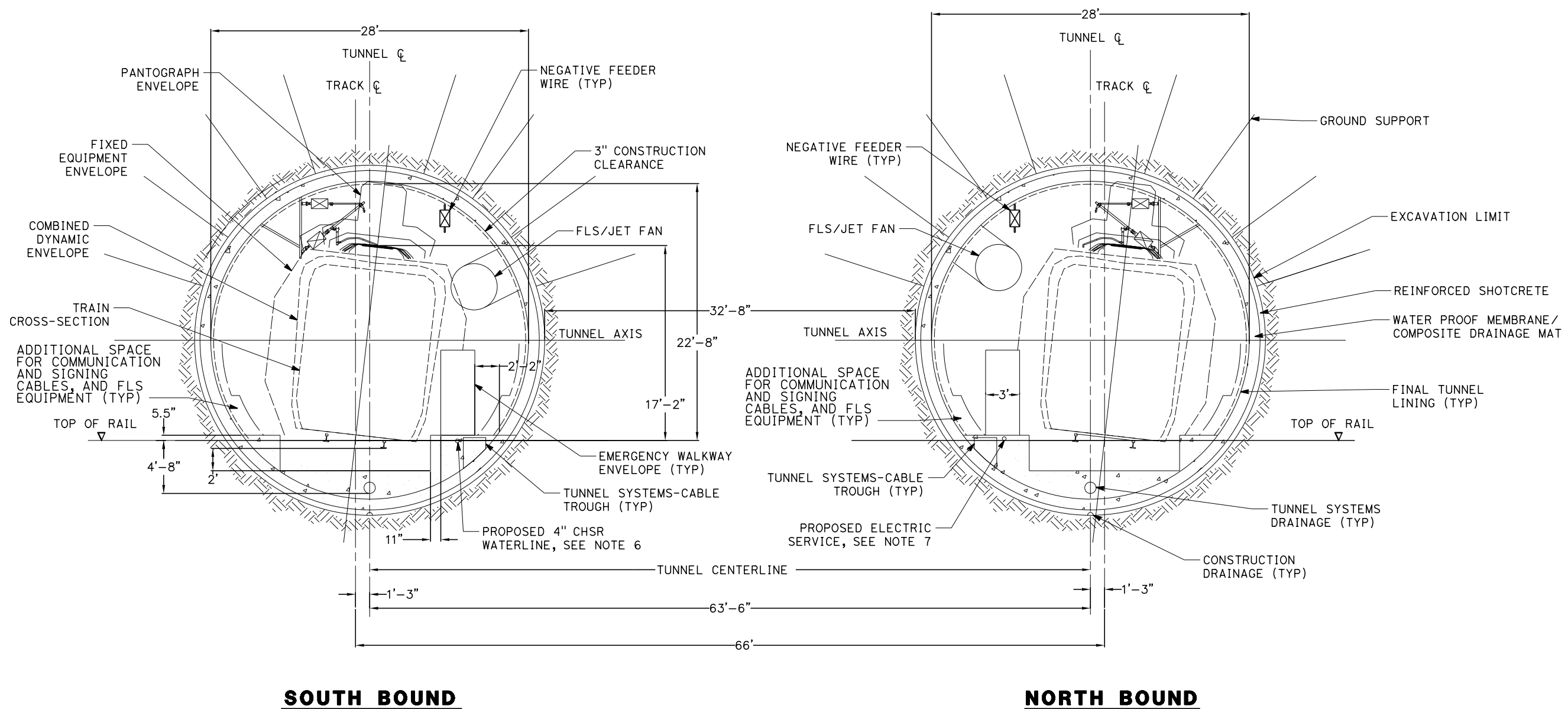
**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
REFINED CCNM DESIGN OPTION  
TUNNEL TWIN TBM BORED TUNNELS  
CLEARANCE DIAGRAM - TANGENT TRACK

CONTRACT NO.  
**HSR13-44**  
DRAWING NO.  
**TN-D3108**  
SCALE  
**AS SHOWN**  
SHEET NO.  
**1100**

Projects\701206\_00\_CHSRBP\00\_CADD\CCNM\_Option\_D\Sheets\TN\TN-D3109

1/20/2021 6:12:39 AM

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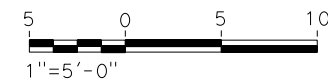


**SOUTH BOUND**

**NORTH BOUND**

**GENERAL NOTES:**

1. OPEN TBM METHODS ARE ADOPTED FOR THE 15% IN-PROGRESS DESIGN OF THE LONGER (GREATER THAN 1 MILE) TWIN, SINGLE TRACK 7, SITED IN HARD ROCK UNITS.
2. EXCAVATION, GROUND SUPPORT, PILLAR WIDTH, LINING THICKNESS AND WATERTIGHTNESS PROVISIONS WILL BE OPTIMIZED BASED ON SITE INVESTIGATION RESULT AND TUNNEL SPECIFIC DESIGN WORK
3. TYPICAL CROSS-SECTION REQUIRES FURTHER STUDY TO EVALUATE DYNAMIC AIRFLOW/PRESSURE LEVELS UNDER HIGH SPEED OPERATING CONDITIONS, AND TO FURTHER REFINE SPACE ALLOTTED FOR STRUCTURES, EQUIPMENT, AND EGRESS.
4. PILLAR WIDTH BETWEEN TUNNELS TO BE ONE TUNNEL DIAMETER OR MORE BASED ON GUIDANCE IN TM 2.4.6.
5. THE COMPOSITE VEHICLE STATIC AND DYNAMIC ENVELOPES SHOWN FOLLOW TM 1.1.10-A AND C.
6. PROPOSED 4" WATER LINE PARALLELS ALIGNMENT FROM STATION 18034+00 TO 19591+00.
7. PROPOSED ELECTRIC SERVICE PARALLELS ALIGNMENT FROM STATION 18034+00 TO 19591+00.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
DRAWN BY  
**K. BUNGER**  
CHECKED BY  
**R. KUNDU**  
IN CHARGE  
**J. MORRISON**  
DATE  
**01/29/2021**

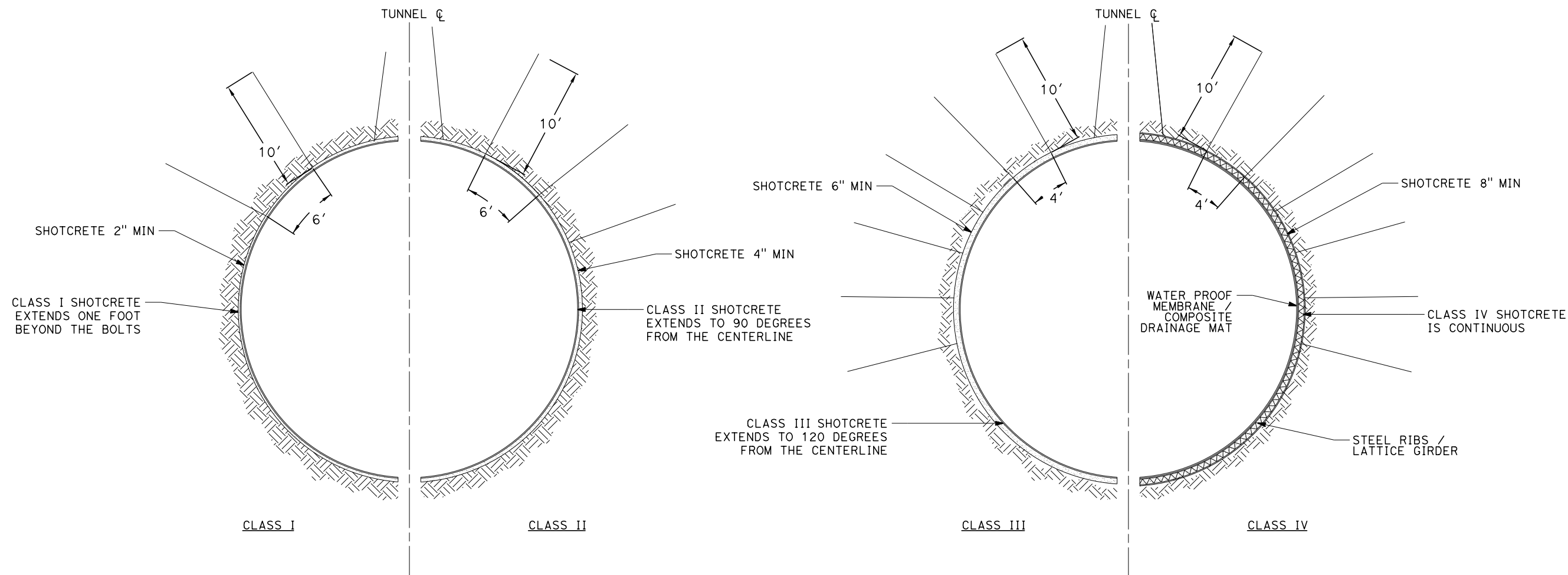
**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



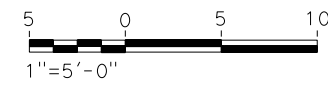
**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
REFINED CCNM DESIGN OPTION  
TUNNEL TWIN TBM BORED TUNNELS  
CLEARANCE DIAGRAM - SUPER ELEVATED TRACK

CONTRACT NO.  
**HSR13-44**  
DRAWING NO.  
**TN-D3109**  
SCALE  
**AS SHOWN**  
SHEET NO.  
**1101**



**GENERAL NOTES:**

1. OPEN TBM METHODS ARE ADOPTED FOR THE 15% IN-PROGRESS DESIGN OF THE LONGER (GREATER THAN 1 MILE) TWIN, SINGLE TRACK 7, SITED IN HARD ROCK UNITS.
2. EXCAVATION, GROUND SUPPORT, PILLAR WIDTH, LINING THICKNESS AND WATERTIGHTNESS PROVISIONS WILL BE OPTIMIZED BASED ON SITE INVESTIGATION RESULT AND TUNNEL SPECIFIC DESIGN WORK.
3. TYPICAL CROSS-SECTION REQUIRES FURTHER STUDY TO EVALUATE DYNAMIC AIRFLOW/PRESSURE LEVELS UNDER HIGH SPEED OPERATING CONDITIONS, AND TO FURTHER REFINE SPACE ALLOTTED FOR STRUCTURES, EQUIPMENT, AND EGRESS.
4. PILLAR WIDTH BETWEEN TUNNELS TO BE ONE TUNNEL DIAMETER OR MORE BASED ON GUIDANCE IN TM 2.4.6.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**Z. SKOVAJSOVA**  
DRAWN BY  
**K. BUNGER**  
CHECKED BY  
**R. KUNDU**  
IN CHARGE  
**J. MORRISON**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

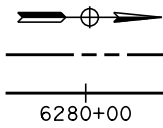


**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
REFINED CCNM DESIGN OPTION  
TUNNEL TWIN TBM BORED TUNNELS  
INITIAL SUPPORT

CONTRACT NO.  
**HSR13-44**  
DRAWING NO.  
**TN-D3110**  
SCALE  
**AS SHOWN**  
SHEET NO.  
**1102**

**LEGEND AND SYMBOLS**

EXISTING	NEW	DESCRIPTION
-e- -e-	-E- -E-	ELECTRICAL UNDERGROUND
-e- (oh)-	-E- -(OH)-	ELECTRICAL OVERHEAD
---gs---gs---	---GS---GS---	GAS
-g- -g-	-G- -G-	NATURAL GAS
-irr- -irr-	-IRR- -IRR-	IRRIGATION
---o- ---o-	---O- ---O-	OIL
---sd- ---sd-	---SD- ---SD-	STORM DRAIN
---s- ---s-	---S- ---S-	SEWER
-st- -st-	-ST- -ST-	STEAM
---tc- (oh)-	---TC- -(OH)-	TELECOMMUNICATION OVERHEAD
---tc- ---tc-	---TC- ---TC-	TELECOMMUNICATION UNDERGROUND
---t- (oh)-	---T- -(OH)-	TELEPHONE OVERHEAD
---t- ---t-	---T- ---T-	TELEPHONE UNDERGROUND
---tv- (oh)-	---TV- -(OH)-	TELEVISION OVERHEAD
---tv- ---tv-	---TV- ---TV-	TELEVISION UNDERGROUND
-w- -w-	-W- -W-	WATER, RECYCLED WATER
-fo- -fo-	-FO- -FO-	FIBER OPTIC
		IRRIGATION WELL, WEIR, TURNOUT, PUMP
		SEWER, STORM DRAIN MANHOLE
		UTILITY POLE
		POWER TRANSMISSION TOWER
		STREET LIGHT
		NORTH ARROW
		PROP CHSR RIGHT-OF-WAY
		CHSR TRACK CENTER LINE
		RETAINING WALL
		TOP OF CUT GRADING LINE
		TOE OF SLOPE GRADING LINE
		STRUCTURE FOUNDATION
		PTEF
		PPEF
		UTILITY TO BE REMOVED, RELOCATED OR ABANDONED
		RETENTION BASIN
		KEY NOTE, UTILITY NUMBER
		SOLAR FARM
		WIND TURBINE



**LEGEND AND SYMBOLS**

	SUPPLY STATION		STANDALONE RADIO SITE
	SWITCHING STATION		TRAIN CONTROL SYSTEM SITE A
	PARALLELING STATION		TRAIN CONTROL SYSTEM SITE B
			TRAIN CONTROL SYSTEM SITE D
			TRAIN CONTROL SYSTEM SITE E
			TRACK CROSSING PANEL

**ABBREVIATIONS**

AB	AGGREGATE BASE	FH	FIRE HYDRANT	R	RADIUS
ABN	ABANDON	FM	FORCE MAIN	RCP	REINFORCED CONCRETE PIPE
AC	ASPHALT CONCRETE	F-B	FRESNO TO BAKERSFIELD	RD	ROAD
ACB	ASPHALT CONCRETE BASE	FO	FIBER OPTIC	RDWY	ROADWAY
ACP	ASBESTOS CEMENT PIPE	FUT	FUTURE	REQD	REQUIRED
A/G	AT GRADE	G	GAS	RR	RAILROAD
ALT	ALTERNATIVE	GALV	GALVANIZED	RT	RIGHT
APPROX	APPROXIMATE	GB	GRADE BREAK	RTE	ROUTE
AVE	AVENUE	GIS	GEOGRAPHICAL INFORMATION SYSTEM	R/W, ROW	RIGHT-OF-WAY
BEG	BEGIN	GND	GROUND	RWY	RAILWAY
BFSSA	BAKERSFIELD F STREET STATION ALIGNMENT	GTR	GUTTER	S	SOUTH
BLDG	BUILDING	GV	GAS VALVE	SB	SOUTHBOUND
BLVD	BOULEVARD	GWTR	GROUNDWATER	SD	STORM DRAIN
BNSF	BURLINGTON NORTHERN SANTA FE	GWMW	GROUNDWATER MONITOR WELL	SDMH	STORM DRAIN MANHOLE
BO	BLOW-OFF	GWAW	GROUNDWATER ACTIVE WELL	SF	SQUARE FEET
B-P	BAKERSFIELD TO PALMDALE	HOR	HORIZONTAL	SHLD	SHOULDER
CB	CATCH BASIN	HSR	HIGH-SPEED RAIL	SR	STATE ROUTE
CD	CURB DRAIN	HST	HIGH-SPEED TRAIN	SS	SANITARY SEWER, SUPPLY STATION
C&G	CURB AND GUTTER	HV	HIGH VOLTAGE	SSMH	SANITARY SEWER MANHOLE
CHSR	CALIFORNIA HIGH-SPEED RAIL	IN	INCH	ST	STREET
CHST	CALIFORNIA HIGH-SPEED TRAIN	INV	INVERT	STA	STATION
CIP	CAST IRON PIPE	IRR	IRRIGATION	SW	SIDEWALK, SWITCHING STATION
CL	CENTERLINE, CLASS	L	LENGTH	SWR	SEWER
CLM	CENTERLINE	LAN	LANCASTER	T	TELEPHONE, TOTAL
CLSM	CONTROLLED LOW STRENGTH MATERIAL	LT	LEFT	TBD	TO BE DETERMINED
CPUC	CALIFORNIA PUBLIC UTILITIES COMMISSION	MAX	MAXIMUM	TC	TELECOMMUNICATION
CMP	CORRUGATED METAL PIPE	MIN	MINIMUM	TCE	TEMPORARY CONSTRUCTION EASEMENT
CTV	CABLE TELEVISION	N	NORTH, NEW	TEL	TELEPHONE
CV	CURVE	NA	NOT APPLICABLE	TP	TRACTION POWER
D	DEPTH	NB	NORTHBOUND	TOR	TOP OF RAIL
DI	DRAINAGE INLET	NIC	NOT IN CONTRACT	TRANS	TRANSMISSION
DIA	DIAMETER	NO	NUMBER	TS	TRAFFIC SIGNAL
DIP	DUCTILE IRON PIPE	NTS	NOT TO SCALE	TYP	TPICAL
DIST	DISTANCE, DISTRIBUTION	OCS	OVERHEAD CONTACT SYSTEM	UG, U/G	UNDERGROUND
DWG	DRAWING	PROP, (P)	PROPOSED	UNK	UNKNOWN
E	ELECTRICAL, EAST	PED	PEDESTRIAN	UPRR	UNION PACIFIC RAILROAD
EB	EASTBOUND	PPEF	PROPOSED PERMANENT ENVIRONMENTAL FOOTPRINT	VAR	VARIES
EDSN	EDISON	PS	PARALLELING STATION	VC	VERTICAL CURVE
EL	ELEVATION	PTEF	PROPOSED TEMPORARY ENVIRONMENTAL FOOTPRINT	VCP	VITRIFIED CLAY PIPE
ELEC	ELECTRIC	PVC	POLYVINYL CHLORIDE	W	WEST, WATER
EP	EDGE OF PAVEMENT	PVMT	PAVEMENT	W/	WITH
EXIST, (E)	EXISTING	PG	PROPOSED GRADE	WB	WESTBOUND
				WM	WATER MAIN
				WV	WATER VALVE

Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\UT\_VBP-UT-B0005 6:19:08 AM 1/20/2021 6:19:08 AM 1/20/2021 jcs\_user\_17609

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>D. HOLMAN</b>
DRAWN BY <b>J. LOPEZ</b>
CHECKED BY <b>G. CAMPBELL</b>
IN CHARGE <b>G. CAMPBELL</b>
DATE <b>01/29/2021</b>

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

COMPOSITE UTILITY PLANS  
GENERAL  
ABBREVIATIONS AND LEGEND

CONTRACT NO. <b>HSR13-44</b>
DRAWING NO. <b>UT-B0005</b>
SCALE <b>NTS</b>
SHEET NO. <b>1103</b>



**LEGEND AND SYMBOLS (CONTINUED)**

**LEGEND AND SYMBOLS**

EXISTING	NEW	DESCRIPTION
---e---e---	---E---E---	ELECTRICAL UNDERGROUND
---e---(oh)---	---E---(OH)---	ELECTRICAL OVERHEAD
----gs-----gs---	----GS-----GS---	GAS
---g-----g---	---G-----G---	NATURAL GAS
---irr-----irr---	---IRR-----IRR---	IRRIGATION
---o-----o---	---O-----O---	OIL
---sd-----sd---	---SD-----SD---	STORM DRAIN
---s-----s---	---S-----S---	SEWER
---st-----st---	---ST-----ST---	STEAM
---tc------(oh)---	---TC------(OH)---	TELECOMMUNICATION OVERHEAD
---tc-----tc---	---TC-----TC---	TELECOMMUNICATION UNDERGROUND
---t------(oh)---	---T------(OH)---	TELEPHONE OVERHEAD
---t-----t---	---T-----T---	TELEPHONE UNDERGROUND
---tv------(oh)---	---TV------(OH)---	TELEVISION OVERHEAD
---tv-----tv---	---TV-----TV---	TELEVISION UNDERGROUND
---w-----w---	---W-----W---	WATER, RECYCLED WATER
---fo-----fo---	---FO-----FO---	FIBER OPTIC
		IRRIGATION WELL, WEIR, TURNOUT, PUMP
		SEWER, STORM DRAIN MANHOLE
		UTILITY POLE
		POWER TRANSMISSION TOWER
		STREET LIGHT
		NORTH ARROW
		PROP CHSR RIGHT-OF-WAY
		CHSR TRACK CENTER LINE
		RETAINING WALL
		TOP OF CUT GRADING LINE
		TOE OF SLOPE GRADING LINE
		STRUCTURE FOUNDATION
		PTEF
		PPEF
		UTILITY TO BE REMOVED, RELOCATED, OR ABANDONED
		RETENTION BASIN
		KEY NOTE, UTILITY NUMBER
		SOLAR FARM
		WIND TURBINE

	PARALLELING STATION
	SUBSTATION
	AUTOMATIC TRAIN CONTROL SYSTEM SITE D

**ABBREVIATIONS**

AB	AGGREGATE BASE	FH	FIRE HYDRANT	R	RADIUS
ABN	ABANDON	FM	FORCE MAIN	RCP	REINFORCED CONCRETE PIPE
AC	ASPHALT CONCRETE	F-B	FRESNO TO BAKERSFIELD	RD	ROAD
ACB	ASPHALT CONCRETE BASE	FO	FIBER OPTIC	RDWY	ROADWAY
ACP	ASBESTOS CEMENT PIPE	FUT	FUTURE	REQD	REQUIRED
A/G	AT GRADE			RR	RAILROAD
ALT	ALTERNATIVE	G	GAS	RT	RIGHT
APPROX	APPROXIMATE	GALV	GALVANIZED	RTE	ROUTE
AVE	AVENUE	GB	GRADE BREAK	R/W, ROW	RIGHT-OF-WAY
		GIS	GEOGRAPHICAL INFORMATION SYSTEM	RWY	RAILWAY
BEG	BEGIN	GND	GROUND	S	SOUTH
BFSSA	BAKERSFIELD F STREET STATION ALIGNMENT	GTR	GUTTER	SB	SOUTHBOUND
BLDG	BUILDING	GV	GAS VALVE	SD	STORM DRAIN
BLVD	BOULEVARD	GWTR	GROUNDWATER	SDMH	STORM DRAIN MANHOLE
BNSF	BURLINGTON NORTHERN SANTA FE	GWMW	GROUNDWATER MONITOR WELL	SF	SQUARE FEET
BO	BLOW-OFF	GWAW	GROUNDWATER ACTIVE WELL	SHLD	SHOULDER
B-P	BAKERSFIELD TO PALMDALE			SR	STATE ROUTE
		HOR	HORIZONTAL	SS	SANITARY SEWER, SUPPLY STATION
CB	CATCH BASIN	HSR	HIGH-SPEED RAIL	SSMH	SANITARY SEWER MANHOLE
CD	CURB DRAIN	HST	HIGH-SPEED TRAIN	ST	STREET
C&G	CURB AND GUTTER	HV	HIGH VOLTAGE	STA	STATION
CHSR	CALIFORNIA HIGH-SPEED RAIL			SW	SIDEWALK, SWITCHING STATION
CHST	CALIFORNIA HIGH-SPEED TRAIN	IN	INCH	SWR	SEWER
CIP	CAST IRON PIPE	INV	INVERT		
CL	CENTERLINE, CLASS	IRR	IRRIGATION	T	TELEPHONE, TOTAL
CL	CENTERLINE			TBD	TO BE DETERMINED
CLSM	CONTROLLED LOW STRENGTH MATERIAL	L	LENGTH	TC	TELECOMMUNICATION
CPUC	CALIFORNIA PUBLIC UTILITIES COMMISSION	LAN	LANCASTER	TCE	TEMPORARY CONSTRUCTION EASEMENT
CMP	CORRUGATED METAL PIPE	LT	LEFT	TEL	TELEPHONE
CTV	CABLE TELEVISION	MAX	MAXIMUM	TP	TRACTION POWER
CV	CURVE	MIN	MINIMUM	TOR	TOP OF RAIL
		N	NORTH, NEW	TRANS	TRANSMISSION
D	DEPTH	NA	NOT APPLICABLE	TS	TRAFFIC SIGNAL
DI	DRAINAGE INLET	NB	NORTHBOUND	TYP	TPICAL
DIA	DIAMETER	NIC	NOT IN CONTRACT		
DIP	DUCTILE IRON PIPE	NO	NUMBER	UG, U/G	UNDERGROUND
DIST	DISTANCE, DISTRIBUTION	NTS	NOT TO SCALE	UNK	UNKNOWN
DWG	DRAWING	OCS	OVERHEAD CONTACT SYSTEM	UPRR	UNION PACIFIC RAILROAD
E	ELECTRICAL, EAST			VAR	VARIES
EB	EASTBOUND	PROP, (P)	PROPOSED	VC	VERTICAL CURVE
EDSN	EDISON	PED	PEDESTRIAN	VCP	VITRIFIED CLAY PIPE
EL	ELEVATION	PPEF	PROPOSED PERMANENT ENVIRONMENTAL FOOTPRINT		
ELEC	ELECTRIC			W	WEST, WATER
EP	EDGE OF PAVEMENT	PS	PARALLELING STATION	W/	WITH
EXIST, (E)	EXISTING	PTEF	PROPOSED TEMPORARY ENVIRONMENTAL FOOTPRINT	WB	WESTBOUND
				WM	WATER MAIN
		PVC	POLYVINYL CHLORIDE	WV	WATER VALVE
		PVMT	PAVEMENT		
		PG	PROPOSED GRADE		

Projects\701206\_00\_CHSRBP\00\_CADD\CCNM Option D\Sheets\UT\BP-UT-B0101 6:32:44 AM 1/20/2021 6:32:44 AM 1/20/2021 6:32:44 AM 1/20/2021

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>D. HOLMAN</b>
DRAWN BY <b>J. LOPEZ</b>
CHECKED BY <b>G. CAMPBELL</b>
IN CHARGE <b>G. CAMPBELL</b>
DATE <b>01/29/2021</b>

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

REFINED CCNM DESIGN OPTION  
COMPOSITE UTILITY GENERAL  
ABBREVIATIONS AND LEGEND

CONTRACT NO. <b>HSR13-44</b>
DRAWING NO. <b>UT-B0101</b>
SCALE <b>NO SCALE</b>
SHEET NO. <b>1104</b>

UTILITY OWNERS	
OWNER	ABBREVIATION
ANTELOPE VALLEY EAST KERN WATER AGENCY	AVEKWA
APR CORPORATION	APR CORP
ARVIN-EDISON WATER STORAGE DISTRICT	AEWSD
AT&T TRANSMISSION	AT&T TRANS
AT&T/PACBELL	PACBELL
BRIGHT HOUSE NETWORKS	BRIGHTHOUSE
CALIFORNIA WATER SERVICE	CALWATER
CALTRANS	CALTRANS
CENTURYLINK COMMUNICATION CA	CENTURYLINK
CITY OF BAKERSFIELD	CITY OF BAKERSFIELD
CITY OF LANCASTER	CITY OF LANCASTER
CITY OF PALMDALE	CITY OF PALMDALE
CITY OF TEHACHAPI	CITY OF TEHACHAPI
COUNTY OF KERN	COUNTY OF KERN
CVIN LLC	CVIN
DOLE ENTERPRISES	DOLE ENT
EAST NILES COMMUNITY SERVICES DISTRICT	ENCSD
GOLDEN HILLS COMMUNITY SERVICE DISTRICT	GHCSO
KERN DELTA WATER DISTRICT	KDWD
KERN OIL & REFINING	KERN OIL
KERN SANITATION AUTHORITY	KSA
KINDER MORGAN (EL PASO PIPELINE)	EL PASO/KM
KINDER MORGAN (MOJAVE PIPELINE)	MOJAVE/KM
LANDALE MUTUAL WATER COMPANY	LMWC
LEVEL 3 COMMUNICATIONS	LEVEL 3
LOS ANGELES DEPARTMENT OF WATER AND POWER	LADWP
LOS ANGELES COUNTY DEPT OF PUBLIC WORKS - WATER WORKS	LACDPW-WW
LOS ANGELES COUNTY DEPARTMENT OF PARKS AND RECREATION	LACDPR
LOS ANGELES COUNTY SANITATION DISTRICT	LACSD
NAFTEX OPERATING COMPANY	NAFTEX
NEXTERA ENERGY RESOURCES	NEXTERA
PG&E - DISTRIBUTION	PG&E DIST
PG&E - TRANSMISSION	PG&E TRANS
PHILLIPS 66 - TOSCO	PHILLIPS66
ROSAMOND COMMUNITY SERVICE DISTRICT	RCSD
SHELL PIPELINE CO	SHELL
SOUTHERN CALIFORNIA EDISON - TRANSMISSION	SCE TRANS
SOUTHERN CALIFORNIA EDISON - DISTRIBUTION	SCE DIST
SOUTHERN CALIFORNIA GAS CO/SEMPRA - DISTRIBUTION	SEMPRA DIST

UTILITY OWNERS CONT.	
OWNER	ABBREVIATION
SOUTHERN CALIFORNIA GAS CO/SEMPRA - TRANSMISSION	SEMPRA TRANS
SPRINT	SPRINT
SUNESYS, LLC	SUNESYS
TEHACHAPI CUMMINGS WATER	TEHACHAPI CUMMINGS
TIME WARNER	TIME WARNER
UNITED STATES BUREAU OF RECLAMATION	USBR
VALLEY WATER MANAGEMENT COMPANY	VWMC
VAQUERO ENERGY	VAQUERO
VERIZON	VERIZON

GENERAL NOTES:

- EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATION BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION THESE PLANS. THE LOCATION OF EXISTING UTILITIES ARE BASED ON FOUR SOURCES:
  - TOPOGRAPHIC SURVEY
  - GIS
  - AS-BUILT DRAWINGS
  - LIMITED FIELD RECONNAISSANCE
 THE CONTRACTOR SHALL CONDUCT ITS OWN SURVEY AND VERIFY THE LOCATION OF EXISTING UTILITIES AND RECONCILE THE SURVEY DATA AND GIS DATA.
- SERVICE LATERALS FOR POTABLE WATER, SANITARY SEWER AND NATURAL GAS ARE NOT SHOWN.
- EXISTING UTILITIES IDENTIFIED WITH THE DISPOSITION 'RELOCATE' AND 'REMOVE' PERTAIN TO ONLY THAT PORTION OF THE UTILITY WITHIN THE PROPOSED CHSR ROW OR IMPACTED BY PROPOSED IMPROVEMENTS.
- ABANDONMENT OF EXISTING OIL WELLS SHALL CONFORM TO THE REQUIREMENTS OF AGENCIES HAVING JURISDICTION REGARDING DECOMMISSIONING OF EXISTING OIL WELLS AND APPURTENANT EQUIPMENT.
- ACQUISITION OF UTILITY EASEMENTS IS BASED ON THE BP DRAFT DESIGN BASELINE REPORT, SECTION 5.0 RIGHT-OF-WAY. ASSUMED WIDTHS ARE LISTED IN THE UTILITY EASEMENT TABLE, THIS DRAWING.
- RELOCATIONS OF HIGH RISK UTILITIES ARE SHOWN, NOT ALL UTILITY RELOCATIONS ARE SHOWN.
- FOR SUPPLY STATION, SWITCHING STATIONS, AND PARALLELING STATIONS REFER TO THE TRACTION POWER DRAWINGS.

