RESOLUTION OF THE ZONING ADMINISTRATOR
OF THE COUNTY OF HUMBOLDT

Resolution Number: 24-036

Record Number: PLN-2024-19012

Assessor's Parcel Number: County and State road rights-of-way

Resolution by the Zoning Administrator of the County of Humboldt conditionally approving the Vero Fiber Networks, LLC Digital 299 Phase 2 - Trinidad Spur Coastal Development Permit, and as a Responsible Agency under CEQA, acknowledging that the County of Humboldt considers and concurs with the Environmental Assessment and Initial Study/Mitigated Negative Declaration (EA/ISMND), and Addendum prepared for the California Public Utilities Commission (SCH #2022010017).

WHEREAS, the Vero Fiber Networks, LLC submitted an application and evidence in support of approving the Coastal Development Permit; and

WHEREAS, the County Planning Division has reviewed the submitted application and evidence and has referred the application and evidence to involved reviewing agencies for site inspections, comments and recommendations; and

WHEREAS, the California Public Utilities Commission as the lead agency under CEQA adopted an EA/ISMND and Addendum, and the County of Humboldt as a responsible agency under CEQA considers the environmental effects and concurs with the findings of the EA/ISMND and Addendum; and

WHEREAS, Attachment 2 in the Planning Division staff report includes evidence in support of making all of the required findings for approving the proposed project (Record Number: PLN-2024-19012); and

WHEREAS, the Humboldt County Zoning Administrator held a duly-noticed public hearing on September 19, 2024, and reviewed, considered, and discussed the application for the Coastal Development Permit, and reviewed and considered all evidence and testimony presented at the hearing.

Now, THEREFORE BE IT RESOLVED, that the Zoning Administrator makes all the following findings:

1. **FINDING:** **Project Description:** A Coastal Development Permit (CDP) for the portion of the Vero Fiber Networks, LLC (Vero) Digital 299 Phase

2 - Trinidad Spur Project within the County's jurisdiction of the Coastal Zone (Proposed Project). The Vero Fiber Network's Digital 299 Project involved installation of approximately 300 miles of new conduit and fiber optic cables to provide internet to unserved or underserved communities in Humboldt, Trinity, and Shasta counties. The project alignment generally follows California State Route 299, with segments diverging from the highway to follow other State highways, and city and county roads. In December 2022, the California Public Utilities Commission approved the Environmental Assessment/Initial Study Mitigated Negative Declaration (Final EA/ISMND) for the Digital 299 Broadband Project, which proposes to install an approximately 300-mile fiber optic network in Humboldt, Shasta, and Trinity counties, California. The applicant began construction on Phase 1 of the Digital 299 Project in January 2023, and Phase 2 will involve construction of a fiber optic line spur from Arcata to Trinidad. Instead of constructing the Phase 2 alignment along the originally planned route following local roads in Arcata and along the Hammond Trail, the applicant proposes to modify the approximately 14-mile alignment. The modified portion of the alignment, which comprises the CEQA Addendum portion, is approximately 7.3 miles, while the remaining portion was reviewed as part of the Phase 1 efforts. The proposed alignment will head west along North Bank Road (SR-200) from the intersection with SR-299 to the intersection with Central Avenue, where the proposed alignment will then head north on Central Avenue to the intersection with Airport Road. The proposed alignment will head west along Airport Road before crossing Highway 101 and heading north up the west side of 101 South. The alignment will then head north along Highway 101 and then follow an on-ramp at Clam Beach Drive, where construction will follow the previous alignment, which follows Clam Beach Drive, Highway 101, and other local roads north to the City of Trinidad.

Approximately 2.9 miles of the alignment fall within the Humboldt County Coastal Zone, for which this application seeks permitting. Vero proposes to install fiber optic cable buried along existing road rights-of-way. This will consist of three 1.25-inch buried conduits to house the fiber optic cable. At least one conduit will be left empty for maintenance and/or future

capacity. The conduit will be placed along the shoulder of existing roadways or through the existing roadway where shoulders are narrow. Horizontal directional drilling will be the method of construction. Underground vaults will be placed along the alignment to splice the cables and provide access to the buried conduit. These vaults will be excavated and installed at the same time as conduit installation. The vaults are typically 30 inches x 48 inches x 36 inches. Fourteen vaults are proposed within the Proposed Project area and would be placed along the centerline of the conduit within the proposed temporary disturbance area (i.e., 25-foot-wide corridor). The vaults will be topped with metal access covers installed flush with the ground. The Proposed Project will utilize boring beneath waterways. No bridge crossings are within the Proposed Project area.

EVIDENCE: a) Project File: PLN-2024-19012 including:

- Final Environmental Assessment and Initial Study/Mitigated Negative Declaration (EA/ISMND), prepared by Transcon Environmental, Inc. on behalf of the California Public Utilities Commission (SCH #2022010017).
- Addendum to Final EA/ISMND.
- Addendum to Digital 299 Biological Evaluation.
- Archaeological Survey Report for the Digital 299 Broadband Fiber Optic Project Phase 2 Addition.
- Project Plans.

2. FINDING: **CEQA**: The County is a Responsible Agency under CEQA and has considered the environmental effects of the project as shown in the EA/ISMND and Addendum. There are no significant and unavoidable impacts on the environment as a result of the Proposed Project.

EVIDENCE: a) The California Public Utilities Commission adopted an EA/ISMND for this project (SCH #2022010017) and a subsequent Addendum was prepared. All potentially significant impacts can be mitigated to less than significant levels with the incorporated mitigation.

b) The EA/ISMND and Addendum include an analysis of the subject Coastal Development Permit. The EA/ISMND was circulated from January 3, 2022 to February 22, 2022.

c) The Addendum prepared for the Proposed Project found no impact, or less than significant impacts on Aesthetics, Agriculture and Forestry Resources, Energy, Geology and Soils, Greenhouse Gas Emissions, Land Use and Planning, Population and Housing, Public Services, Recreation, Transportation, and Utilities and Service Systems.

d) The Addendum includes mitigation measures for potential significant impacts to Air Quality, Biological Resources, Cultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Tribal Cultural Resources, and Wildfire. With the implementation of these mitigation measures there are no significant and unavoidable impacts from the Proposed Project.

3. FINDING: The project is consistent with the development policies of the McKinleyville Area Plan and Trinidad Area Plan.

EVIDENCE: a) Goals of the Coastal Act include assuring orderly, balanced utilization and conservation of coastal zone resources, taking into account the social and economic needs of the people of the State. The Proposed Project, as mitigated and conditioned, will not result in significant impacts to coastal resources and is intended to support long-term broadband connectivity for rural communities that have been identified by the California Public Utilities Commission as unserved or underserved.

b) The project will not induce growth or development.

4. FINDING: The proposed development is consistent with Humboldt County Coastal Zoning Code

EVIDENCE: a) The Proposed Project will occur within existing road rights-of-way. Telecommunication projects are principally permitted within County and State road rights-of-way. The County Department of Public Works has conditionally approved the Proposed Project.

5. **FINDING:** The project conforms with all applicable standards and requirements of these regulations.

   EVIDENCE: a) The Proposed Project is within County and State road rights-of-way. All standards and requirements of the zoning ordinance, McKinleyville Area Plan, and Trinidad Area Plan have been met.

6. **FINDING:** The project and the conditions under which it may be operated or maintained will not be detrimental to the public health, safety, or welfare or materially injurious to properties or improvements in the vicinity.

   EVIDENCE: a) The objective of the Proposed Project is to support long-term broadband connectivity for rural communities that have been identified by the California Public Utilities Commission as unserved or underserved.

   There is no evidence the Proposed Project would be detrimental to the public health, safety, or welfare.

7. **FINDING:** The proposed development does not reduce the residential density for any parcel below that utilized by the Department of Housing and Community Development in determining compliance with housing element law.

   EVIDENCE: a) The Proposed Project will occur within County and State road rights-of-way.

DECISION

NOW, THEREFORE, based on the above findings and evidence, the Humboldt County Zoning Administrator does hereby:

- Adopt the findings set forth in this resolution; and

- Approve the Vero Fiber Networks, LLC Digital 299 Phase 2 - Trinidad Spur Coastal Development Permit subject to the conditions of approval attached hereto as Attachment 1A.

Adopted after review and consideration of all the evidence on **September 19, 2024**.

I, John H. Ford, Zoning Administrator of the County of Humboldt, do hereby certify the foregoing to be a true and correct record of the action taken on the above-entitled matter by said Zoning Administrator at a meeting held on the date noted above.

John H. Ford, Zoning Administrator
Planning and Building Department

CONDITIONS OF APPROVAL

APPROVAL OF THE COASTAL DEVELOPMENT PERMIT IS CONDITIONED ON THE FOLLOWING TERMS AND REQUIREMENTS:

A. General Conditions

1. The project shall be conducted in accordance with the Project Plans. Minor deviations shall be permitted as provided by Humboldt County Code Section 312-11; however, all other changes shall require modification of this permit.

2. Applicant must apply for and obtain an amendment to an existing encroachment permit for the installation of new conduit and fiber optic cables within the County maintained road right of way of Westhaven Drive, Scenic Drive, Clam Beach Drive, Airport Road, and Central Avenue. [reference: County Code §411-11 (a)(b)]

   All new underground lines shall be placed a minimum of thirty inches (30") below finish road grade.

3. A traffic control plan prepared by a civil engineer or traffic engineer is required for all situations not covered by Caltrans T13 with T9 or Fig 6H-6. Conditions requiring a traffic control plan will require submittal and Public Work Department approval.

   Road closures within the County roadways require authorization from the Director of Public Works. If requested, the Department will require traffic control plans at time of issuance of an encroachment permit.

4. Storm Drain inlets tributary to the work area shall be protected from storm water pollution.

5. Existing road cross culverts shall be shown on the construction plans. New lines shall be installed a minimum of one foot (1') below all county culverts.

6. During construction, roadways shall be periodically cleaned of mud, soil, rock, and debris. No construction materials or debris shall be placed within the County road right of way during the project.

7. At the road edge, the minimum width of new pavement shall be two feet (2'). Where a strip of pavement less than two feet (2') in width would be left between the edge of new pavement and the edge of road, that strip of pavement shall be removed and the new pavement extended to the edge of the road.

8. The proposed plan maps do not depict existing gas distribution facilities located in the areas shown. If relocation or removal of existing PG&E service facilities is required, the applicant must contact the below resources to apply for the relocation of any existing PG&E underground or overhead facilities that exist on the subject parcels.

   Please contact the Building and Renovation Center (BRSC) for facility map requests by calling 1-877-743-7782 and PG&E's Service Planning department at www.pge.com/cco for any modification or relocation requests, or for any additional services you may require, including Can & Will Serve letters.

9. The applicant is required to pay for permit processing on a time and material basis as set forth in the schedule of fees and charges as adopted by ordinance of the Humboldt County Board of Supervisors. The Department will provide a bill to the applicant after the decision. Any and all outstanding Planning fees to cover the processing of the application to decision by the Hearing Officer shall be paid to the Humboldt County Planning Division, 3015 "H" Street, Eureka.

B. Ongoing Requirements/Development Restrictions Which Must be Satisfied for the Life of the Project:

1. This permit shall expire and become null and void at the expiration of two (2) years after all appeal periods have lapsed (see "Effective Date") except where construction under a valid building permit or use in reliance on the permit has commenced prior to such anniversary date. The period within which construction or use must commence may be extended as provided by Section 312-11.3 of the Humboldt County Code.

2. Applicant shall be responsible to correct any involved drainage problems within the County road right of way as a direct result of the project to the satisfaction of this Department. Applicant shall minimize the transport of sediment to drainage courses during installation. County inspector shall be notified by applicant for revie and approval of installed erosion control measures within County right of way.

Informational Notes:

1. As a reminder, before any digging or excavation occurs, please contact Underground Service Alert (USA) by dialing 811 a minimum of 2 working days prior to commencing any work. This free and independent service will ensure that all existing underground utilities are identified and marked on-site.

2. If cultural resources are encountered during construction activities, the contractor on site shall cease all work in the immediate area and within a 50-foot buffer of the discovery location. A qualified archaeologist as well as the appropriate Tribal Historic Preservation Officer(s) are to be contacted to evaluate the discovery and, in consultation with the applicant and lead agency, develop a treatment plan in any instance where significant impacts cannot be avoided.

   The Native American Heritage Commission (NAHC) can provide information regarding the appropriate Tribal point(s) of contact for a specific area; the NAHC can be reached at 916-653-4082. Prehistoric materials may include obsidian or chert flakes, tools, locally darkened midden soils, groundstone artifacts, shellfish or faunal remains, and human burials. If human remains are found, California Health and Safety Code 7050.5 requires that the County Coroner be contacted immediately at 707-445-7242. If the Coroner determines the remains to be Native American, the NAHC will then be contacted by the Coroner to determine appropriate treatment of the remains pursuant to PRC 5097.98. Violators shall be prosecuted in accordance with PRC Section 5097.99

   The applicant is ultimately responsible for ensuring compliance with this condition.

D299 Phase 2 - Trinidad Spur
Humboldt County Permit Alignments
Project Overview

Legend

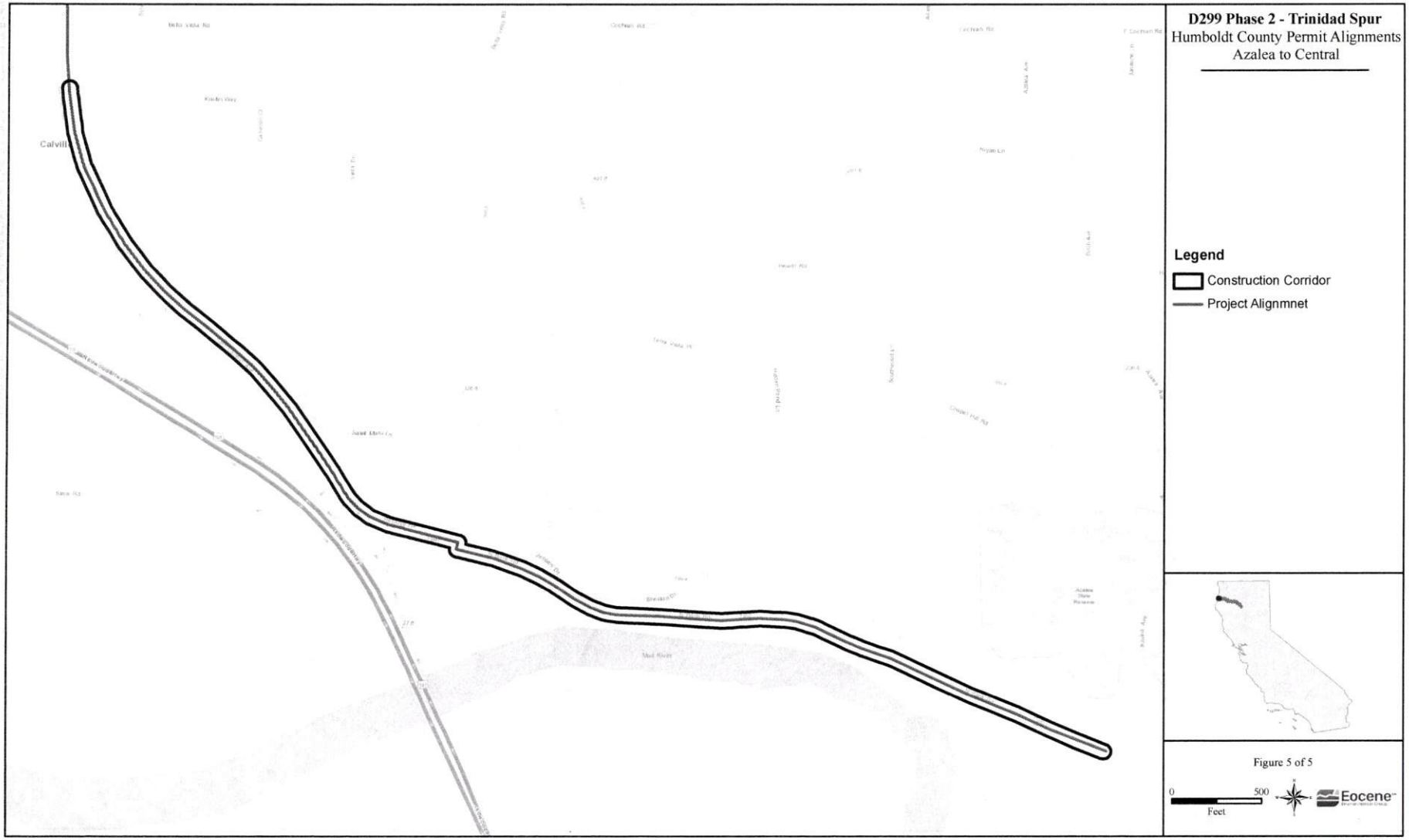
- Construction Corridor (area to be evaluated for County Coastal Development Permit)
- Project Alignment

Figure 1 of 5

0 1
Miles

Eocene

APPROVED
SEP 19 2024
Humboldt County
PLANNING



D299 Phase 2 - Trinidad Spur
Humboldt County Permit Alignments
Azalea to Central

Legend

- Construction Corridor
- Project Alignmnet

Figure 5 of 5

0 500
Feet

Eocene

D299 Phase 2 - Trinidad Spur
Humboldt County Permit Alignments
Airport Rd

Legend

- Construction Corridor
- Project Alignmnet

Figure 4 of 5

0 100
Feet

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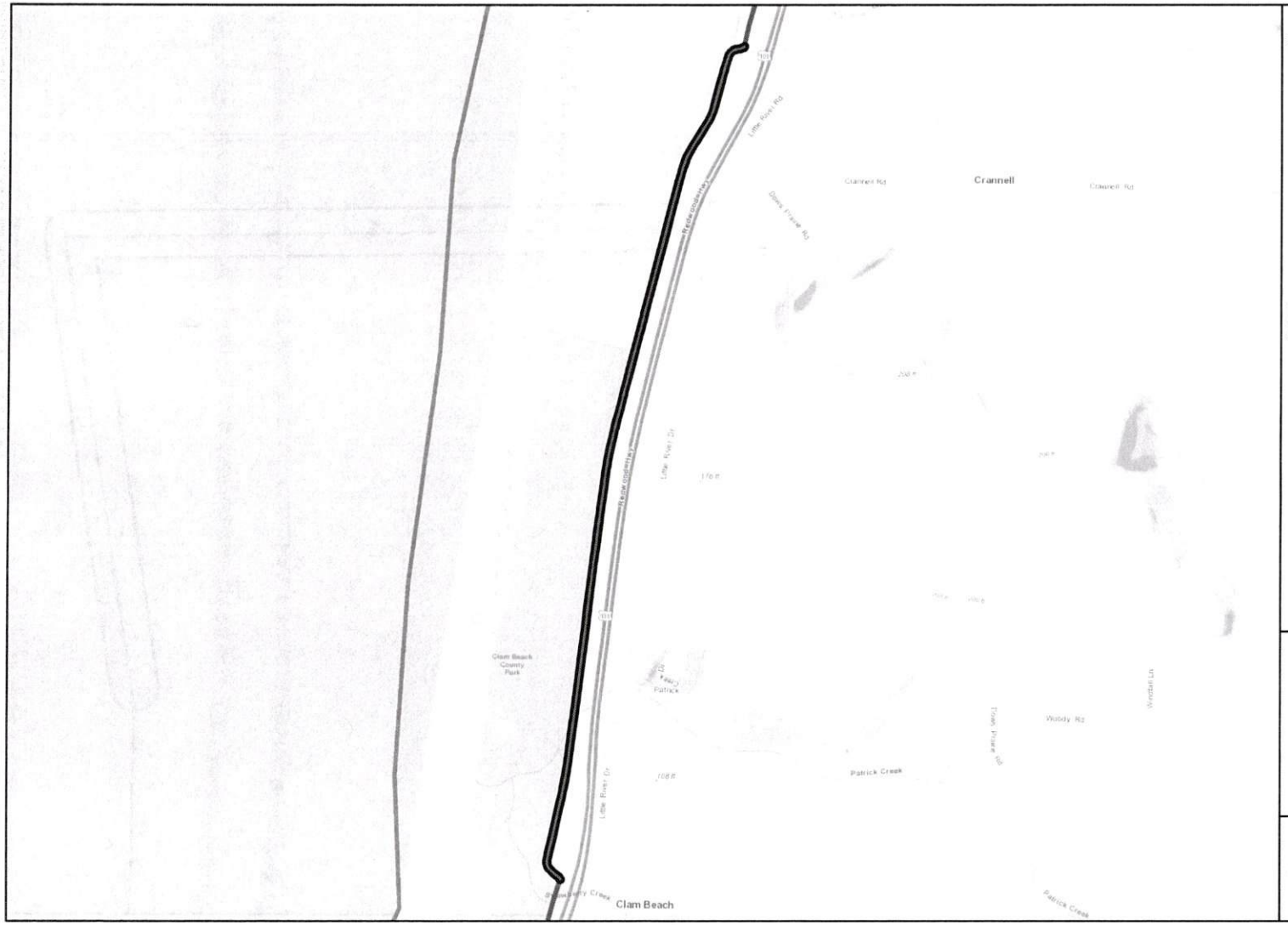