HIGH VOLTAGE TRANSMISSION LINE RELOCATION NOTES:

- ELECTRICAL TOWER AND WIRE HEIGHTS ARE NOT BASED ON FIELD SURVEY AND MAY NOT REPRESENT ACTUAL FIELD CONDITIONS.
- CPUC VERTICAL CLEARANCE FROM OCS POLE NEGATIVE FEEDER WIRE TO LOWEST HIGH VOLTAGE ELECTRICAL CONDUCTOR: CPUC GO 95 RULE 38 TABLE 2 (CASE 12).
- ELECTRICAL TRANSMISSION TOWERS/POLES SUBJECT TO ADDITIONAL CLEARANCE REQD BY UTILITY OWNER.
- PROPOSED HV TRANSMISSION TOWERS REPRESENTED CONCEPTUALLY.
- NEGATIVE FEEDER WIRE DISTANCE ABOVE TOP RAIL: 30' FOR 2 TRACK CONFIGURATION, 35' FOR 3 OR MORE TRACK CONFIGURATION.

DRAINAGE SYSTEM AND RELOCATION NOTES:

EXISTING STORM DRAINAGE PIPES, CULVERTS, OR CHANNELS ARE SHOWN FOR INFORMATION ONLY. REFER TO GRADING AND DRAINAGE PLANS FOR DETAILED DRAINAGE INFORMATION.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>D. HOLMAN</b>
DRAWN BY <b>J. LOPEZ</b>
CHECKED BY <b>G. CAMPBELL</b>
IN CHARGE <b>G. CAMPBELL</b>
DATE <b>01/29/2021</b>

**RECORD SET  
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SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

COMPOSITE UTILITY PLANS  
GENERAL  
GENERAL NOTES AND UTILITY OWNERS

CONTRACT NO. HSR13-44
DRAWING NO. UT-B0006
SCALE NTS
SHEET NO. 1105

UTILITY OWNERS	
OWNER	ABBREVIATION
ANTELOPE VALLEY EAST KERN WATER AGENCY	AVEKWA
APR CORPORATION	APR CORP
ARVIN-EDISON WATER STORAGE DISTRICT	AEWSD
AT&T TRANSMISSION	AT&T TRANS
AT&T/PACBELL	PACBELL
BRIGHT HOUSE NETWORKS	BRIGHTHOUSE
CALIFORNIA WATER SERVICE	CALWATER
CALTRANS	CALTRANS
CENTURYLINK COMMUNICATION CA	CENTURYLINK
CITY OF BAKERSFIELD	CITY OF BAKERSFIELD
CITY OF LANCASTER	CITY OF LANCASTER
CITY OF PALMDALE	CITY OF PALMDALE
CITY OF TEHACHAPI	CITY OF TEHACHAPI
COUNTY OF KERN	COUNTY OF KERN
CVIN LLC	CVIN
DOLE ENTERPRISES	DOLE ENT
EAST NILES COMMUNITY SERVICES DISTRICT	ENCSD
GOLDEN HILLS COMMUNITY SERVICE DISTRICT	GHCSO
KERN DELTA WATER DISTRICT	KDWD
KERN OIL & REFINING	KERN OIL
KERN SANITATION AUTHORITY	KSA
KINDER MORGAN (EL PASO PIPELINE)	EL PASO/KM
KINDER MORGAN (MOJAVE PIPELINE)	MOJAVE/KM
LANDALE MUTUAL WATER COMPANY	LMWC
LEVEL 3 COMMUNICATIONS	LEVEL 3
LOS ANGELES DEPARTMENT OF WATER AND POWER	LADWP
LOS ANGELES COUNTY DEPT OF PUBLIC WORKS - WATER WORKS	LACDPW-WW
LOS ANGELES COUNTY DEPARTMENT OF PARKS AND RECREATION	LACDPR
LOS ANGELES COUNTY SANITATION DISTRICT	LACSD
NAFTEX OPERATING COMPANY	NAFTEX
NEXTERA ENERGY RESOURCES	NEXTERA
PG&E - DISTRIBUTION	PG&E DIST
PG&E - TRANSMISSION	PG&E TRANS
PHILLIPS 66 - TOSCO	PHILLIPS66
ROSAMOND COMMUNITY SERVICE DISTRICT	RCSD
SHELL PIPELINE CO	SHELL
SOUTHERN CALIFORNIA EDISON - TRANSMISSION	SCE TRANS
SOUTHERN CALIFORNIA EDISON - DISTRIBUTION	SCE DIST
SOUTHERN CALIFORNIA GAS CO/SEMPRA - DISTRIBUTION	SEMPRA DIST

UTILITY OWNERS CONT.	
OWNER	ABBREVIATION
SOUTHERN CALIFORNIA GAS CO/SEMPRA - TRANSMISSION	SEMPRA TRANS
SPRINT	SPRINT
SUNESYS, LLC	SUNESYS
TEHACHAPI CUMMINGS WATER	TEHACHAPI CUMMINGS
TIME WARNER	TIME WARNER
UNITED STATES BUREAU OF RECLAMATION	USBR
VALLEY WATER MANAGEMENT COMPANY	VWMC
VAQUERO ENERGY	VAQUERO
VERIZON	VERIZON

**GENERAL NOTES:**

- EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATION BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION THESE PLANS. THE LOCATION OF EXISTING UTILITIES ARE BASED ON FOUR SOURCES:
  - TOPOGRAPHIC SURVEY
  - GIS
  - AS-BUILT DRAWINGS
  - LIMITED FIELD RECONNAISSANCE
 THE CONTRACTOR SHALL CONDUCT ITS OWN SURVEY AND VERIFY THE LOCATION OF EXISTING UTILITIES AND RECONCILE THE SURVEY DATA AND GIS DATA.
- SERVICE LATERALS FOR POTABLE WATER, SANITARY SEWER AND NATURAL GAS ARE NOT SHOWN.
- EXISTING UTILITIES IDENTIFIED WITH THE DISPOSITION 'RELOCATE' AND 'REMOVE' PERTAIN TO ONLY THAT PORTION OF THE UTILITY WITHIN THE PROPOSED CHSR ROW OR IMPACTED BY PROPOSED IMPROVEMENTS.
- ABANDONMENT OF EXISTING OIL WELLS SHALL CONFORM TO THE REQUIREMENTS OF AGENCIES HAVING JURISDICTION REGARDING DECOMMISSIONING OF EXISTING OIL WELLS AND APPURTENANT EQUIPMENT.
- ACQUISITION OF UTILITY EASEMENTS IS BASED ON THE BP DRAFT DESIGN BASELINE REPORT, SECTION 5.0 RIGHT-OF-WAY. ASSUMED WIDTHS ARE LISTED IN THE UTILITY EASEMENT TABLE, THIS DRAWING.
- RELOCATIONS OF HIGH RISK UTILITIES ARE SHOWN, NOT ALL UTILITY RELOCATIONS ARE SHOWN.
- FOR SUPPLY STATION, SWITCHING STATIONS, AND PARALLELING STATIONS REFER TO THE TRACTION POWER DRAWINGS.

**HIGH VOLTAGE TRANSMISSION LINE RELOCATION NOTES:**

- ELECTRICAL TOWER AND WIRE HEIGHTS ARE NOT BASED ON FIELD SURVEY AND MAY NOT REPRESENT ACTUAL FIELD CONDITIONS.
- CPUC VERTICAL CLEARANCE FROM OCS POLE NEGATIVE FEEDER WIRE TO LOWEST HIGH VOLTAGE ELECTRICAL CONDUCTOR: CPUC GO 95 RULE 38 TABLE 2 (CASE 12).
- ELECTRICAL TRANSMISSION TOWERS/POLES SUBJECT TO ADDITIONAL CLEARANCE REQD BY UTILITY OWNER.
- PROPOSED HV TRANSMISSION TOWERS REPRESENTED CONCEPTUALLY.
- NEGATIVE FEEDER WIRE DISTANCE ABOVE TOP RAIL: 30' FOR 2 TRACK CONFIGURATION, 35' FOR 3 OR MORE TRACK CONFIGURATION.

**DRAINAGE SYSTEM AND RELOCATION NOTES:**

EXISTING STORM DRAINAGE PIPES, CULVERTS, OR CHANNELS ARE SHOWN FOR INFORMATION ONLY. REFER TO GRADING AND DRAINAGE PLANS FOR DETAILED DRAINAGE INFORMATION.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>D. HOLMAN</b>
DRAWN BY <b>J. LOPEZ</b>
CHECKED BY <b>G. CAMPBELL</b>
IN CHARGE <b>G. CAMPBELL</b>
DATE <b>01/29/2021</b>

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

REFINED CCNM DESIGN OPTION  
COMPOSITE UTILITY GENERAL  
GENERAL NOTES AND UTILITY OWNERS

CONTRACT NO. <b>HSR13-44</b>
DRAWING NO. <b>UT-B0102</b>
SCALE <b>NO SCALE</b>
SHEET NO. <b>1106</b>

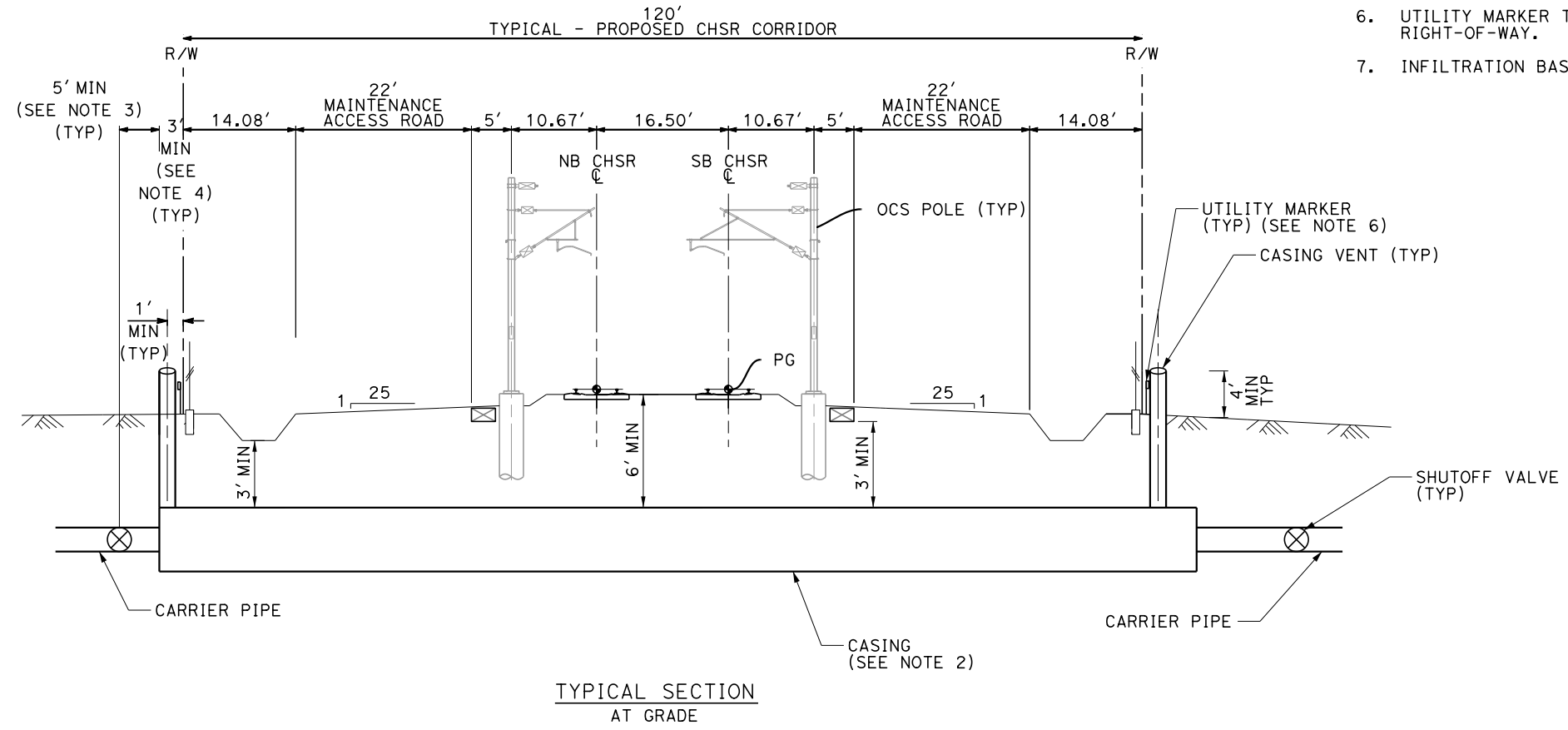
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**NOTES:**

1. TRACK, SYSTEMS, DRAINAGE, AND STRUCTURES ARE SCHEMATIC AND DO NOT REPRESENT DESIGN.
2. FOR ADDITIONAL PIPE CASING REQUIREMENTS, SEE AREMA MANUAL.
3. SHUTOFF VALVE MUST BE ACCESSIBLE FROM OUTSIDE THE RIGHT-OF-WAY. IT MAY NOT BE NEEDED ON BOTH SIDES.
4. THE CASING SHALL CONTINUE MINIMUM 3'-0" BEYOND THE RIGHT-OF-WAY.
5. TRANSVERSE UTILITIES SHALL BE LOCATED AWAY FROM MANHOLES, OCS FOOTINGS, AND OTHER HST SUBSURFACE ELEMENTS.
6. UTILITY MARKER TO INDICATE LOCATION OF UTILITY CROSSING AT RIGHT-OF-WAY.
7. INFILTRATION BASIN WHERE SHOWN ON THE PLANS.



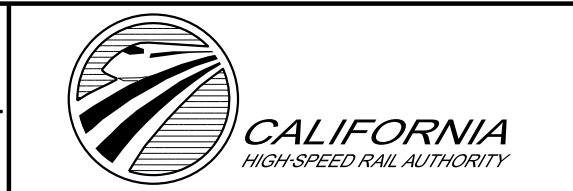
TYPICAL SECTION  
AT GRADE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

COMPOSITE UTILITY PLANS  
GENERAL  
UTILITY CROSSING DETAIL

CONTRACT NO.  
**HSR13-44**

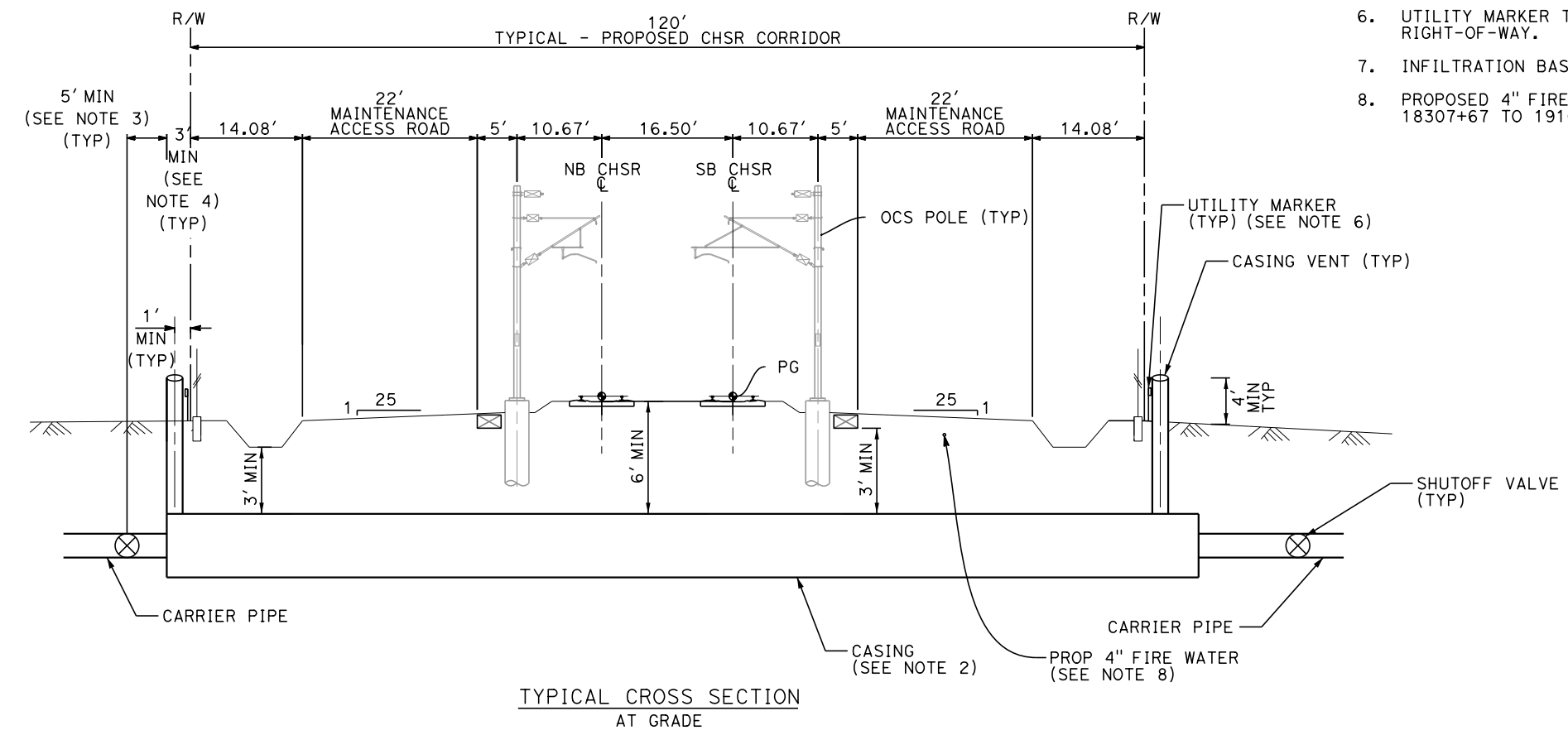
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**UT-B0007**

SCALE  
**NTS**

SHEET NO.  
**1107**

**NOTES:**

1. TRACK, SYSTEMS, DRAINAGE, AND STRUCTURES ARE SCHEMATIC AND DO NOT REPRESENT DESIGN.
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3. SHUTOFF VALVE MUST BE ACCESSIBLE FROM OUTSIDE THE RIGHT-OF-WAY. IT MAY NOT BE NEEDED ON BOTH SIDES.
4. THE CASING SHALL CONTINUE MINIMUM 3'-0" BEYOND THE RIGHT-OF-WAY.
5. TRANSVERSE UTILITIES SHALL BE LOCATED AWAY FROM MANHOLES, OCS FOOTINGS, AND OTHER HST SUBSURFACE ELEMENTS.
6. UTILITY MARKER TO INDICATE LOCATION OF UTILITY CROSSING AT RIGHT-OF-WAY.
7. INFILTRATION BASIN WHERE SHOWN ON THE PLANS.
8. PROPOSED 4" FIRE WATER LINE PARALLELS ALIGNMENT FROM STATION 18307+67 TO 19104+40.



TYPICAL CROSS SECTION AT GRADE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

REFINED CCNM DESIGN OPTION  
COMPOSITE UTILITY GENERAL  
UTILITY CROSSING DETAIL

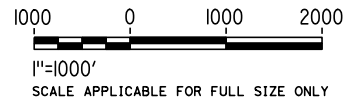
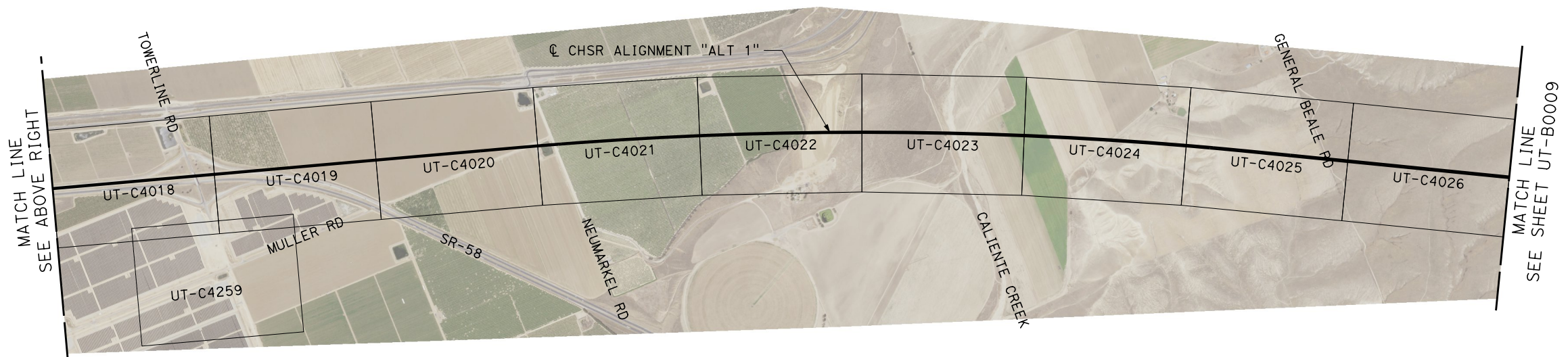
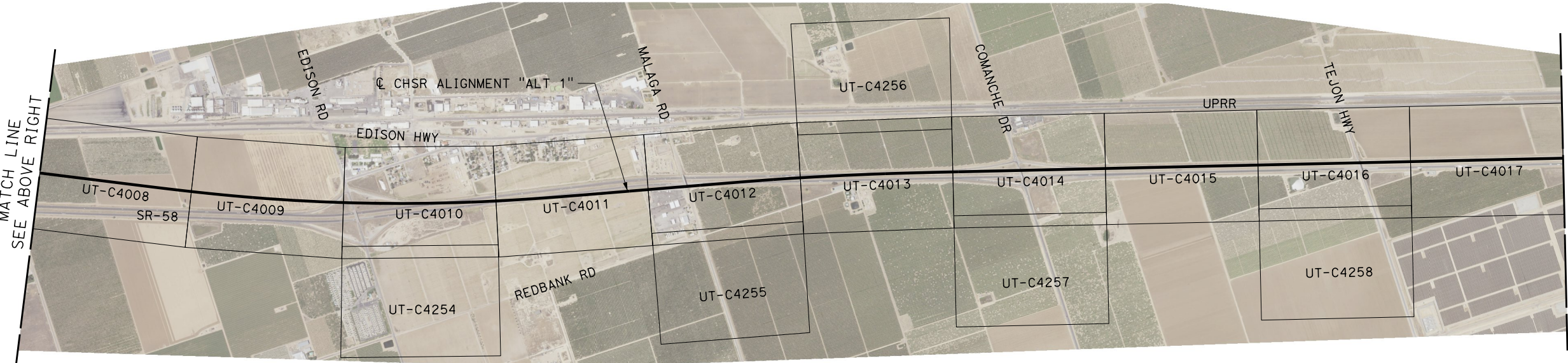
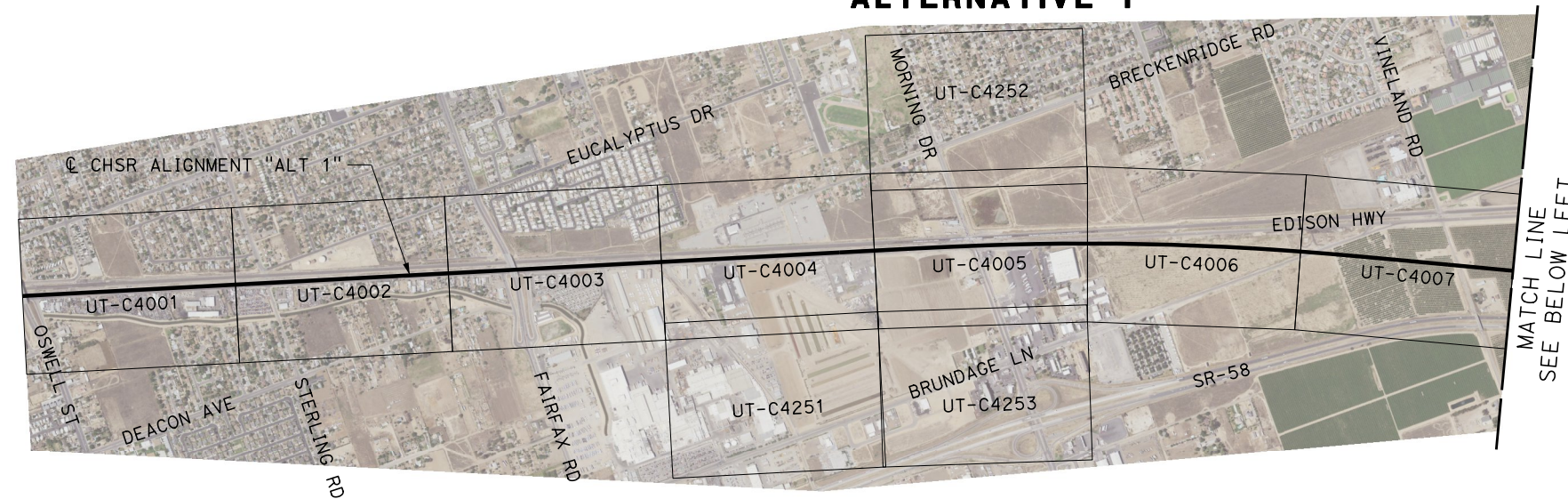
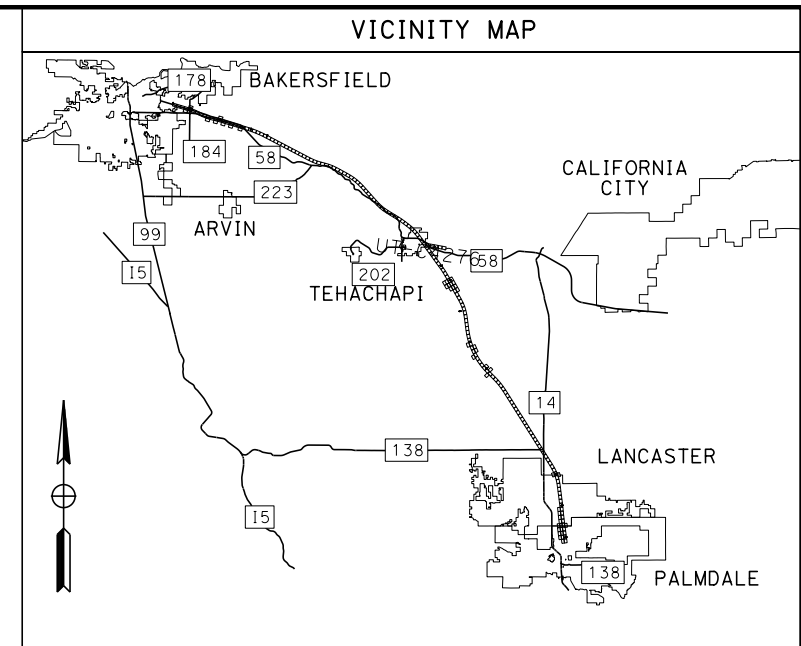
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**HSR13-44**

DRAWING NO.  
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SCALE  
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SHEET NO.  
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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**

DRAWN BY  
**J. LOPEZ**

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**G. CAMPBELL**

IN CHARGE  
**G. CAMPBELL**

DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**

COMPOSITE UTILITY PLANS  
ALTERNATIVE 1  
KEY MAP  
SHEET 1 OF 7

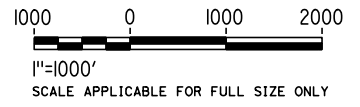
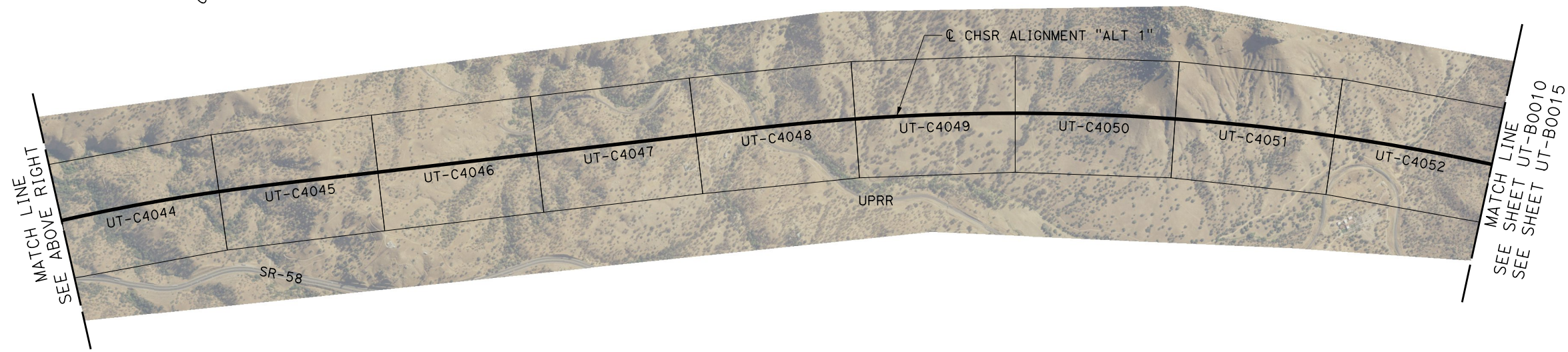
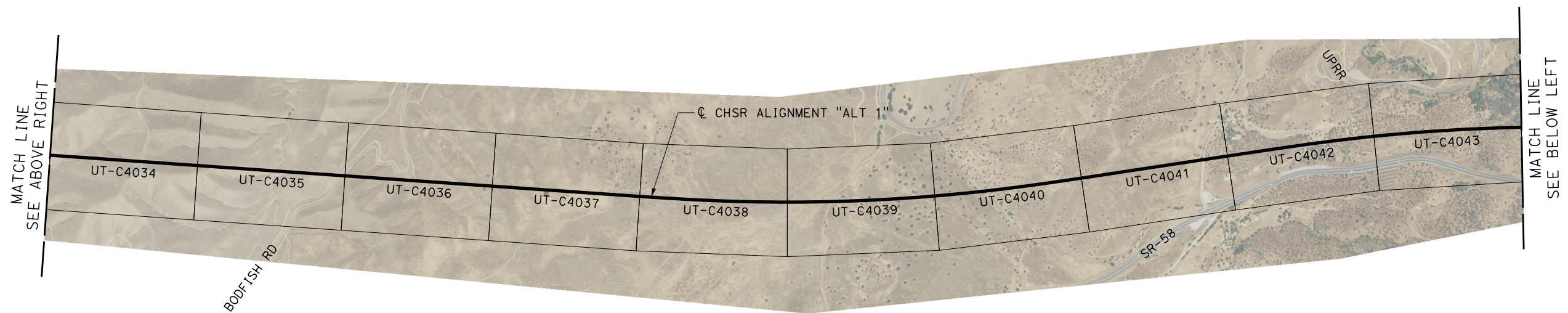
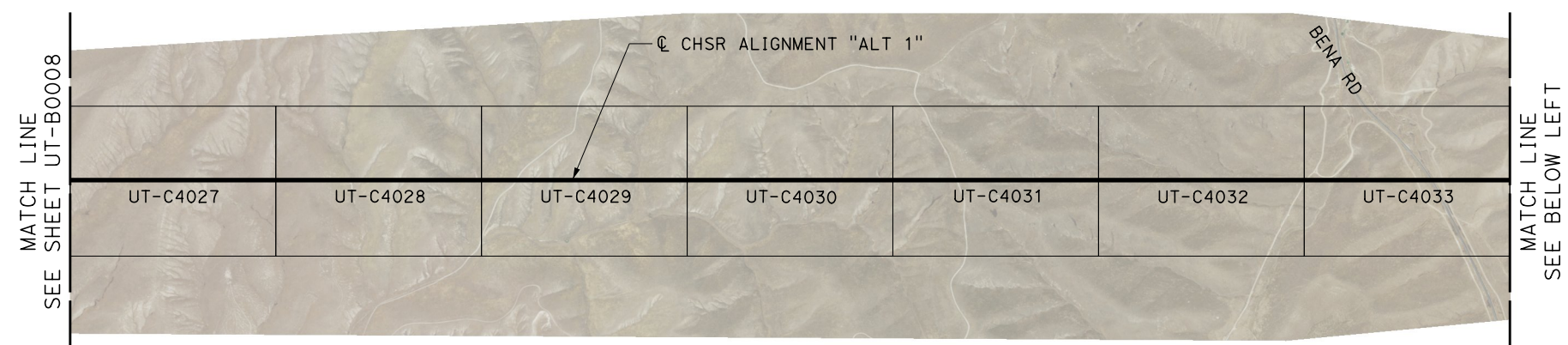
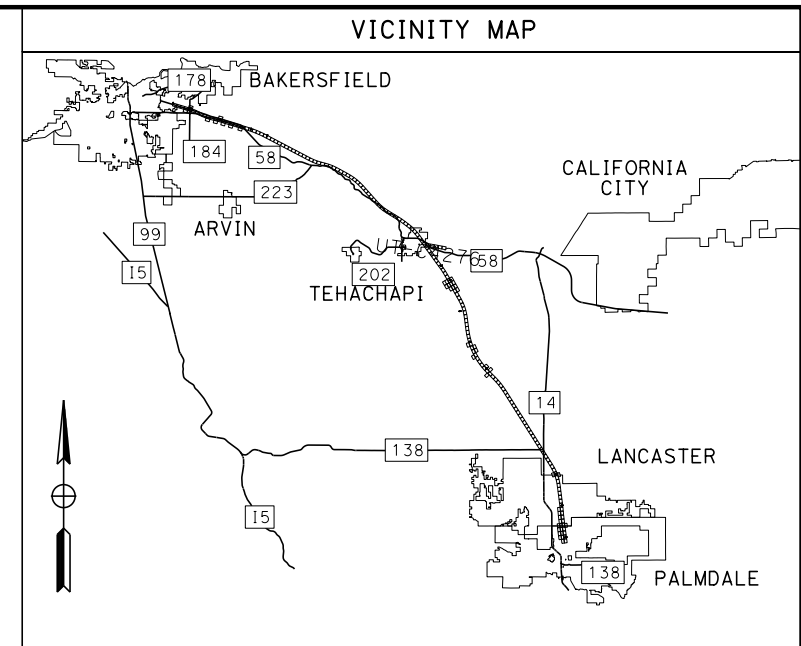
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HSR13-44

DRAWING NO.  
UT-B0008

SCALE  
AS SHOWN

SHEET NO.  
1109

# ALTERNATIVE 1



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jcs\_user\_17609

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**

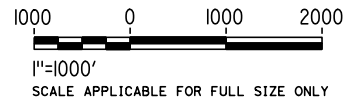
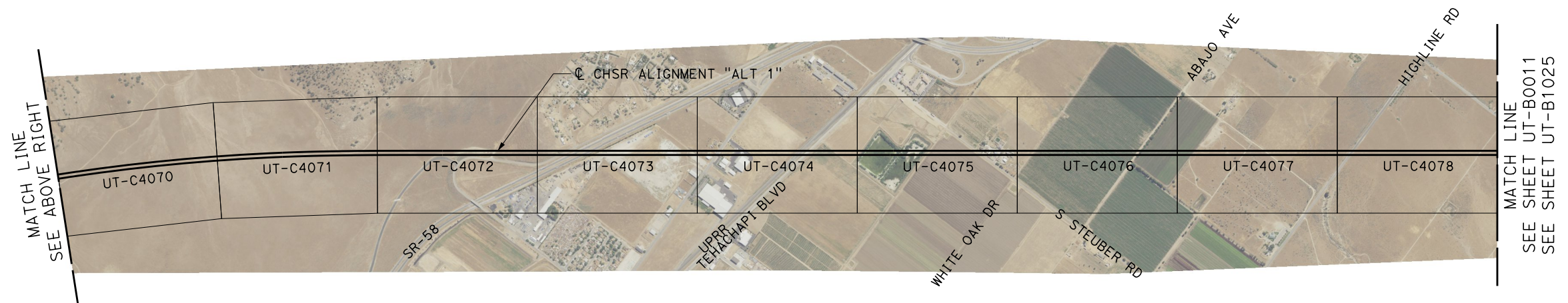
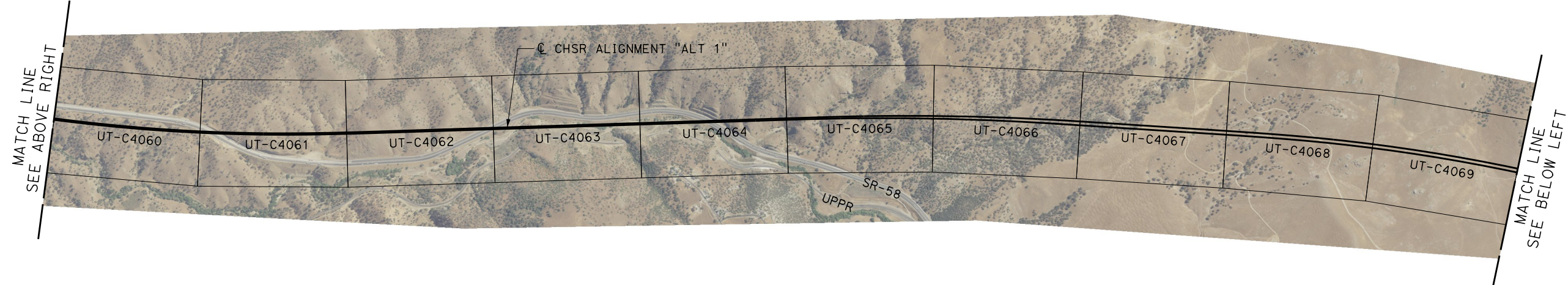
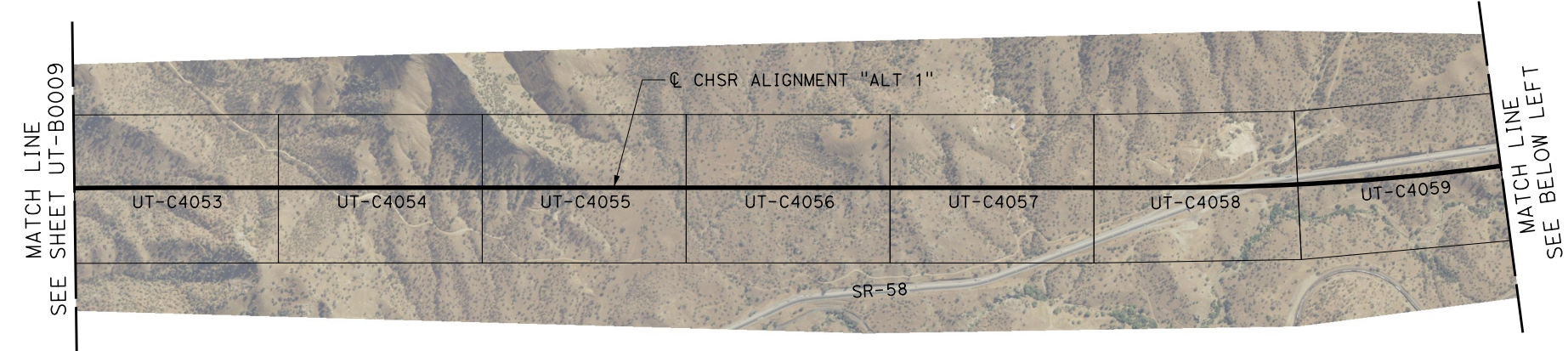
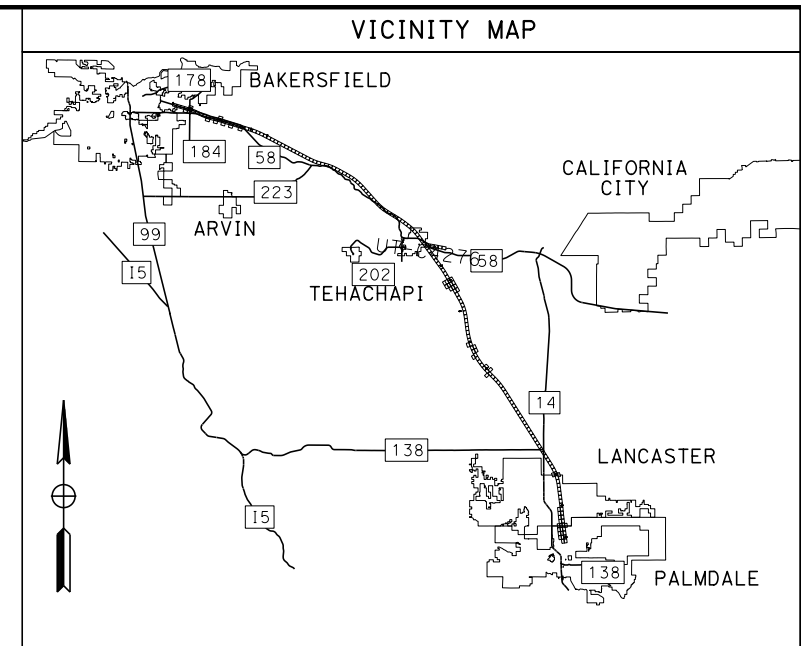
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 1  
KEY MAP  
SHEET 2 OF 7

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
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SCALE  
AS SHOWN  
SHEET NO.  
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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**

DRAWN BY  
**J. LOPEZ**

CHECKED BY  
**G. CAMPBELL**

IN CHARGE  
**G. CAMPBELL**

DATE  
**01/29/2021**

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**PEPD**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 1  
KEY MAP  
SHEET 3 OF 7

CONTRACT NO.  
HSR13-44

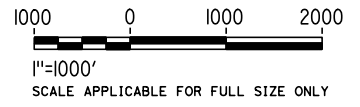
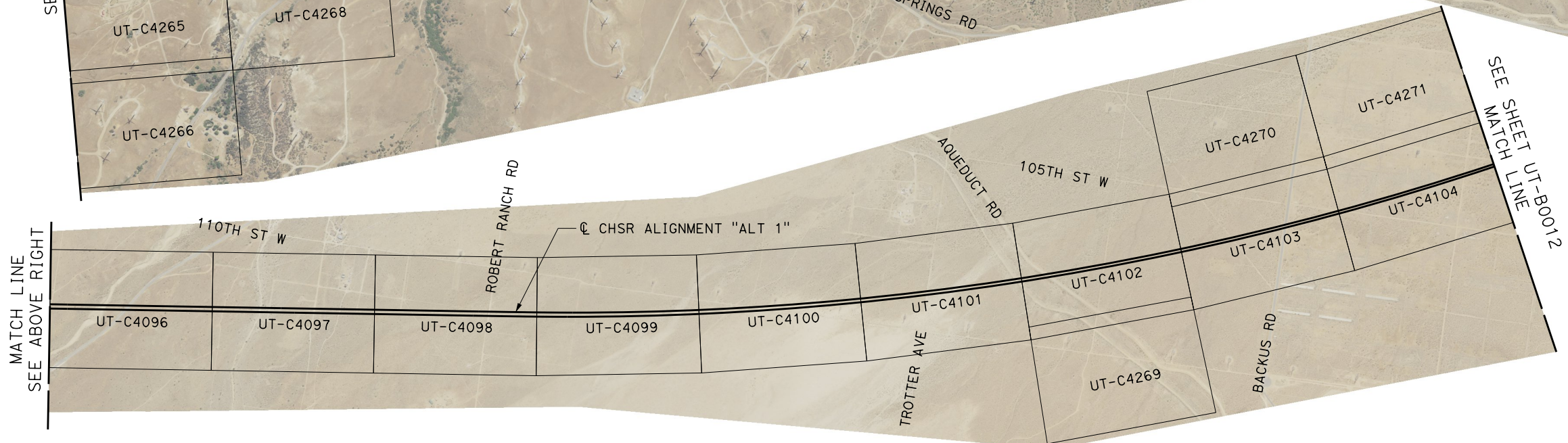
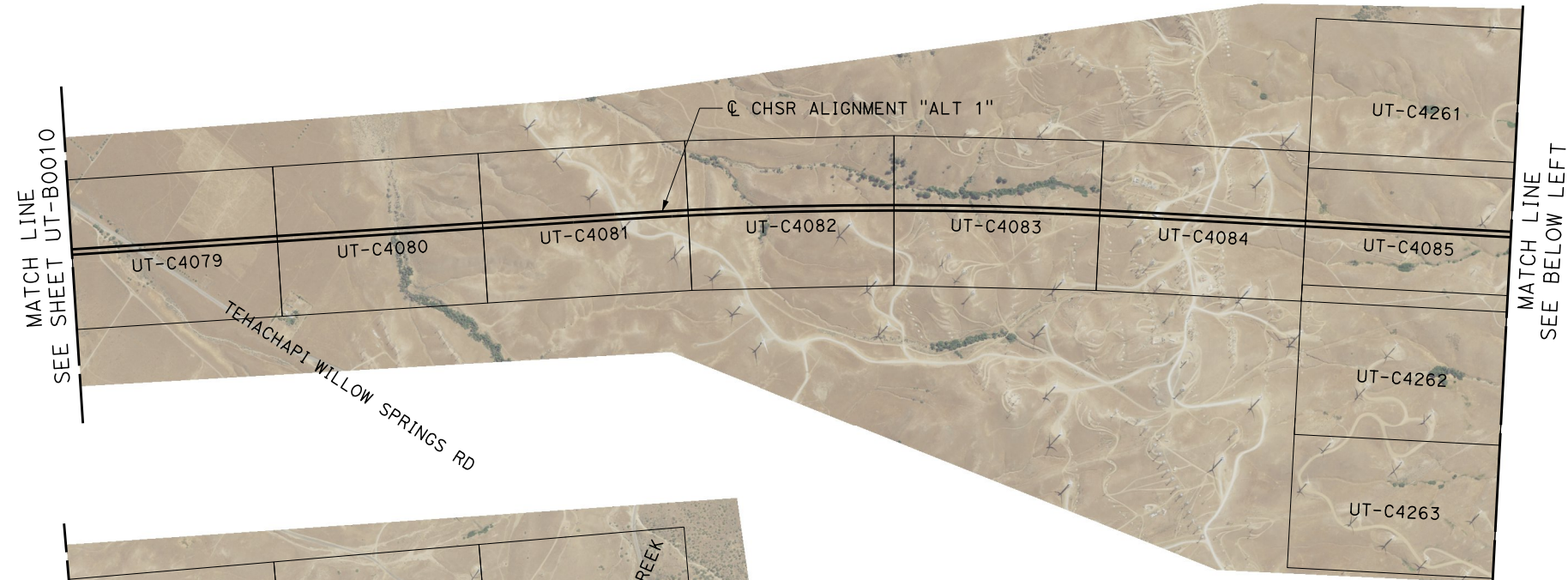
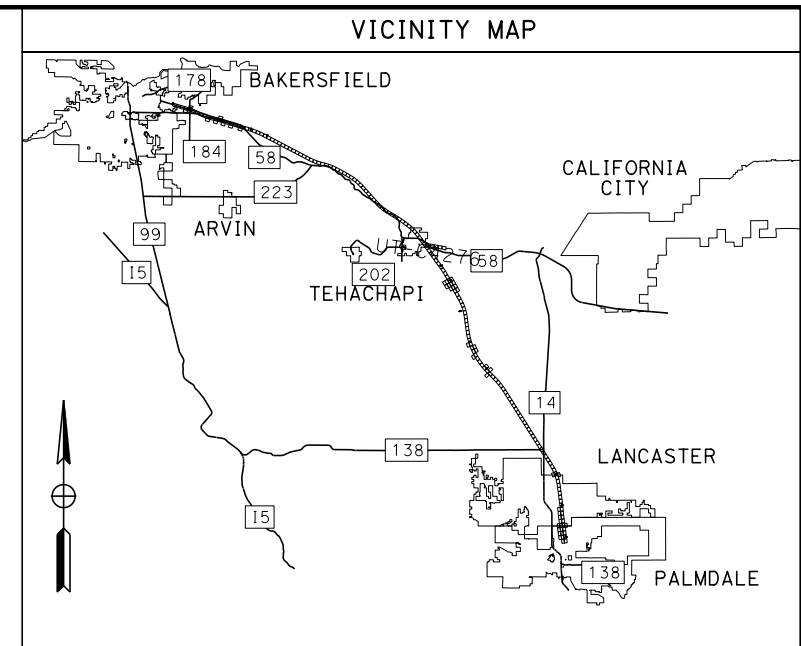
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SHEET NO.  
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# ALTERNATIVE 1



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1/20/2021 6:34:56 AM

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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**

DRAWN BY  
**J. LOPEZ**

CHECKED BY  
**G. CAMPBELL**

IN CHARGE  
**G. CAMPBELL**

DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 1  
KEY MAP  
SHEET 4 OF 7

CONTRACT NO.  
HSR13-44

DRAWING NO.  
UT-B0011

SCALE  
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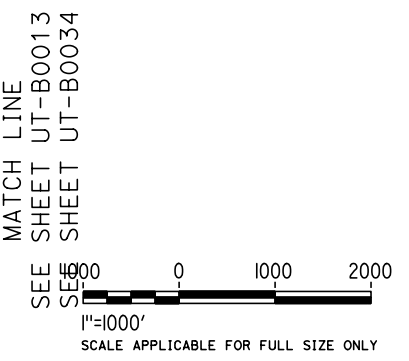
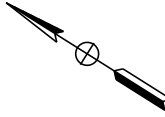
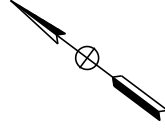
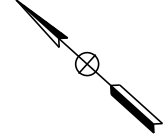
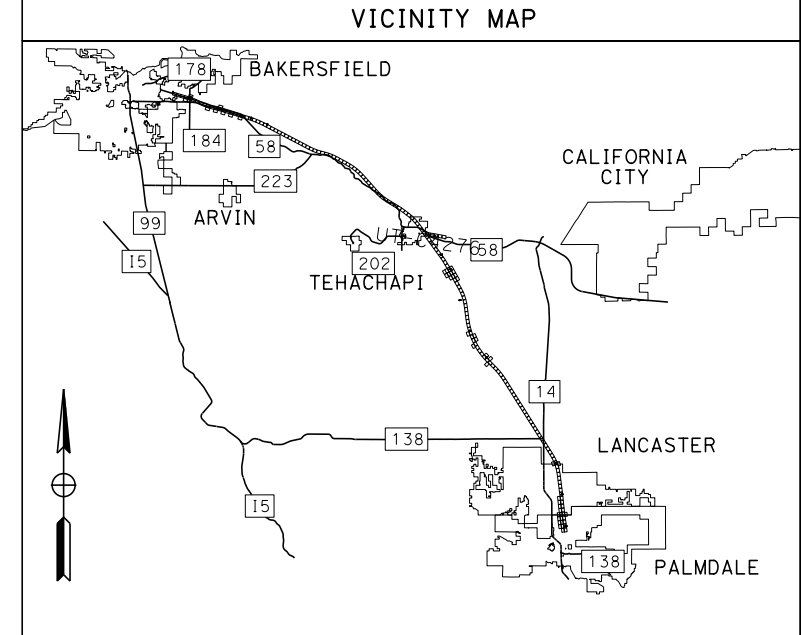
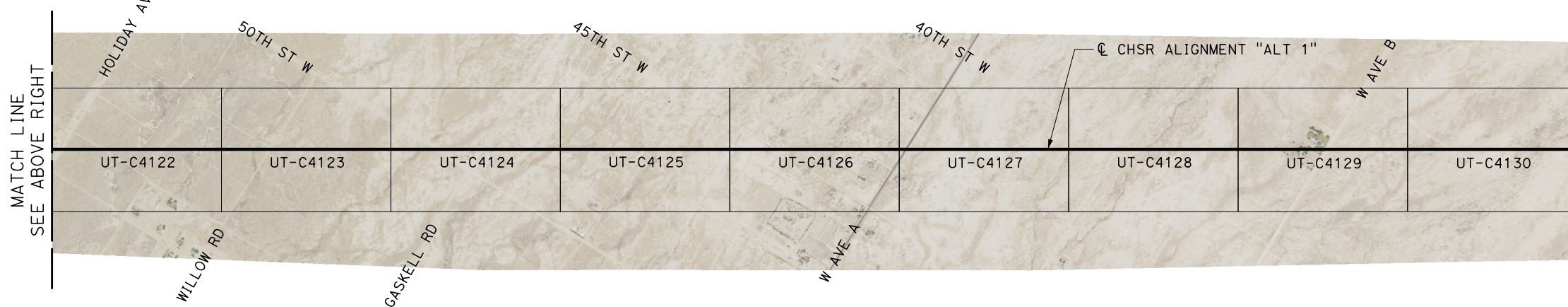
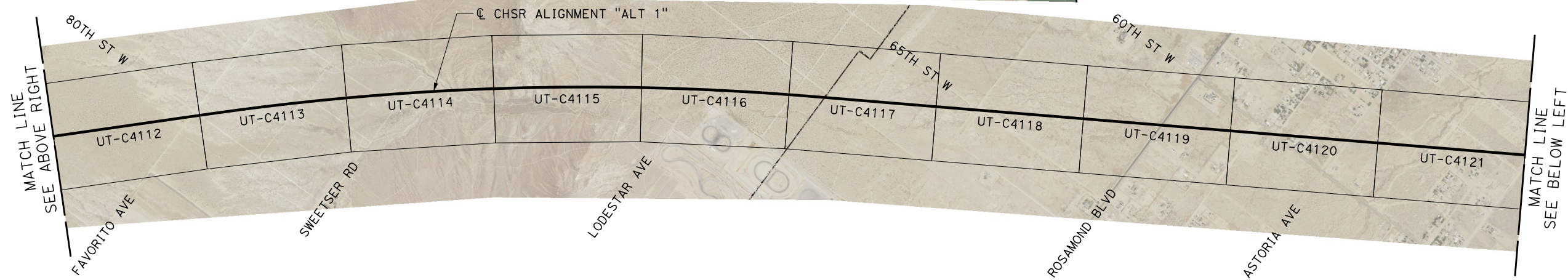
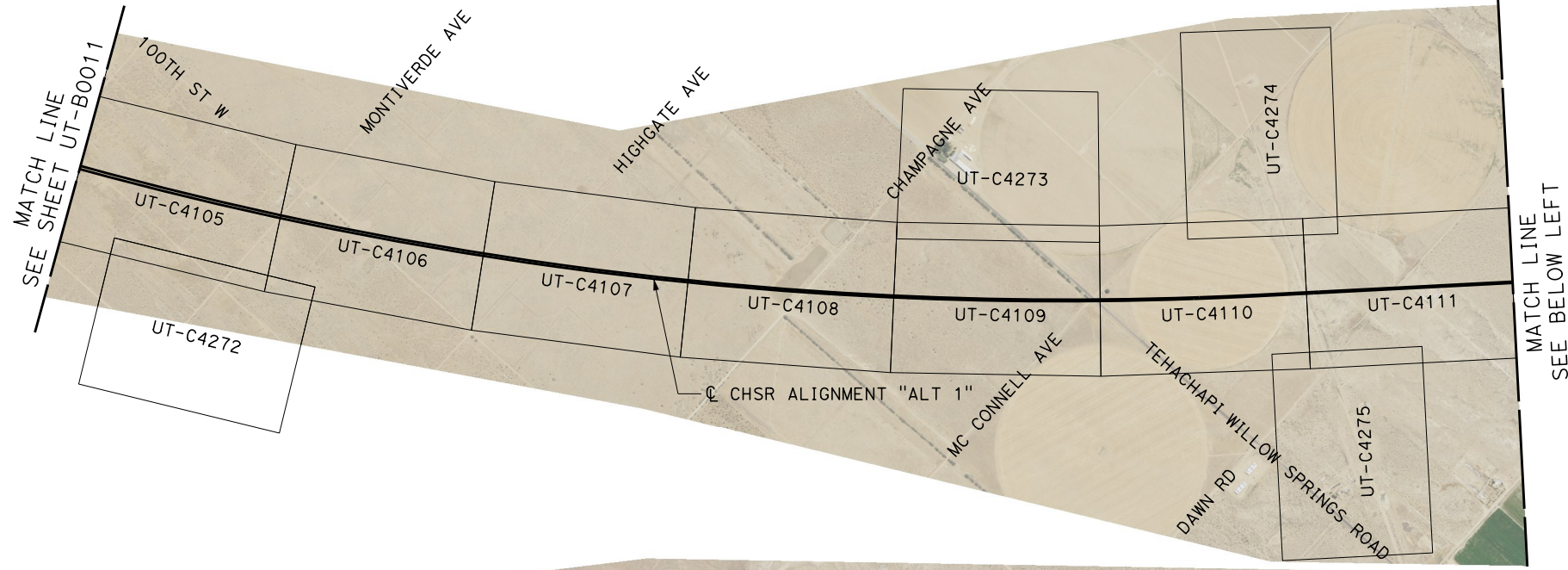
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# ALTERNATIVE 1