D299 - Trinidad Spur
Humboldt County Permit Alignments
Clam Beach Dr

Legend
- Construction Corridor
- Project Alignmnet

Figure 3 of 5

0 750
Feet

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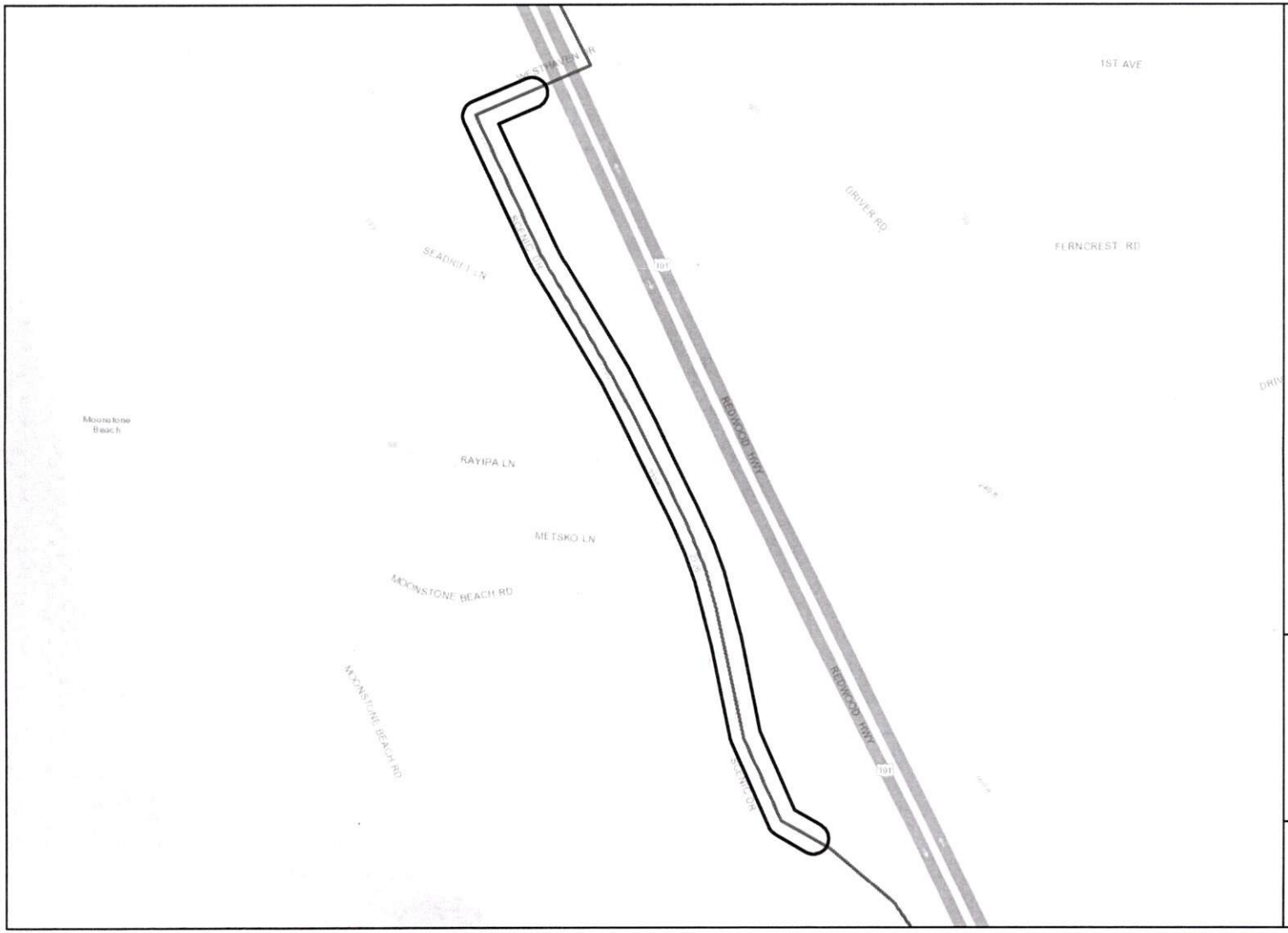

D299 Phase 2 - Trinidad Spur
Humboldt County Permit Alignments
Scenic Dr

Legend

- Construction Corridor
- Project Alignmnet

Figure 2 of 5

0 150
Feet

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PROJECT ARCATA TO TRINIDAD
HUMBOLDT COUNTY

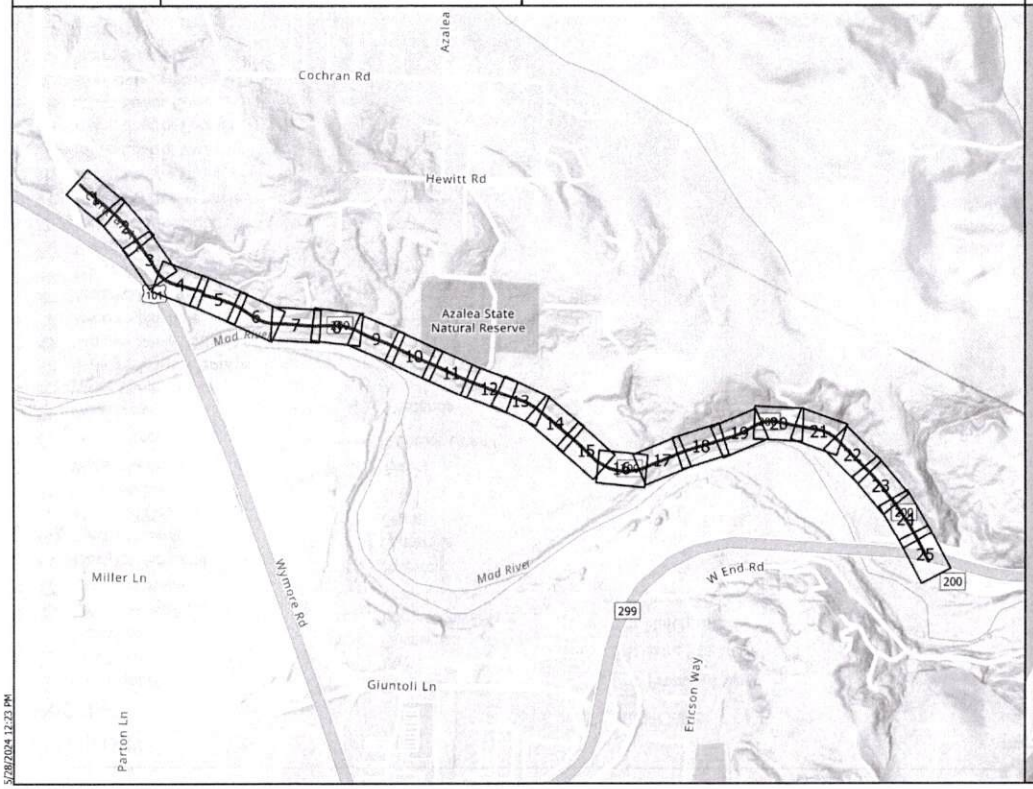
ISSUE FOR PERMIT: 5/28/2024	
PERMIT NAME:	VERO_CALTRANS_06
JURISDICTION:	CALTRANS
COUNTY:	HUMBOLDT
BORE FOOTAGE:	13344'
STRUCTURES:	10 HANDHOLES

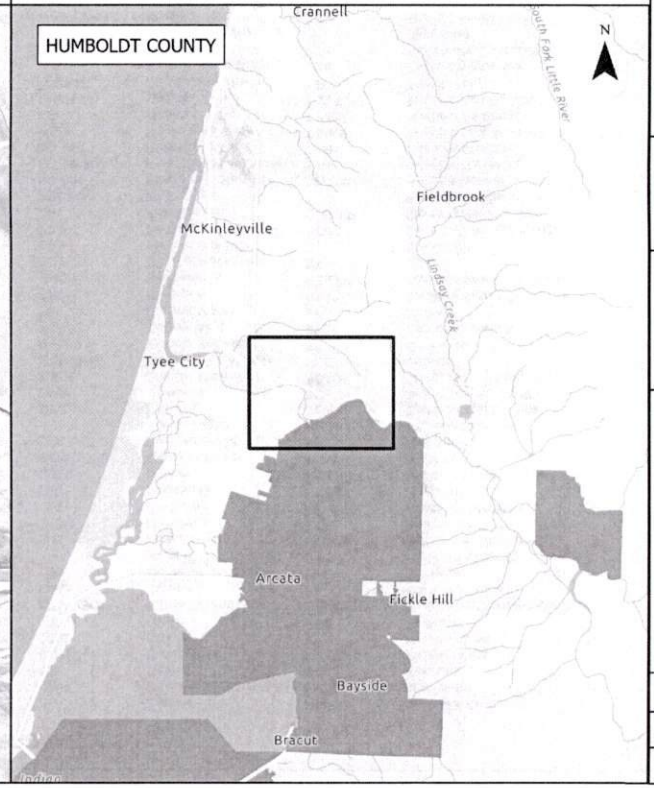
DRAWING INDEX

APPLICATION PREPARED BY:

CHRIS SCHEPMANN
PROJECT MANAGER 2
7101 COLLEGE BLVD. SUITE 400
OVERLAND PARK, KS 66210

BHC
CIVIL ENGINEERING / SURVEYING / UTILITIES





PERMIT ISSUE: 5/28/2024
REVISIONS:

I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY MYSELF OR UNDER MY DIRECT SUPERVISION THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF CALIFORNIA.

REGISTERED PROFESSIONAL ENGINEER
BALTHASER A. BRUNCKHORST
NO. C 48159
EXP. 6/30/2024
CIVIL
STATE OF CALIFORNIA

BHC
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PHONE: (913) 663-1900

vero NETWORKS

California 811

EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND BASED ON AVAILABLE RECORDS AND FIELD OBSERVATIONS. CONTRACTOR IS RESPONSIBLE FOR CALLING 811 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION AND FOR LOCATING ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND ANY DAMAGE TO THE UTILITIES SHALL BE IMMEDIATELY REPAIRED AT THE CONTRACTORS EXPENSE.

HUMBOLDT COUNTY
TRINIDAD TO ARCATA
T.01

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SYMBOLOGY:

EXISTING:

- Gas Manhole
- Gas Meter
- Gas Valve
- Electrical Manhole
- Electrical Meter
- Electrical Pedestal
- Electrical Vault
- Electrical Cabinet
- Water Hydrant
- Water Manhole
- Water Meter
- Water Valve
- Water Vault
- Sanitary Sewer Manhole
- Sanitary Sewer Other
- Telecom Manhole
- Telecom Pedestal
- Telecom Vault
- Telecom Cabinet
- Traffic Control Light
- Traffic Control Manhole
- Traffic Control Other
- Traffic Control Vault
- Traffic Control Cabinet
- Storm Sewer Grate
- Storm Sewer Manhole
- Storm Sewer Drain
- Light Pole
- Utility Pole w/Light
- Utility Pole
- Electric Line
- Gas Line
- Sanitary Sewer Line
- Storm Sewer Line
- Telecom Line
- Traffic Line
- Water Line
- R/W Right of way
- ESMT Easement

- EOR&CURB Curb and Gutter
- Dirt
- DRIVE Driveway
- .EOP. Edge of Pavement
- Gravel
- .S/W. Sidewalk
- Centerline
- X– X Fence
- Tree
- Forest
- Contour Lines
- Wetlands

PROPOSED:

- HH Proposed Vault
- Bore Pit
- Match Line
- Proposed Conduit

ABBREVIATIONS:

CL	Centerline	MMV	Meet Me Vault
CMP	Corrugated Metal Pipe	MON	Monument
CO	County	NO	Number
CONC	Concrete	PRK MTR	Parking Meter
CSG	Casing	P/L	Property Line
CT	Count	PED	Pedestal
CTV PED	Cable TV Pedestal	PED-X SIG	Pedestrian Crossing Signal
CULV	Culvert	PI	Point of Inflection
DBH	Diameter at Breast Height	PKG	Package
		PVC	Polyvinyl Chloride
D.D.	Down Drain	RCB	Reinforced Concrete Box
DEPT	Department	RCP	Reinforced Concrete Pipe
DIA	Diameter	RD MEM	Roadside Memorial
DIR	Directional	REQD	Required
DIST	District	RGS	Rigid Galvanized Steel
DOC	Depth of Cover	ROW	Right of Way
DOT	Department of Transportation	RR	Railroad
		RR HUT	Railroad Signal Hut
DWG	Drawing	SCB	Sprinkler Control Box
DWY	Driveway	SD	Storm Drain/Curb Inlet
E MH	Electric Manhole	SDMH	Storm Water Manhole
E MKR	Electric Line Marker	SEC.	Section
E PED	Electric Pedestal	SF	Silt Fence
E VLT	Electic Vault	SMH	Sanitary Sewer Manhole
EM	Electric Meter	SP	Splice
ENC	Encased	SS CO	Sanitary Sewer Clean Out
ENG	Engineering	SS LIFT	Sanitary Sewer Lift Station
EOP	Edge of Pavement	STA.	Station
EPB	Electric Pull Box	STD	Standard
EXIST	Existing	STR	Section Township Range
FH	Fire Hydrant	SWPPP	Storm Water Pollution Prevention Plan
FO	Fiber Optic		
FO MH	Fiber Optic Manhole	SWT MCH	Switch Machine
FO MKR	Fiber Optic Line Marker	T HH	Telecom Handhole
FO VLT	Fiber Optic Vault	T MH	Telecom Manhole
FOC	Fiber Optic Cable	T MKR	Telecom Line Marker
FS	Filter Sock	T PED	Telecom Pedestal
G MH	Gas Manhole	T VLT	Telecom Access Vault
G MKR	Gas Line Marker	T.P.	Trench Plug
G SD	Grated Storm Drain	TCB	Traffic Control Box
GALV	Galvanized	TCE	Temporary Construction Easement
GEO SRV MKR	Geodetic Survey Marker	TCV	Traffic Control Vault
GM	Gas Meter	TRF MH	Traffic Control Manhole
GV	Gas Valve	TSP	Traffic Signal Light
GWMW	Groundwater Monitoring Well	TYP	Typical
		UG	Underground
HDPE	High Density Polyethylene	UNK MH	Unknown Manhole
		UNK PED	Unknown Pedestal
HH	Handhole	UNK UTL MKR	Unknown Utility Marker
HWY	Highway	UNK VLT	Unknown Vault
IB	Inlet Barrier	USACE	United States Army Corps Of Engineers
ILA	In Line Amplifier		
INC	Incorporated	UTL LP	Utility Light Pole
INT	Intermediate	UTL P	Utility Pole
L/A ROW	Limited Access Right of Way	VDOT	Virginia Department of Transportation
LF	Linear Feet	VLT	Vault
LOC MKR	Locating Marker	VP	Gas Vent Pipe
LP	Light Pole	W MH	Water Manhole
MAX	Maximum	W MKR	Water Line Marker
MB	Mailbox	W SPG	Water Spigot
MH	Manhole	W VLT	Water Vault
MIN	Minimum	WM	Water Meter
MIT	Mitigation	WV	Water Valve
MKR	Marker	X-GATE	Crossing Gate
ML	Maintenance Limits	YRD L	Yard Light

REVISIONS

DATE	REV	DESCRIPTION

I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY MYSELF OR UNDER MY DIRECT SUPERVISION THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF CALIFORNIA.

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HUMBOLDT COUNTY

ARCATA TO TRINIDAD

T.02

5/22/2024 5:49 PM

APPROVED
SEP 19 2024
Humboldt County
PLANNING

PROJECT CONTACTS

HUMBOLDT COUNTY
KEN FREED
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(707) 445-7388 EX. 2
KFREED@CO.HUMBOLDT.CA.US

CALTRANS DISTRICT 1
1656 UNION STREET
P.O. BOX 3700
EUREKA, CA 95502-3700
(707) 498-0578
D1PERMITS@DOT.CA.GOV

CONSTRUCTION NOTES

UNDERGOUND CONSTRUCTION

CONDUIT INFRASTRUCTURE CONSTRUCTION

1. RIGHT-OF-WAY PROTECTION AND RESTORATION

1. Contractor shall comply with requirements stipulated by relevant authorities having jurisdiction (City, County, State and Federal), and shall minimize damage to rights of way and ensure all clean up and restoration meets or exceeds such jurisdiction specifications, with all debris and waste removed at Contractor's cost/expense
2. Contractor shall comply with all Environmental Protection agency requirements (State and Federal) and ensure compliance on all projects.

2. MATERIALS

1. CONDUIT
1. HDPE is the default choice for underground conduit, minimum wall thickness SDR-11. The properties and dimensions shall be in accordance with ASTM F2160 standard specification for Solid Wall High Density Polyethylene (HDPE) Conduit unless otherwise approved by Company Project Manager permitting authority. Duct size and number of ducts will be specified on the Engineering Workprints, purchase order or scope of work issued to Contractor. All materials supplied and used by contractors must approved by Company Project Manager.
2. Conduit shall be installed by pulling the duct directly from reels on reel trailers.
• Note: This will ensure as little waste as possible of the Duct, as well as less stress on duct and safer for crew members.
3. Crews will NOT pull duct off reels prior to installing unless there is absolutely no physical way to get a reel trailer set up safely.
• Note: having to shut down a lane to accommodate the reel trailer for pulling duct or any other, other than normal solution, does not meet the criteria of "no physical way"
• Once Duct is in the HH, MH, and or site, etc., they will all be sealed by using the proper duct plugs.
• Photos with Solocator will be taken per written standard. See OSP.1012 Standards Bulletin for further detail.

3. MANHOLES

Manholes provided by contractors must meet Bellcore standards and specifications and be approved by Company Management. All manholes will conform to AASHTO (American Association of State Highway and Transportation Officials) H-20 loading, traffic rated standards.
GPS will be taken at every Manhole placed. Photos with Solocator will be taken at every placed manhole per written
standard. See OSP.1012 Standards Bulletin for further detail. And as required by SOW.

I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY MYSELF OR UNDER MY DIRECT SUPERVISION THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF CALIFORNIA

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HUMBOLDT COUNTY

TRINIDAD TO ARCATA

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CONSTRUCTION NOTES

HANDHOLES

Handhole type and manufacture will be specified by COMPANY in the scope of work and the Contractor will be required to purchase and use those for the specific build
Handholes for slack use will be a minimum of 36 inches in depth, 48 inches in length and 30 inches in width Handholes used for splice locations will be a minimum of 48 inches in
depth, 60 inches in length and 36 inches in width
These and any Handhole used on a COMPANY construction project shall be, at a minimum, A Tier 22 with a load rating of 22,000 lbs. minimum If for any reason the contractor is required to acquire COMPANY Handholes, they will meet the above requirements as well as, meeting the Bellcore standards and specifications and be approved by Company Management. All handholes will conform to AASHTO (American Association of State Highway and Transportation Officials) and if required to be in the street or a location where large weight vehicles may sit on and not just cross over them, then they must also be upgraded to a H-20 load rating, traffic rated standards. GPS points will be taken at every Handhole placed Photos with Solocator will be taken at every placed handhole per written standard. See OSP.1012 Standards Bulletin for further detail. And as required by
SOW

SPECIAL DESIGN AND MATERIAL CONSIDERATIONS

1.The contractor shall be responsible for the physical location of ALL foreign utilities within the right-of-way before digging in the vicinity in accordance with local Utility Protection Standards. Any damages to other utilities will be the responsibility of the contractor. Contractor will also be responsible for red-lining all utilities on as-builts
2.Steel pipe shall be considered where obstructions such as buried utilities or other facilities run parallel to the proposed running line and have less than 2 feet of separation.
3.GSP, Steel or PVC Schedule 80 conduit will be proposed for housing HDPE or innerduct at Railroad crossings, river crossings, culvert crossing and other obstacles of the same type crossings.
4.If these methods are used the conduit should extend a minimum of five feet past the edge of the culvert or headwall.
5.All sweeps and field bends and or turns tighter than a 36" radius will require factory fittings at all times

METHODS OF PLACEMENT

PLOWING
1. All OSHA and other governing agencies rules and regulations will apply and be followed
2. Plowing can be considered as an alternative construction method when conditions and governing authorities permit.
3.When plowing is utilized as a construction method, the equipment used by the contractor shall be such as to cause the minimum displacement of the soil. Damage to banks, ditches, driveways, and roads
4.GPS points will be taken at the start and stop of the Plow, every 150 feet along a straight and continuous plow line, and at any and all changes in direction to include drift up or down or side to side in the ROW to ensure running line accuracy.
5. Photos with Solocator will be taken as required in the scope or as needed

TRENCHING/OPEN CUTS

1. All OSHA and other governing agencies rules and regulations will apply and be followed
2. When trenching and open-cutting is an option or requirement, the contractor shall excavate by machine trench, backhoe, hand, etc.
3. The network trench shall be as straight as practicable.
1. The bottom of the trench shall be smooth and free from any sharp edges.
2. The trench shall be kept clear of debris and loose rock.
3. All changes in trench grade shall be gradual
a. Note: The vertical change in grade should not exceed (1.5') within (6') in length.
1. Prior to duct placement in the trench, the duct shall be bundled, tied and or bound by an approved method to eliminate the possibility of the duct twisting and tension shall be applied to the duct to eliminate waving in the trench.
2. Duct shall be placed in the center of the excavation and as straight as practicable. Excessive waving of the duct within the trench will not be allowed.
3. All open trenches and other excavations shall be backfilled at the end of each working day. Any open trench or excavation not backfilled may be covered as approved by the governing authority's rules and regulation
4. GPS points will be taken at the start and stop, every 25 feet along a straight and continuous trench line, and at any and all changes in direction to include drift up or down or side to side in the ROW to ensure running line accuracy.
5. Photos with Solocator will be taken as required in the scope or as needed