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**

COMPOSITE UTILITY PLANS  
ALTERNATIVE 1  
KEY MAP  
SHEET 5 OF 7

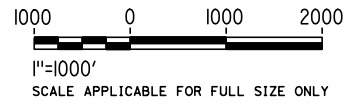
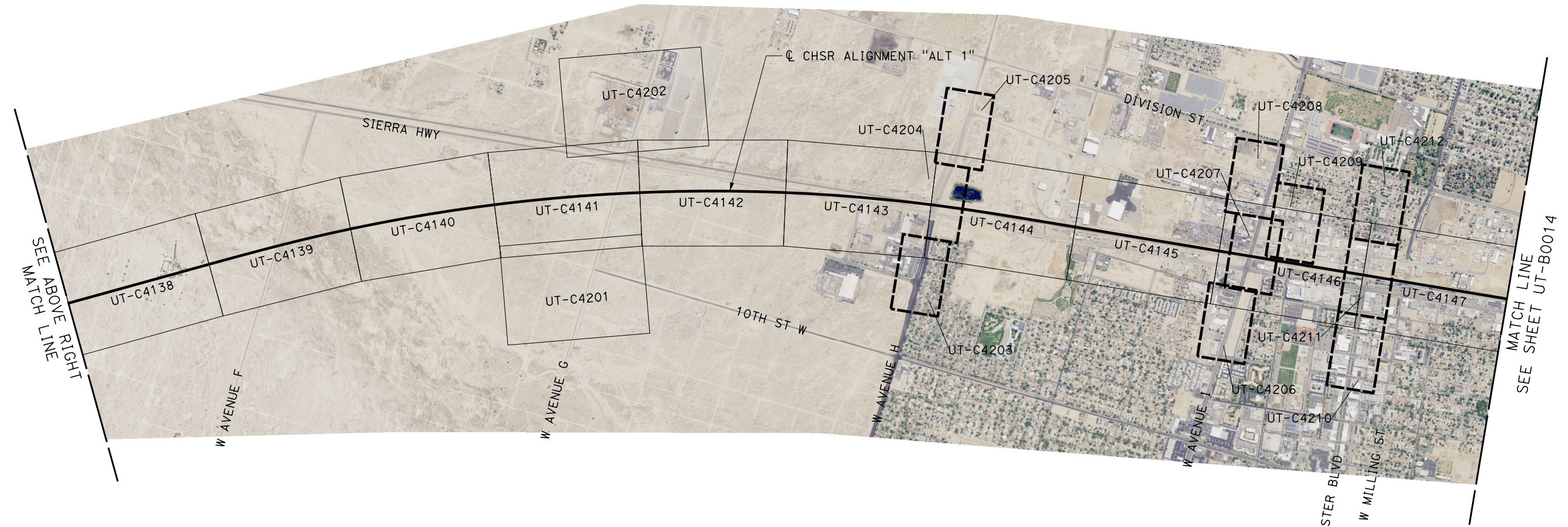
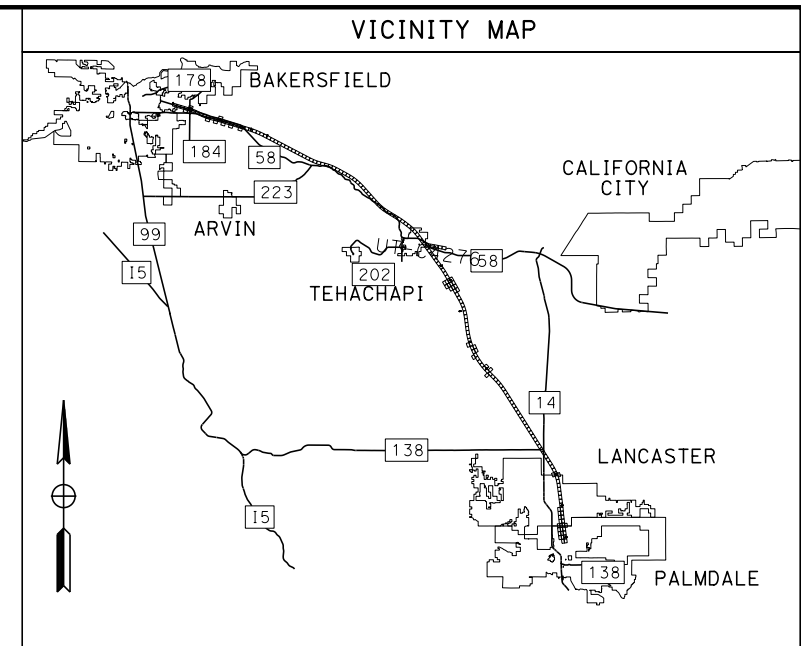
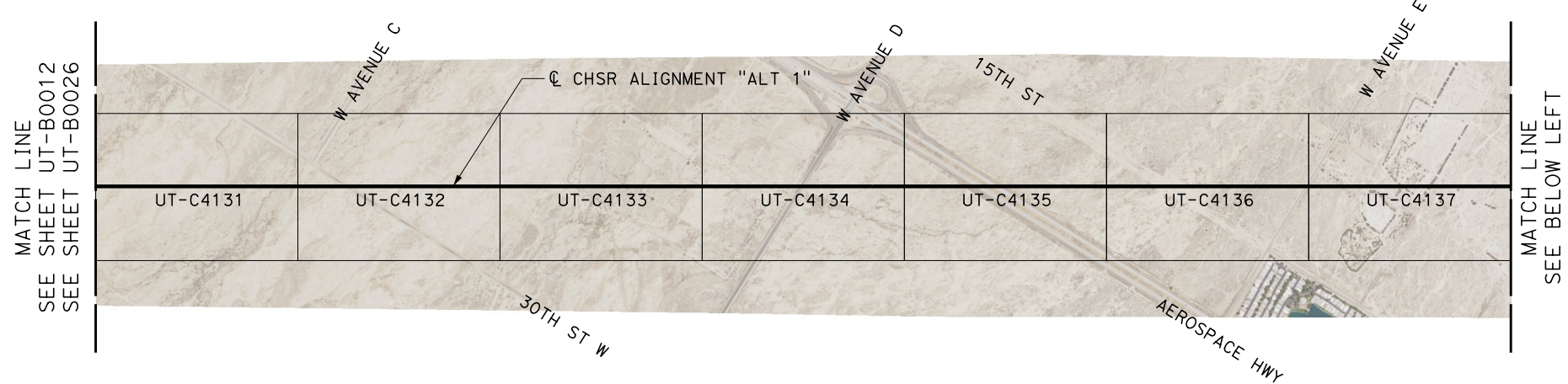
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DRAWING NO.  
UT-B0012  
SCALE  
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SHEET NO.  
1113

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# ALTERNATIVE 1



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET**  
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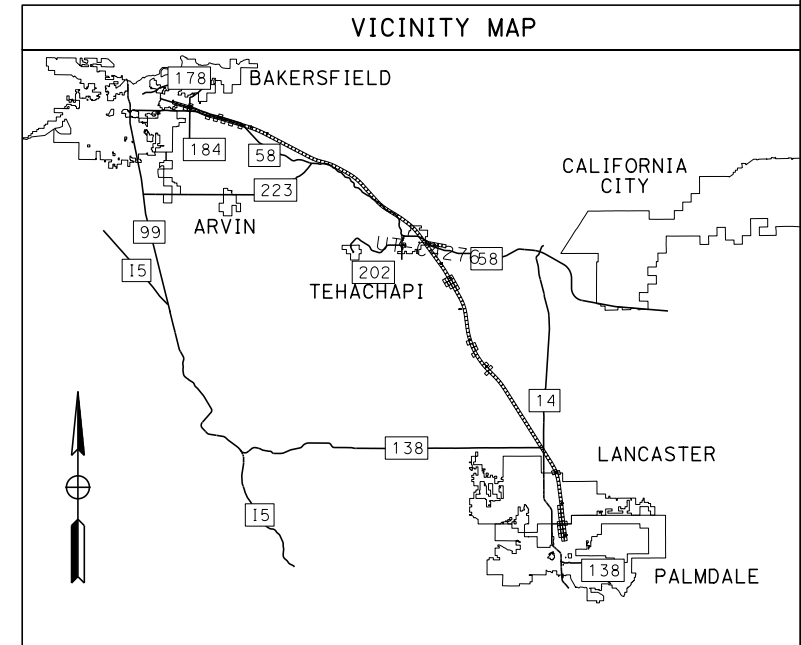
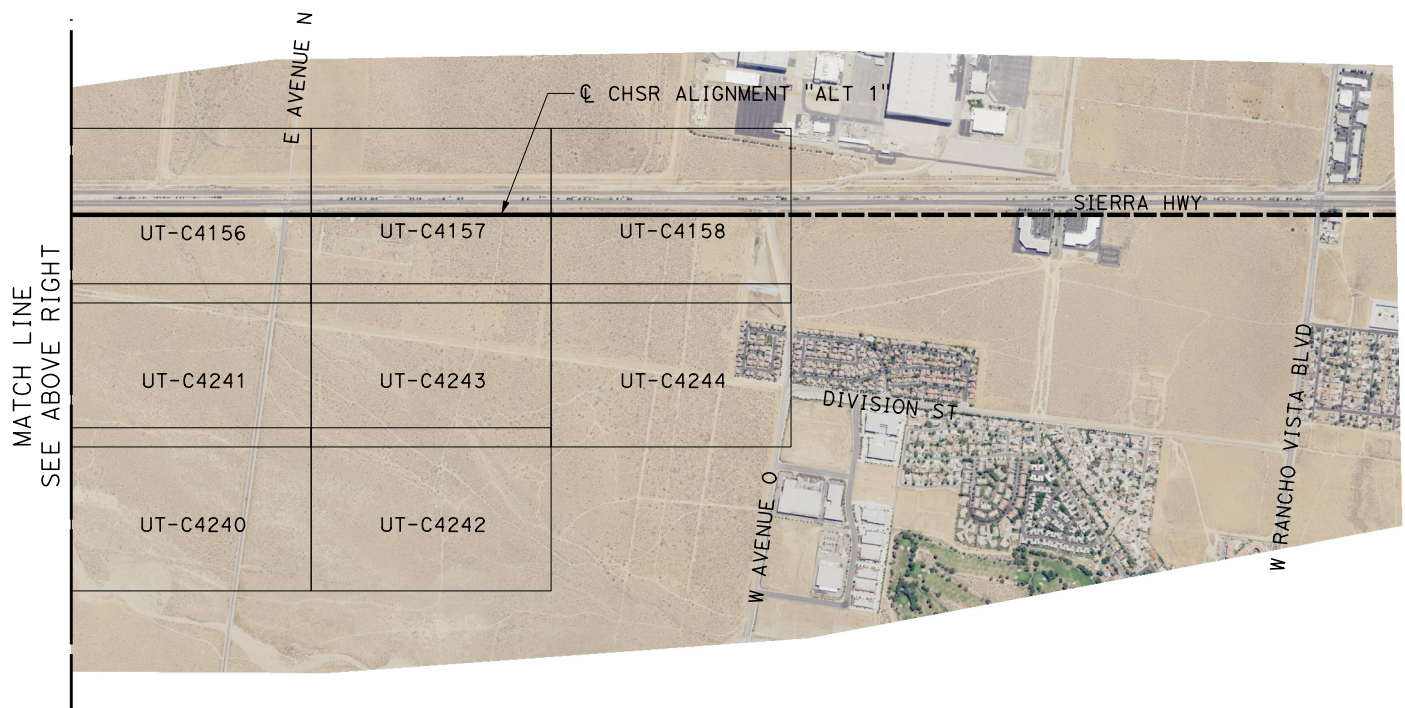
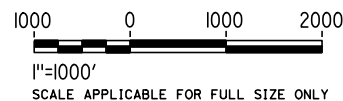
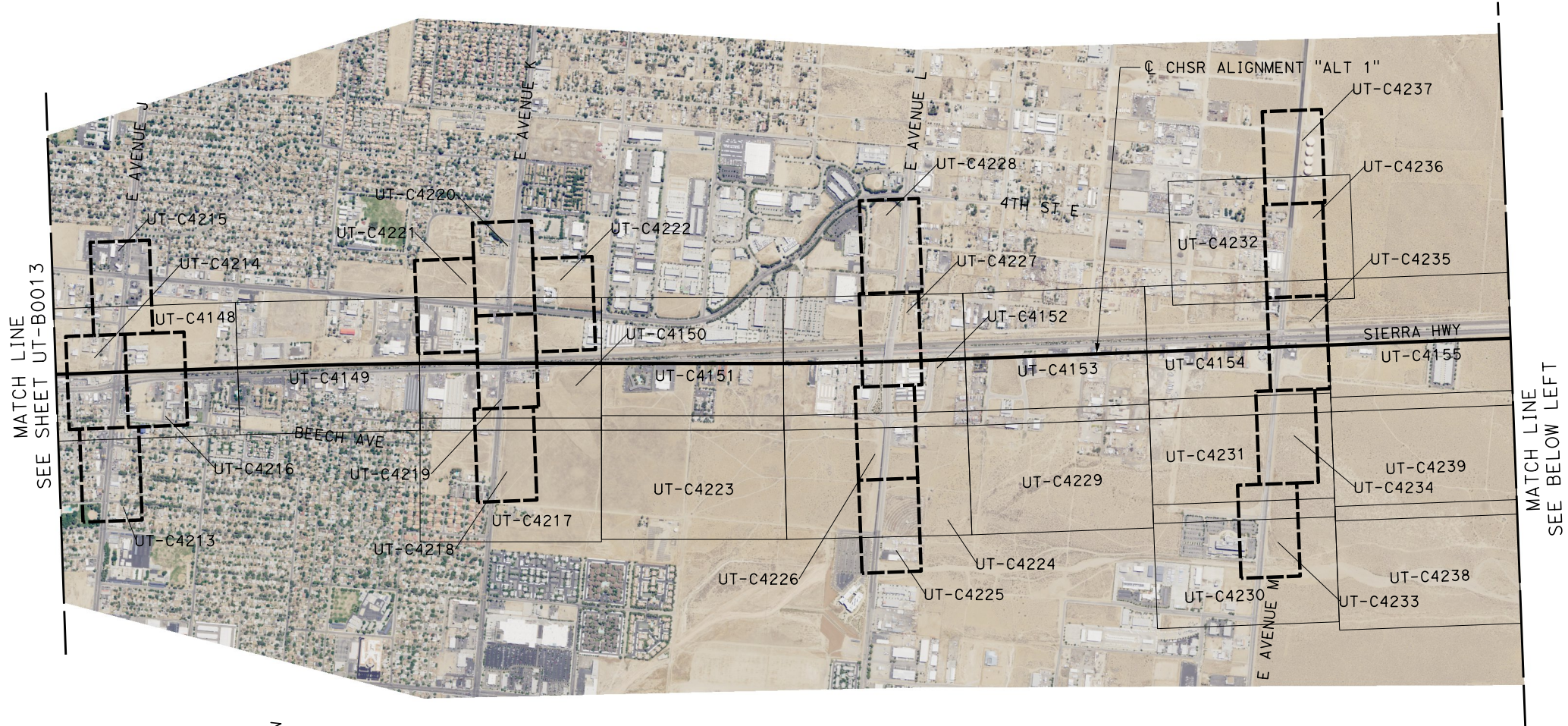
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 1  
KEY MAP  
SHEET 6 OF 7

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
UT-B0013  
SCALE  
AS SHOWN  
SHEET NO.  
1114

# ALTERNATIVE 1



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

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SUBMITTAL**

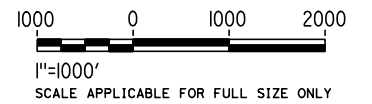
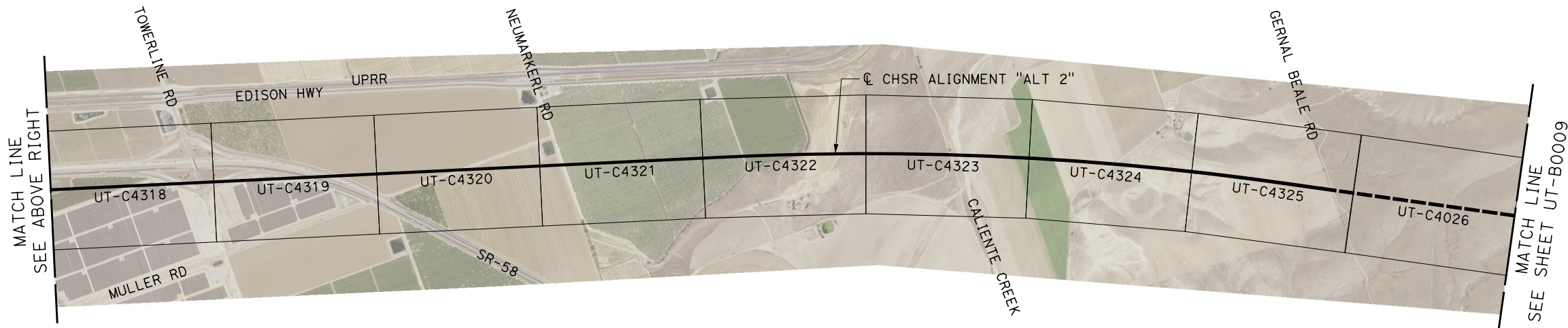
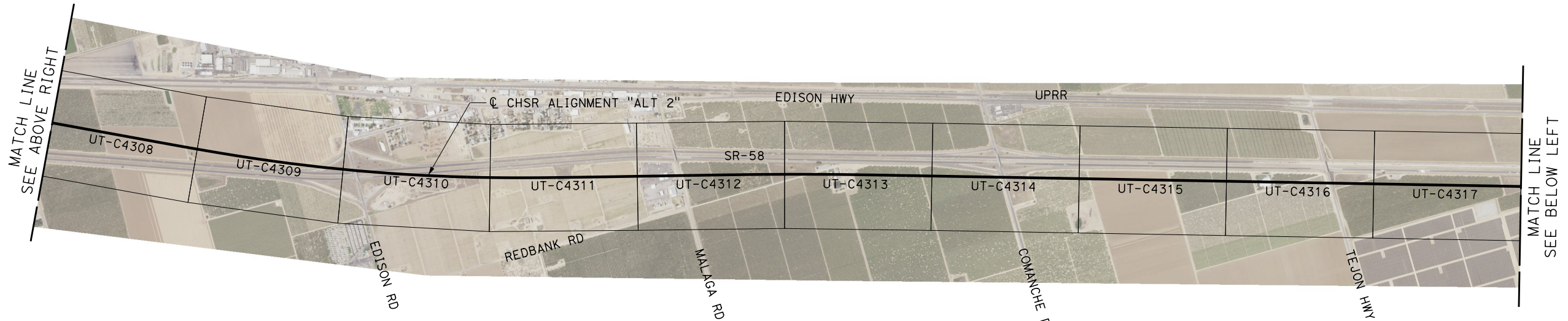
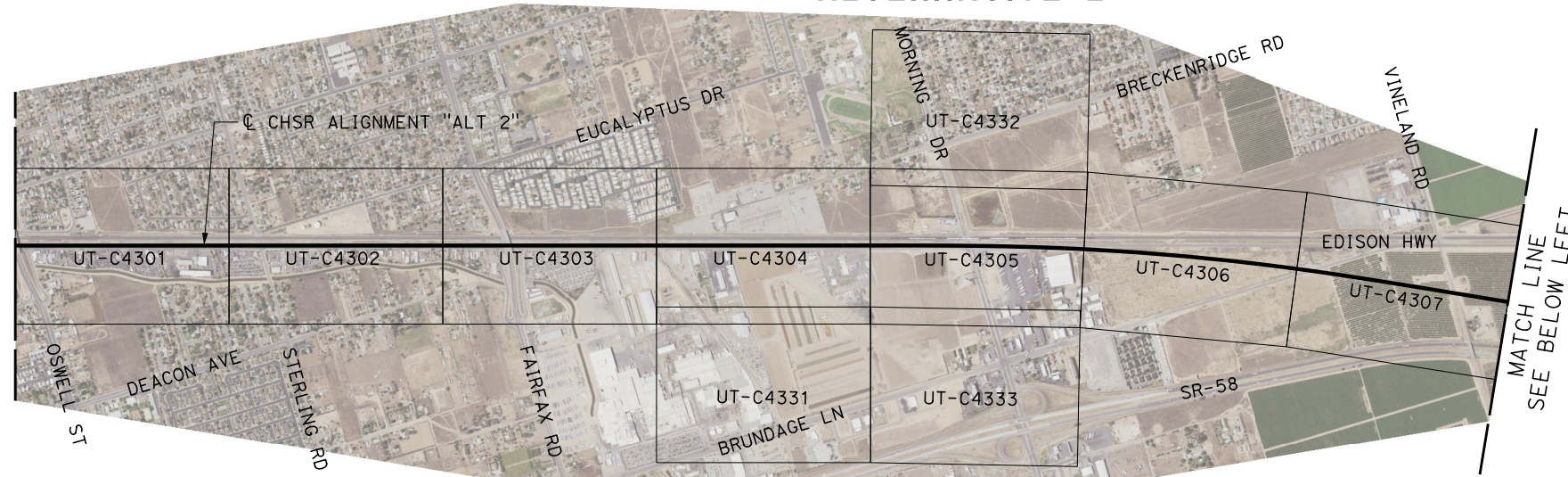
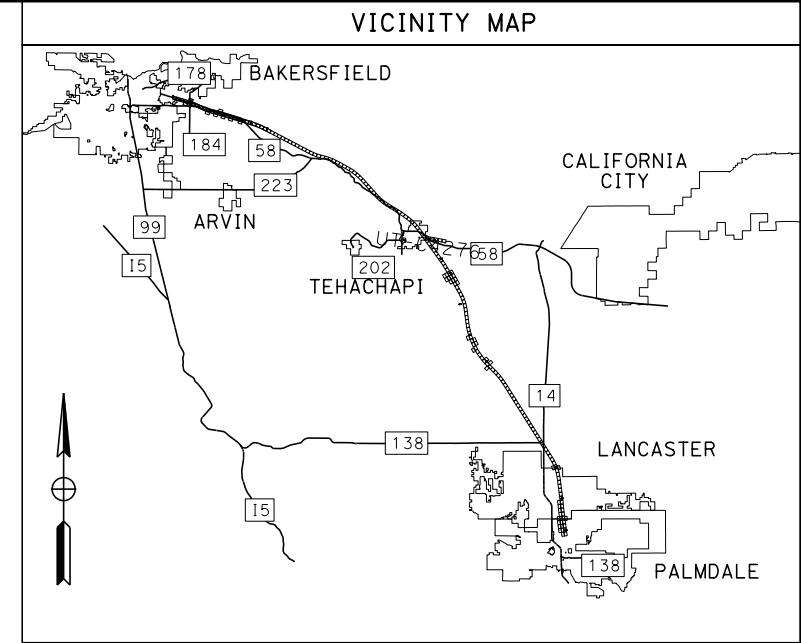
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 1  
KEY MAP  
SHEET 7 OF 7

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
UT-B0014  
SCALE  
AS SHOWN  
SHEET NO.  
1115

# ALTERNATIVE 2



Projects\701206.00\_CHSRBP\00\_CADD\Sheet\_Files\UT\BP-UT-B0015

1/20/2021 6:12:29 AM

ics\_user\_17609

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

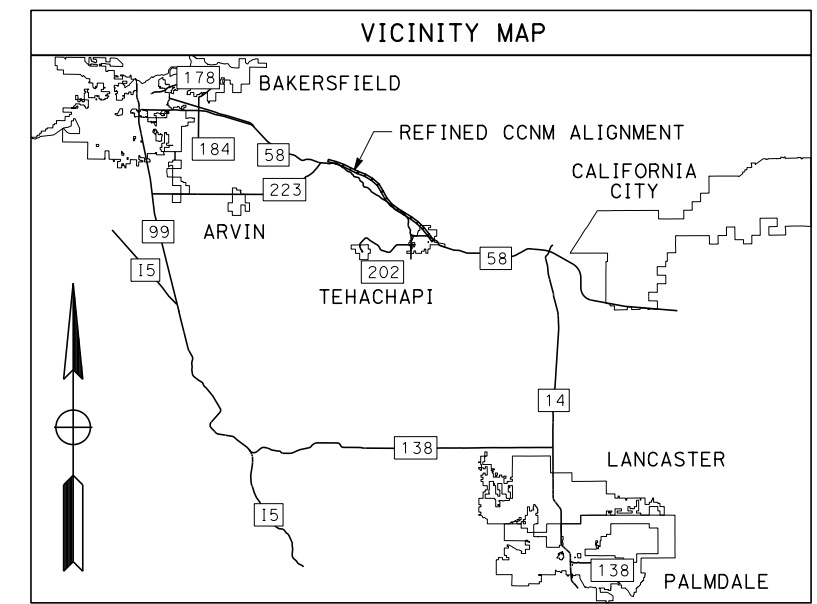
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**PEPD**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**

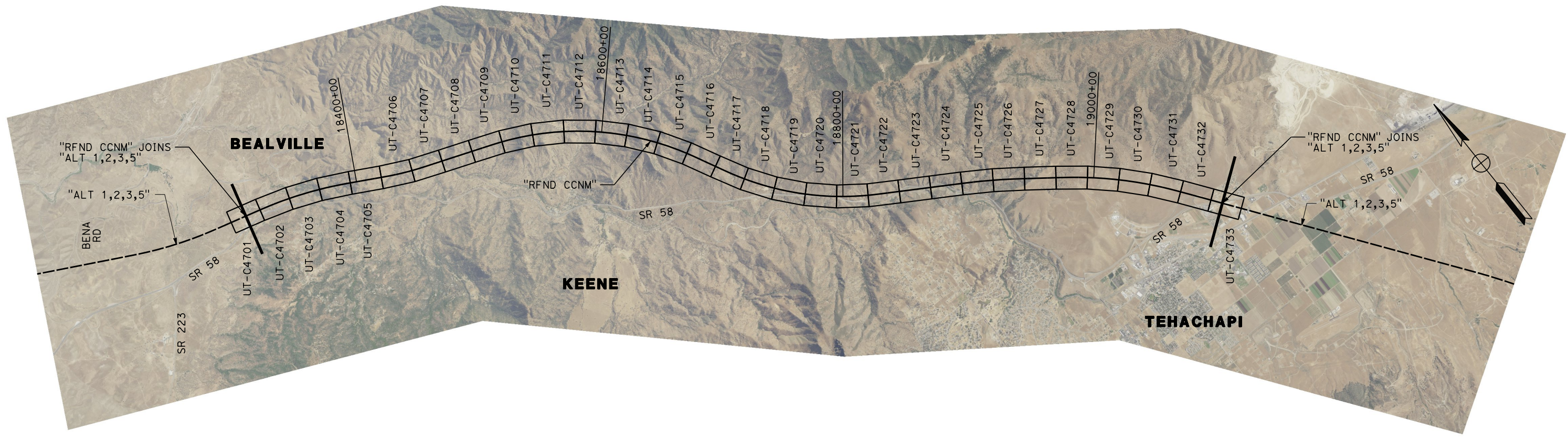


**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
KEY MAP  
SHEET 1 OF 1

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
UT-B0015  
SCALE  
AS SHOWN  
SHEET NO.  
1116



### REFINED CCNM DESIGN OPTION



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**

DRAWN BY  
**J. LOPEZ**

CHECKED BY  
**G. CAMPBELL**

IN CHARGE  
**G. CAMPBELL**

DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
REFINED CCNM DESIGN OPTION  
COMPOSITE UTILITY GENERAL  
KEY MAP  
SHEET 1 OF 1