BORING

1. All OSHA and other governing agencies rules and regulations will apply and be followed
2. When Boring is allowed the contractor shall use Directional Boring as the preferred method.
3. The contractor will be responsible for all unsuccessful bore attempts. All unsuccessful bore attempts will be filled with grout or as required by the governing authority.
4. The contractor shall not drain any excess material into storm, sanitary systems, ditches or anywhere on the Right of Way.
5. When crossing all deadly utilities they must be daylighted by potholing to verify there is sufficient separation from the Company duct, or if paralleling within 10' horizontally.
1. Note: separation is 24" without written authorization from COMPANY or the governing agency or agencies.
6. All verifications will be physical verification on site of the actual utility
7. Bore logs will be kept and document the start, the stop and every 10 feet in between.
8. The contractor shall submit all boring logs and profiles to Company
9. In general the vertical change in grade shall not exceed one and a half feet (1.5') in six feet (6') in length.
10. GPS points will be taken at the start and stop of every bore, every change of stem (i.e., every 10 feet when using 10-foot stems, 15 feet when using 15-foot stems etc.) along a straight and continuous bore line, and at any and all changes
in direction to include drift up or down or side to side in the ROW to ensure running line accuracy and depth accuracy.
11. Photos with Solocator will be taken as required in the scope or as needed

GENERAL RESTORATION

1. All OSHA and other governing agencies rules and regulations will apply and be followed
1. All rock and debris brought to the surface and not used during backfilling operations shall be removed and disposed of in an appropriate manner.
2. Improved landscape, lawns, shrubs, and hedges removed or damaged shall be replaced in like kind.
4. All areas disturbed by the construction activities in public rights-of-way shall be restored and seeded per the specifications of the governing authority.
5. The contractor shall promptly repair or replace any other property damaged during construction.
6. Contractor shall remove all duct installation debris including construction spoils and remaining installation materials from any public or private properties.
a. NOTE: Such material to be removed would also include litter generated by the construction crews.
7. No debris or litter should ever be disposed of in a trench or other telecommunication excavation. The contractor is responsible for the proper disposal of all soil, concrete, asphalt or other debris.
8. No asphalt shall be permitted in the backfill.
9. Photos with Solocator will be taken before, during and after restoration and as needed

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HUMBOLDT COUNTY

TRINIDAD TO ARCATA

GN.02

2/27/2024 11:00 AM

CONSTRUCTION NOTES

PAVEMENT RESTORATION

1. All OSHA and other governing agencies rules and regulations will apply and be followed
2. It is recommended that Cobblestone or old brick in historic areas, be numbered, photographed, removed, and then stored for replacement. Care must be taken to restore historic areas to their original condition and "look."
3. Pavement, driveways, and sidewalks shall be restored to their original or better condition within five (5) business days or as soon as practicable, following duct placing operations.
4. The backfill within the roadway shall be placed and compacted in not more than six-inch (6") lifts from the bottom to the finished grade.
5. Photos with Solocator will be taken before, during and after restoration and as needed

BACKFILL

1. The trench shall be backfilled and compacted to the satisfaction of Company and local authorities, promptly behind duct placement.
2. The backfill shall be the trench excavated materials, provided the excavated materials are free from debris, rocks measuring less than two inches (2") in diameter and other unsuitable materials.
3. Backfill within the roadway shall be placed and compacted per the governing authority specification or to ninety percent (90%) modified proctor in non-traveled areas and ninety five percent (95%) modified proctor in traveled areas whichever is greater.
4. Company 's engineer has the right to test the soil compaction randomly. If soils do not meet the compaction requirements, the contractor will be directed to remove fill until proper compaction is found. The contractor will not have any claim to additional time or additional costs.
5. If Company 's engineer tests 5 locations that fail compaction, then Company 's engineer can require all backfill lifts to be tested. The contractor will be required to pay for all the testing including, but not limited to, labor, equipment and lab tests.

DEPTH OF PLACEMENT

1. Except where specified in the drawings, approved by Company , or permit specifications dictate a different depth, the top duct shall be placed a minimum of Forty-two inches (≥42") below grade or as required by authority having jurisdiction with a minimum of twelve inches (12") of separation from foreign object or as required by object's owner which is greater.
2. Where the network crosses gullies, ditches, streams, rivers, and washes, the conduit will be placed at a minimum depth of forty-eight inches (48") below the bottom of the waterway unless the controlling authority requires additional depth in which case the greatest depth will be maintained.
3. Where the network route crosses railroads, the network shall be placed at a minimum depth of sixty inches (60") below the base of rail or sixty inches (60") below the paralleling drainage ditches, or at greater depths as required by permitting authorities which is greater.
4. Where the network crosses existing subsurface pipes, cables, or other structures, the network will be placed to maintain a minimum of twelve inches (12") separation (preferred to be 24" whenever possible) from the foreign object or a minimum separation as required by the object's owner, whichever is greater.
5. For special cases when minimum cover cannot be obtained due to the location of subsurface obstructions and/or other utilities, these special considerations will be acceptable, but only with Company Management approval:
a. BSP/GSP or Concrete Encased HDPE will be used with cover between 12" to 35", with Middle Mile Management approval.

COUPLER INSTALLATION

1. Barbed Couplers will be utilized and installed per manufacturer's specification, buried flush with the path/bore/trench of the conduit.
2. Barbed Couplers are the only authorized couplers for any and all COMPANY HDPE duct
3. To prevent the bundling of Barbed couplers at one location or hole and to meet requirements for depth of cover; the couplers must be staggered and sequenced every six inches between multiple conduits and should not overlap or touch another coupler.
4. If micro duct is used (i.e., 7way, 6way, 4way etc.,) a rubber boot will be applied over the micro duct couplers and then heat shrunk for added strength both vertically and horizontally, as well as,sealing the staggered couplers from foreign substances
5. All locations of barbed couplers should be noted and correspond to a depth and station number on the as-built drawings.
6. All Couplers at all Coupler locations will be photographed with Solocator and provided as a deliverable to Company , to include but not limited to the GPS location, station number and a number of all couplers, barbed and or micro coupler, at each location. And as required by SOW.
7. See OSP.1012 Standards Bulletin for further detail.

CABLE MARKER SIGNS

Marker Poles
1. Marker Poles will be set at each Splice, Handhole and Manhole location.
a) The cable marker posts shall be placed whenever possible within a one-
foot offset from the back of the Handhole/Manhole, centered on the back side of the Handhole/Manhole between it and the outside ROW line
b) if due to permitting agency rules, Marker Poles are not allowed then
alternative means will be used to mark these assets.
c) Any deviation from Marker Poles to other devices will require COMPANY written approval.
2. Marker poles will be set at all crossings (i.e., road, river, rail, etc.)
3. Marker poles will be set at all changes of direction in the running line.
4. Marker Poles will be set in such a way so there is never more than 500lineal feet between any two Marker Poles.
5. Marker Poles will be set in such a way that no matter where you stand onthe ROW, you will be able to see a Marker Pole
6. GPS points will be taken at every placed Marker Pole
7. Photos with Solocator will be taken at every placed marker Pole And as required by SOW.

DEPTH OF MARKER SIGN

1. Contractor shall bury the marker post as per Manufacturer's specification, at twenty-four inches (24") below grade and ensure the cross member has been added to ensure stability and the Marker Pole can't be lifted.
2. The cable marker posts shall be placed whenever possible directly over the the network running line or as close as the permitting authority allows.
3. Any offset shall be permanently noted on the space provided by the cable marker sign.
4. All Marker Posts are to be GPS'd

TRACER WIRE

1. When a trace wire is required, a minimum of a 10-gauge poly coated solid copper tracer wire will be placed with every linear foot of duct placed,regardless of the type of construction
2. If armored cable is used, then the locate wire from the enclosure to the Locate test Station pole will be poly coated solid # 6.
3. Locate marker posts, flush mount finks, manholes, handholes, and all other tracer access points will be connected to the tracer/ground wire for locating buried facilities.
4. Tracer wire connectivity tests must be conducted by the contractor to ensure the entire plant is locatable.
5. Damaged tracer/ground wires will be repaired immediately with minimal connectors.
6. COTT or other Company acceptable test stations will be placed at each manhole/handhole, using the ground tree model to ground tracer wire at splice locations. see OSP.1003 – Splice Point Grounding for Locate Test Point Stations in Appendix A

PROOFING DUCT

1. All conduits, regardless of size will be verified for ovality, turning angle, and damage by proofing the duct per manufacturer specification and or with an 85% space capacity mandrel whichever is greater.
2. The mandrel will be made of metal and not to exceed the length of 3 times the diameter of the duct.
3. Proofing of the duct shall be completed with air pressure of at least 50 PSI and no more than 150 PSI or the max duct PSI whichever is less.
4. All proofing results must be witnessed and documented by an appropriate Company representative.
5. Damaged duct should be repaired immediately with minimal couplers.

SEALING DUCTS

All ducts must be properly sealed per manufacturer specifications with Duct plugs or an equivalent approved by the Company Project Manager. Ducts or duct plugs should be labeled with the direction of the conduit path. All ducts with FOC present must be properly sealed with a half Moon or equivalent plug approved by the Company Project Manager.

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SEP 19 2024
Humboldt County
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HUMBOLDT COUNTY

TRINIDAD TO ARCATA

GN.03

CONSTRUCTION NOTES

MANHOLE AND HANDHOLE CONSTRUCTION

1. Handholes and manholes shall be installed by the contractor as designated in the construction drawings. Installation shall include all grouting, installation of extension ladders, required extension rings, and all related work for the complete installation of the structure. The design loading for all man-holes and handholes shall be capable of supporting H-20 loading,
per the American Association of State Highway and Transportation Officials (AASHTO.)
2. All Intermediate Slack Vault (IEV) Hand holes will be sized to a minimum of 30" in width x 48" in length x 36" in depth and open bottom
3. All Network Splice Vault (NSV) HHs will be sized to a minimum of 36" in width x 60" in length x 48" in depth and open bottom.
4. The handholes shall be set on a base minimum thickness of six inches (6") or as provided in manufacturer's specifications consisting of clean gravel or crushed stone with a minimum diameter of three-quarter inch (3/4") and a diameter maximum one and one-half inch (1.5").
5. The ducts shall enter and leave hand holes exactly opposite each other within the handhole to facilitate the cable coils and/or splice closures. When ever possible the duct will enter from underneath the Handhole, not the sides. Each duct length inside handholes and manholes shall be a minimum length of six inches (6") from the inside wall of the HH, but no more than twelve inches (12").
6. Micro duct should be a minimum length of ten inches (10") from the inside wall of the HH, but no more than sixteen inches (16") and then four inches (4") of the outer sheath should be removed to allow the unfettered access to the individual micro ducts.
7. At all splice locations the contractor shall install a 3-rod ground tree for fiber optic cable grounding in accordance with the detailed drawings provided in
Bulletin OSP.1003 – Splice Point Grounding for Locate Test Point Stations.
• Ground Trees will be GPS'd
7. In a Metro area, Handholes shall be set flush to grade or to the specifications of the governing authority or in accordance with the detailed drawings.
8. When outside a metro area, the handhole is to be buried and it should be set with a minimum of 18 inches (18") and or a maximum of twenty-four (24") cover.
9. Manholes shall be installed in the same manner as handholes with the following exceptions:
• The contractor shall not use material less than five thousand (5,000) pounds per square inch (PSI) in density to shim frames and covers.
• Frames and covers shall be installed to match existing grade and shall be
shimmed with either steel or concrete spacers.
• All manhole penetrations shall be sealed with a pre-approved non-shrink grout.
• All conduits, ducts, or casings that enter the manhole wall shall be back filled to 95% compaction by using sand and water or slurry to insure minimal settling of the pipe. This action will help eliminate damaged conduits.
11. Innerduct shall have a gradual sweep into the handholes and manholes, if the depth of innerduct bury exceeds forty-eight inches (48"). The handholes and manholes shall not be installed on steep banks or slopes where the cover cannot be leveled within a tolerance of one-inch (1") of drop to twelve
inches (12") of grade.
12. All innerduct or conduit entering the manhole shall be flush and horizontal to the hole of penetration on the manhole. To prevent settlement and conduit damage near the entry of the manholes, the soil or bottom of the trench will meet 95% compactions by the use of various backfill materials. The suggested method is sand and water or slurry.
13. Upon completion of the innerduct placement in the handhole and manholes, the innerduct shall rest freely without tension. Innerduct on each side shall be plugged and sealed as previously noted.
14. All HH's and MH's, 3 rod ground trees, duct entrances and anything else called out in 4.9 shall be photographed with Solocator and provided as a deliverable to Company . to include but not limited to the GPS location, station number. See OSP.1012 - QA Photo App Standard Bulletin.

SPECIAL CONSTRUCTION CONSIDERATIONS

RAILROAD CROSSINGS

1. All work shall be performed in accordance with Railroad authority and other permitting agencies.

STREAM AND CANAL CROSSINGS

1. Contractor shall comply with all Federal, State, county and local laws, rules, regulations and Company obtained permits when crossing lakes, canals, streams, or river crossings.
2. Restoration and erosion control shall be performed as required by the agency having jurisdiction and as approved by Company .

GAS LINE CROSSINGS

1. Extra care must be taken when working around gas lines.
2. All deadly utilities will be exposed to verify 24" separation from Middle Mile Management duct package when crossing
3. All placements are subject to additional requirements in accordance with standards and specifications of the gas line owner and permitting authorities.

ROCK CONSIDERATIONS

NO ROCK CLAUSE:

• NO ROCK CLAUSE Contracts and RFPs must clearly define whether rock clauses are applicable to a specific project or not.
• For contracts that have no allowances for rock considerations, the contractor is responsible and fully accountable for all construction regardless of the type and amount of rock encountered during construction.

DRAINAGE CULVERTS

1. If underground drainage tile is encountered as the network is installed, the network shall be installed as per drainage district or other governing authority specifications.
2. The contractor consistent with the pre-construction conditions and materials will repair all damaged drainage tiles. In case of a dispute regarding the proper repair of damaged tile lines, the repair specifications of the county Soil and Water Conservation District will be followed.
3. The contractor will be responsible for repair of tile damaged by the construction.
4. Repairs made to damaged tile line must enable the tile lines to operate as well or better after the repairs are completed as before they were damaged.
5. The contractor shall immediately repair any tile lines known to be damaged. Permanent tile line repairs will be made within two (2) days of the date the damage occurred, weather permitting.
6. Where a tile is damaged, the contractor must station the location and indicate the location on the red line as-built
7. Prior to back filling, a Company representative and the governing authority must approve of the final tile repair.

EXISTING UTILITIES AND SUBSURFACE OBSTRUCTIONS

1. Prior to excavation commencement, contractor shall obtain a dig ticket by calling the appropriate Utilities Protection Center number per applicable jurisdiction (state, county, city, federal).The Contractor shall obtain and maintain the Call Before you Dig Programs in all construction areas. Contractor shall also notify all existing utility owners not participating in the CBUD Programs. For Company approval and inspection, contractor shall document and maintain records that evidence the notification of all utility owners no later than seventy-two (72) hours prior to the start of construction. The records shall include date, time of day, name of individual contacted, name of companies contacted, telephone number, and confirmation number.
2. Damaged Utilities: Any utility damage will be reported to the utility owner and Company immediately. This includes any damage to Company duct or cable. Contractor will fully cooperate with Company to facilitate any repairs necessary and provide complete documentation of all activities and restoration.

FENCING

1. Safety fencing shall be erected, around the contractor's excavations and or open holes and equipment left open or out over night or weekends on the ROW or any publicly accessible place.
2. Safety fencing will consist of 6-foot T-Posts and high visibility plastic safety snow fence erected per local, state or federal rules and guidelines

DAILY CLEAN-UP

The contractor shall maintain a clean and hazard free work area including daily removal of all spills, unused or unacceptable excavation materials, and waste. The contractor should sweep all affected street work areas and side-walk areas daily in accordance with Federal, State, county, city and local laws, rules, regulations and standards.

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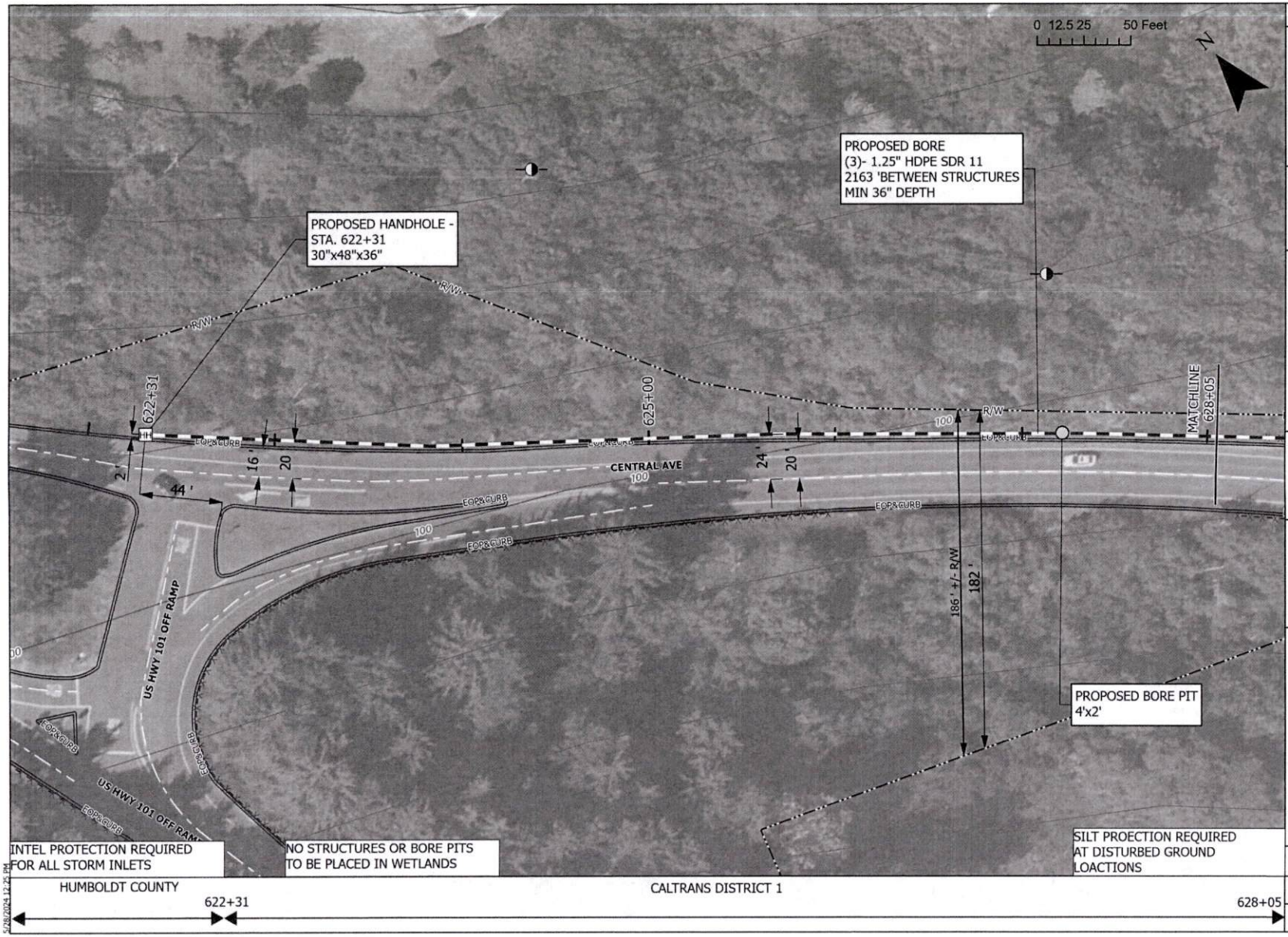
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

GN.04



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REVISIONS:

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SEP 19 2024
Humboldt County
PLANNING

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PL.1

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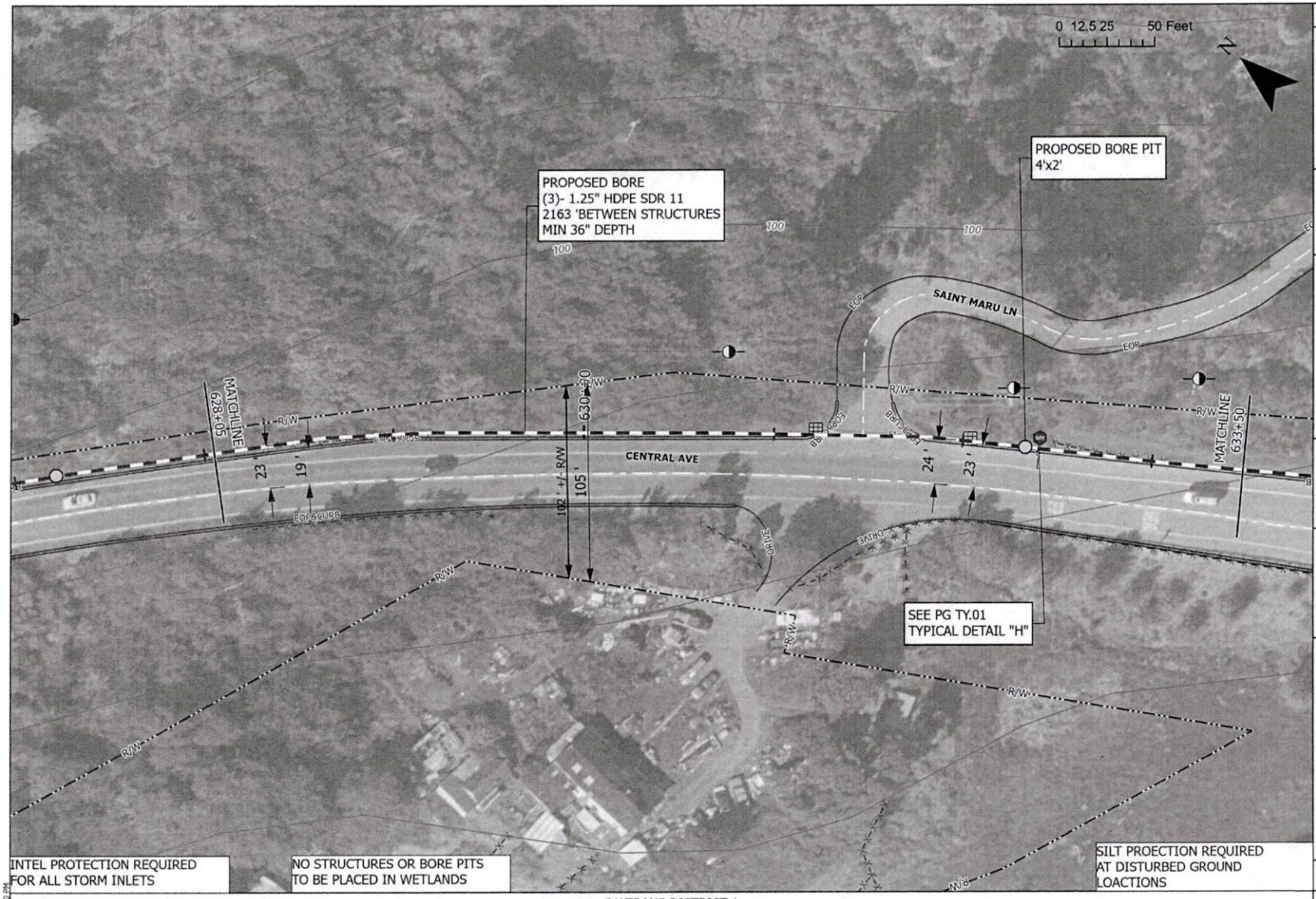