CONTRACT NO.  
**HSR13-44**

DRAWING NO.  
**UT-B0104**

SCALE  
**AS SHOWN**

SHEET NO.  
**1117**

Projects\701206.00\_CHSRBP\00\_CADD\Sheet Files\UT\Alt2 (Edison A)\BP-UT-C4301

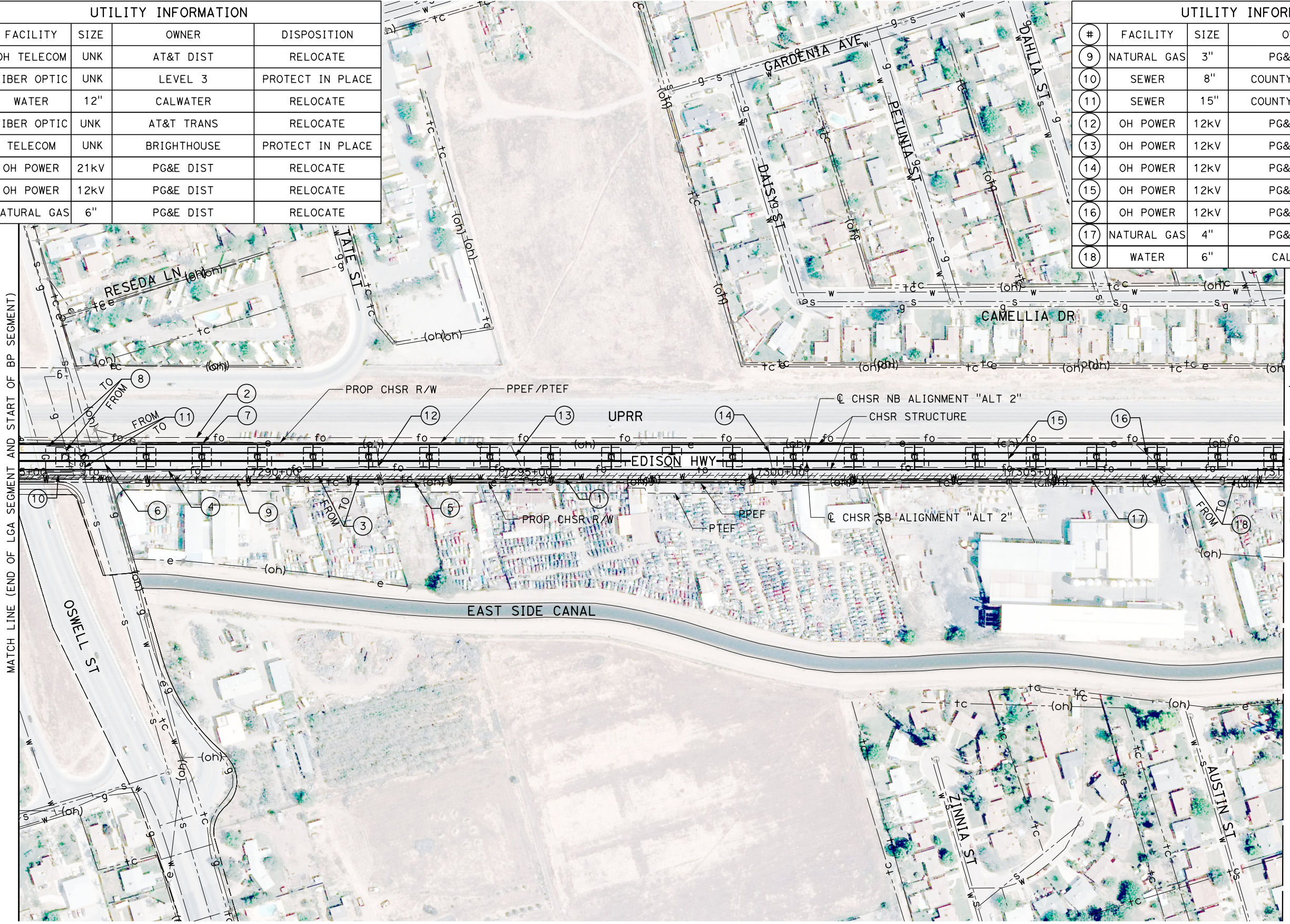
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BEGIN ALTERNATIVE 2

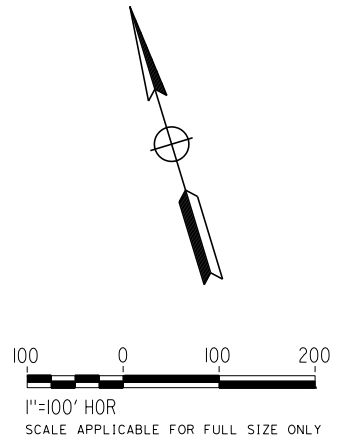
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#	FACILITY	SIZE	OWNER	DISPOSITION
1	OH TELECOM	UNK	AT&T DIST	RELOCATE
2	FIBER OPTIC	UNK	LEVEL 3	PROTECT IN PLACE
3	WATER	12"	CALWATER	RELOCATE
4	FIBER OPTIC	UNK	AT&T TRANS	RELOCATE
5	TELECOM	UNK	BRIGHTHOUSE	PROTECT IN PLACE
6	OH POWER	21kV	PG&E DIST	RELOCATE
7	OH POWER	12kV	PG&E DIST	RELOCATE
8	NATURAL GAS	6"	PG&E DIST	RELOCATE

UTILITY INFORMATION CONT.				
#	FACILITY	SIZE	OWNER	DISPOSITION
9	NATURAL GAS	3"	PG&E DIST	PROTECT IN PLACE
10	SEWER	8"	COUNTY OF KERN	PROTECT IN PLACE
11	SEWER	15"	COUNTY OF KERN	RELOCATE
12	OH POWER	12kV	PG&E DIST	RELOCATE
13	OH POWER	12kV	PG&E DIST	RELOCATE
14	OH POWER	12kV	PG&E DIST	RELOCATE
15	OH POWER	12kV	PG&E DIST	RELOCATE
16	OH POWER	12kV	PG&E DIST	RELOCATE
17	NATURAL GAS	4"	PG&E DIST	PROTECT IN PLACE
18	WATER	6"	CALWATER	RELOCATE



MATCH LINE (END OF LGA SEGMENT AND START OF BP SEGMENT)

MATCH LINE ( UT-C4302 )



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

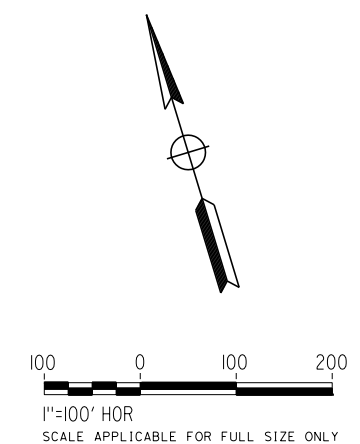
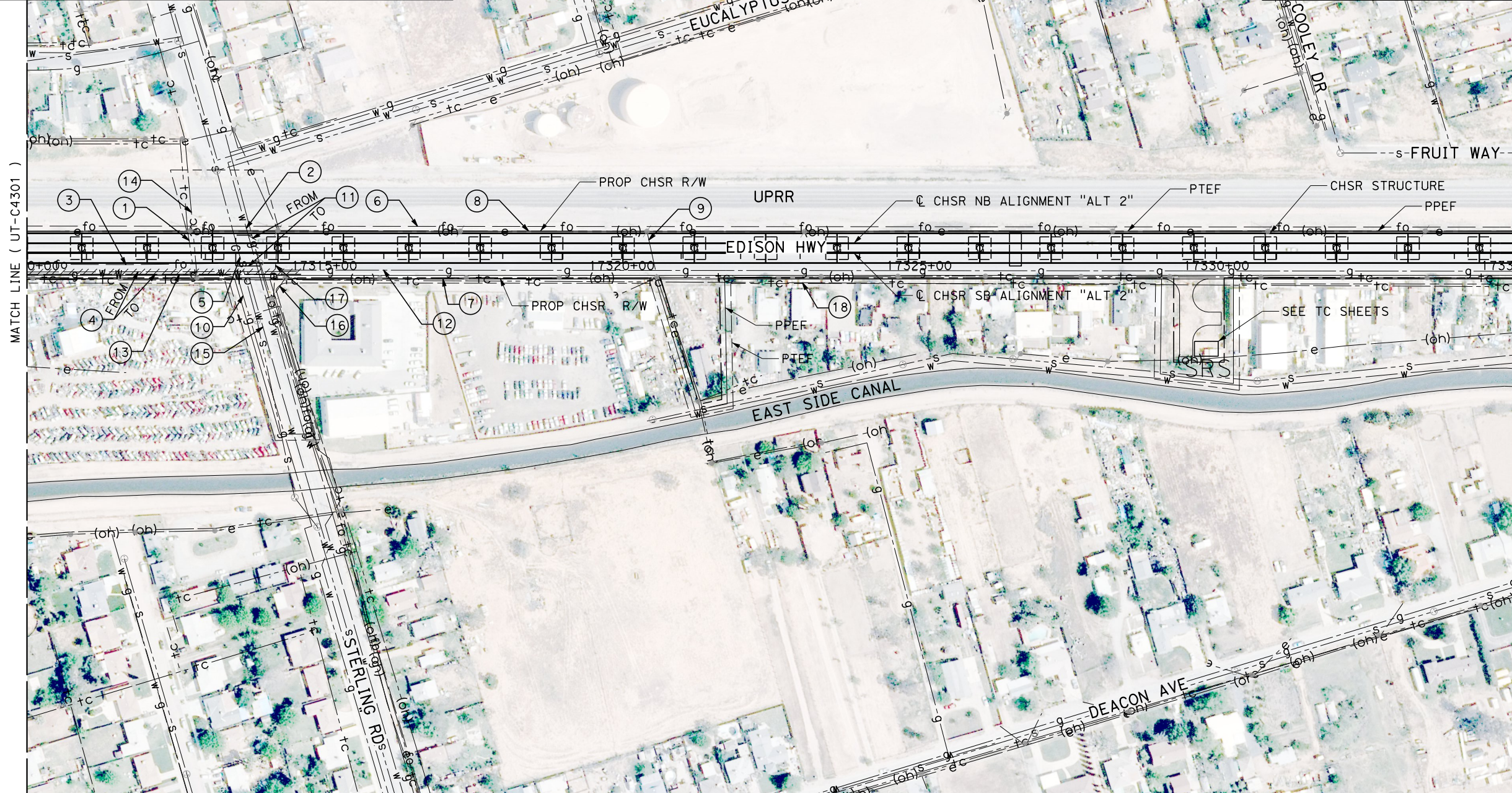


**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17285+00 TO 17310+00

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
UT-C4301  
SCALE  
AS SHOWN  
SHEET NO.  
1118

UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	TELECOM	UNK	BRIGHTHOUSE	RELOCATE
2	WATER	14"	ENCSO	PROTECT IN PLACE
3	FIBER OPTIC	UNK	AT&T TRANS	RELOCATE
4	WATER	6"	CALWATER	RELOCATE
5	SEWER	10"	ENCSO	PROTECT IN PLACE
6	FIBER OPTIC	UNK	SPRINT, LEVEL 3	PROTECT IN PLACE
7	OH TELECOM	UNK	BRIGHTHOUSE	PROTECT IN PLACE
8	OH POWER	12kV	PG&E DIST	RELOCATE
9	OH POWER	12kV	PG&E DIST	RELOCATE

UTILITY INFORMATION CONT.				
#	FACILITY	SIZE	OWNER	DISPOSITION
10	NATURAL GAS	6"	PG&E DIST	PROTECT IN PLACE
11	NATURAL GAS	3"	PG&E DIST	RELOCATE
12	NATURAL GAS	3"	PG&E DIST	PROTECT IN PLACE
13	NATURAL GAS	4"	PG&E DIST	PROTECT IN PLACE
14	TELECOM	UNK	AT&T DIST	RELOCATE
15	WATER	8"	CALWATER	PROTECT IN PLACE
16	OH TELECOM	UNK	BRIGHTHOUSE	RELOCATE
17	OH POWER	21kV	PG&E DIST	RELOCATE
18	OH TELECOM	UNK	PAC BELL	PROTECT IN PLACE



1/20/2021 4:36:44 AM Projects\701206\_00\_CHSRBP\00\_CADD\Sheet Files\UT\Alt2 (Edison A)\BP-UT-C4302

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**

DRAWN BY  
**J. LOPEZ**

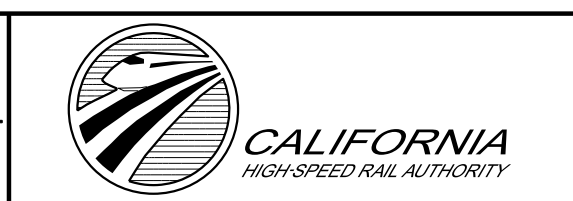
CHECKED BY  
**G. CAMPBELL**

IN CHARGE  
**G. CAMPBELL**

DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17310+00 TO 17335+00

CONTRACT NO.  
HSR13-44

DRAWING NO.  
UT-C4302

SCALE  
AS SHOWN

SHEET NO.  
1119



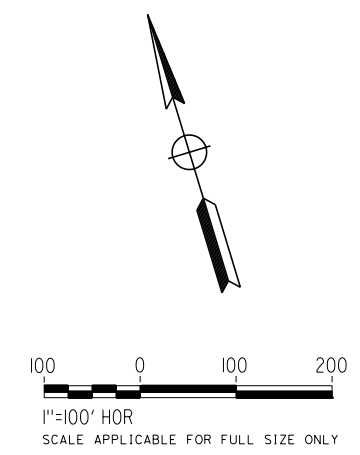
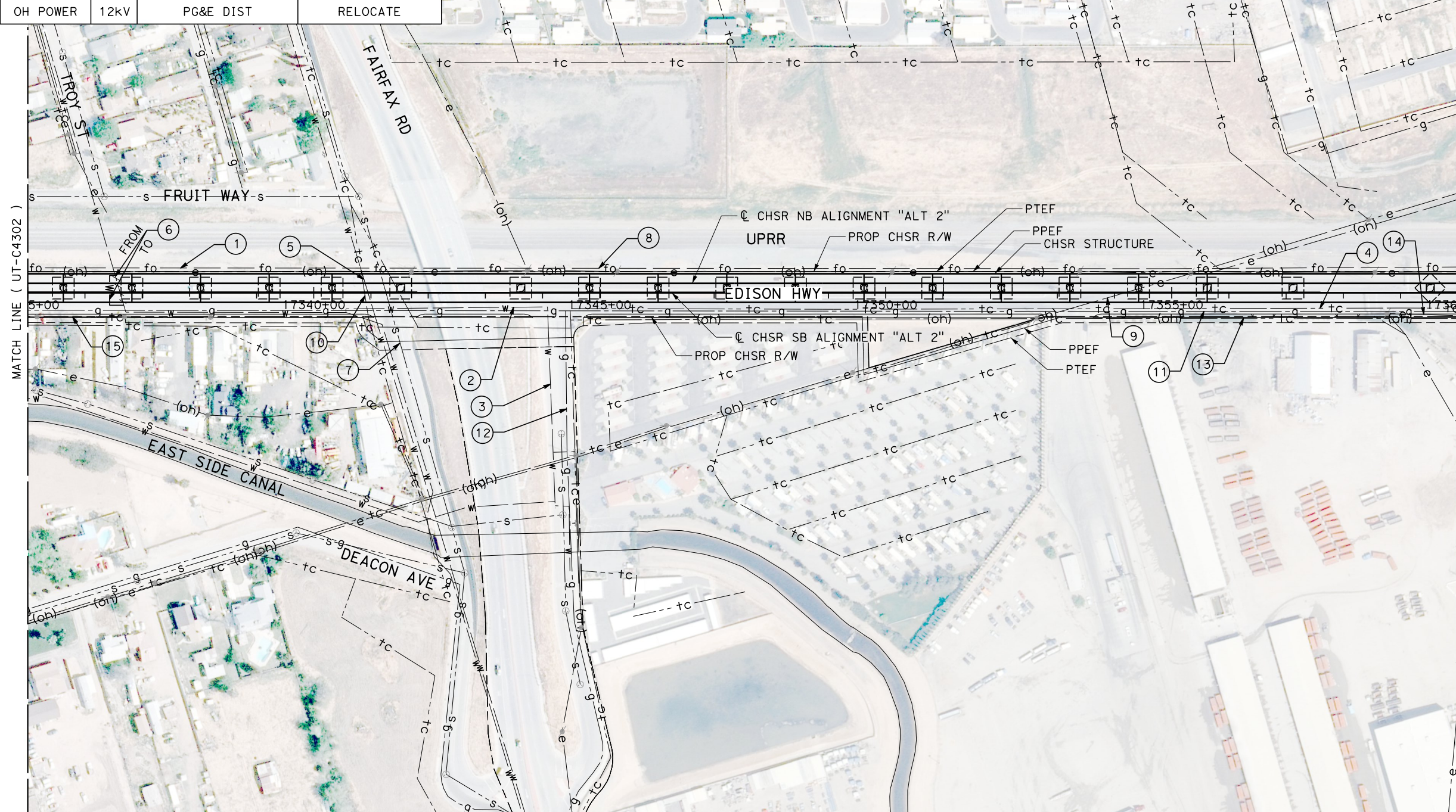
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1/20/2021 4:44:44 AM

ics\_user\_17609

UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	FIBER OPTIC	UNK	SPRINT, LEVEL 3	PROTECT IN PLACE
2	WATER	10"	ENCSD	RELOCATE
3	WATER	8"	ENCSD	PROTECT IN PLACE
4	TELECOM	UNK	AT&T DIST	RELOCATE
5	WATER	12"	ENCSD	PROTECT IN PLACE
6	WATER	4"	ENCSD	RELOCATE
7	SEWER	18"	ENCSD	PROTECT IN PLACE
8	OH POWER	12kV	PG&E DIST	RELOCATE

UTILITY INFORMATION CONT.				
#	FACILITY	SIZE	OWNER	DISPOSITION
9	OH POWER	21kV	PG&E DIST	RELOCATE
10	TELECOM	UNK	AT&T DIST	PROTECT IN PLACE
11	NATURAL GAS	3"	PG&E DIST	PROTECT IN PLACE
12	NATURAL GAS	4"	PG&E DIST	PROTECT IN PLACE
13	OH TELECOM	UNK	AT&T DIST	RELOCATE
14	OH POWER	12kV	PG&E DIST	RELOCATE
15	OH TELECOM	UNK	BRIGHTHOUSE	PROTECT IN PLACE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17335+00 TO 17360+00

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
UT-C4303  
SCALE  
AS SHOWN  
SHEET NO.  
1120



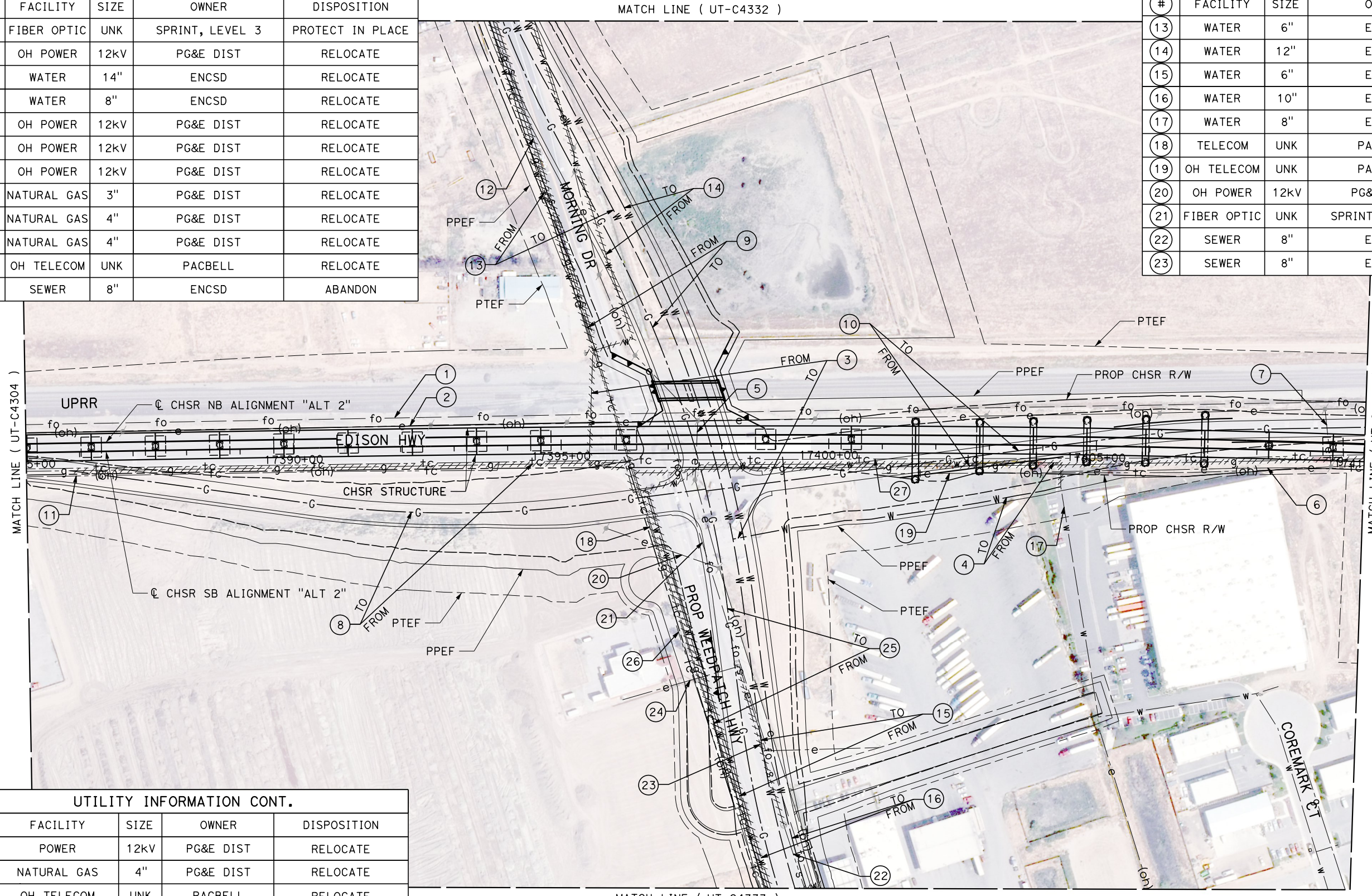
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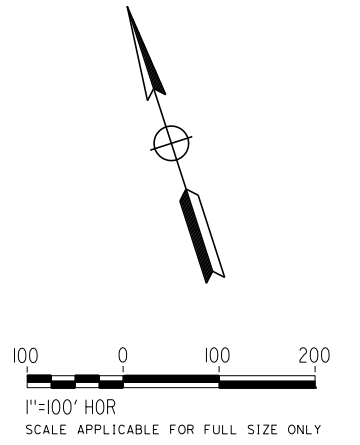
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UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	FIBER OPTIC	UNK	SPRINT, LEVEL 3	PROTECT IN PLACE
2	OH POWER	12kV	PG&E DIST	RELOCATE
3	WATER	14"	ENCSD	RELOCATE
4	WATER	8"	ENCSD	RELOCATE
5	OH POWER	12kV	PG&E DIST	RELOCATE
6	OH POWER	12kV	PG&E DIST	RELOCATE
7	OH POWER	12kV	PG&E DIST	RELOCATE
8	NATURAL GAS	3"	PG&E DIST	RELOCATE
9	NATURAL GAS	4"	PG&E DIST	RELOCATE
10	NATURAL GAS	4"	PG&E DIST	RELOCATE
11	OH TELECOM	UNK	PACBELL	RELOCATE
12	SEWER	8"	ENCSD	ABANDON

UTILITY INFORMATION CONT.				
#	FACILITY	SIZE	OWNER	DISPOSITION
13	WATER	6"	ENCSD	RELOCATE
14	WATER	12"	ENCSD	RELOCATE
15	WATER	6"	ENCSD	RELOCATE
16	WATER	10"	ENCSD	RELOCATE
17	WATER	8"	ENCSD	PROTECT IN PLACE
18	TELECOM	UNK	PACBELL	RELOCATE
19	OH TELECOM	UNK	PACBELL	RELOCATE
20	OH POWER	12kV	PG&E DIST	RELOCATE
21	FIBER OPTIC	UNK	SPRINT, LEVEL 3	RELOCATE
22	SEWER	8"	ENCSD	PROTECT IN PLACE
23	SEWER	8"	ENCSD	ABANDON



UTILITY INFORMATION CONT.				
#	FACILITY	SIZE	OWNER	DISPOSITION
24	POWER	12kV	PG&E DIST	RELOCATE
25	NATURAL GAS	4"	PG&E DIST	RELOCATE
26	OH TELECOM	UNK	PACBELL	RELOCATE
27	TELECOM	UNK	PACBELL	RELOCATE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**

DRAWN BY  
**J. LOPEZ**

CHECKED BY  
**G. CAMPBELL**

IN CHARGE  
**G. CAMPBELL**

DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17385+00 TO 17410+00

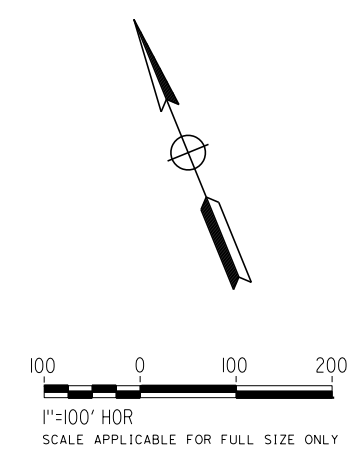
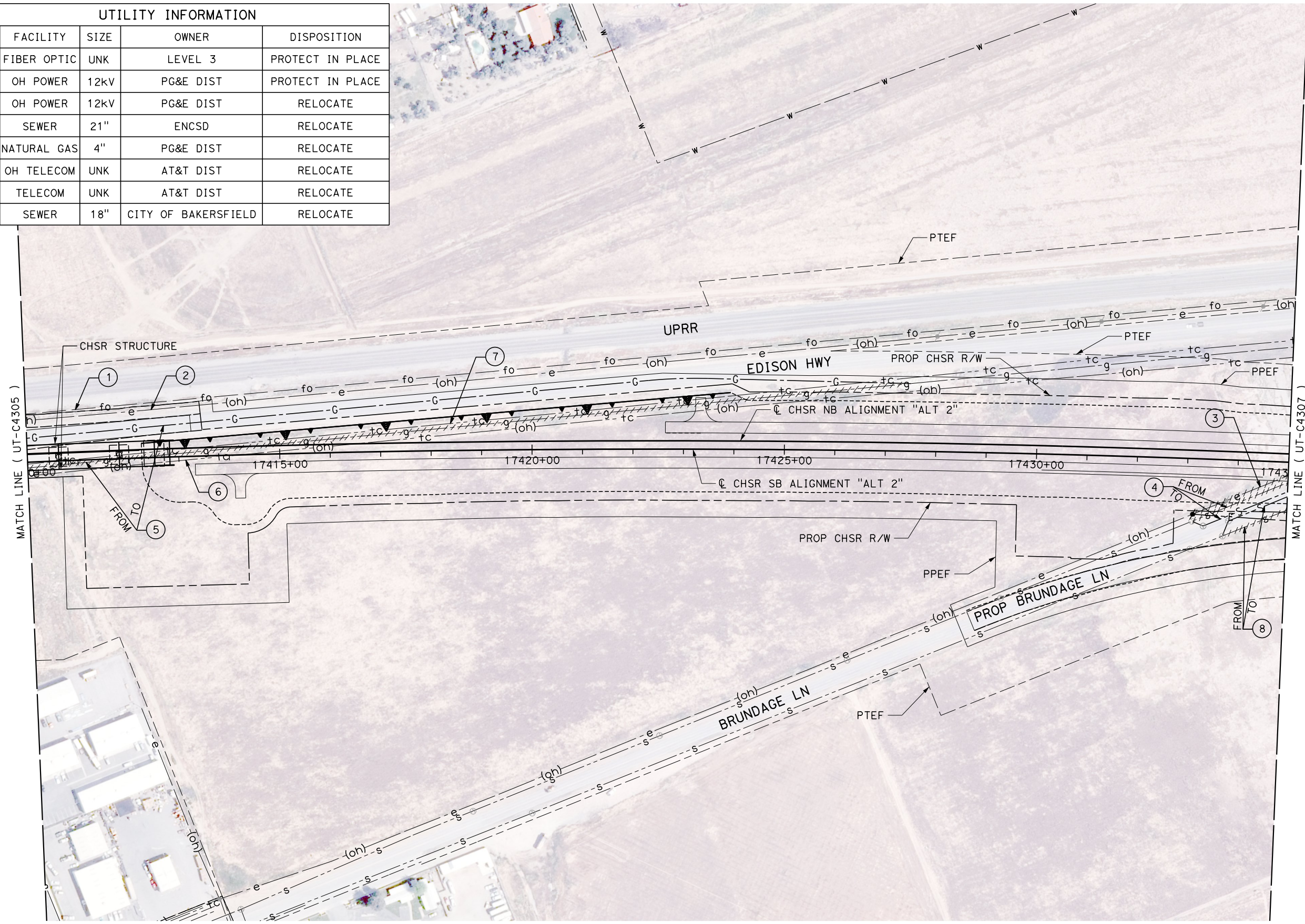
CONTRACT NO.  
HSR13-44