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HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.2

5/28/2024 2:00 PM

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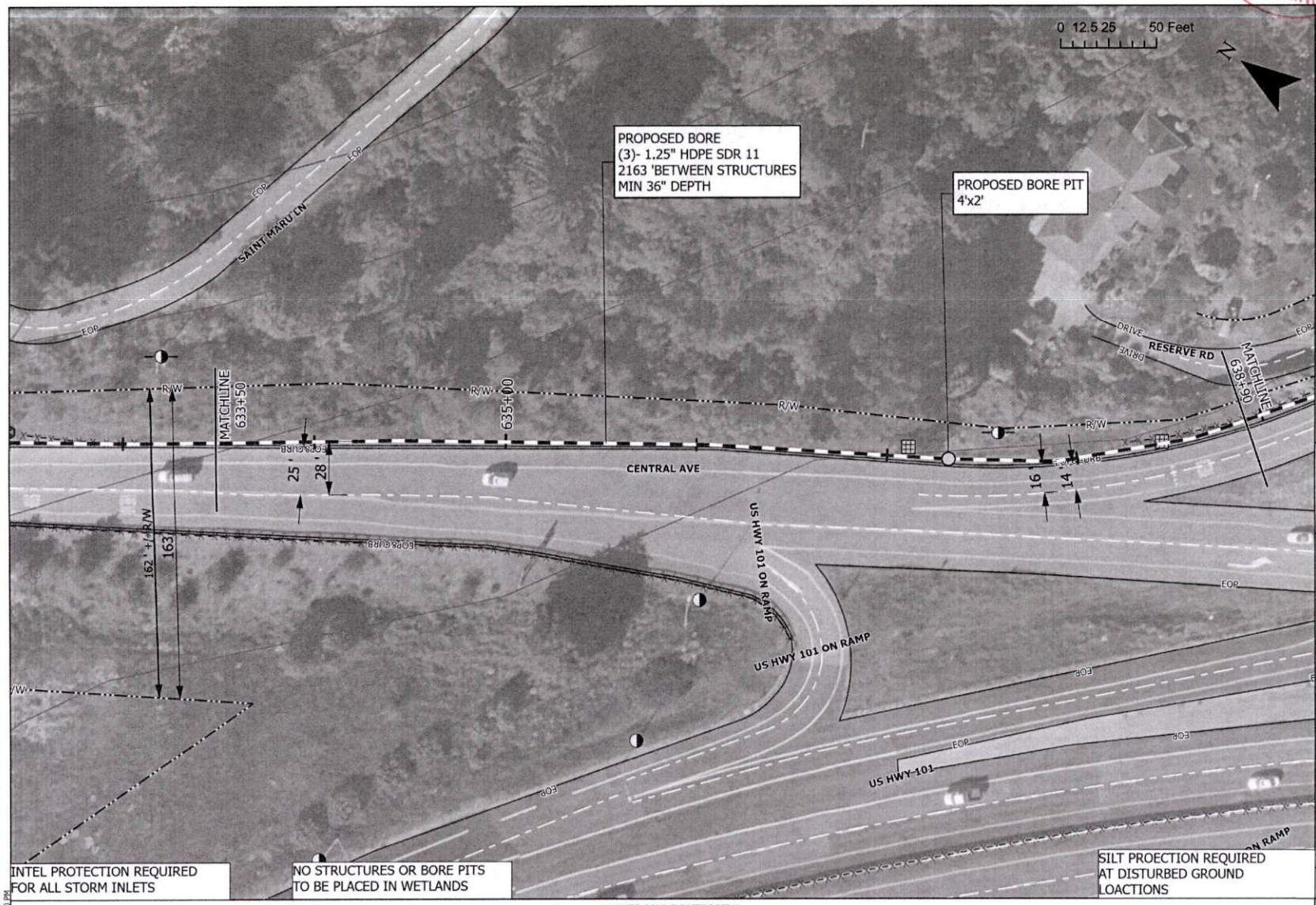
Humboldt County
PLANNING



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INTEL PROTECTION REQUIRED FOR ALL STORM INLETS

NO STRUCTURES OR BORE PITS TO BE PLACED IN WETLANDS

SILT PROECTION REQUIRED AT DISTURBED GROUND LOACTIONS

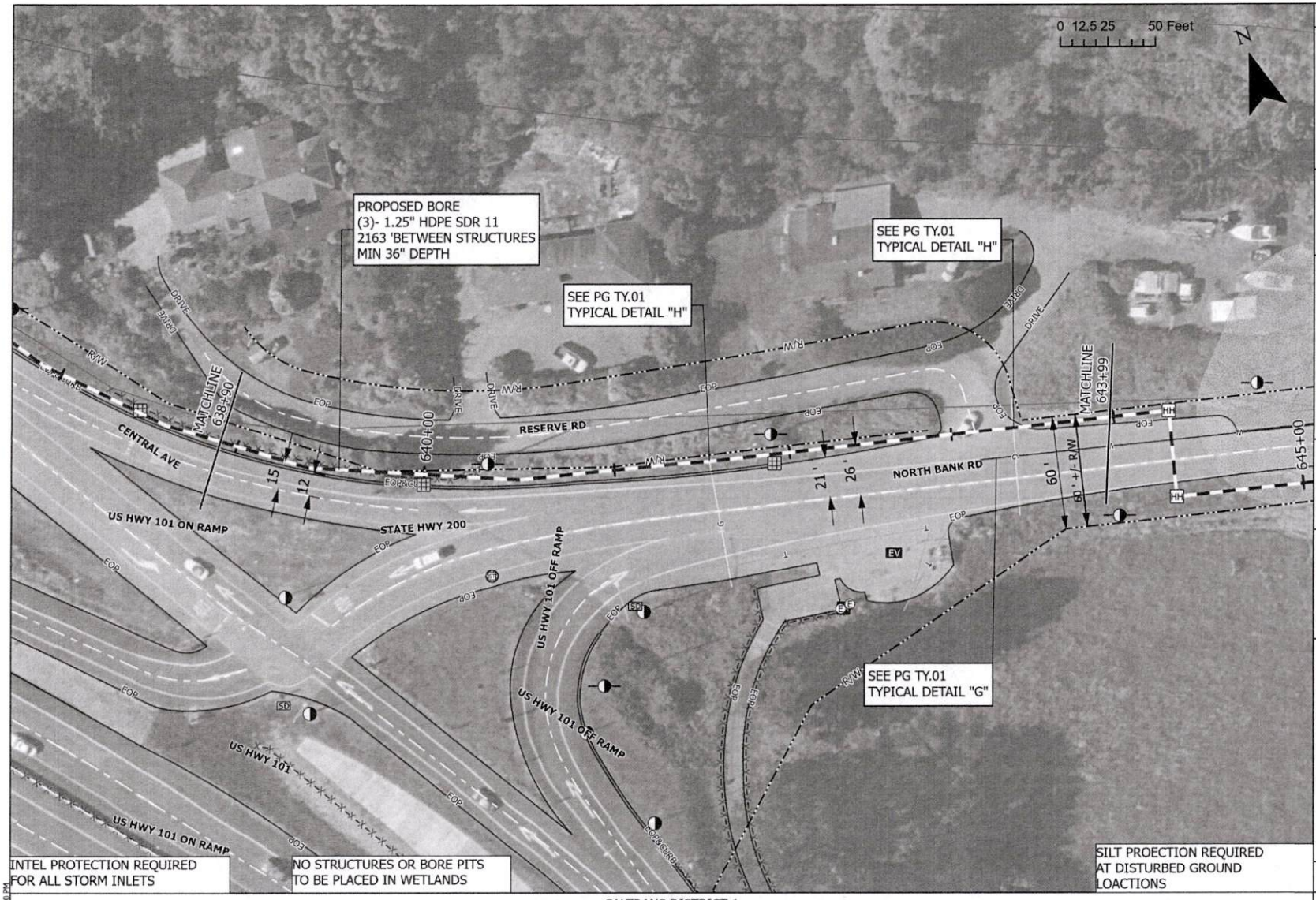
CALTRANS DISTRICT 1
633+50 TO 638+90

HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.3

5/28/2024 2:00 PM



INTEL PROTECTION REQUIRED FOR ALL STORM INLETS

NO STRUCTURES OR BORE PITS TO BE PLACED IN WETLANDS

SILT PROECTION REQUIRED AT DISTURBED GROUND LOACTIONS

CALTRANS DISTRICT 1
638+90 TO 643+99

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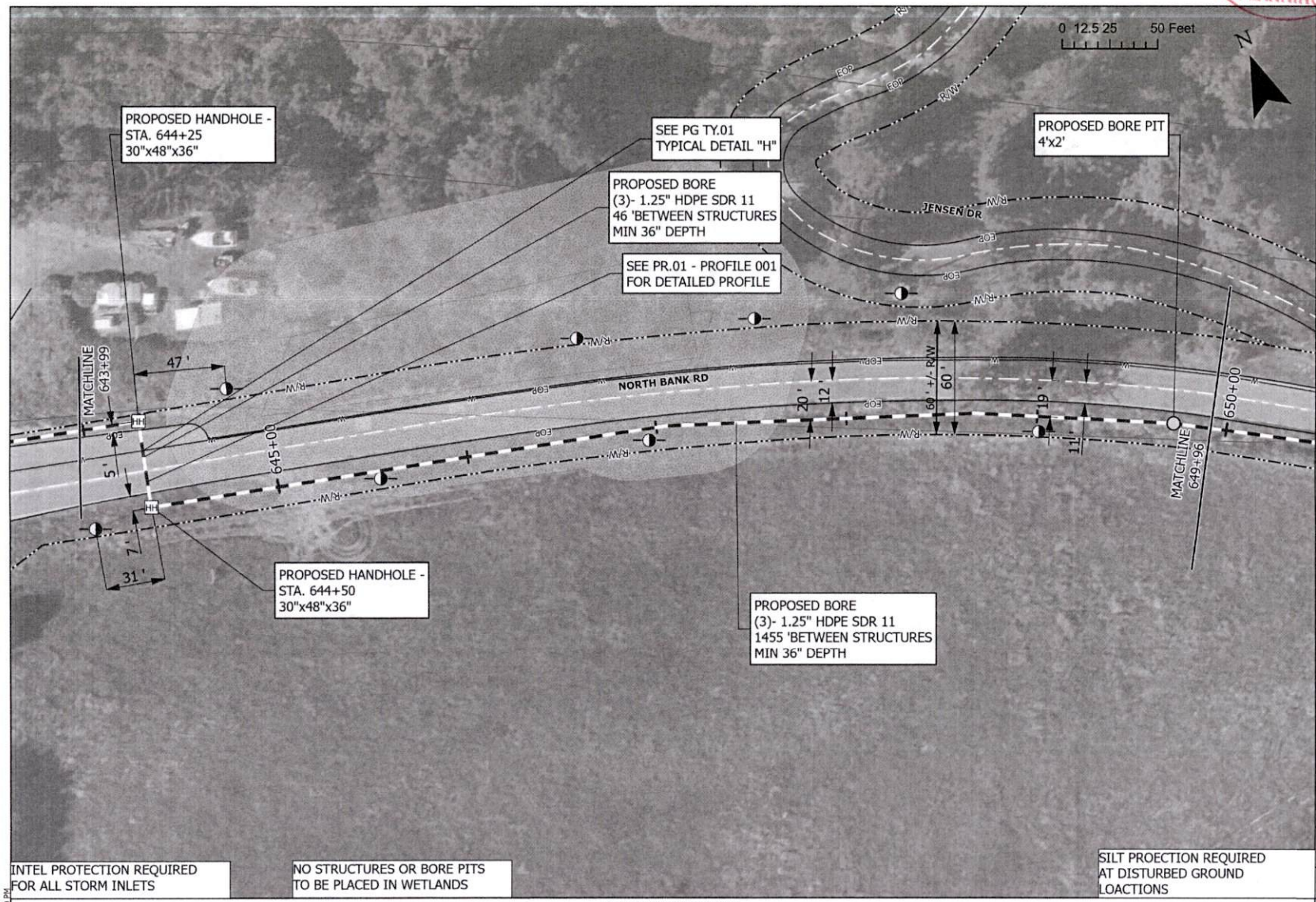
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.4

5/28/2024 2:00 PM



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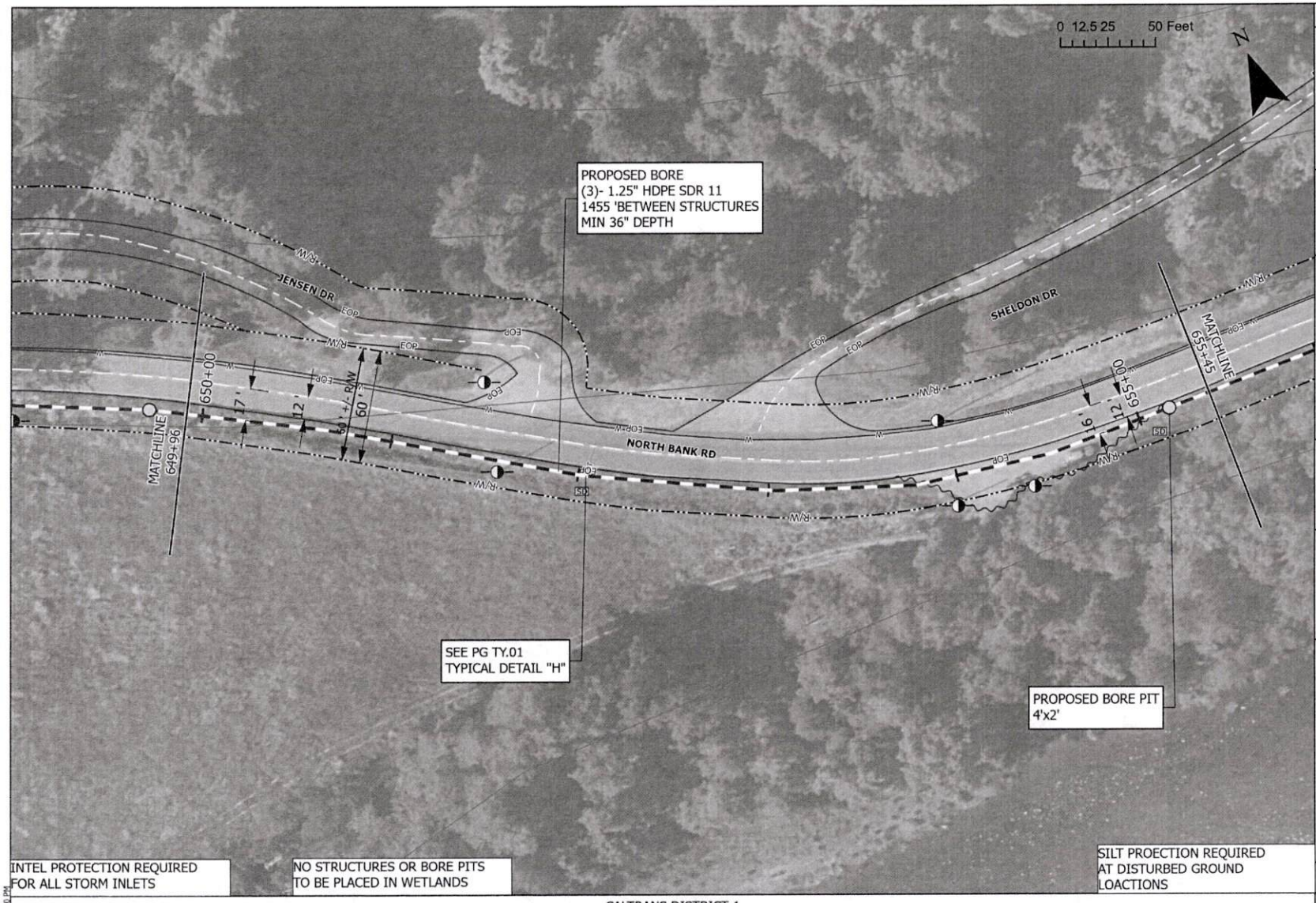
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.5

5/28/2024 2:00 PM



Scale: 1 INCH: 50 FEET

PERMIT EXPORT: 5/28/2024

REVISIONS:

I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY MYSELF OR UNDER MY DIRECT SUPERVISION THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
BALTHASER A. BRUNGARDT
NO. C 48159
EXP. 6/30/2024
CIVIL
STATE OF CALIFORNIA

BHC
7101 COLLEGE BLVD. SUITE 400
OVERLAND PARK, KS 66210
PHONE: (913) 663-1900

vero NETWORKS

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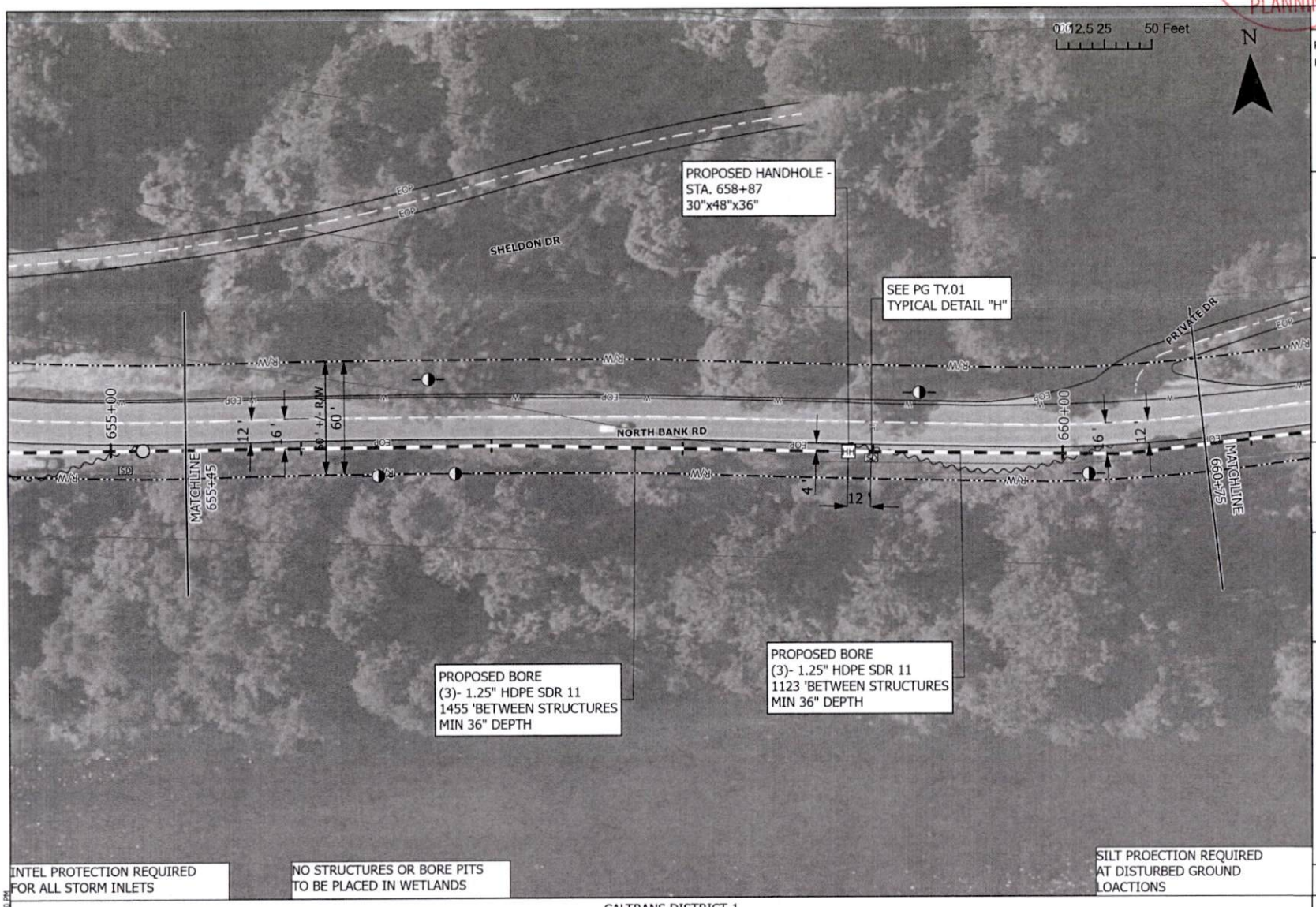
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.6

5/28/2024 2:00 PM

APPROVED
SEP 19 2024
Humboldt County
PLANNING



Scale: 1 INCH: 50 FEET

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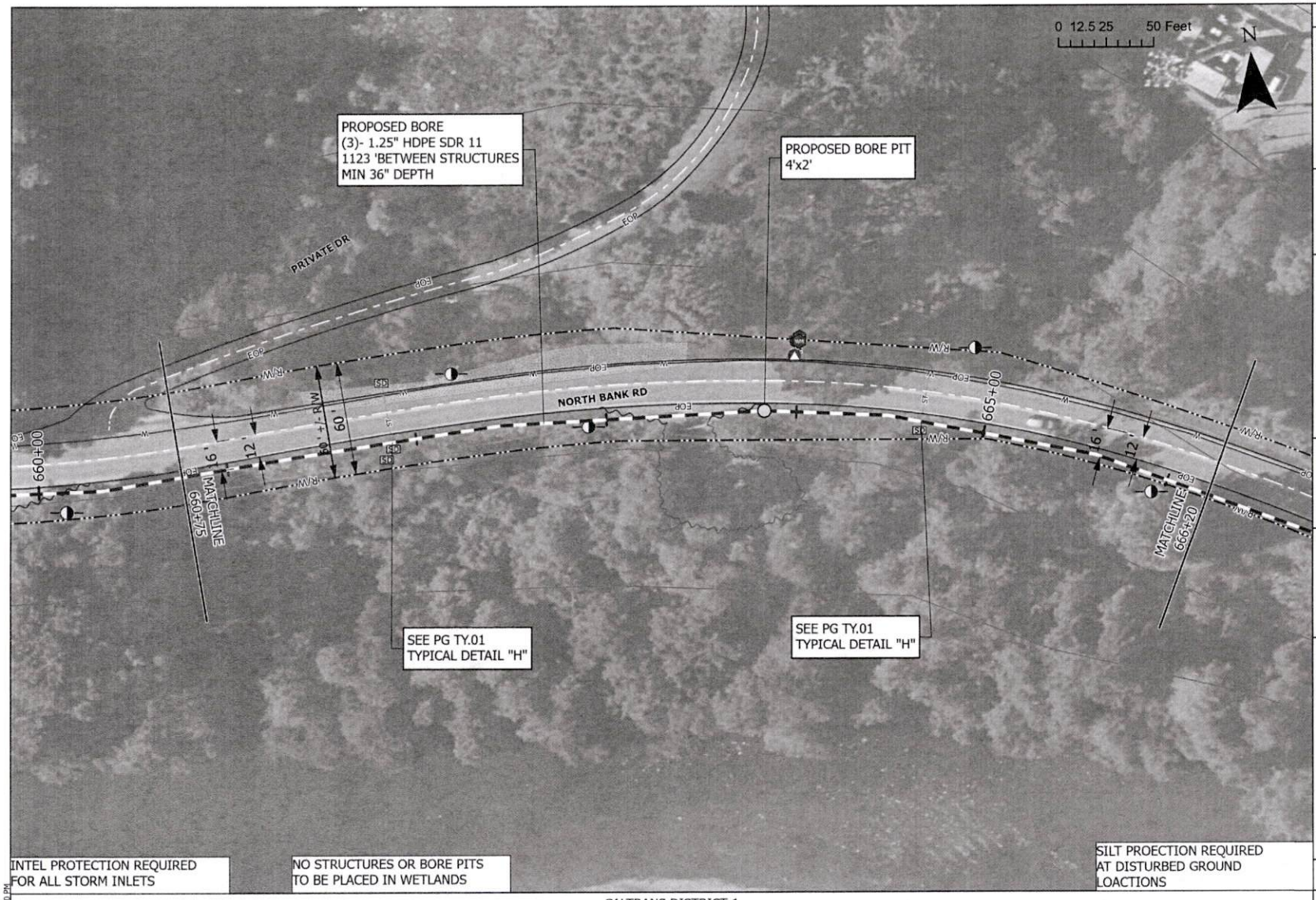
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.7

5/28/2024 2:00 PM



INTEL PROTECTION REQUIRED FOR ALL STORM INLETS

NO STRUCTURES OR BORE PITS TO BE PLACED IN WETLANDS

SILT PROECTION REQUIRED AT DISTURBED GROUND LOACTIONS

CALTRANS DISTRICT 1
660+75 TO 666+20

5/28/2024 7:00 PM

Scale: 1 INCH: 50 FEET

PERMIT EXPORT: 5/28/2024

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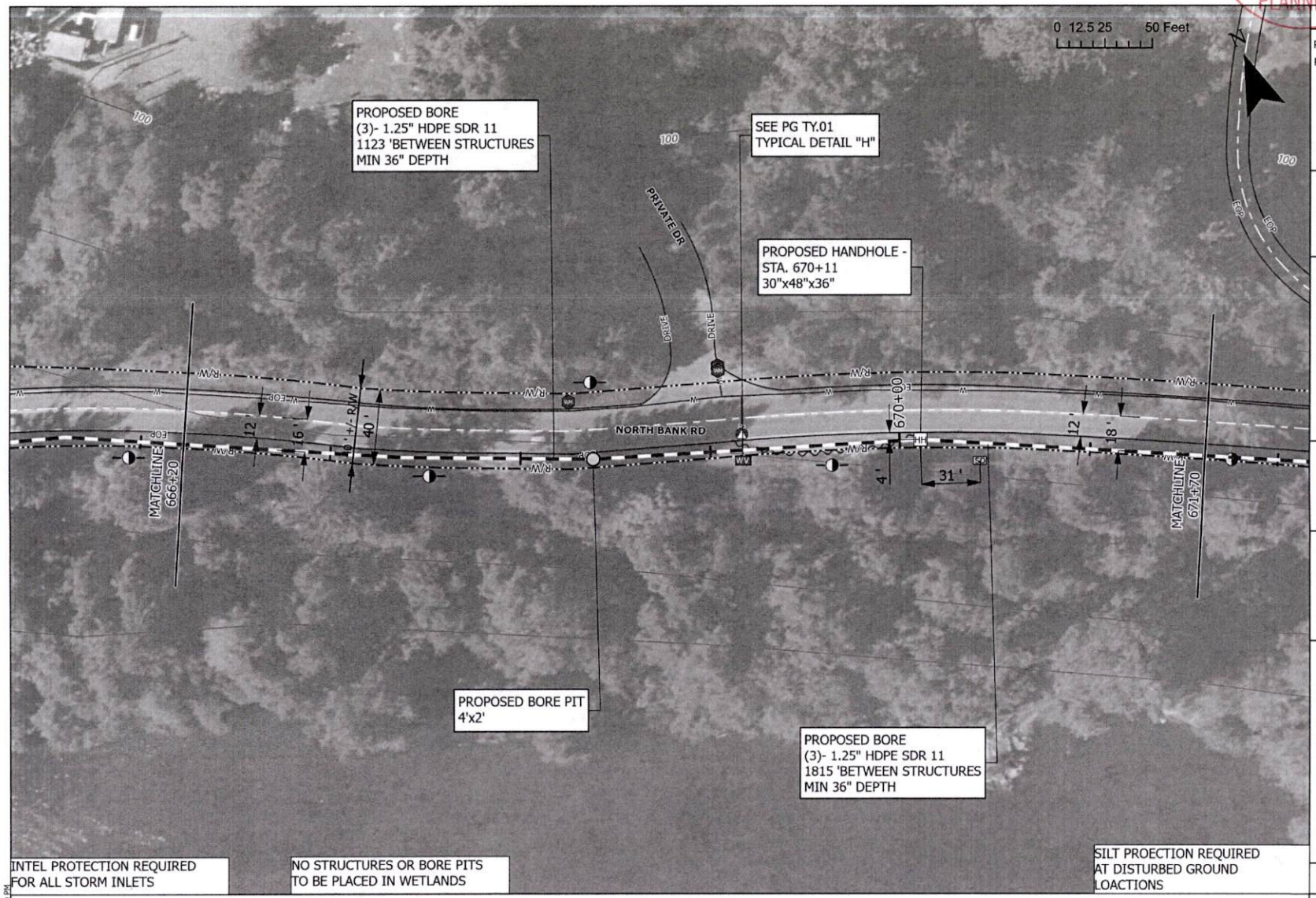
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.8

APPROVED
SEP 19 2024
Humboldt County
PLANNING



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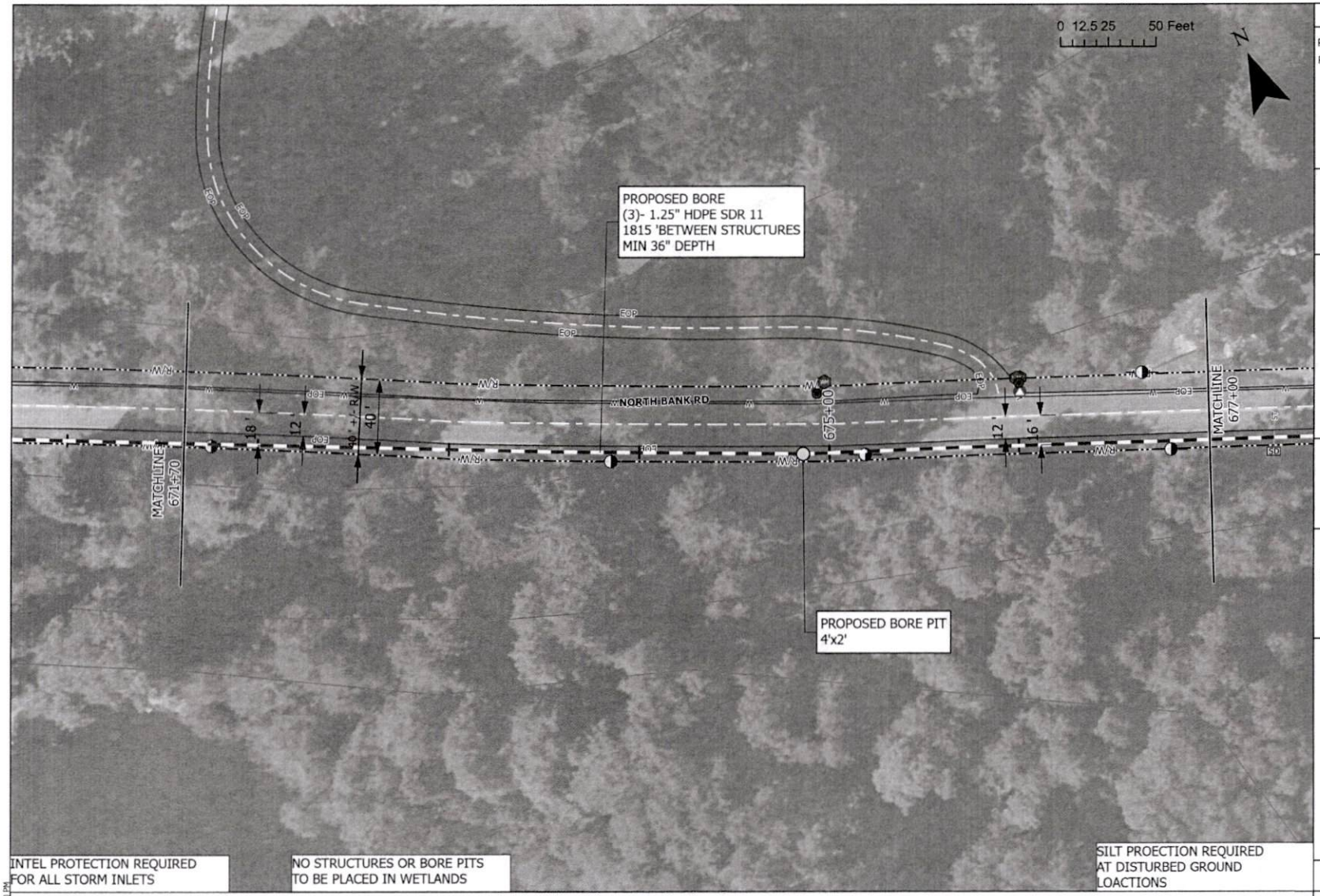
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.9

5/28/2024 2:00 PM



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SILT PROECTION REQUIRED AT DISTURBED GROUND LOACTIONS

CALTRANS DISTRICT 1
671+70 TO 677+00

Scale: 1 INCH: 50 FEET

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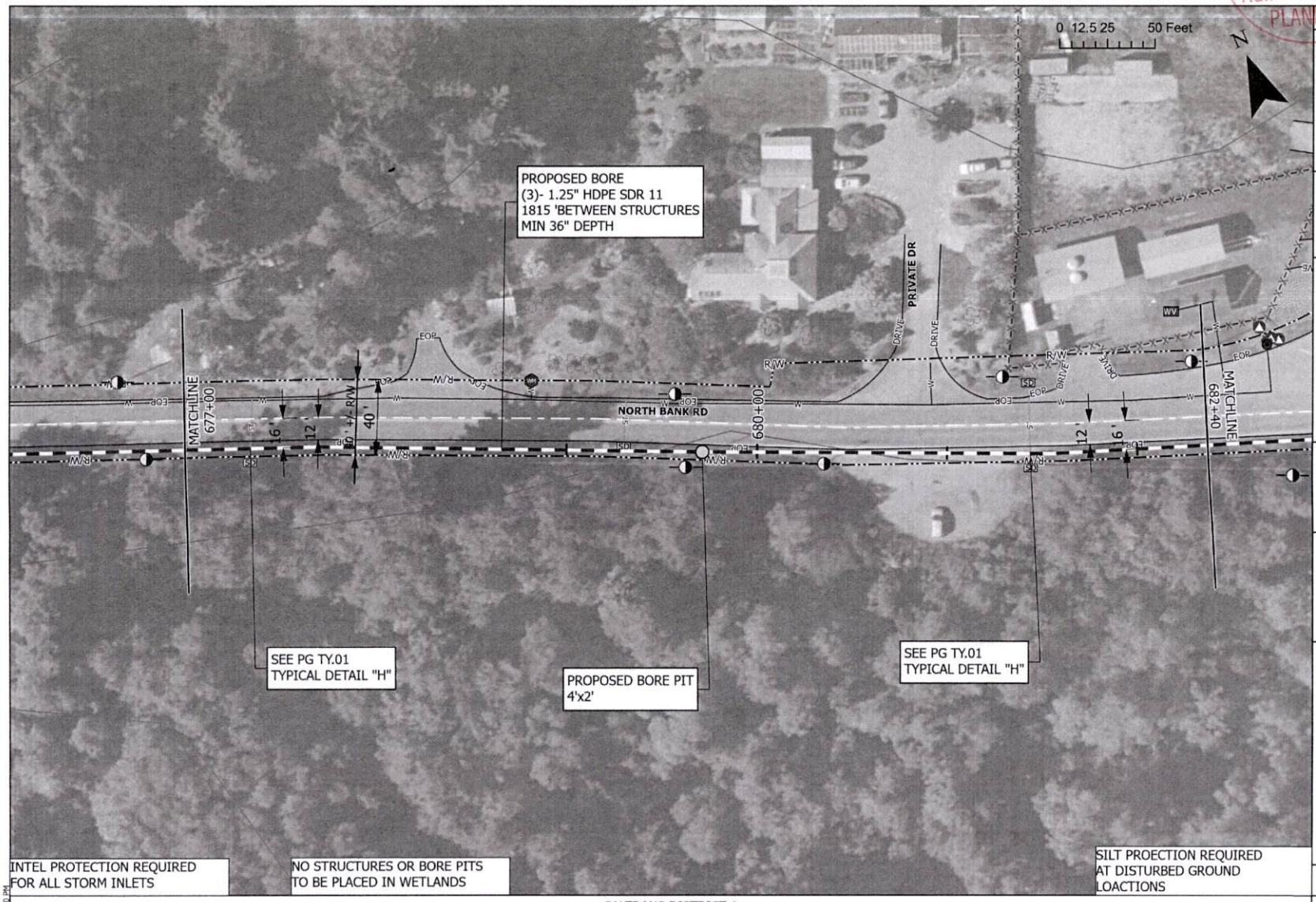
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.10

5/28/2024 2:00 PM



Scale: 1 INCH: 50 FEET

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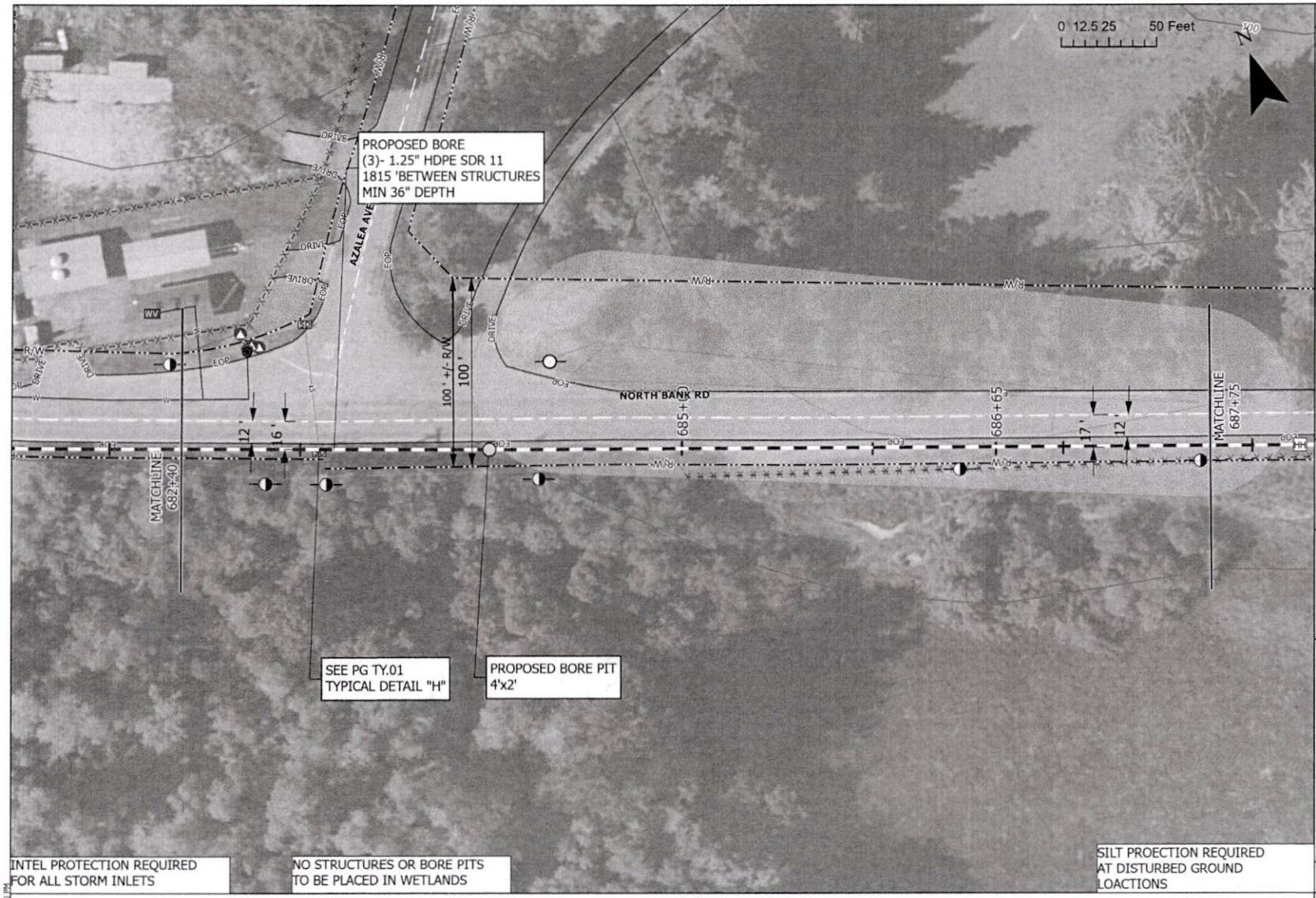
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.11

5/28/2024 2:00 PM



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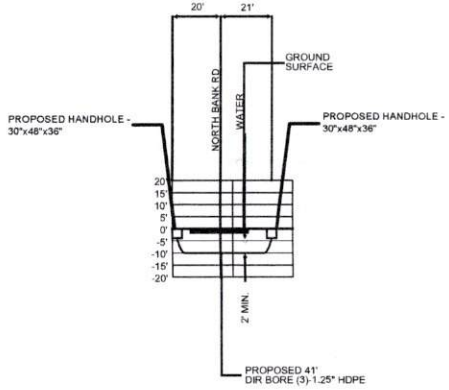
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.12