DRAWING NO.  
UT-C4305

SCALE  
AS SHOWN

SHEET NO.  
1122

UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	FIBER OPTIC	UNK	LEVEL 3	PROTECT IN PLACE
2	OH POWER	12kV	PG&E DIST	PROTECT IN PLACE
3	OH POWER	12kV	PG&E DIST	RELOCATE
4	SEWER	21"	ENCSD	RELOCATE
5	NATURAL GAS	4"	PG&E DIST	RELOCATE
6	OH TELECOM	UNK	AT&T DIST	RELOCATE
7	TELECOM	UNK	AT&T DIST	RELOCATE
8	SEWER	18"	CITY OF BAKERSFIELD	RELOCATE



1/20/2021 4:45:56 AM  
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 jcs\_user\_17609

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
 DRAWN BY  
**J. LOPEZ**  
 CHECKED BY  
**G. CAMPBELL**  
 IN CHARGE  
**G. CAMPBELL**  
 DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
 COMPOSITE UTILITY PLANS  
 ALTERNATIVE 2  
 STA 17410+00 TO 17435+00

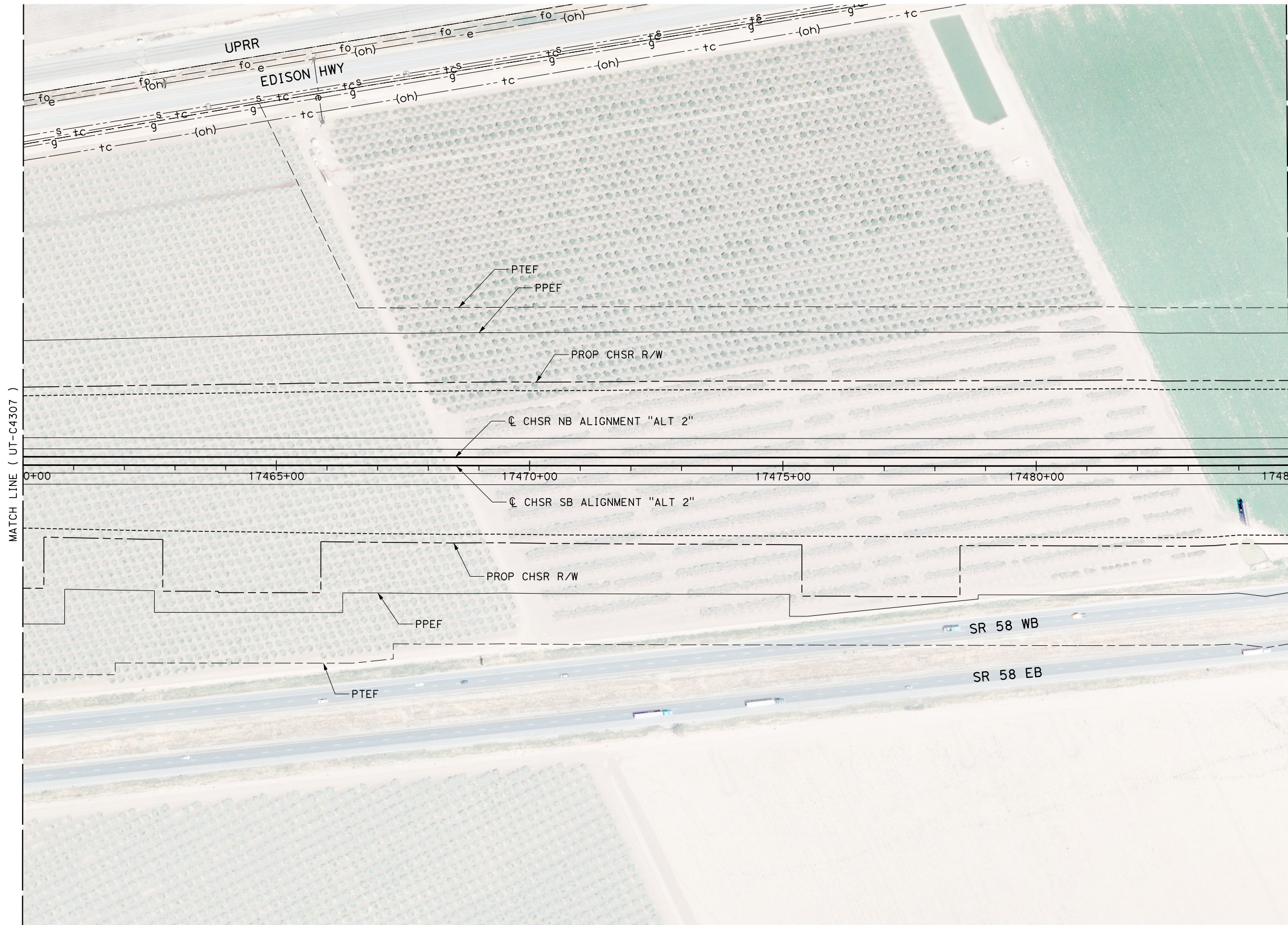
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**HSR13-44**  
 DRAWING NO.  
**UT-C4306**  
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 SHEET NO.  
**1123**



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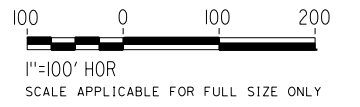
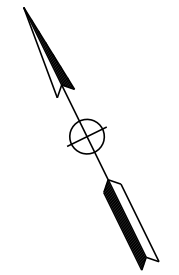
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ics\_user\_17609



MATCH LINE ( UT-C4307 )

MATCH LINE ( UT-C4309 )



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

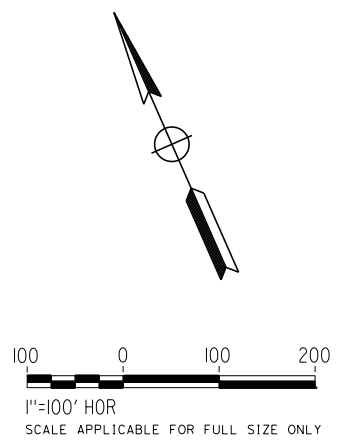
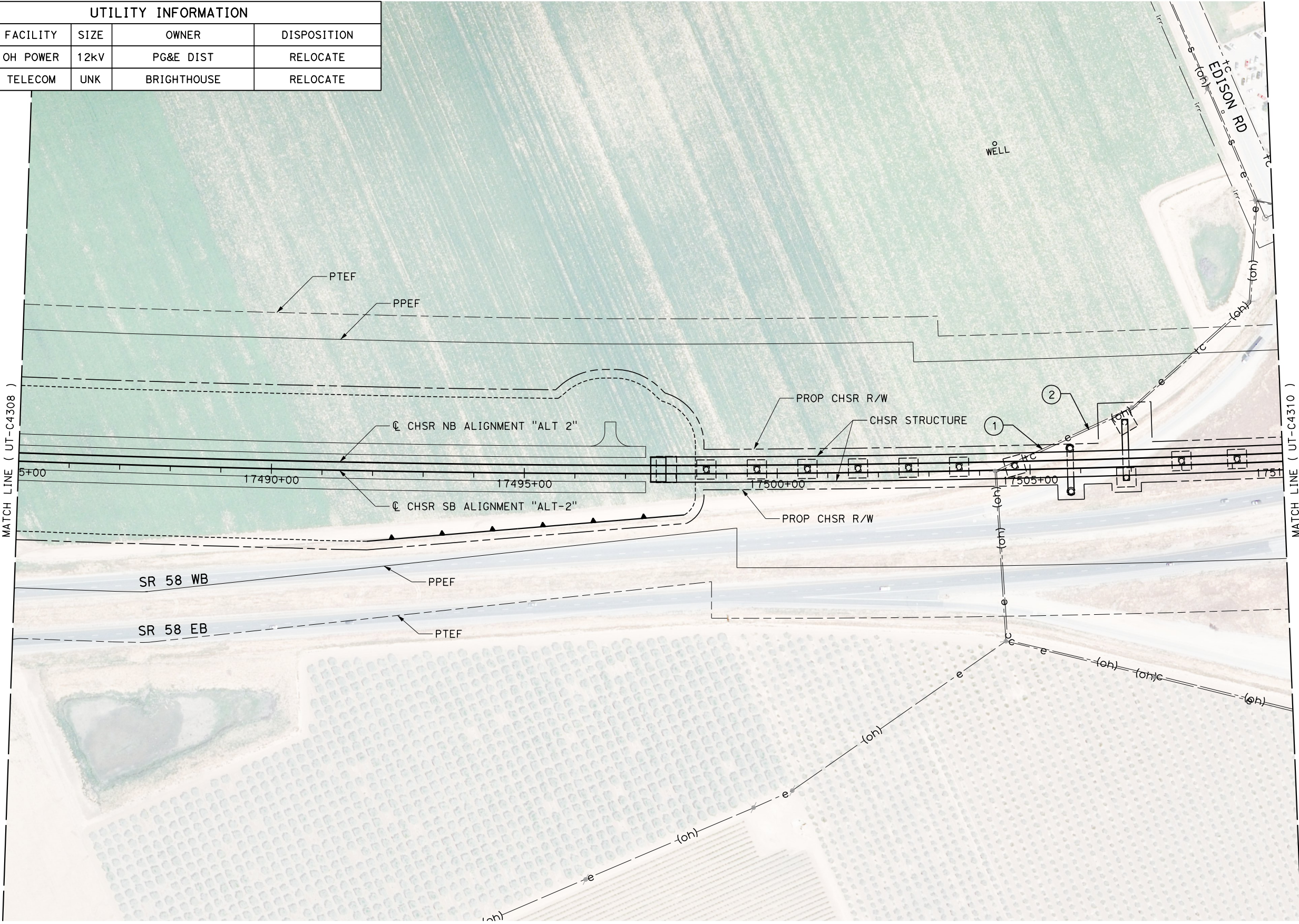


**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17460+00 TO 17485+00

CONTRACT NO.  
HSR13-44  
RAWING NO.  
UT-C4308  
SCALE  
AS SHOWN  
SHEET NO.  
1125

1/20/2021 4:45:30 AM Projects\701206.00\_CHSRBP\00\_CADD\Sheet Files\UT\A1\2 (Edison A)\BP-UT-C4309

UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	OH POWER	12KV	PG&E DIST	RELOCATE
2	TELECOM	UNK	BRIGHTHOUSE	RELOCATE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

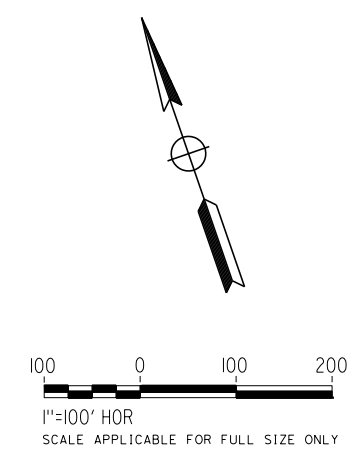
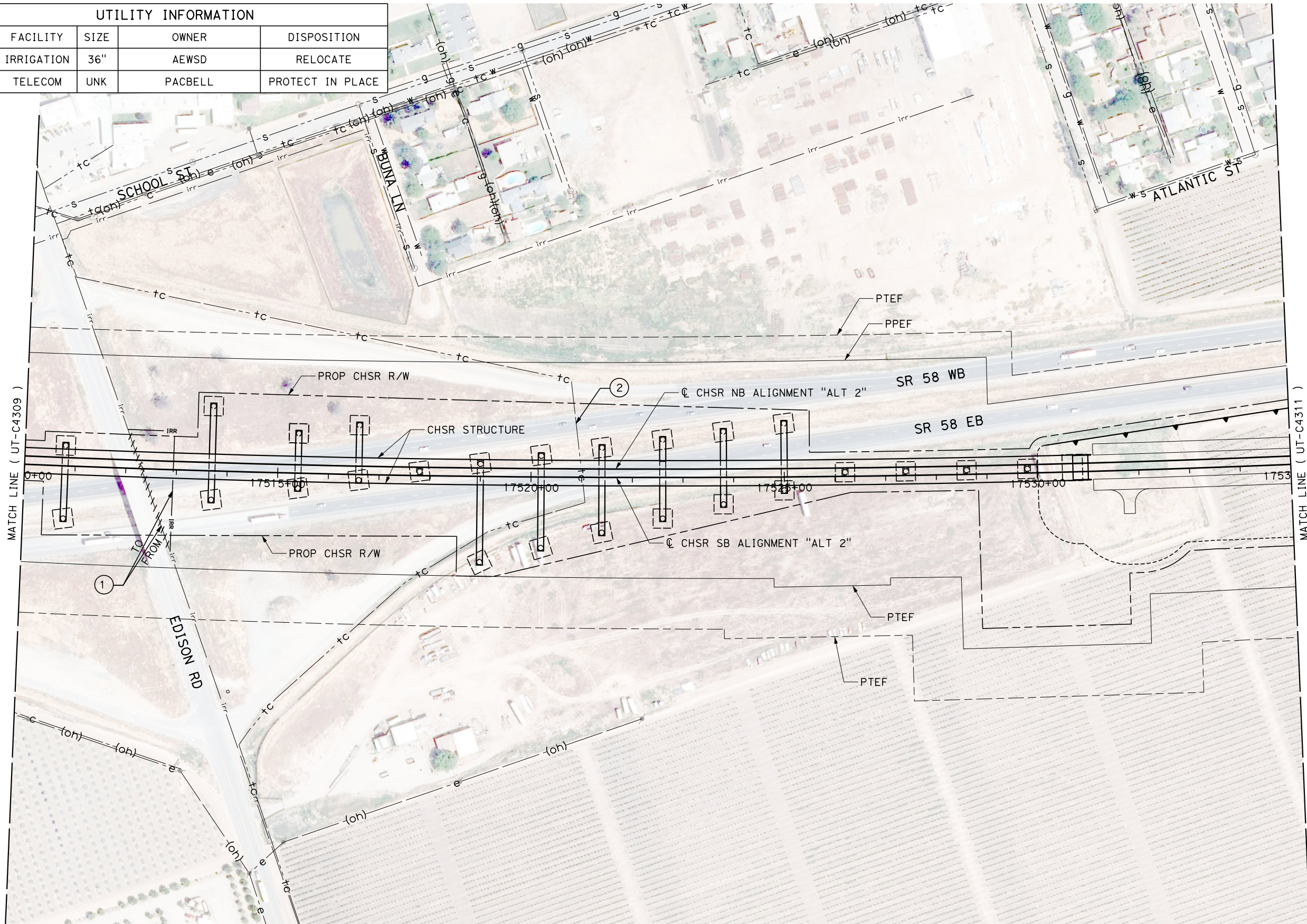
**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17485+00 TO 17510+00

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
UT-C4309  
SCALE  
AS SHOWN  
SHEET NO.  
1126

UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	IRRIGATION	36"	AEWSD	RELOCATE
2	TELECOM	UNK	PACBELL	PROTECT IN PLACE



1/20/2021 4:45:59 AM  
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 .ics\_user\_17609

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
 DRAWN BY  
**J. LOPEZ**  
 CHECKED BY  
**G. CAMPBELL**  
 IN CHARGE  
**G. CAMPBELL**  
 DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**  
  
**NOT FOR**  
**CONSTRUCTION**

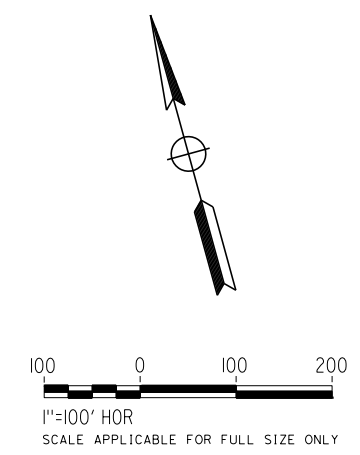
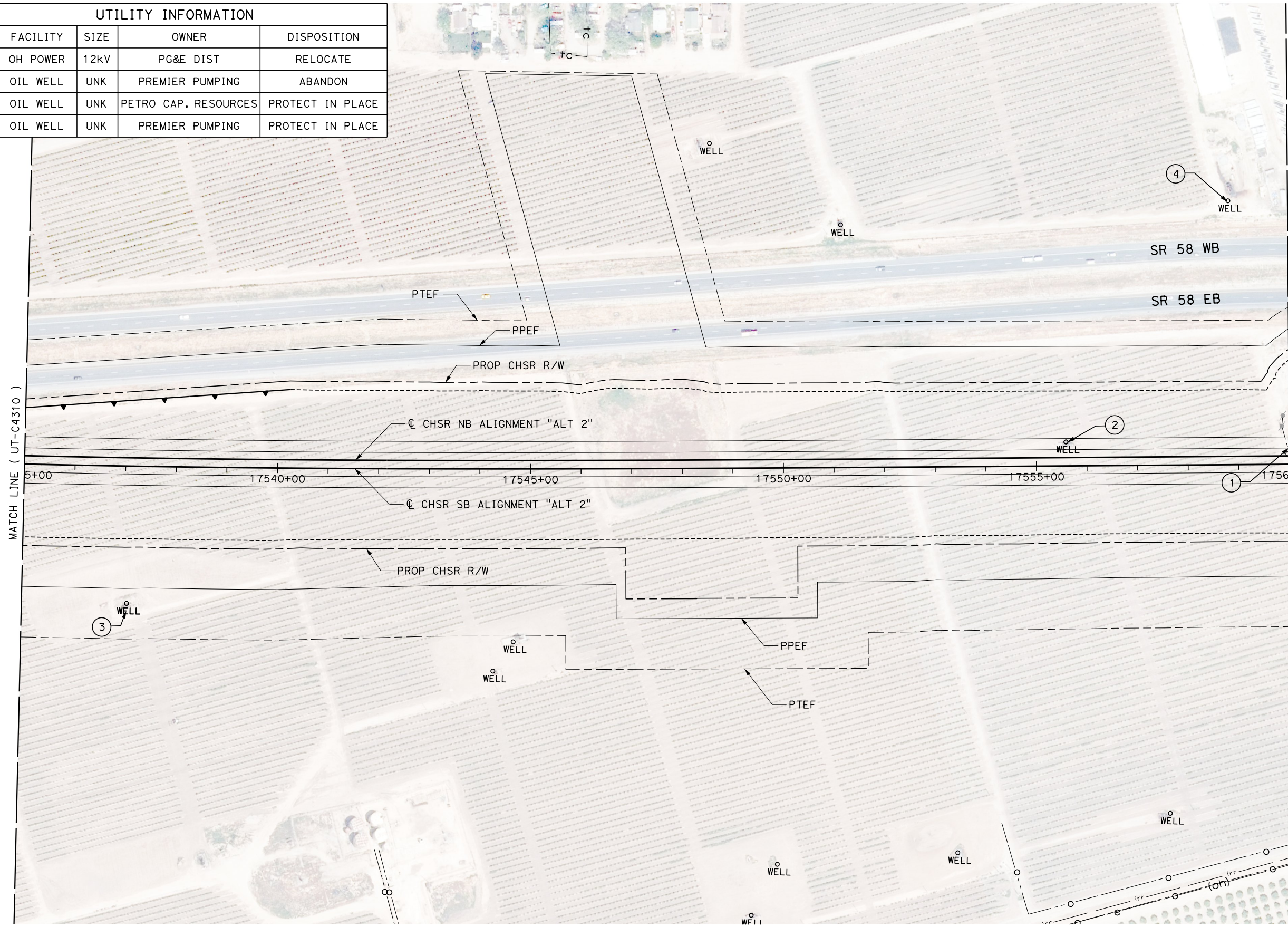


**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
 COMPOSITE UTILITY PLANS  
 ALTERNATIVE 2  
 STA 17510+00 TO 17535+00

CONTRACT NO.  
**HSR13-44**  
 DRAWING NO.  
**UT-C4310**  
 SCALE  
**AS SHOWN**  
 SHEET NO.  
**1127**



UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	OH POWER	12KV	PG&E DIST	RELOCATE
2	OIL WELL	UNK	PREMIER PUMPING	ABANDON
3	OIL WELL	UNK	PETRO CAP. RESOURCES	PROTECT IN PLACE
4	OIL WELL	UNK	PREMIER PUMPING	PROTECT IN PLACE



1/20/2021 4:39:35 AM Projects\701206.00\_CHSRBP\00\_CADD\Sheet Files\UT\Alt2 (Edison A)\BP-UT-C4311

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



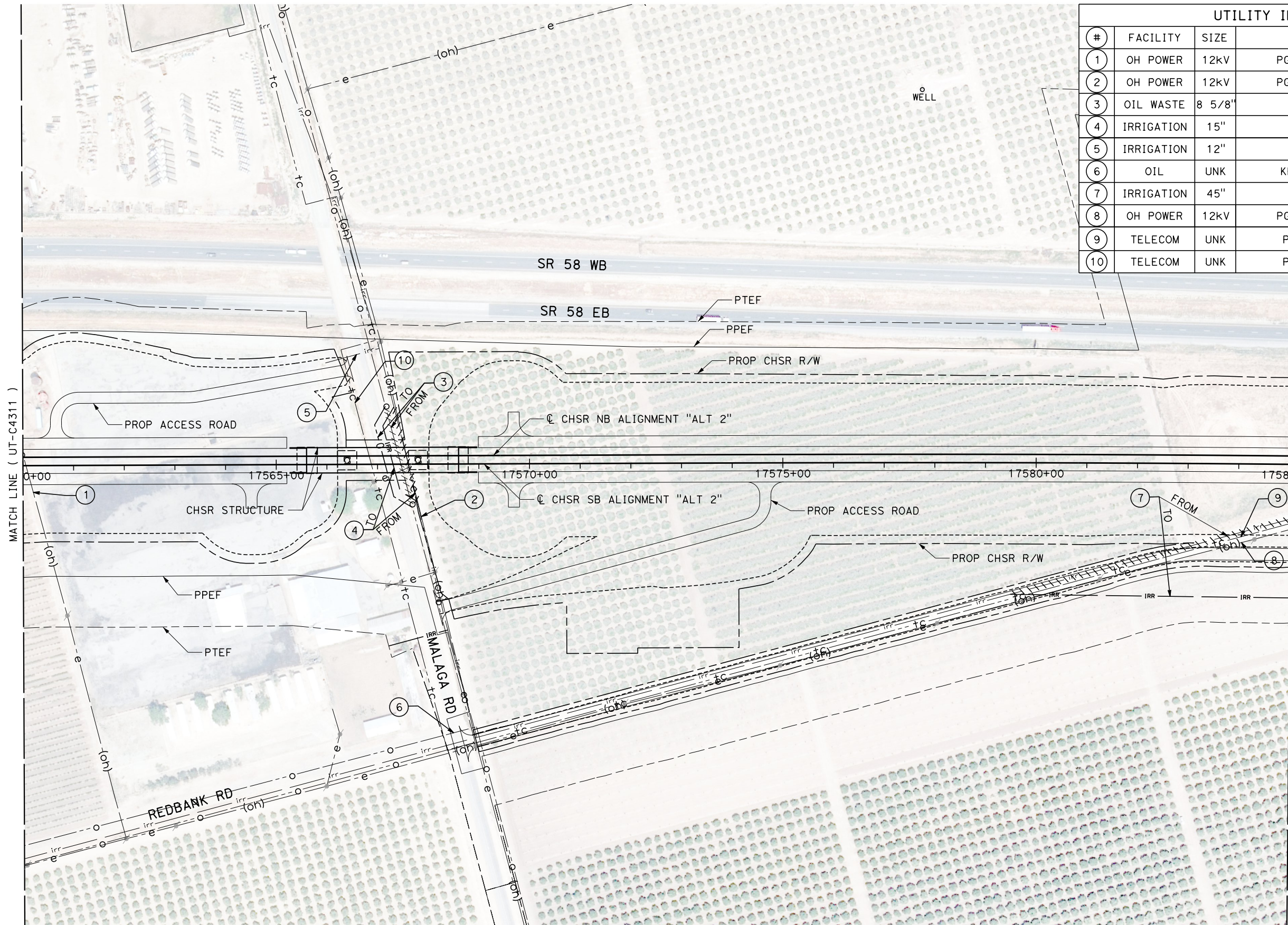
**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17535+00 TO 17560+00

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
UT-C4311  
SCALE  
AS SHOWN  
SHEET NO.  
1128

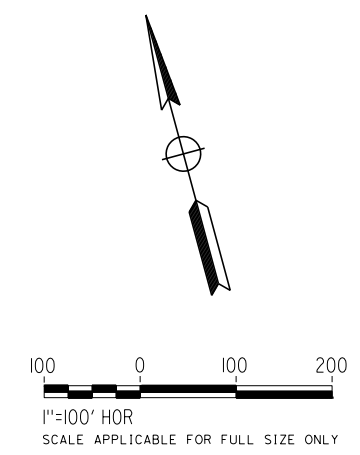
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1/20/2021 4:46:24 AM

ics\_user\_17609



UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	OH POWER	12KV	PG&E DIST	RELOCATE
2	OH POWER	12KV	PG&E DIST	RELOCATE
3	OIL WASTE	8 5/8"	VWMC	RELOCATE
4	IRRIGATION	15"	AEWS	RELOCATE
5	IRRIGATION	12"	AEWS	REMOVE
6	OIL	UNK	KERN OIL	PROTECT IN PLACE
7	IRRIGATION	45"	AEWS	RELOCATE
8	OH POWER	12KV	PG&E DIST	RELOCATE
9	TELECOM	UNK	PACBELL	RELOCATE
10	TELECOM	UNK	PACBELL	PROTECT IN PLACE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17560+00 TO 17585+00

CONTRACT NO.  
**HSR13-44**  
DRAWING NO.  
**UT-C4312**  
SCALE  
**AS SHOWN**  
SHEET NO.  
**1129**

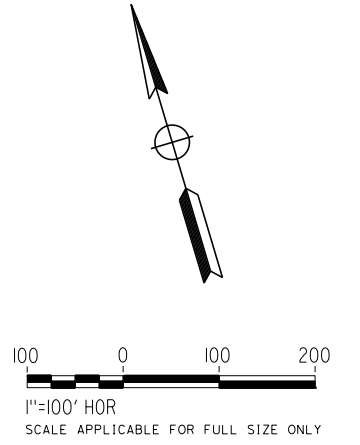
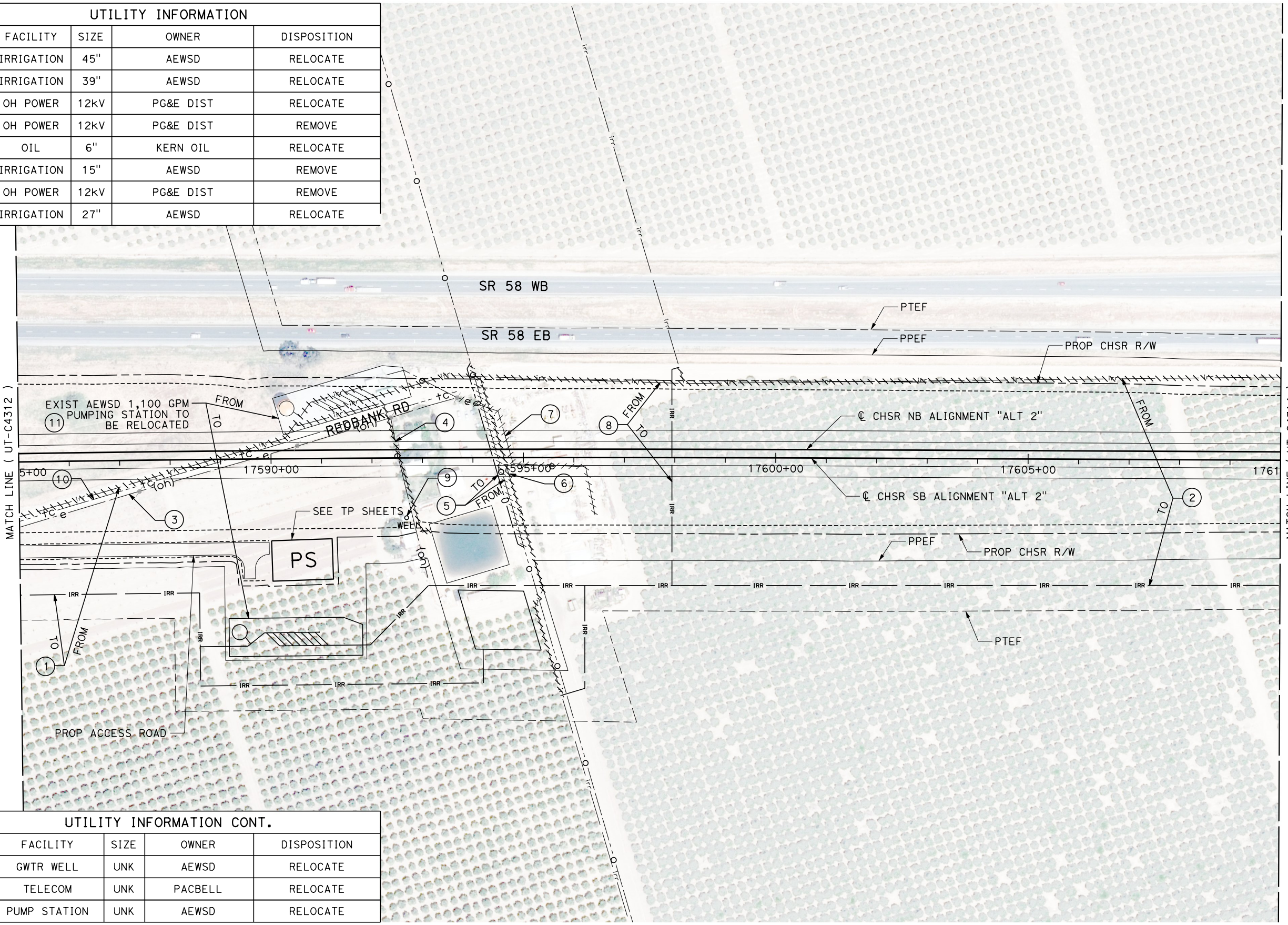
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1/20/2021 4:49:18 AM

jcs\_user\_17609

UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	IRRIGATION	45"	AEWSD	RELOCATE
2	IRRIGATION	39"	AEWSD	RELOCATE
3	OH POWER	12kV	PG&E DIST	RELOCATE
4	OH POWER	12kV	PG&E DIST	REMOVE
5	OIL	6"	KERN OIL	RELOCATE
6	IRRIGATION	15"	AEWSD	REMOVE
7	OH POWER	12kV	PG&E DIST	REMOVE
8	IRRIGATION	27"	AEWSD	RELOCATE