5/28/2024 2:00 PM



PROFILE 001 SEE SHEET PL.05
NORTH BANK RD
CROSSING NORTH BANK ROAD
PROFILE VIEW LOOKING WEST

APPROVED
SEP 19 2024
Humboldt County
PLANNING

REVISIONS		
DATE	REV	DESCRIPTION

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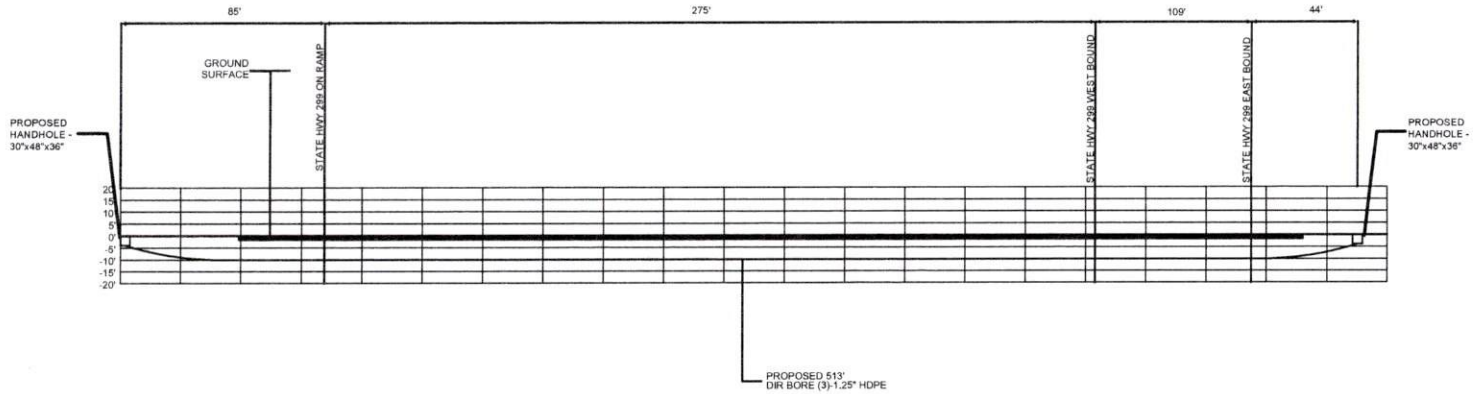
PR.01

12/7/2022 1:09 PM



PROFILE 002 SEE SHEET PL.25
STATE HWY 299
CROSSING STATE HWY 299
PROFILE VIEW LOOKING
NORTH EAST

REVISIONS		
DATE	REV	DESCRIPTION

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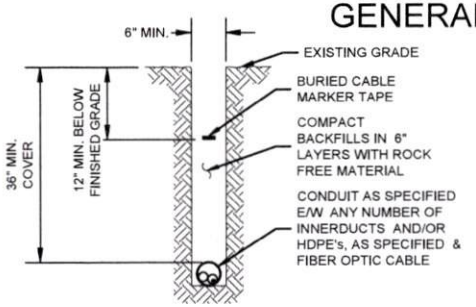
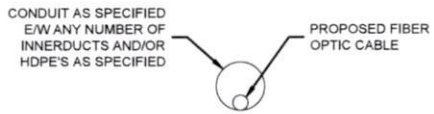
PR.02

12/7/2022 1:09 PM

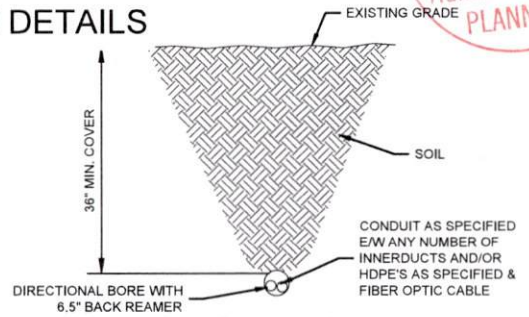
GENERAL UNDERGROUND CONSTRUCTION DETAILS



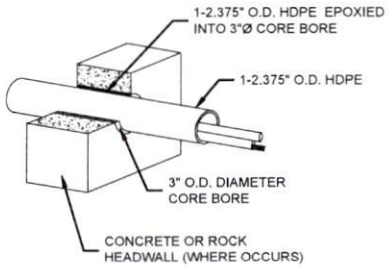
TYPICAL DETAIL "A"
TRENCH & PLACE CONDUIT



TYPICAL DETAIL "B"
CROSS SECTION OF PROPOSED HDPE

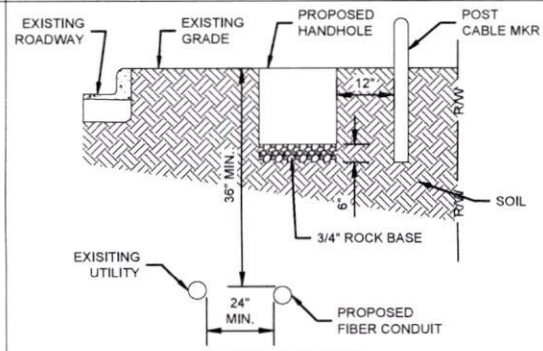


TYPICAL DETAIL "C"
DIRECTIONAL BORE CROSS SECTION FOR CONDUIT

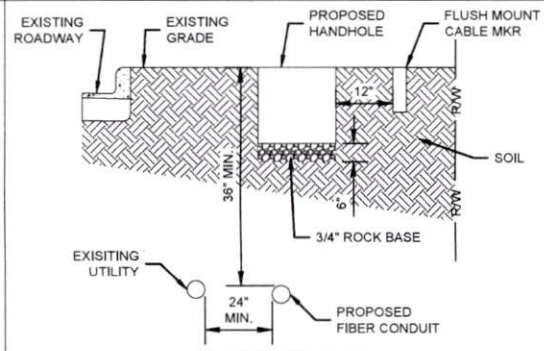


NOTE:
EPOXY GROUT IS USED AT BOTH ENDS OF CORE BORE TO SEAL GAP BETWEEN 2.375" CONDUIT AND PVC SLEEVE.

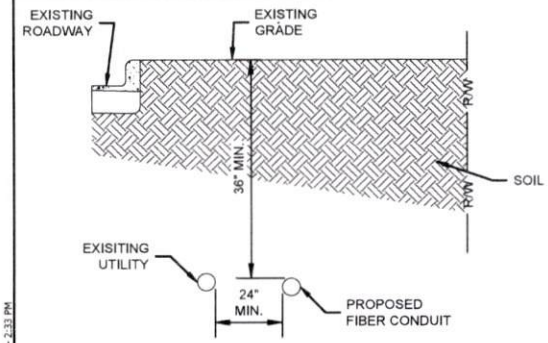
TYPICAL DETAIL "D"
3" CORE BORE



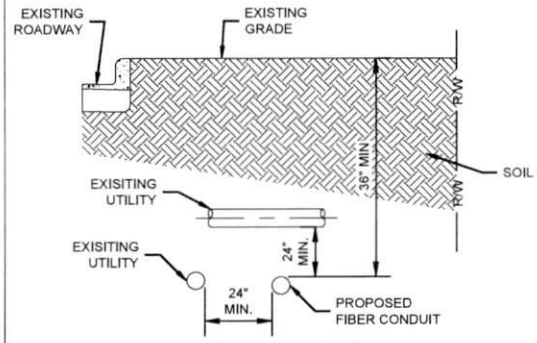
TYPICAL DETAIL "E"
HH WITH ABOVE GROUND MARKER



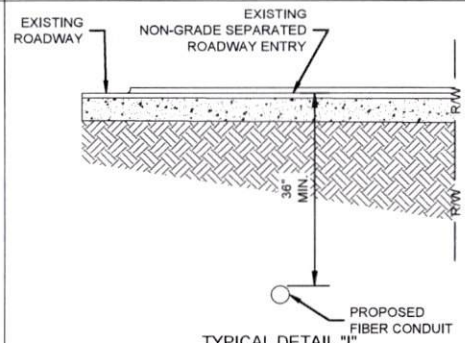
TYPICAL DETAIL "F"
HH WITH FLUSH MOUNT MARKER



TYPICAL DETAIL "G"
PARALLEL TO OTHER UTILITIES



TYPICAL DETAIL "H"
CROSSING OTHER UTILITIES



TYPICAL DETAIL "I"
CROSSING NON-GRADE SEPARATED ROADWAY ENTRY

REVISIONS		
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TYPICAL DETAIL DRAWINGS

TY.01

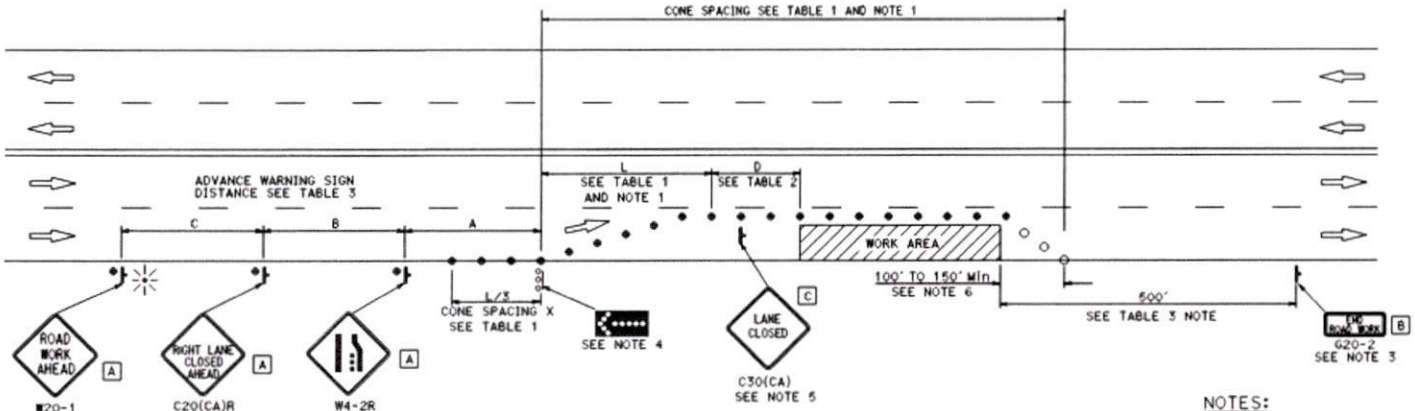
3/10/2021 - 2:33 PM

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

August 1, 2022
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



TYPICAL LANE CLOSURE

NOTES:

See Standard Plan T9 for tables.

Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

Provide at least one person to continuously maintain traffic control devices for lane closures.

LEGEND

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER
- PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 36" x 18"
- C 30" x 30"

NOTES:

1. Portable delineators placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.
2. Each advance warning sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
3. A G20-2 "END ROAD WORK" sign shall be placed at the end of the lane closure unless the end of work area is obvious or ends within the larger project's limits.
4. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
5. Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work area.
6. Length may be reduced by the Engineer to address site conditions.
7. Median lane closures shall conform to the details shown except that C20(CA)L and W4-2L signs shall be used.
8. For approach speeds over 50 MPH, use the "Traffic Control System for Lane Closure on Freeways and Expressways" plan for lane closure details and requirements.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS

NO SCALE

T11

2022 STANDARD PLAN T11

6-24-22

APPROVED
SEP 19 2024
Humboldt County
PLANNING

PROJECT ARCATA TO TRINIDAD
HUMBOLDT COUNTY

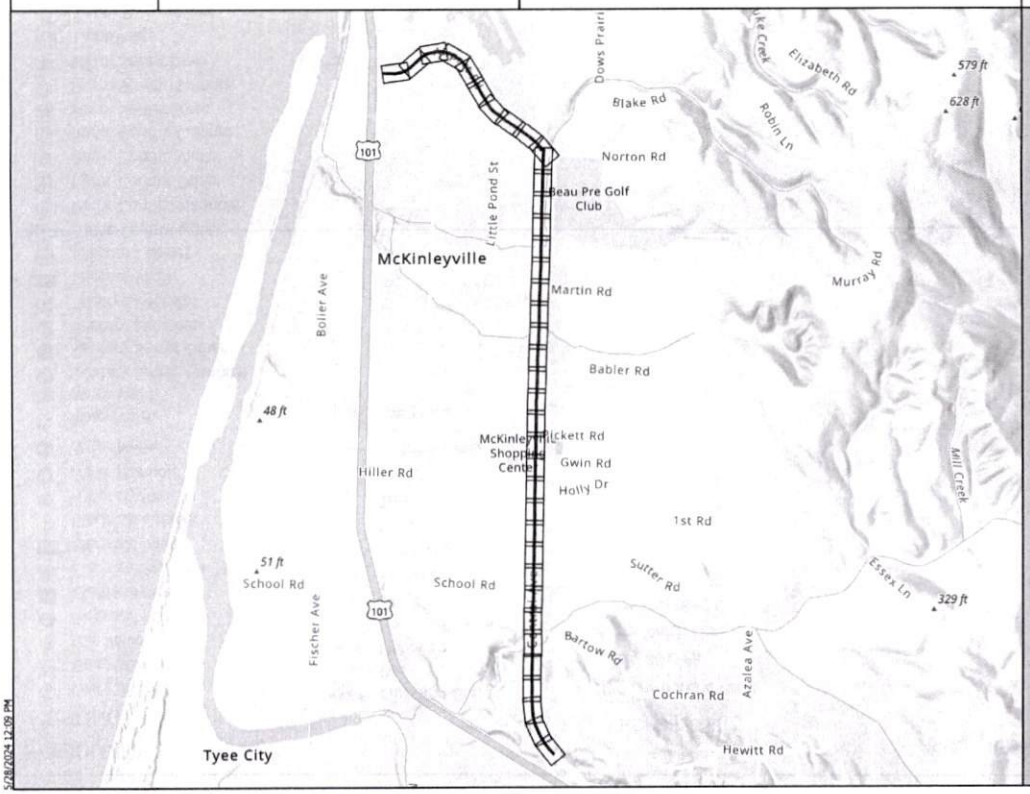
ISSUE FOR PERMIT: 5/28/2024	
PERMIT NAME:	VERO_HUMBOLDT_05
JURISDICTION:	HUMBOLDT COUNTY
COUNTY:	HUMBOLDT
BORE FOOTAGE:	20247'
STRUCTURES:	12 HANDHOLES

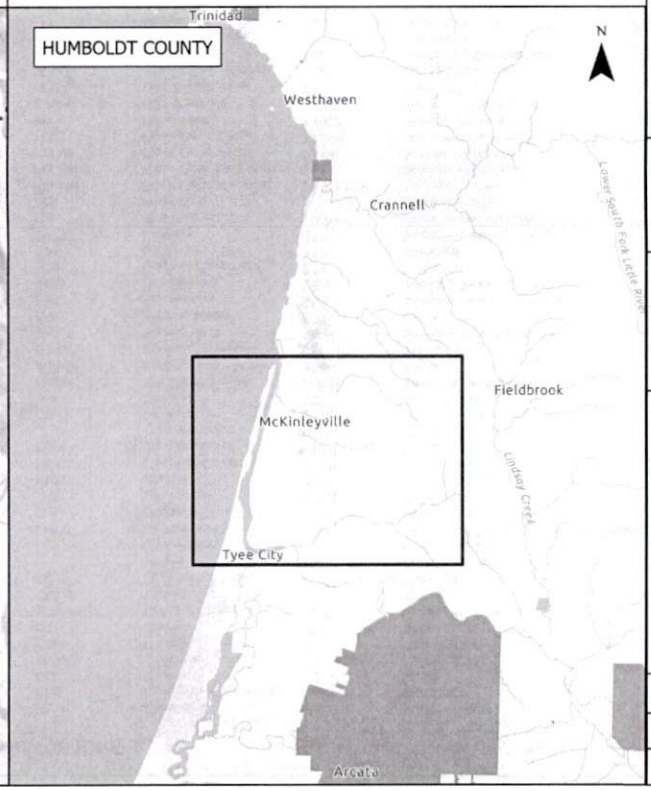
DRAWING INDEX

APPLICATION PREPARED BY:

CHRIS SCHEPMANN
PROJECT MANAGER 2
7101 COLLEGE BLVD. SUITE 400
OVERLAND PARK, KS 66210

BHC
CIVIL ENGINEERING / SURVEYING / UTILITIES





5/28/2024 12:09 PM

PERMIT ISSUE: 5/28/2024
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HUMBOLDT COUNTY

TRINIDAD TO ARCATA

T.01

SYMBOLOGY:

EXISTING:

- Gas Manhole
- Gas Meter
- Gas Valve
- Electrical Manhole
- Electrical Meter
- Electrical Pedestal
- Electrical Vault
- Electrical Cabinet
- Water Hydrant
- Water Manhole
- Water Meter
- Water Valve
- Water Vault
- Sanitary Sewer Manhole
- Sanitary Sewer Other
- Telecom Manhole
- Telecom Pedestal
- Telecom Vault
- Telecom Cabinet
- Traffic Control Light
- Traffic Control Manhole
- Traffic Control Other
- Traffic Control Vault
- Traffic Control Cabinet
- Storm Sewer Grate
- Storm Sewer Manhole
- Storm Sewer Drain
- Light Pole
- Utility Pole w/Light
- Utility Pole
- Electric Line
- Gas Line
- Sanitary Sewer Line
- Storm Sewer Line
- Telecom Line
- Traffic Line
- Water Line
- Right of way
- Easement

- EOR&CURB Curb and Gutter
- Dirt
- DRIVE Driveway
- EOR Edge of Pavement
- Gravel
- SAW Sidewalk
- Centerline
- Fence
- Tree
- Forest
- Contour Lines
- Wetlands

PROPOSED:

- HH Proposed Vault
- Bore Pit
- Match Line
- Proposed Conduit

ABBREVIATIONS:

CL	Centerline	MMV	Meet Me Vault
CMP	Corrugated Metal Pipe	MON	Monument
CO	County	NO	Number
CONC	Concrete	PRK MTR	Parking Meter
CSG	Casing	P/L	Property Line
CT	Count	PED	Pedestal
CTV PED	Cable TV Pedestal	PED-X SIG	Pedestrian Crossing Signal
CULV	Culvert	PI	Point of Inflection
DBH	Diameter at Breast Height	PKG	Package
		PVC	Polyvinyl Chloride
D.D.	Down Drain	RCB	Reinforced Concrete Box
DEPT	Department	RCP	Reinforced Concrete Pipe
DIA	Diameter	RD MEM	Roadside Memorial
DIR	Directional	REQD	Required
DIST	District	RGS	Rigid Galvanized Steel
DOC	Depth of Cover	ROW	Right of Way
DOT	Department of Transportation	RR	Railroad
		RR HUT	Railroad Signal Hut
DWG	Drawing	SCB	Sprinkler Control Box
DWY	Driveway	SD	Storm Drain/Curb Inlet
E MH	Electric Manhole	SDMH	Storm Water Manhole
E MKR	Electric Line Marker	SEC.	Section
E PED	Electric Pedestal	SF	Silt Fence
E VLT	Electic Vault	SMH	Sanitary Sewer Manhole
EM	Electric Meter	SP	Splice
ENC	Encased	SS CO	Sanitary Sewer Clean Out
ENG	Engineering	SS LIFT	Sanitary Sewer Lift Station
EOP	Edge of Pavement	STA.	Station
EPB	Electric Pull Box	STD	Standard
EXIST	Existing	STR	Section Township Range
FH	Fire Hydrant	SWPPP	Storm Water Pollution Prevention Plan
FO	Fiber Optic		
FO MH	Fiber Optic Manhole	SWT MCH	Switch Machine
FO MKR	Fiber Optic Line Marker	T HH	Telecom Handhole
FO VLT	Fiber Optic Vault	T MH	Telecom Manhole
FOC	Fiber Optic Cable	T MKR	Telecom Line Marker
FS	Filter Sock	T PED	Telecom Pedestal
G MH	Gas Manhole	T VLT	Telecom Access Vault
G MKR	Gas Line Marker	T.P.	Trench Plug
G SD	Grated Storm Drain	TCB	Traffic Control Box
GALV	Galvanized	TCE	Temporary Construction Easement
GEO SRV MKR	Geodetic Survey Marker	TCV	Traffic Control Vault
		TRF MH	Traffic Control Manhole
GM	Gas Meter	TSP	Traffic Signal Light
GV	Gas Valve	TYP	Typical
GWMW	Groundwater Monitoring Well	UG	Underground
		UNK MH	Unknown Manhole
HDPE	High Density Polyethylene	UNK PED	Unknown Pedestal
		UNK UTL MKR	Unknown Utility Marker
HH	Handhole	UNK VLT	Unknown Vault
HWY	Highway	USACE	United States Army Corps Of Engineers
IB	Inlet Barrier		
ILA	In Line Amplifier	UTL LP	Utility Light Pole
INC	Incorporated	UTL P	Utility Pole
INT	Intermediate	VDOT	Virginia Department of Transportation
L/A ROW	Limited Access Right of Way		
		VLT	Vault
LF	Linear Feet	VP	Gas Vent Pipe
LOC MKR	Locating Marker	W MH	Water Manhole
LP	Light Pole	W MKR	Water Line Marker
MAX	Maximum	W SPG	Water Spigot
MB	Mailbox	W VLT	Water Vault
MH	Manhole	WM	Water Meter
MIN	Minimum	WV	Water Valve
MIT	Mitigation	X-GATE	Crossing Gate
MKR	Marker	YRD L	Yard Light
ML	Maintenance Limits		

5/22/2024 5:49 PM

REVISIONS

DATE	REV	DESCRIPTION

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California 811

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HUMBOLDT COUNTY

ARCATA TO TRINIDAD

T.02

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CONSTRUCTION NOTES

UNDERGOUND CONSTRUCTION

CONDUIT INFRASTRUCTURE CONSTRUCTION

1. RIGHT-OF-WAY PROTECTION AND RESTORATION

1. Contractor shall comply with requirements stipulated by relevant authorities having jurisdiction (City, County, State and Federal), and shall minimize damage to rights of way and ensure all clean up and restoration meets or exceeds such jurisdiction specifications, with all debris and waste removed at Contractor's cost/expense
2. Contractor shall comply with all Environmental Protection agency requirements (State and Federal) and ensure compliance on all projects.

2. MATERIALS

1. CONDUIT
1. HDPE is the default choice for underground conduit, minimum wall thickness SDR-11. The properties and dimensions shall be in accordance with ASTM F2160 standard specification for Solid Wall High Density Polyethylene (HDPE) Conduit unless otherwise approved by Company Project Manager permitting authority. Duct size and number of ducts will be specified on the Engineering Workprints, purchase order or scope of work issued to Contractor. All materials supplied and used by contractors must approved by Company Project Manager.
2. Conduit shall be installed by pulling the duct directly from reels on reel trailers.
• Note: This will ensure as little waste as possible of the Duct, as well as less stress on duct and safer for crew members.
3. Crews will NOT pull duct off reels prior to installing unless there is absolutely no physical way to get a reel trailer set up safely.
• Note: having to shut down a lane to accommodate the reel trailer for pulling duct or any other, other than normal solution, does not meet the criteria of "no physical way"
• Once Duct is in the HH, MH, and or site, etc., they will all be sealed by using the proper duct plugs.
• Photos with Solocator will be taken per written standard. See OSP.1012 Standards Bulletin for further detail.

3. MANHOLES

Manholes provided by contractors must meet Bellcore standards and specifications and be approved by Company Management. All manholes will conform to AASHTO (American Association of State Highway and Transportation Officials) H-20 loading, traffic rated standards.
GPS will be taken at every Manhole placed. Photos with Solocator will be taken at every placed manhole per written
standard. See OSP.1012 Standards Bulletin for further detail. And as required by SOW.

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SEP 19 2024
Humboldt County
PLANNING

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HUMBOLDT COUNTY

TRINIDAD TO ARCATA

GN.01

2/27/2024 11:55 AM

CONSTRUCTION NOTES

HANDHOLES

Handhole type and manufacture will be specified by COMPANY in the scope of work and the Contractor will be required to purchase and use those for the specific build
Handholes for slack use will be a minimum of 36 inches in depth, 48 inches in length and 30 inches in width Handholes used for splice locations will be a minimum of 48 inches in
depth, 60 inches in length and 36 inches in width
These and any Handhole used on a COMPANY construction project shall be, at a minimum, A Tier 22 with a load rating of 22,000 lbs. minimum If for any reason the contractor is required to acquire COMPANY Handholes, they will meet the above requirements as well as, meeting the Bellcore standards and specifications and be approved by Company Management. All handholes will conform to AASHTO (American Association of State Highway and Transportation Officials) and if required to be in the street or a location where large weight vehicles may sit on and not just cross over them, then they must also be upgraded to a H-20 load rating, traffic rated standards. GPS points will be taken at every Handhole placed Photos with Solocator will be taken at every placed handhole per written standard. See OSP.1012 Standards Bulletin for further detail. And as required by
SOW

SPECIAL DESIGN AND MATERIAL CONSIDERATIONS

1.The contractor shall be responsible for the physical location of ALL foreign utilities within the right-of-way before digging in the vicinity in accordance with local Utility Protection Standards. Any damages to other utilities will be the responsibility of the contractor. Contractor will also be responsible for red-lining all utilities on as-builts
2.Steel pipe shall be considered where obstructions such as buried utilities or other facilities run parallel to the proposed running line and have less than 2 feet of separation.
3.GSP, Steel or PVC Schedule 80 conduit will be proposed for housing HDPE or innerduct at Railroad crossings, river crossings, culvert crossing and other obstacles of the same type crossings.
4.If these methods are used the conduit should extend a minimum of five feet past the edge of the culvert or headwall.
5.All sweeps and field bends and or turns tighter than a 36" radius will require factory fittings at all times

METHODS OF PLACEMENT

PLOWING
1. All OSHA and other governing agencies rules and regulations will apply and be followed
2. Plowing can be considered as an alternative construction method when conditions and governing authorities permit.
3.When plowing is utilized as a construction method, the equipment used by the contractor shall be such as to cause the minimum displacement of the soil. Damage to banks, ditches, driveways, and roads
4.GPS points will be taken at the start and stop of the Plow, every 150 feet along a straight and continuous plow line, and at any and all changes in direction to include drift up or down or side to side in the ROW to ensure running line accuracy.
5. Photos with Solocator will be taken as required in the scope or as needed

TRENCHING/OPEN CUTS

1. All OSHA and other governing agencies rules and regulations will apply and be followed
2. When trenching and open-cutting is an option or requirement, the contractor shall excavate by machine trench, backhoe, hand, etc.
3. The network trench shall be as straight as practicable.
1. The bottom of the trench shall be smooth and free from any sharp edges.
2. The trench shall be kept clear of debris and loose rock.
3. All changes in trench grade shall be gradual
a. Note: The vertical change in grade should not exceed (1.5') within (6') in length.
1. Prior to duct placement in the trench, the duct shall be bundled, tied and or bound by an approved method to eliminate the possibility of the duct twisting and tension shall be applied to the duct to eliminate waving in the trench.
2. Duct shall be placed in the center of the excavation and as straight as practicable. Excessive waving of the duct within the trench will not be allowed.
3. All open trenches and other excavations shall be backfilled at the end of each working day. Any open trench or excavation not backfilled may be covered as approved by the governing authority's rules and regulation
4. GPS points will be taken at the start and stop, every 25 feet along a straight and continuous trench line, and at any and all changes in direction to include drift up or down or side to side in the ROW to ensure running line accuracy.
5. Photos with Solocator will be taken as required in the scope or as needed

BORING

1. All OSHA and other governing agencies rules and regulations will apply and be followed
2. When Boring is allowed the contractor shall use Directional Boring as the preferred method.
3. The contractor will be responsible for all unsuccessful bore attempts. All unsuccessful bore attempts will be filled with grout or as required by the governing authority.
4. The contractor shall not drain any excess material into storm, sanitary systems, ditches or anywhere on the Right of Way.
5. When crossing all deadly utilities they must be daylighted by potholing to verify there is sufficient separation from the Company duct, or if paralleling within 10' horizontally.
1. Note: separation is 24" without written authorization from COMPANY or the governing agency or agencies.
6. All verifications will be physical verification on site of the actual utility
7. Bore logs will be kept and document the start, the stop and every 10 feet in between.
8. The contractor shall submit all boring logs and profiles to Company
9. In general the vertical change in grade shall not exceed one and a half feet (1.5') in six feet (6') in length.
10. GPS points will be taken at the start and stop of every bore, every change of stem (i.e., every 10 feet when using 10-foot stems, 15 feet when using 15-foot stems etc.) along a straight and continuous bore line, and at any and all changes
in direction to include drift up or down or side to side in the ROW to ensure running line accuracy and depth accuracy.
11. Photos with Solocator will be taken as required in the scope or as needed

GENERAL RESTORATION

1. All OSHA and other governing agencies rules and regulations will apply and be followed
1. All rock and debris brought to the surface and not used during backfilling operations shall be removed and disposed of in an appropriate manner.
2. Improved landscape, lawns, shrubs, and hedges removed or damaged shall be replaced in like kind.
4. All areas disturbed by the construction activities in public rights-of-way shall be restored and seeded per the specifications of the governing authority.
5. The contractor shall promptly repair or replace any other property damaged during construction.
6. Contractor shall remove all duct installation debris including construction spoils and remaining installation materials from any public or private properties.
a. NOTE: Such material to be removed would also include litter generated by the construction crews.
7. No debris or litter should ever be disposed of in a trench or other telecommunication excavation. The contractor is responsible for the proper disposal of all soil, concrete, asphalt or other debris.
8. No asphalt shall be permitted in the backfill.
9. Photos with Solocator will be taken before, during and after restoration and as needed

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HUMBOLDT COUNTY

TRINIDAD TO ARCATA

GN.02

2/27/2024 11:00 AM

CONSTRUCTION NOTES

PAVEMENT RESTORATION

1. All OSHA and other governing agencies rules and regulations will apply and be followed
2. It is recommended that Cobblestone or old brick in historic areas, be numbered, photographed, removed, and then stored for replacement. Care must be taken to restore historic areas to their original condition and "look."
3. Pavement, driveways, and sidewalks shall be restored to their original or better condition within five (5) business days or as soon as practicable, following duct placing operations.
4. The backfill within the roadway shall be placed and compacted in not more than six-inch (6") lifts from the bottom to the finished grade.
5. Photos with Solocator will be taken before, during and after restoration and as needed

BACKFILL

1. The trench shall be backfilled and compacted to the satisfaction of Company and local authorities, promptly behind duct placement.
2. The backfill shall be the trench excavated materials, provided the excavated materials are free from debris, rocks measuring less than two inches (2") in diameter and other unsuitable materials.
3. Backfill within the roadway shall be placed and compacted per the governing authority specification or to ninety percent (90%) modified proctor in non-traveled areas and ninety five percent (95%) modified proctor in traveled areas whichever is greater.
4. Company 's engineer has the right to test the soil compaction randomly. If soils do not meet the compaction requirements, the contractor will be directed to remove fill until proper compaction is found. The contractor will not have any claim to additional time or additional costs.
5. If Company 's engineer tests 5 locations that fail compaction, then Company 's engineer can require all backfill lifts to be tested. The contractor will be required to pay for all the testing including, but not limited to, labor, equipment and lab tests.

DEPTH OF PLACEMENT

1. Except where specified in the drawings, approved by Company , or permit specifications dictate a different depth, the top duct shall be placed a minimum of Forty-two inches (≥42") below grade or as required by authority having jurisdiction with a minimum of twelve inches (12") of separation from foreign object or as required by object's owner which is greater.
2. Where the network crosses gullies, ditches, streams, rivers, and washes, the conduit will be placed at a minimum depth of forty-eight inches (48") below the bottom of the waterway unless the controlling authority requires additional depth in which case the greatest depth will be maintained.
3. Where the network route crosses railroads, the network shall be placed at a minimum depth of sixty inches (60") below the base of rail or sixty inches (60") below the paralleling drainage ditches, or at greater depths as required by permitting authorities which is greater.
4. Where the network crosses existing subsurface pipes, cables, or other structures, the network will be placed to maintain a minimum of twelve inches (12") separation (preferred to be 24" whenever possible) from the foreign object or a minimum separation as required by the object's owner, whichever is greater.
5. For special cases when minimum cover cannot be obtained due to the location of subsurface obstructions and/or other utilities, these special considerations will be acceptable, but only with Company Management approval:
a. BSP/GSP or Concrete Encased HDPE will be used with cover between 12" to 35", with Middle Mile Management approval.

COUPLER INSTALLATION

1. Barbed Couplers will be utilized and installed per manufacturer's specification, buried flush with the path/bore/trench of the conduit.
2. Barbed Couplers are the only authorized couplers for any and all COMPANY HDPE duct
3. To prevent the bundling of Barbed couplers at one location or hole and to meet requirements for depth of cover; the couplers must be staggered and sequenced every six inches between multiple conduits and should not overlap or touch another coupler.
4. If micro duct is used (i.e., 7way, 6way, 4way etc.,) a rubber boot will be applied over the micro duct couplers and then heat shrunk for added strength both vertically and horizontally, as well as,sealing the staggered couplers from foreign substances
5. All locations of barbed couplers should be noted and correspond to a depth and station number on the as-built drawings.
6. All Couplers at all Coupler locations will be photographed with Solocator and provided as a deliverable to Company , to include but not limited to the GPS location, station number and a number of all couplers, barbed and or micro coupler, at each location. And as required by SOW.
7. See OSP.1012 Standards Bulletin for further detail.

CABLE MARKER SIGNS

Marker Poles
1. Marker Poles will be set at each Splice, Handhole and Manhole location.
a) The cable marker posts shall be placed whenever possible within a one-
foot offset from the back of the Handhole/Manhole, centered on the back side of the Handhole/Manhole between it and the outside ROW line
b) if due to permitting agency rules, Marker Poles are not allowed then
alternative means will be used to mark these assets.
c) Any deviation from Marker Poles to other devices will require COMPANY written approval.
2. Marker poles will be set at all crossings (i.e., road, river, rail, etc.)
3. Marker poles will be set at all changes of direction in the running line.
4. Marker Poles will be set in such a way so there is never more than 500lineal feet between any two Marker Poles.
5. Marker Poles will be set in such a way that no matter where you stand onthe ROW, you will be able to see a Marker Pole
6. GPS points will be taken at every placed Marker Pole
7. Photos with Solocator will be taken at every placed marker Pole And as required by SOW.

DEPTH OF MARKER SIGN

1. Contractor shall bury the marker post as per Manufacturer's specification, at twenty-four inches (24") below grade and ensure the cross member has been added to ensure stability and the Marker Pole can't be lifted.
2. The cable marker posts shall be placed whenever possible directly over the the network running line or as close as the permitting authority allows.
3. Any offset shall be permanently noted on the space provided by the cable marker sign.
4. All Marker Posts are to be GPS'd

TRACER WIRE

1. When a trace wire is required, a minimum of a 10-gauge poly coated solid copper tracer wire will be placed with every linear foot of duct placed,regardless of the type of construction
2. If armored cable is used, then the locate wire from the enclosure to the Locate test Station pole will be poly coated solid # 6.
3. Locate marker posts, flush mount finks, manholes, handholes, and all other tracer access points will be connected to the tracer/ground wire for locating buried facilities.
4. Tracer wire connectivity tests must be conducted by the contractor to ensure the entire plant is locatable.
5. Damaged tracer/ground wires will be repaired immediately with minimal connectors.
6. COTT or other Company acceptable test stations will be placed at each manhole/handhole, using the ground tree model to ground tracer wire at splice locations. see OSP.1003 – Splice Point Grounding for Locate Test Point Stations in Appendix A

PROOFING DUCT

1. All conduits, regardless of size will be verified for ovality, turning angle, and damage by proofing the duct per manufacturer specification and or with an 85% space capacity mandrel whichever is greater.
2. The mandrel will be made of metal and not to exceed the length of 3 times the diameter of the duct.
3. Proofing of the duct shall be completed with air pressure of at least 50 PSI and no more than 150 PSI or the max duct PSI whichever is less.
4. All proofing results must be witnessed and documented by an appropriate Company representative.
5. Damaged duct should be repaired immediately with minimal couplers.

SEALING DUCTS

All ducts must be properly sealed per manufacturer specifications with Duct plugs or an equivalent approved by the Company Project Manager. Ducts or duct plugs should be labeled with the direction of the conduit path. All ducts with FOC present must be properly sealed with a half Moon or equivalent plug approved by the Company Project Manager.

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SEP 19 2024
Humboldt County
PLANNING

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HUMBOLDT COUNTY

TRINIDAD TO ARCATA

GN.03

CONSTRUCTION NOTES

MANHOLE AND HANDHOLE CONSTRUCTION

1. Handholes and manholes shall be installed by the contractor as designated in the construction drawings. Installation shall include all grouting, installation of extension ladders, required extension rings, and all related work for the complete installation of the structure. The design loading for all man-holes and handholes shall be capable of supporting H-20 loading,
per the American Association of State Highway and Transportation Officials (AASHTO.)
2. All Intermediate Slack Vault (IEV) Hand holes will be sized to a minimum of 30" in width x 48" in length x 36" in depth and open bottom
3. All Network Splice Vault (NSV) HHs will be sized to a minimum of 36" in width x 60" in length x 48" in depth and open bottom.
4. The handholes shall be set on a base minimum thickness of six inches (6") or as provided in manufacturer's specifications consisting of clean gravel or crushed stone with a minimum diameter of three-quarter inch (3/4") and a diameter maximum one and one-half inch (1.5").
5. The ducts shall enter and leave hand holes exactly opposite each other within the handhole to facilitate the cable coils and/or splice closures. When ever possible the duct will enter from underneath the Handhole, not the sides. Each duct length inside handholes and manholes shall be a minimum length of six inches (6") from the inside wall of the HH, but no more than twelve inches (12").
6. Micro duct should be a minimum length of ten inches (10") from the inside wall of the HH, but no more than sixteen inches (16") and then four inches (4") of the outer sheath should be removed to allow the unfettered access to the individual micro ducts.
7. At all splice locations the contractor shall install a 3-rod ground tree for fiber optic cable grounding in accordance with the detailed drawings provided in
Bulletin OSP.1003 – Splice Point Grounding for Locate Test Point Stations.
• Ground Trees will be GPS'd
7. In a Metro area, Handholes shall be set flush to grade or to the specifications of the governing authority or in accordance with the detailed drawings.
8. When outside a metro area, the handhole is to be buried and it should be set with a minimum of 18 inches (18") and or a maximum of twenty-four (24") cover.
9. Manholes shall be installed in the same manner as handholes with the following exceptions:
• The contractor shall not use material less than five thousand (5,000) pounds per square inch (PSI) in density to shim frames and covers.
• Frames and covers shall be installed to match existing grade and shall be
shimmed with either steel or concrete spacers.
• All manhole penetrations shall be sealed with a pre-approved non-shrink grout.
• All conduits, ducts, or casings that enter the manhole wall shall be back filled to 95% compaction by using sand and water or slurry to insure minimal settling of the pipe. This action will help eliminate damaged conduits.
11. Innerduct shall have a gradual sweep into the handholes and manholes, if the depth of innerduct bury exceeds forty-eight inches (48"). The handholes and manholes shall not be installed on steep banks or slopes where the cover cannot be leveled within a tolerance of one-inch (1") of drop to twelve
inches (12") of grade.
12. All innerduct or conduit entering the manhole shall be flush and horizontal to the hole of penetration on the manhole. To prevent settlement and conduit damage near the entry of the manholes, the soil or bottom of the trench will meet 95% compactions by the use of various backfill materials. The suggested method is sand and water or slurry.
13. Upon completion of the innerduct placement in the handhole and manholes, the innerduct shall rest freely without tension. Innerduct on each side shall be plugged and sealed as previously noted.
14. All HH's and MH's, 3 rod ground trees, duct entrances and anything else called out in 4.9 shall be photographed with Solocator and provided as a deliverable to Company . to include but not limited to the GPS location, station number. See OSP.1012 - QA Photo App Standard Bulletin.

SPECIAL CONSTRUCTION CONSIDERATIONS

RAILROAD CROSSINGS

1. All work shall be performed in accordance with Railroad authority and other permitting agencies.

STREAM AND CANAL CROSSINGS

1. Contractor shall comply with all Federal, State, county and local laws, rules, regulations and Company obtained permits when crossing lakes, canals, streams, or river crossings.
2. Restoration and erosion control shall be performed as required by the agency having jurisdiction and as approved by Company .

GAS LINE CROSSINGS

1. Extra care must be taken when working around gas lines.
2. All deadly utilities will be exposed to verify 24" separation from Middle Mile Management duct package when crossing
3. All placements are subject to additional requirements in accordance with standards and specifications of the gas line owner and permitting authorities.

ROCK CONSIDERATIONS

NO ROCK CLAUSE:

• NO ROCK CLAUSE Contracts and RFPs must clearly define whether rock clauses are applicable to a specific project or not.
• For contracts that have no allowances for rock considerations, the contractor is responsible and fully accountable for all construction regardless of the type and amount of rock encountered during construction.

DRAINAGE CULVERTS

1. If underground drainage tile is encountered as the network is installed, the network shall be installed as per drainage district or other governing authority specifications.
2. The contractor consistent with the pre-construction conditions and materials will repair all damaged drainage tiles. In case of a dispute regarding the proper repair of damaged tile lines, the repair specifications of the county Soil and Water Conservation District will be followed.
3. The contractor will be responsible for repair of tile damaged by the construction.
4. Repairs made to damaged tile line must enable the tile lines to operate as well or better after the repairs are completed as before they were damaged.
5. The contractor shall immediately repair any tile lines known to be damaged. Permanent tile line repairs will be made within two (2) days of the date the damage occurred, weather permitting.
6. Where a tile is damaged, the contractor must station the location and indicate the location on the red line as-built
7. Prior to back filling, a Company representative and the governing authority must approve of the final tile repair.

EXISTING UTILITIES AND SUBSURFACE OBSTRUCTIONS

1. Prior to excavation commencement, contractor shall obtain a dig ticket by calling the appropriate Utilities Protection Center number per applicable jurisdiction (state, county, city, federal).The Contractor shall obtain and maintain the Call Before you Dig Programs in all construction areas. Contractor shall also notify all existing utility owners not participating in the CBUD Programs. For Company approval and inspection, contractor shall document and maintain records that evidence the notification of all utility owners no later than seventy-two (72) hours prior to the start of construction. The records shall include date, time of day, name of individual contacted, name of companies contacted, telephone number, and confirmation number.
2. Damaged Utilities: Any utility damage will be reported to the utility owner and Company immediately. This includes any damage to Company duct or cable. Contractor will fully cooperate with Company to facilitate any repairs necessary and provide complete documentation of all activities and restoration.

FENCING

1. Safety fencing shall be erected, around the contractor's excavations and or open holes and equipment left open or out over night or weekends on the ROW or any publicly accessible place.
2. Safety fencing will consist of 6-foot T-Posts and high visibility plastic safety snow fence erected per local, state or federal rules and guidelines

DAILY CLEAN-UP

The contractor shall maintain a clean and hazard free work area including daily removal of all spills, unused or unacceptable excavation materials, and waste. The contractor should sweep all affected street work areas and side-walk areas daily in accordance with Federal, State, county, city and local laws, rules, regulations and standards.