UTILITY INFORMATION CONT.				
#	FACILITY	SIZE	OWNER	DISPOSITION
9	GWTR WELL	UNK	AEWSD	RELOCATE
10	TELECOM	UNK	PACBELL	RELOCATE
11	PUMP STATION	UNK	AEWSD	RELOCATE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17585+00 TO 17610+00

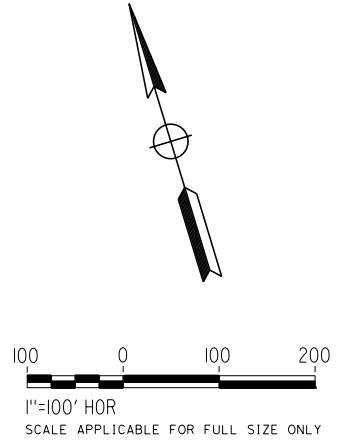
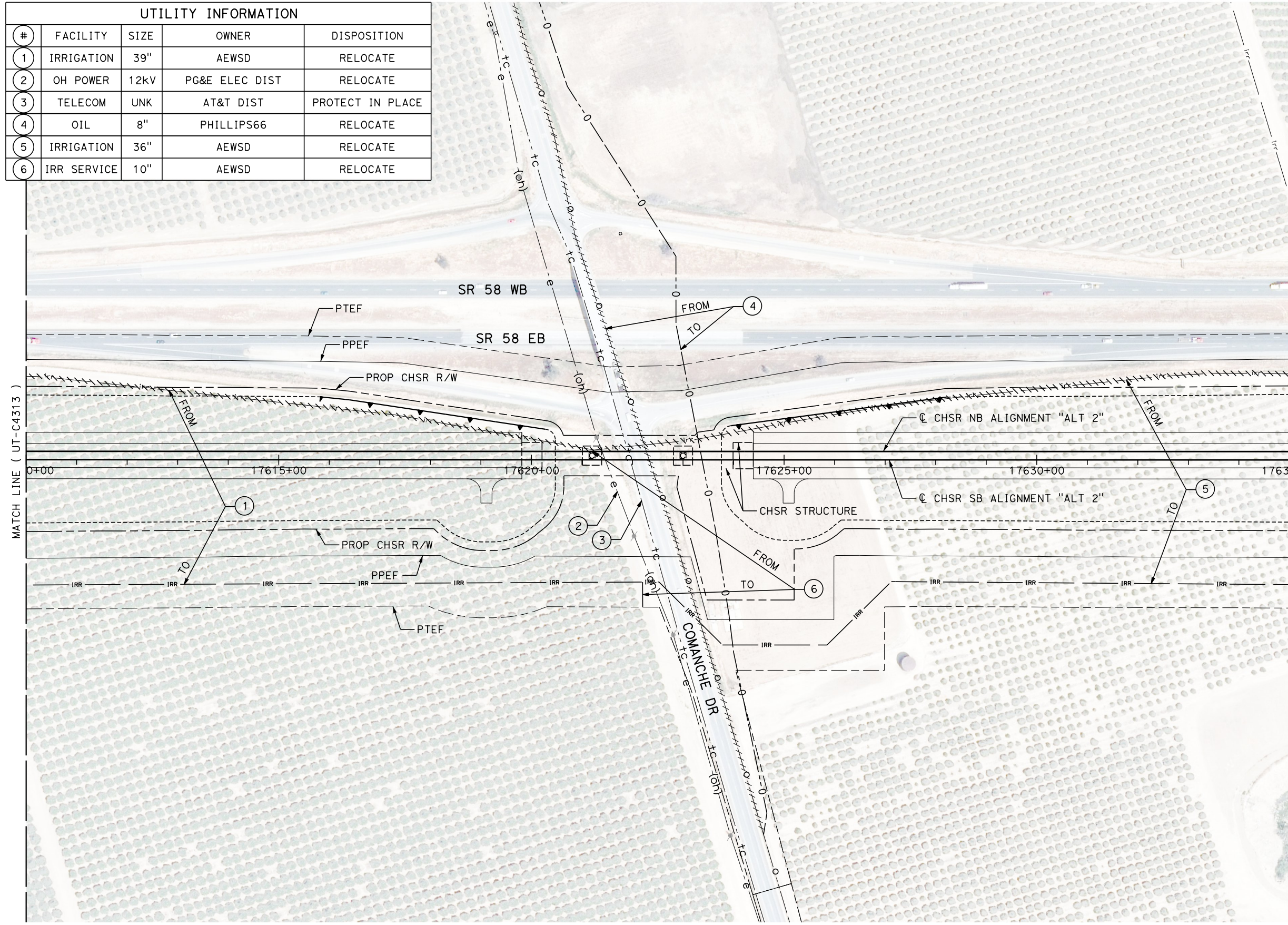
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HSR13-44  
DRAWING NO.  
UT-C4313  
SCALE  
AS SHOWN  
SHEET NO.  
1130

Projects\701206.00\_CHSRBP\00\_CADD\Sheet Files\UT\1\12 (Edison A)\BP-UT-C4314

1/20/2021 4:46:20 AM

ics\_user\_17609

UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	IRRIGATION	39"	AEWSD	RELOCATE
2	OH POWER	12kV	PG&E ELEC DIST	RELOCATE
3	TELECOM	UNK	AT&T DIST	PROTECT IN PLACE
4	OIL	8"	PHILLIPS66	RELOCATE
5	IRRIGATION	36"	AEWSD	RELOCATE
6	IRR SERVICE	10"	AEWSD	RELOCATE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17610+00 TO 17635+00

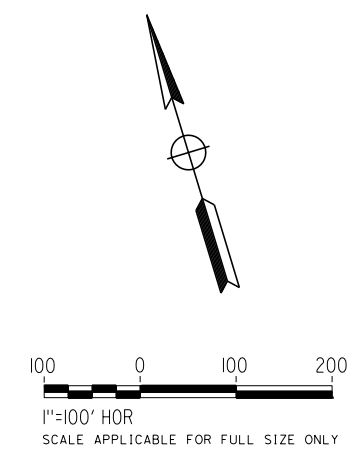
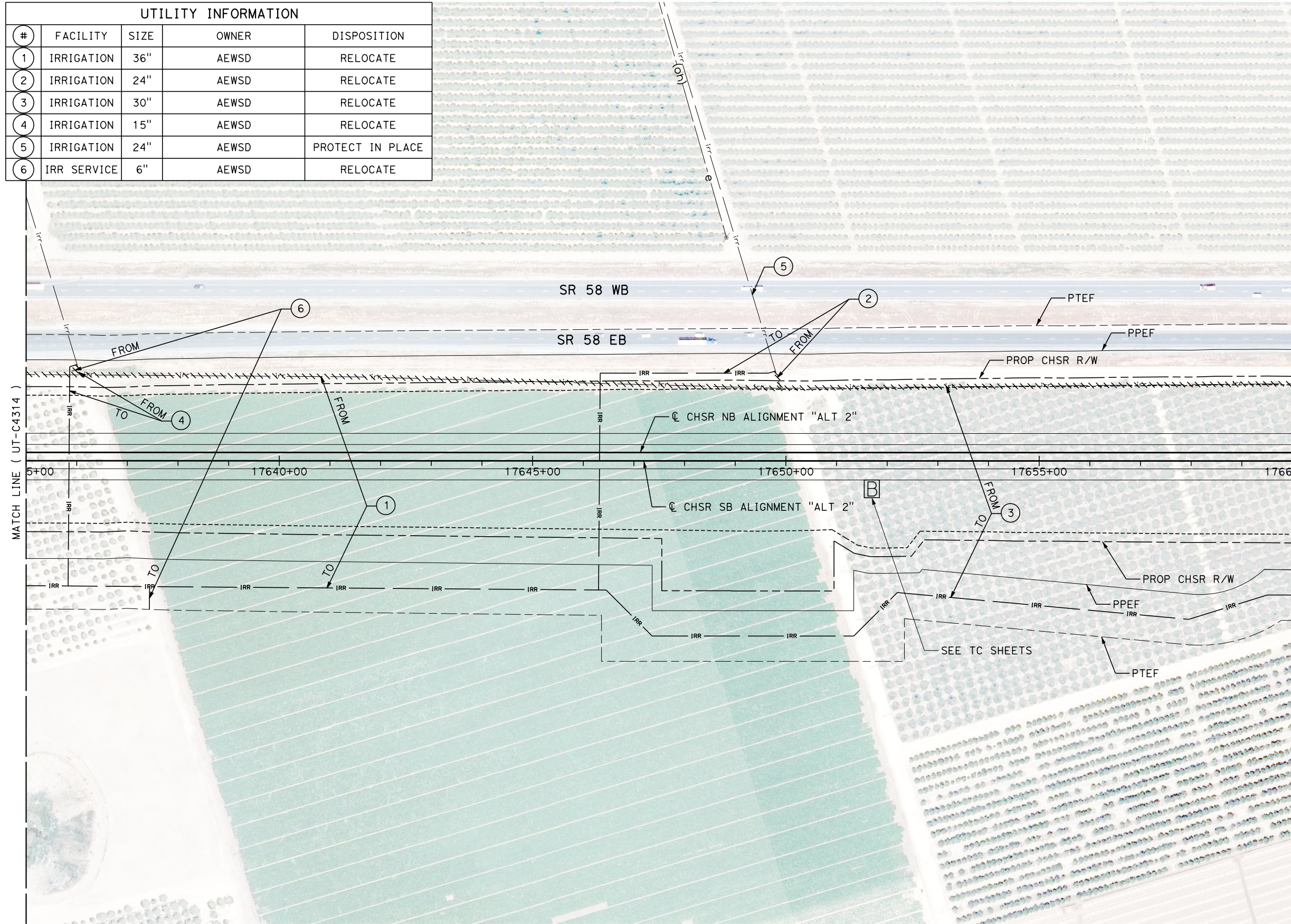
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DRAWING NO.  
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SCALE  
**AS SHOWN**  
SHEET NO.  
**1131**

Projects\T01206.00\_CHSRBP\00\_CADD\Sheet Files\UT\A1\2 (Edison A)\BP-UT-C4315

1/20/2021 4:56:59 AM

ics\_user\_17609

UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	IRRIGATION	36"	AEWSD	RELOCATE
2	IRRIGATION	24"	AEWSD	RELOCATE
3	IRRIGATION	30"	AEWSD	RELOCATE
4	IRRIGATION	15"	AEWSD	RELOCATE
5	IRRIGATION	24"	AEWSD	PROTECT IN PLACE
6	IRR SERVICE	6"	AEWSD	RELOCATE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**

DRAWN BY  
**J. LOPEZ**

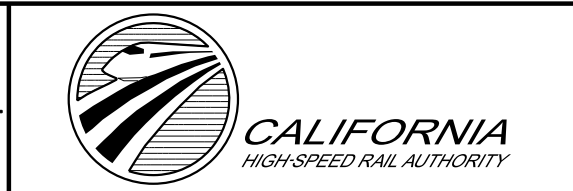
CHECKED BY  
**G. CAMPBELL**

IN CHARGE  
**G. CAMPBELL**

DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17635+00 TO 17660+00

CONTRACT NO.  
**HSR13-44**

DRAWING NO.  
**UT-C4315**

SCALE  
**AS SHOWN**

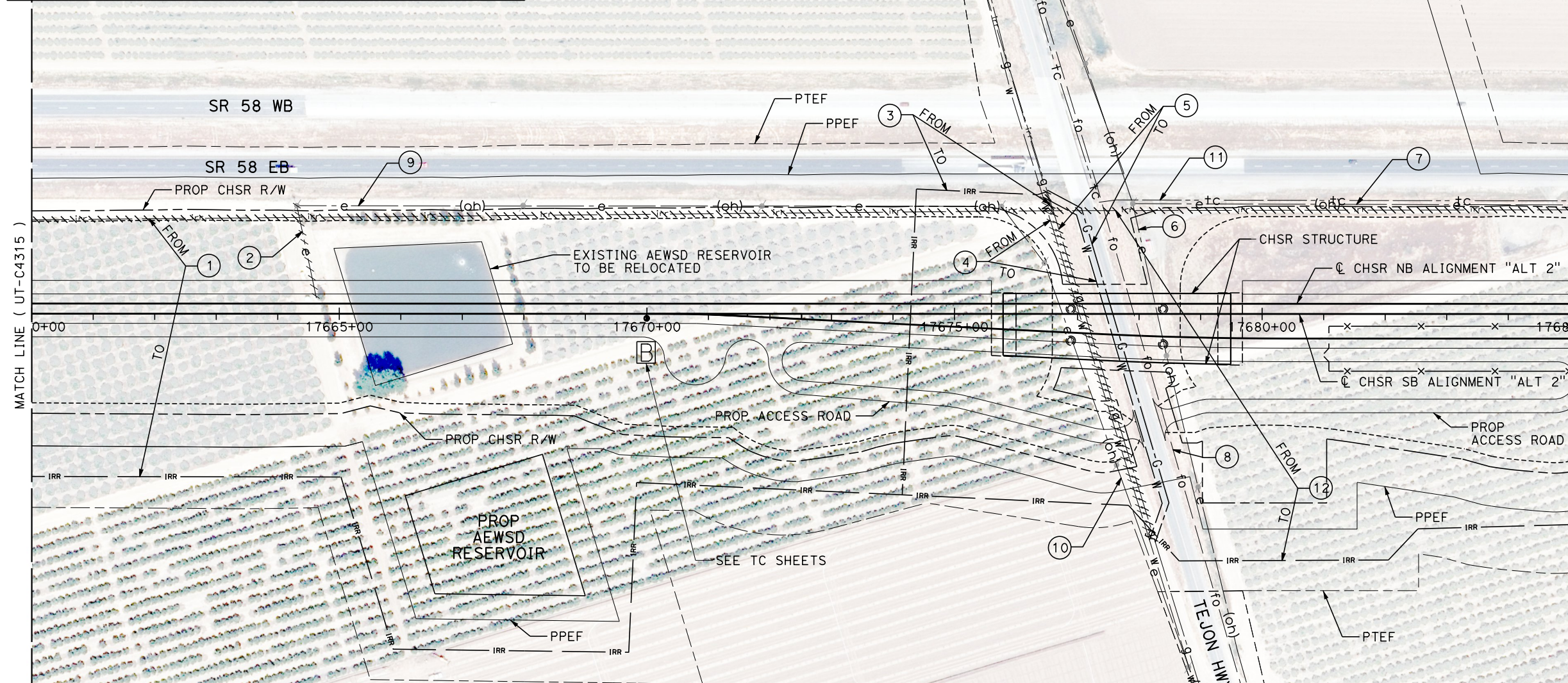
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Projects\701206.00\_CHSRBP\00\_CADD\Sheet Files\UT\1\12 (Edison A)\BP-UT-C4316

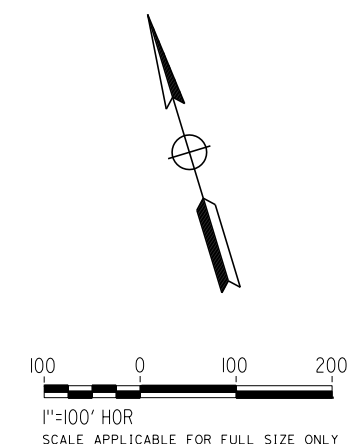
1/20/2021 4:37:56 AM

ics\_user\_17609

UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	IRRIGATION	30"	AEWSD	RELOCATE
2	OH POWER	12KV	PG&E DIST	REMOVE
3	IRRIGATION	15"	AEWSD	RELOCATE
4	WATER	3"	NAFTEX	RELOCATE
5	NATURAL GAS	3"	NAFTEX	RELOCATE
6	OH POWER	12KV	PG&E DIST	RELOCATE
7	OH POWER	12KV	PG&E DIST	PROTECT IN PLACE



UTILITY INFORMATION CONT.				
#	FACILITY	SIZE	OWNER	DISPOSITION
8	FIBER OPTIC	UNK	SPRINT, LEVEL 3	PROTECT IN PLACE
9	OH POWER	12KV	PG&E DIST	RELOCATE
10	OH POWER	12KV	PG&E DIST	RELOCATE
11	TELECOM	UNK	PACBELL	PROTECT IN PLACE
12	IRRIGATION	30"	AEWSD	RELOCATE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17660+00 TO 17685+00

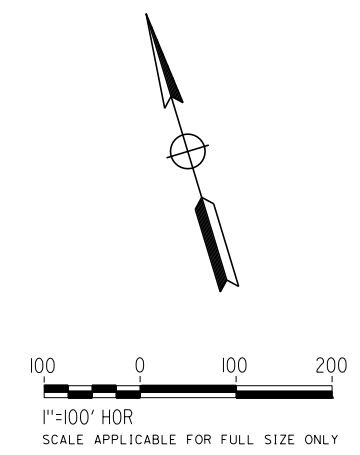
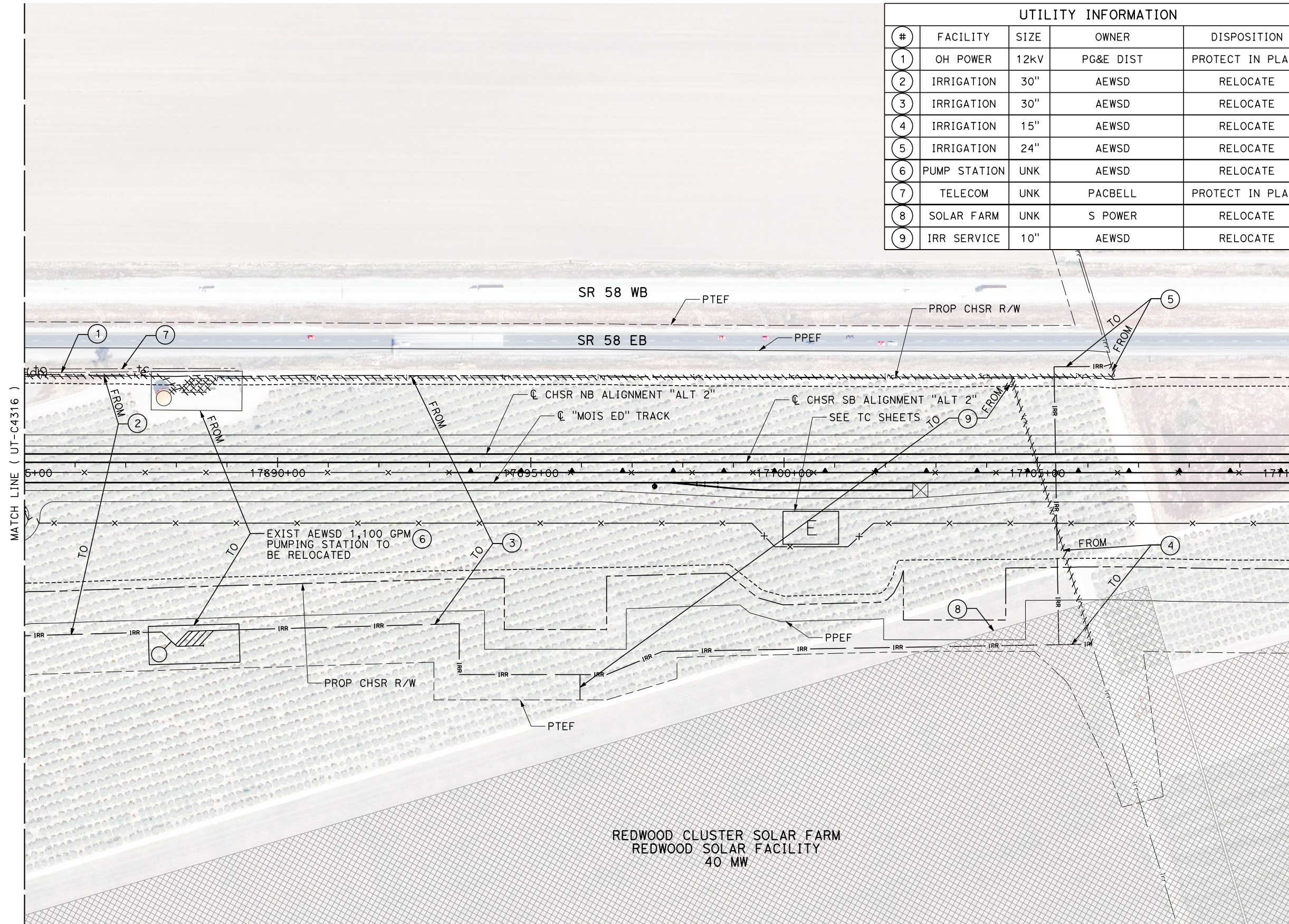
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UT-C4316  
SCALE  
AS SHOWN  
SHEET NO.  
1133

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1/20/2021 4:39:57 AM

jcs\_user\_17609

UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	OH POWER	12KV	PG&E DIST	PROTECT IN PLACE
2	IRRIGATION	30"	AEWSD	RELOCATE
3	IRRIGATION	30"	AEWSD	RELOCATE
4	IRRIGATION	15"	AEWSD	RELOCATE
5	IRRIGATION	24"	AEWSD	RELOCATE
6	PUMP STATION	UNK	AEWSD	RELOCATE
7	TELECOM	UNK	PACBELL	PROTECT IN PLACE
8	SOLAR FARM	UNK	S POWER	RELOCATE
9	IRR SERVICE	10"	AEWSD	RELOCATE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17685+00 TO 17710+00

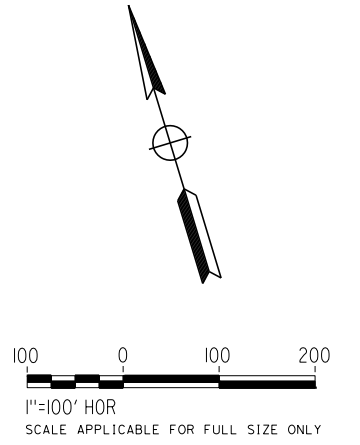
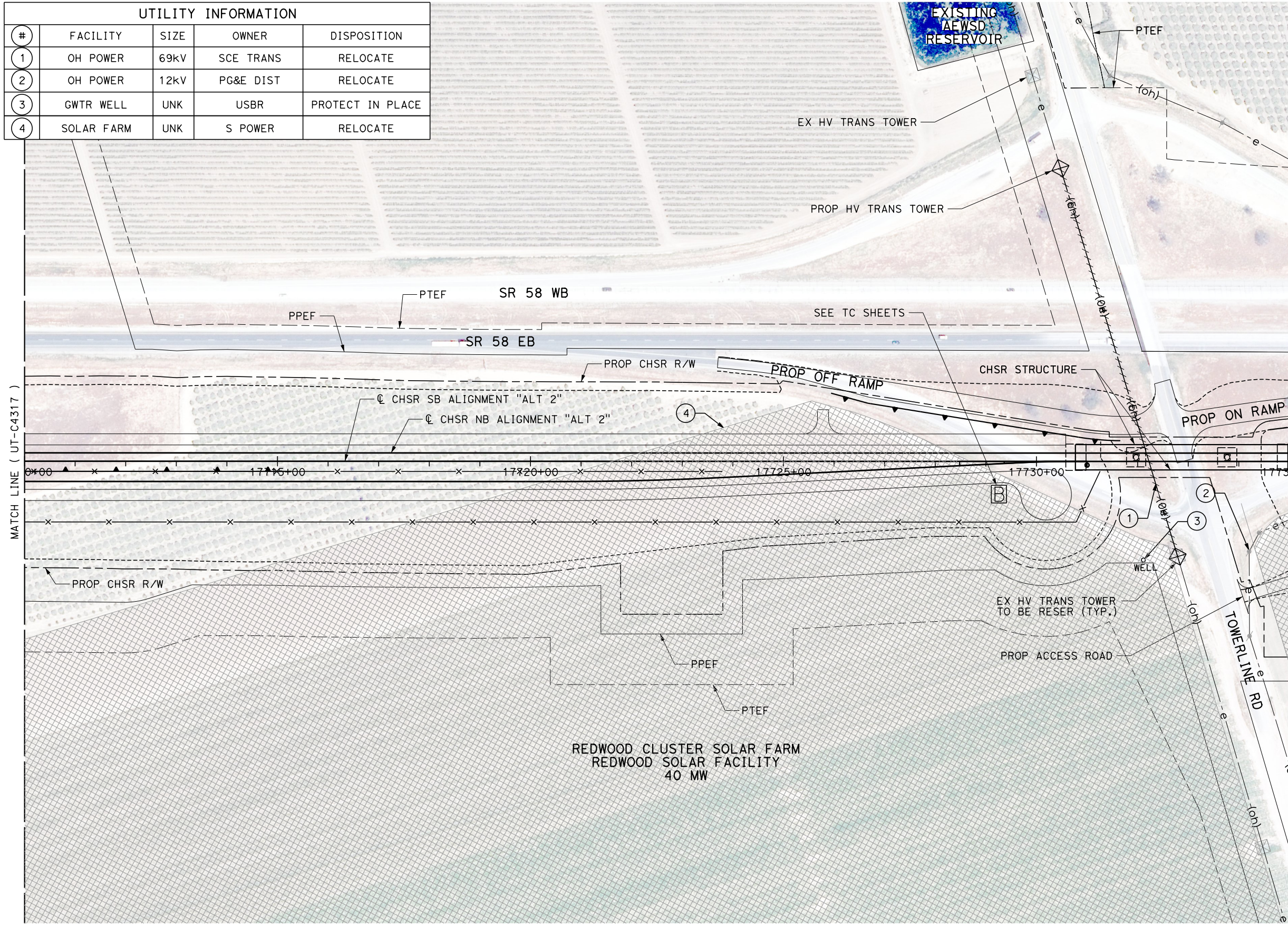
CONTRACT NO.  
**HSR13-44**  
DRAWING NO.  
**UT-C4317**  
SCALE  
**AS SHOWN**  
SHEET NO.  
**1134**

Projects\T01206.00\_CHSRBP\00\_CADD\Sheet Files\UT\Alt2 (Edison A)\BP-UT-C4318

1/20/2021 4:46:46 AM

jcs\_user\_17609

UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	OH POWER	69KV	SCE TRANS	RELOCATE
2	OH POWER	12KV	PG&E DIST	RELOCATE
3	GWTR WELL	UNK	USBR	PROTECT IN PLACE
4	SOLAR FARM	UNK	S POWER	RELOCATE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17710+00 TO 17735+00

CONTRACT NO.  
**HSR13-44**  
DRAWING NO.  
**UT-C4318**  
SCALE  
**AS SHOWN**  
SHEET NO.  
**1135**

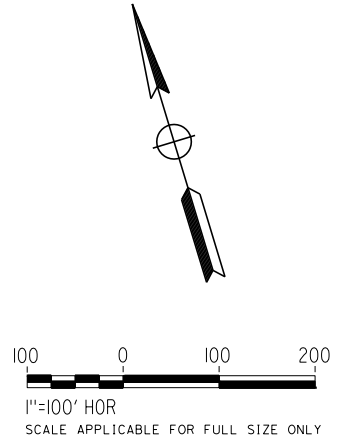
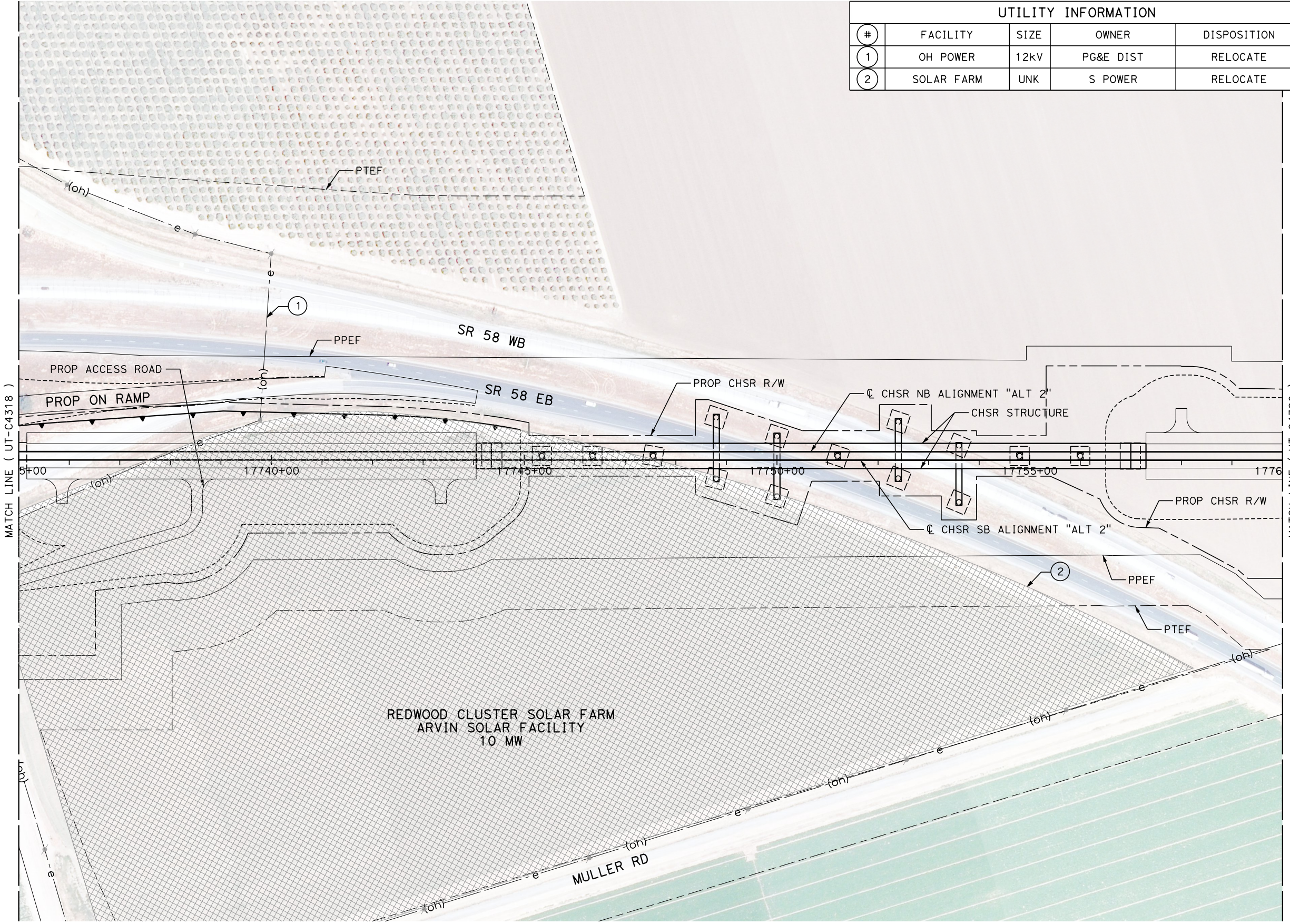


Projects\T01206.00\_CHSRBP\00\_CADD\Sheet Files\UT\Alt2 (Edison A)\BP-UT-C4319

1/20/2021 4:49:43 AM

ics\_user\_17609

UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	OH POWER	12kV	PG&E DIST	RELOCATE
2	SOLAR FARM	UNK	S POWER	RELOCATE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**

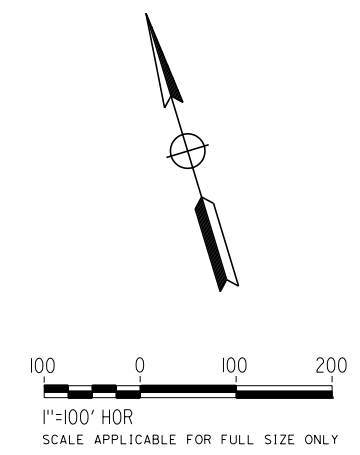
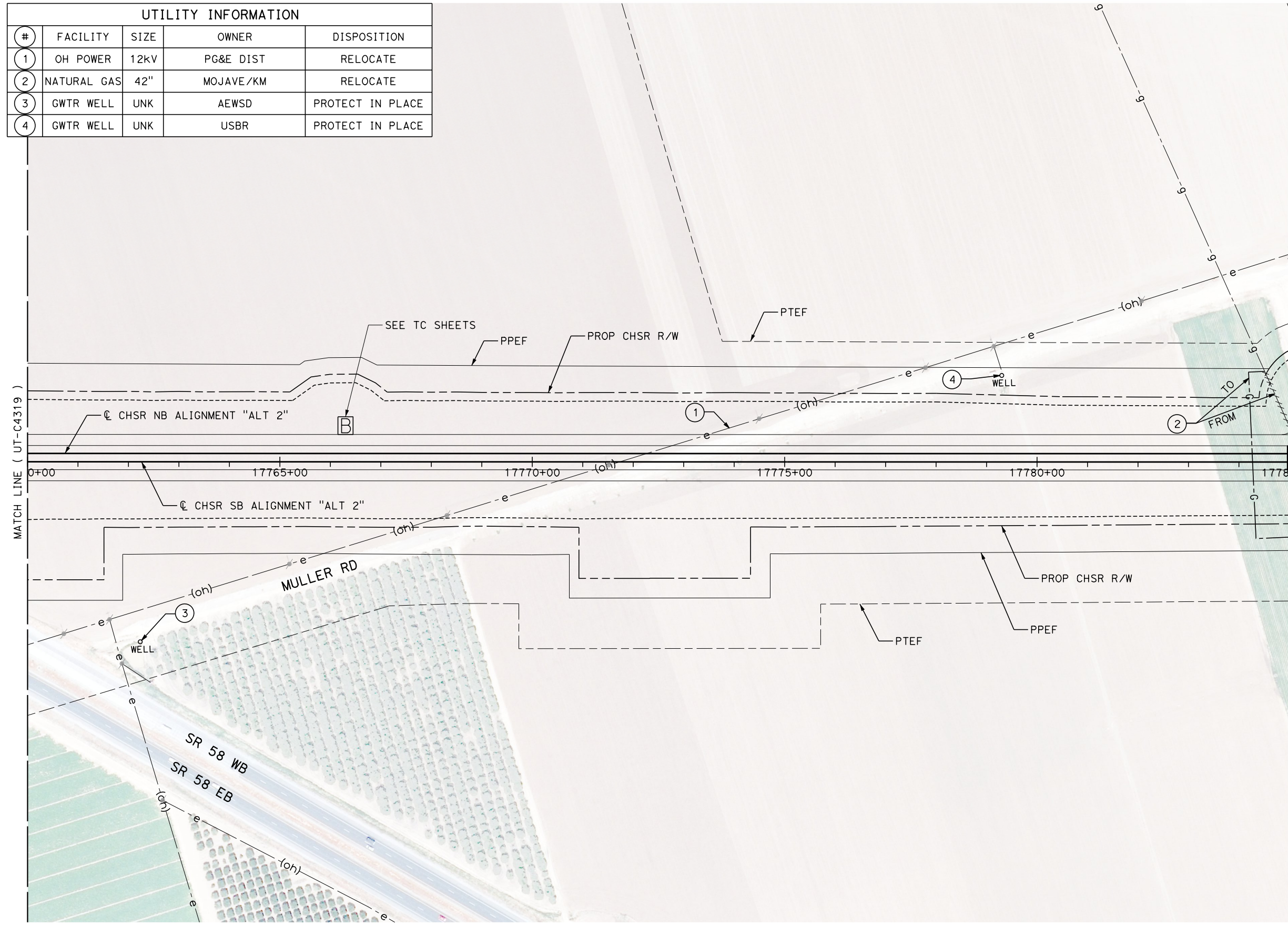


**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17735+00 TO 17760+00

CONTRACT NO.  
**HSR13-44**  
DRAWING NO.  
**UT-C4319**  
SCALE  
**AS SHOWN**  
SHEET NO.  
**1136**

1/20/2021 4:38:22 AM  
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UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	OH POWER	12KV	PG&E DIST	RELOCATE
2	NATURAL GAS	42"	MOJAVE/KM	RELOCATE
3	GWTR WELL	UNK	AEWSD	PROTECT IN PLACE
4	GWTR WELL	UNK	USBR	PROTECT IN PLACE

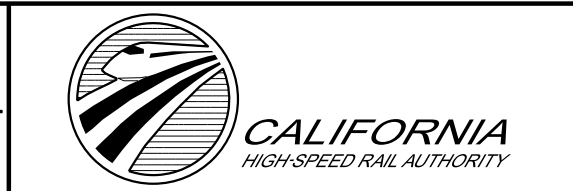


REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
 DRAWN BY  
**J. LOPEZ**  
 CHECKED BY  
**G. CAMPBELL**  
 IN CHARGE  
**G. CAMPBELL**  
 DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



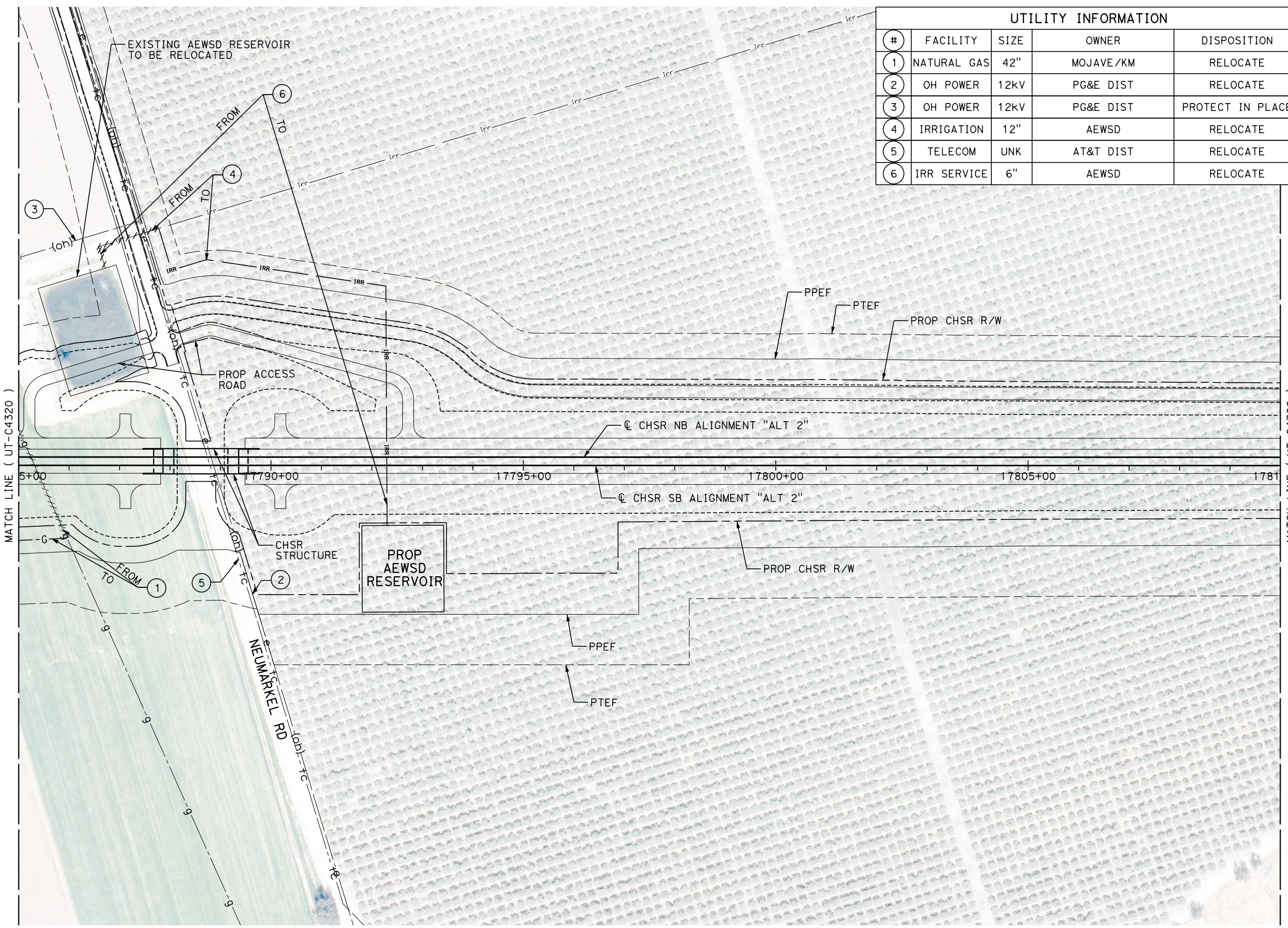
**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
 COMPOSITE UTILITY PLANS  
 ALTERNATIVE 2  
 STA 17760+00 TO 17785+00

CONTRACT NO.  
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 DRAWING NO.  
**UT-C4320**  
 SCALE  
**AS SHOWN**  
 SHEET NO.  
**1137**

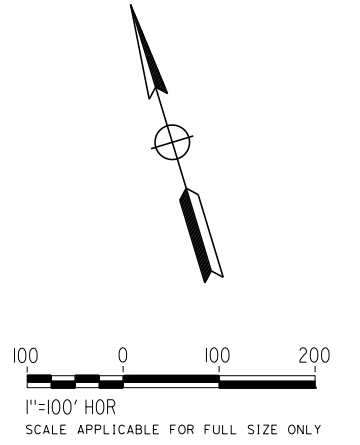
Projects\701206.00\_CHSRBP\00\_CADD\Sheet Files\UT\Alt2 (Edison A)\BP-UT-C4321

1/20/2021 4:37:31 AM

ics\_user\_17609



UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	NATURAL GAS	42"	MOJAVE/KM	RELOCATE
2	OH POWER	12kV	PG&E DIST	RELOCATE
3	OH POWER	12kV	PG&E DIST	PROTECT IN PLACE
4	IRRIGATION	12"	AEWSD	RELOCATE
5	TELECOM	UNK	AT&T DIST	RELOCATE
6	IRR SERVICE	6"	AEWSD	RELOCATE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17785+00 TO 17810+00

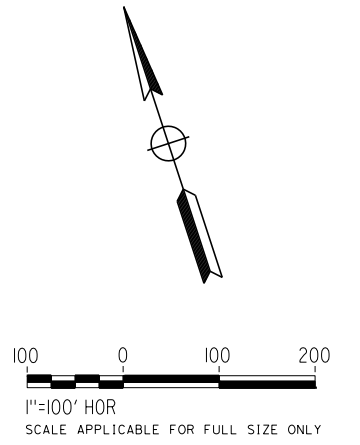
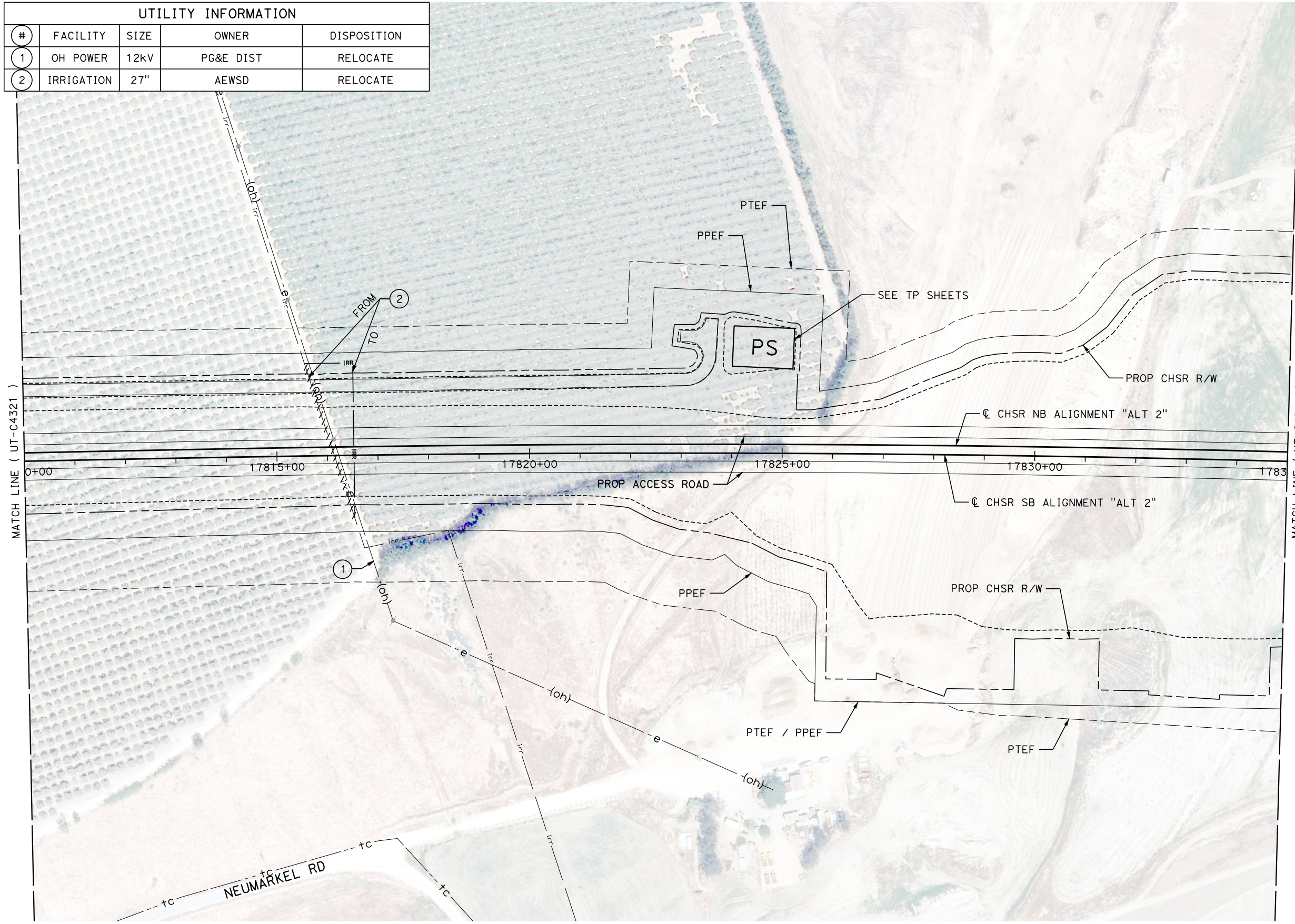
CONTRACT NO.  
**HSR13-44**  
DRAWING NO.  
**UT-C4321**  
SCALE  
**AS SHOWN**  
SHEET NO.  
**1138**

Projects\701206.00\_CHSRBP\00\_CADD\Sheet Files\UT\1\12 (Edison A)\BP-UT-C4322

1/20/2021 4:47:08 AM

ics\_user\_17609

UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	OH POWER	12kV	PG&E DIST	RELOCATE
2	IRRIGATION	27"	AEWSD	RELOCATE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



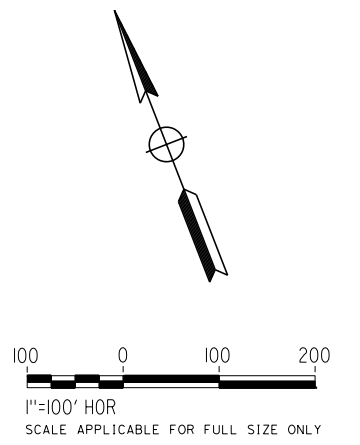
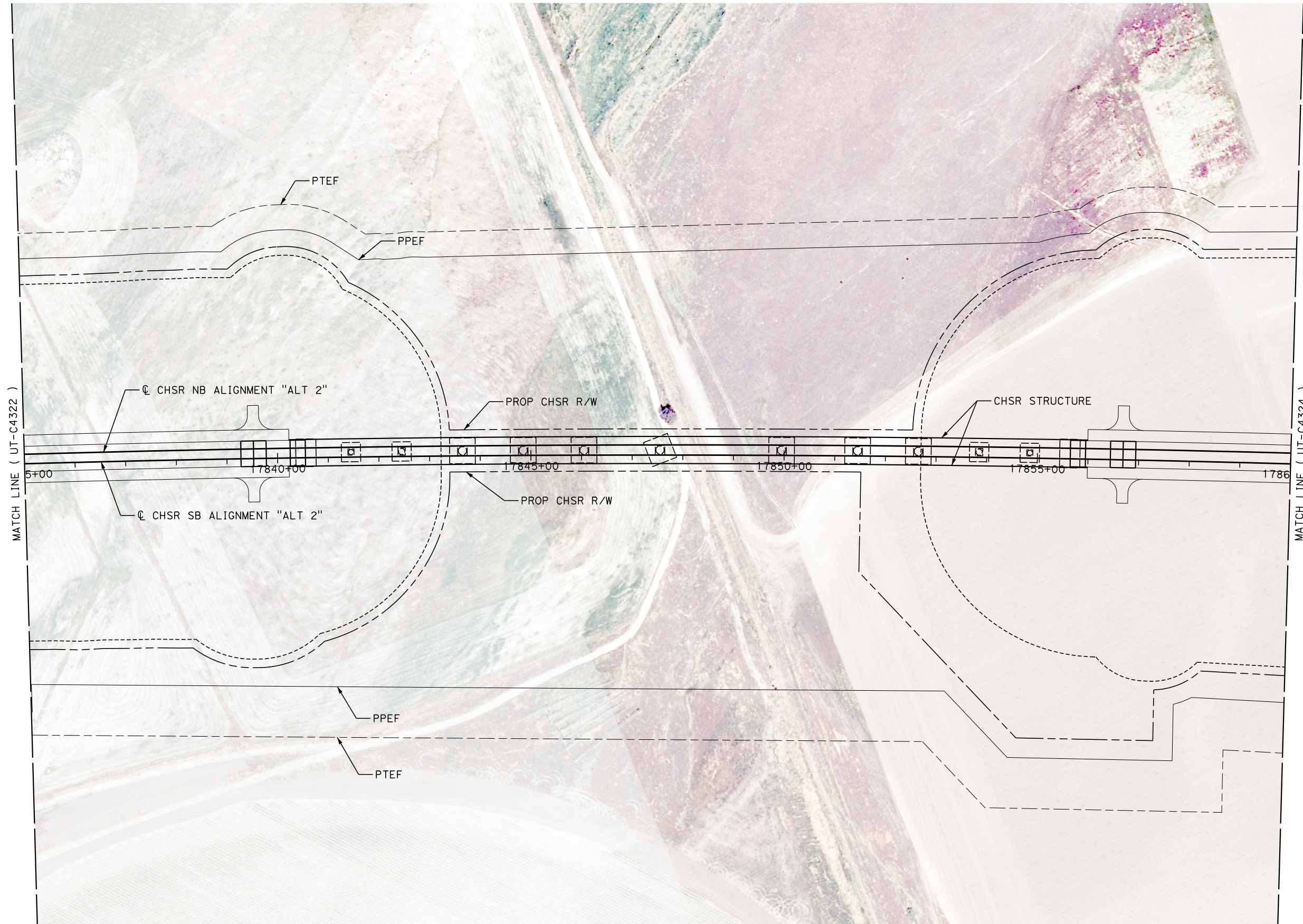
**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17810+00 TO 17835+00

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
UT-C4322  
SCALE  
AS SHOWN  
SHEET NO.  
1139

Projects\701206.00\_CHSRBP\00\_CADD\Sheet Files\UT\Alt2 (Edison A)\BP-UT-C4323

1/20/2021 4:57:19 AM

ics\_user\_17609



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET  
PEPD  
SUBMITTAL**

**NOT FOR  
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT  
BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17835+00 TO 17860+00

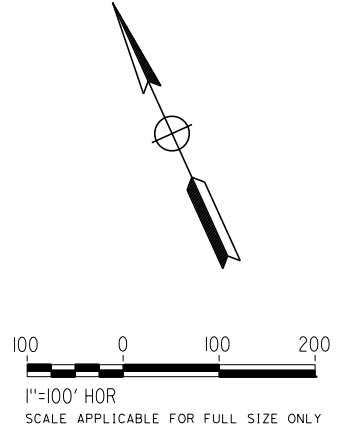
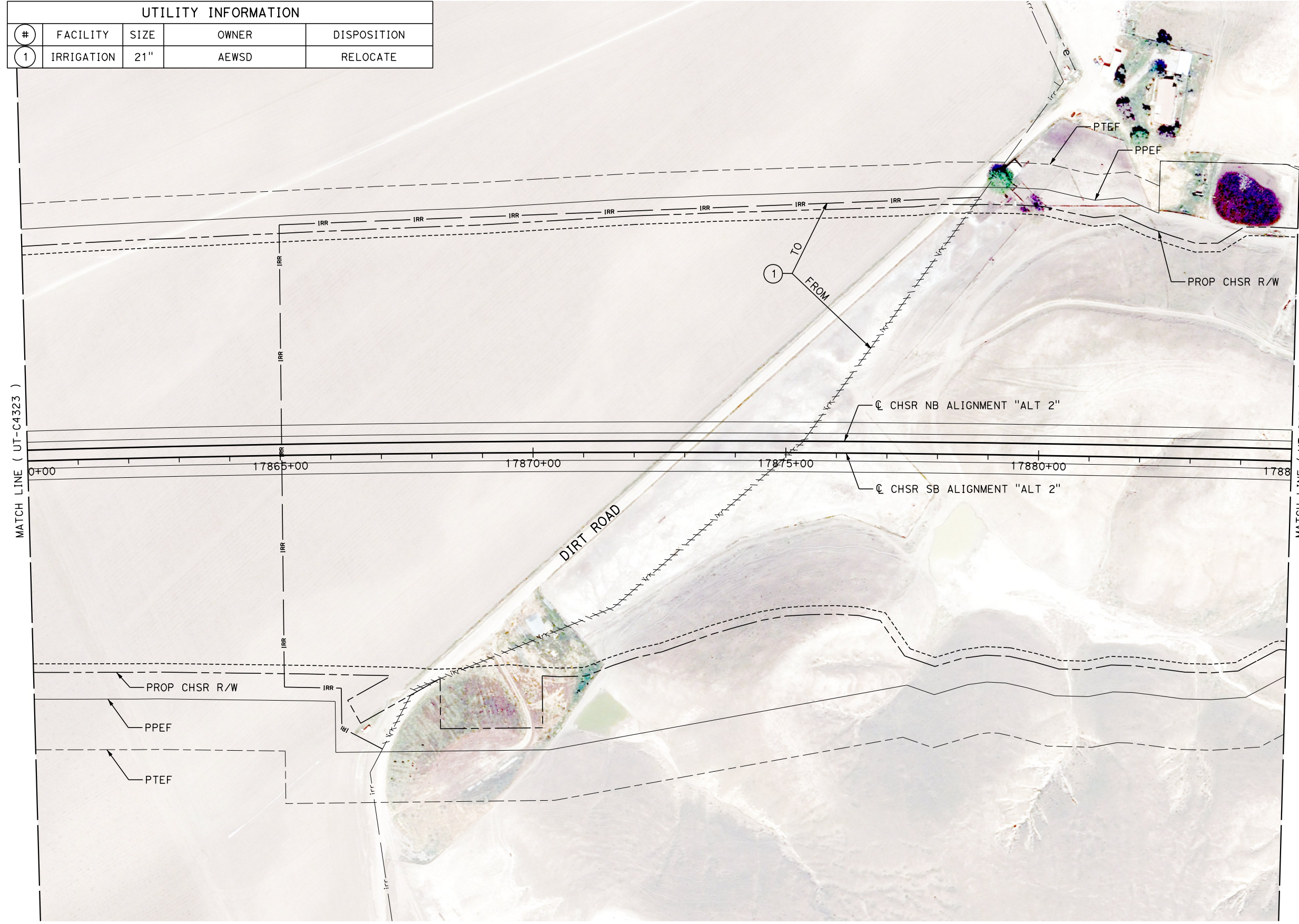
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HSR13-44  
DRAWING NO.  
UT-C4323  
SCALE  
AS SHOWN  
SHEET NO.  
1140

Projects\701206.00\_CHSRBP\00\_CADD\Sheet Files\UT\Alt2 (Edison A)\BP-UT-C4324

1/20/2021 4:47:29 AM

ics\_user\_17609

UTILITY INFORMATION				
#	FACILITY	SIZE	OWNER	DISPOSITION
1	IRRIGATION	21"	AEWSD	RELOCATE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. HOLMAN**  
DRAWN BY  
**J. LOPEZ**  
CHECKED BY  
**G. CAMPBELL**  
IN CHARGE  
**G. CAMPBELL**  
DATE  
**01/29/2021**

**RECORD SET**  
**PEPD**  
**SUBMITTAL**

**NOT FOR**  
**CONSTRUCTION**



**CALIFORNIA HIGH-SPEED RAIL PROJECT**  
**BAKERSFIELD TO PALMDALE**  
COMPOSITE UTILITY PLANS  
ALTERNATIVE 2  
STA 17860+00 TO 17885+00

CONTRACT NO.  
HSR13-44  
DRAWING NO.  
UT-C4324  
SCALE  
AS SHOWN  
SHEET NO.  
1141