I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY MYSELF OR UNDER MY DIRECT SUPERVISION THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
BAUTHASER A. BRUNGARDT
NO. C 48159
EXP. 6/30/2024
CIVIL
STATE OF CALIFORNIA

BHC
7101 COLLEGE BLVD. SUITE 400
OVERLAND PARK, KS 66210
PHONE: (913) 663-1900

vero NETWORKS

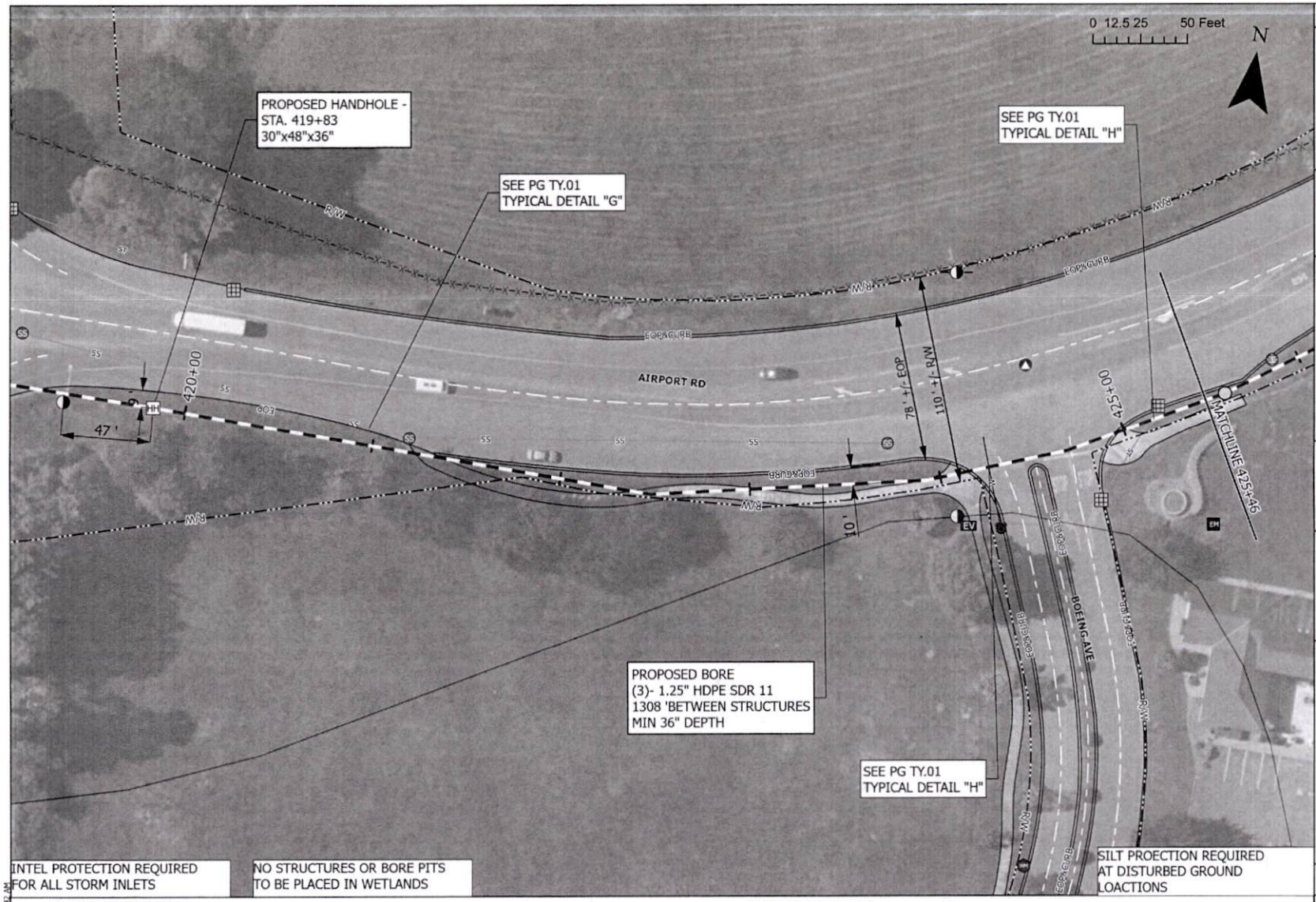
California 811

EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND BASED ON AVAILABLE RECORDS AND FIELD OBSERVATIONS. CONTRACTOR IS RESPONSIBLE FOR CALLING 811 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION AND FOR LOCATING ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND ANY DAMAGE TO THE UTILITIES SHALL BE IMMEDIATELY REPAIRED AT THE CONTRACTORS EXPENSE.

HUMBOLDT COUNTY

TRINIDAD TO ARCATA

GN.04



APPROVED
SEP 19 2024
Humboldt County
PLANNING

Scale: 1 INCH: 50 FEET

PERMIT EXPORT: 5/28/2024

REVISIONS:

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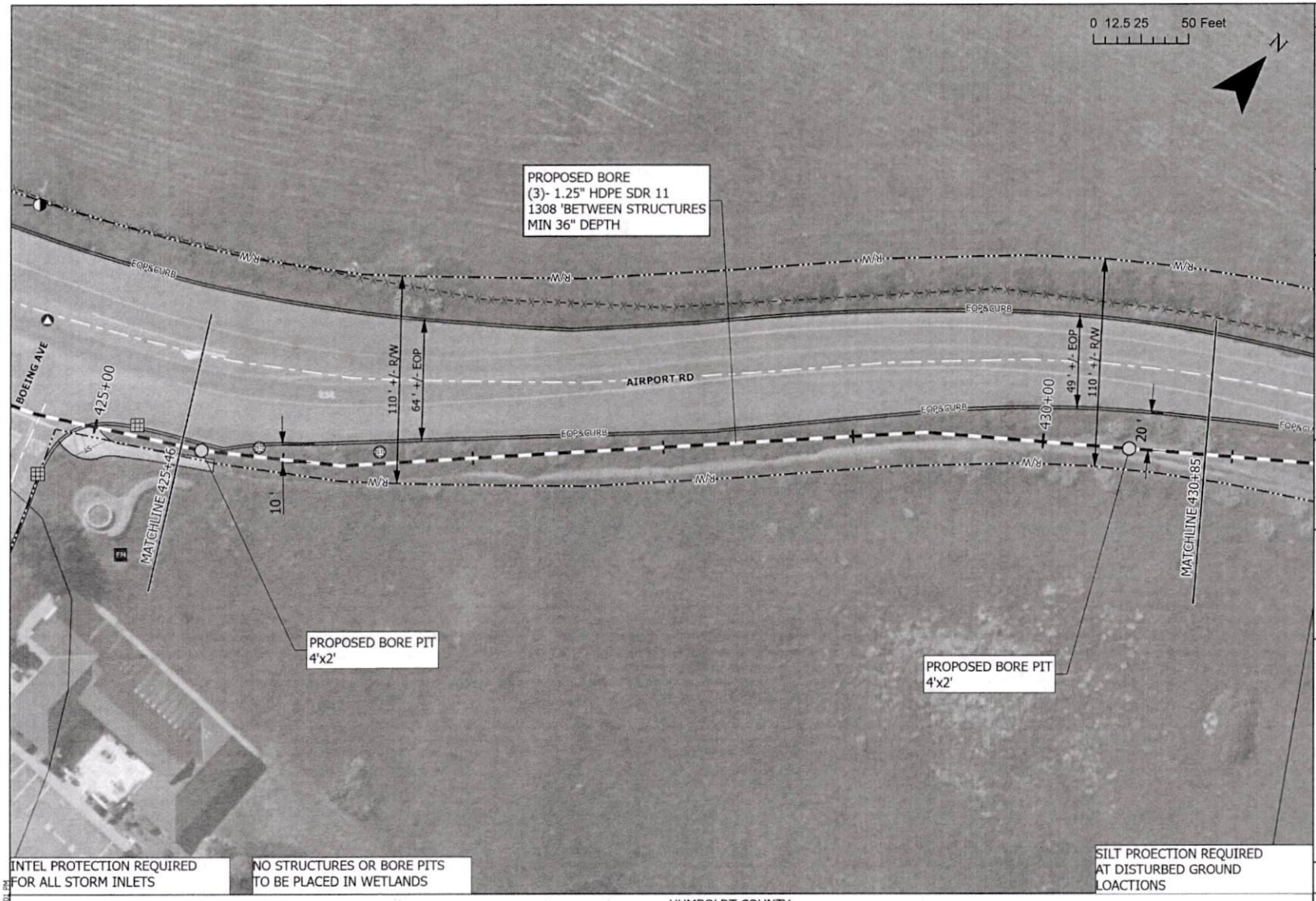
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.1

5/28/2024 11:42 AM



INTEL PROTECTION REQUIRED FOR ALL STORM INLETS

NO STRUCTURES OR BORE PITS TO BE PLACED IN WETLANDS

SILT PROECTION REQUIRED AT DISTURBED GROUND LOACTIONS

HUMBOLDT COUNTY
425+46 To 430+85

Scale: 1 INCH: 50 FEET

PERMIT EXPORT: 5/28/2024

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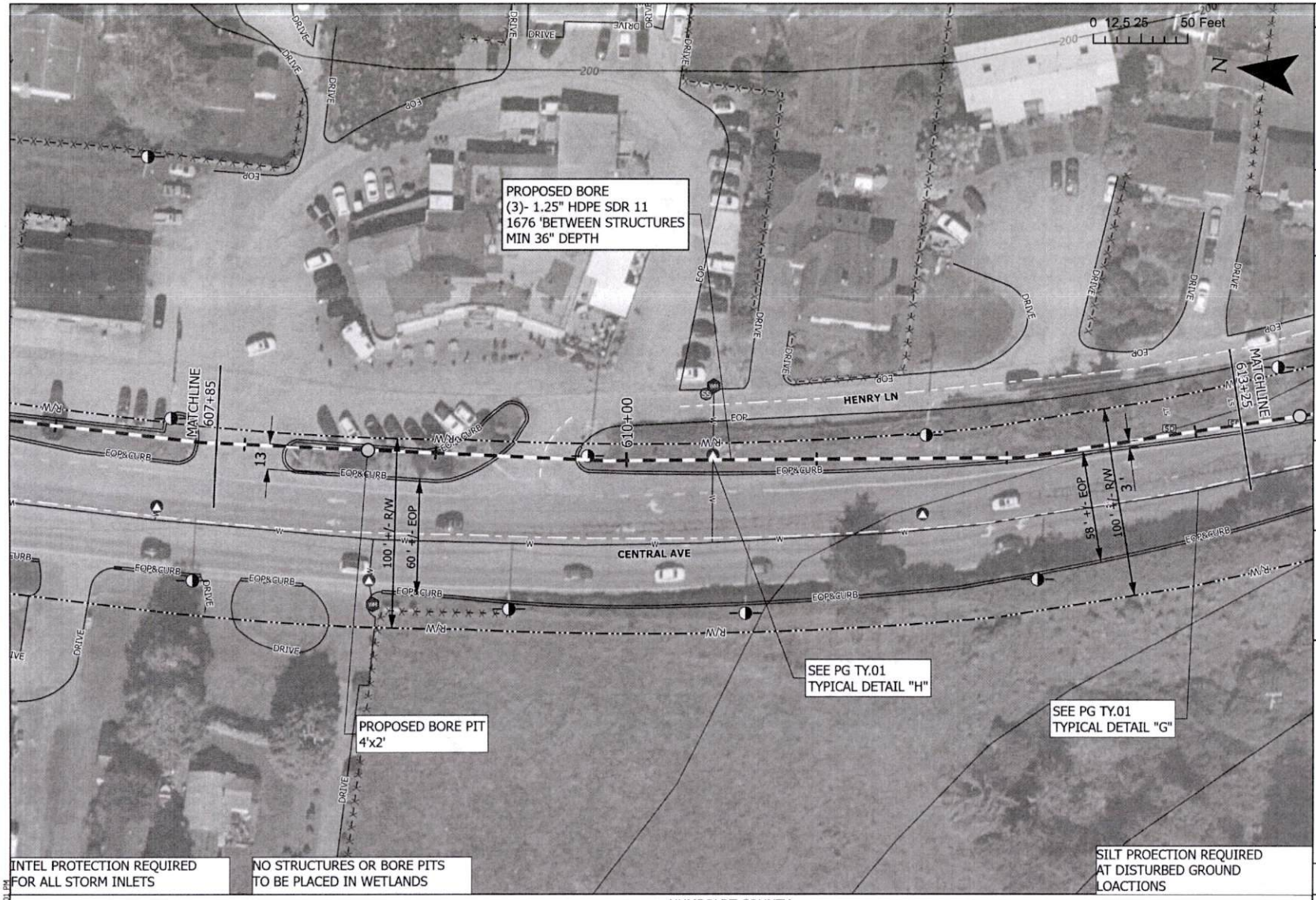
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.2

5/28/2024 12:01 PM



INTEL PROTECTION REQUIRED FOR ALL STORM INLETS

NO STRUCTURES OR BORE PITS TO BE PLACED IN WETLANDS

SILT PROECTION REQUIRED AT DISTURBED GROUND LOACTIONS

HUMBOLDT COUNTY
607+85 To 613+25

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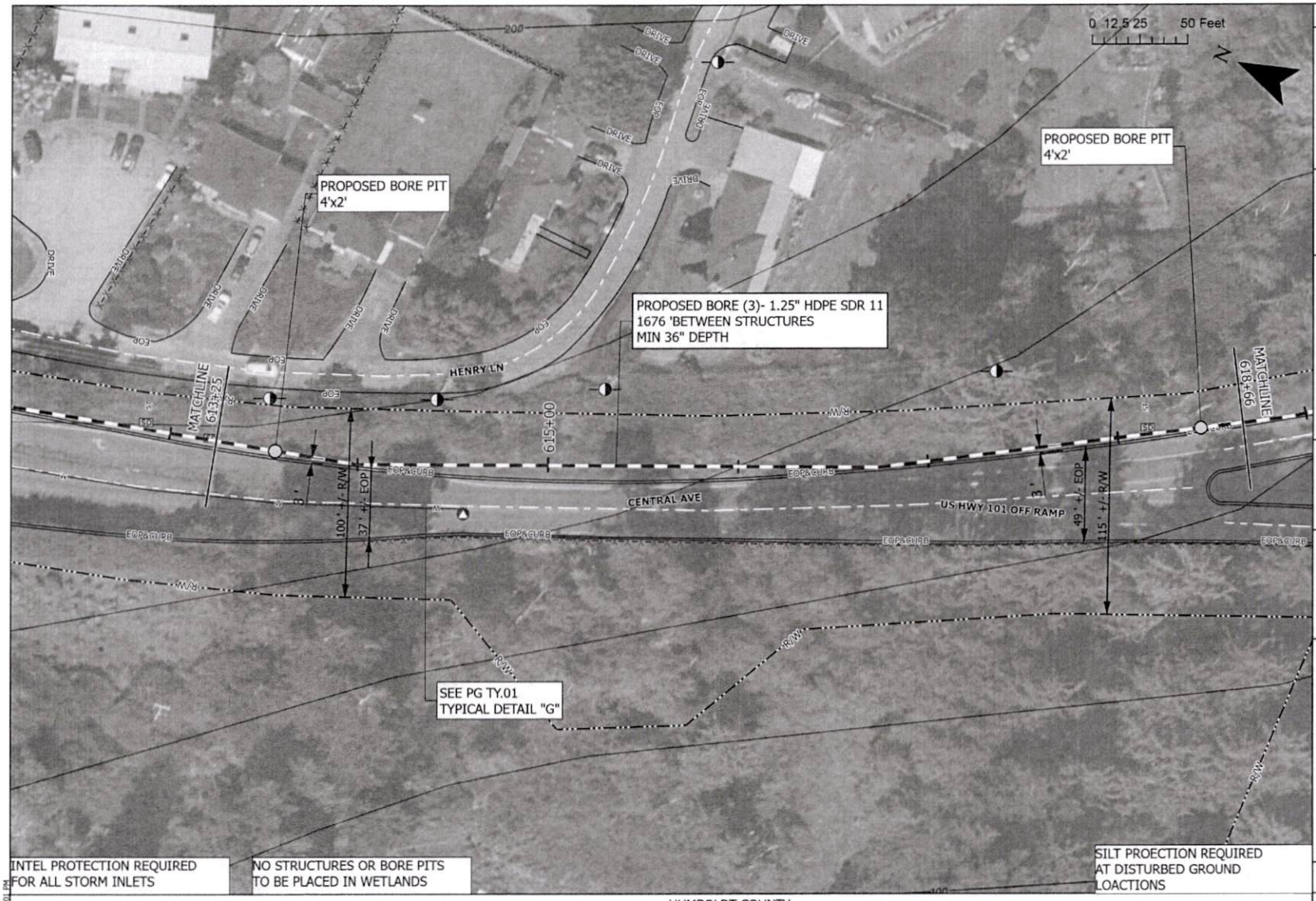
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.36

5/28/2024 12:01 PM



INTEL PROTECTION REQUIRED FOR ALL STORM INLETS

NO STRUCTURES OR BORE PITS TO BE PLACED IN WETLANDS

SILT PROECTION REQUIRED AT DISTURBED GROUND LOACTIONS

HUMBOLDT COUNTY
613+25 To 618+66

Scale: 1 INCH: 50 FEET

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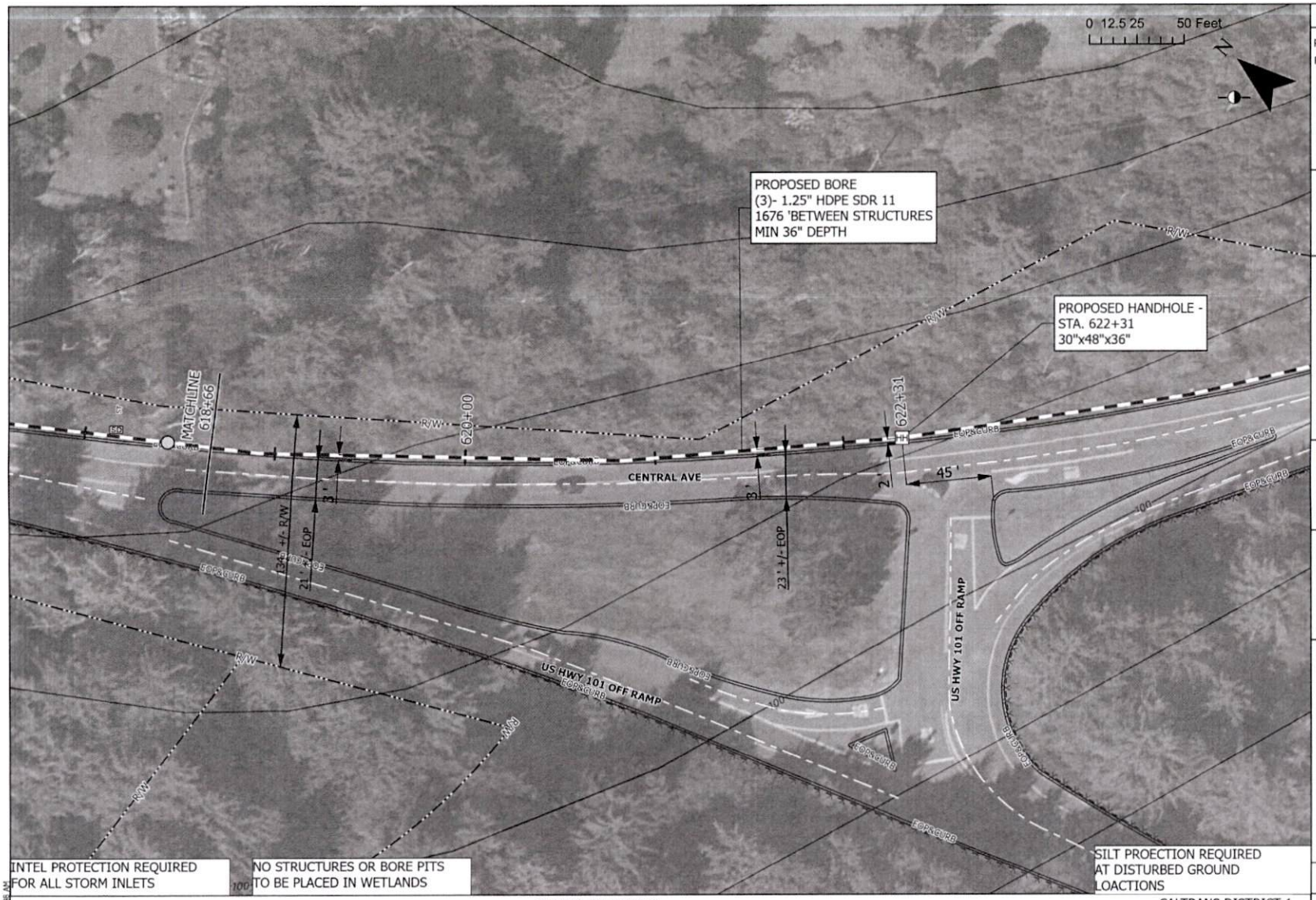
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.37

5/28/2024 12:01 PM



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SILT PROECTION REQUIRED AT DISTURBED GROUND LOACTIONS

HUMBOLDT COUNTY

CALTRANS DISTRICT 1

618+66 — 622+31 — 622+75

Scale: 1 INCH: 50 FEET

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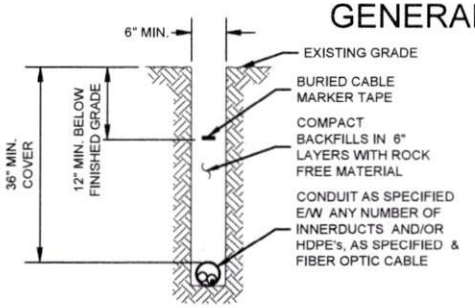
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

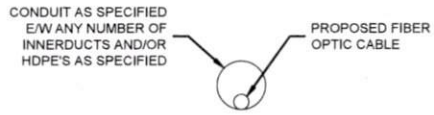
PL.38

5/28/2024 11:48 AM

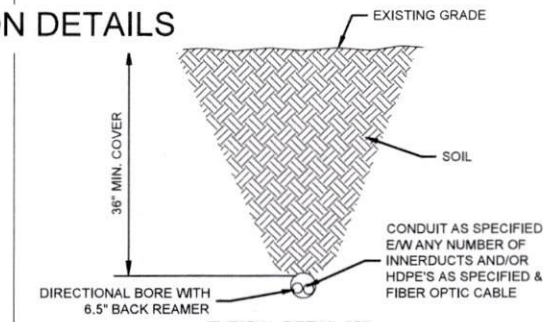
GENERAL UNDERGROUND CONSTRUCTION DETAILS



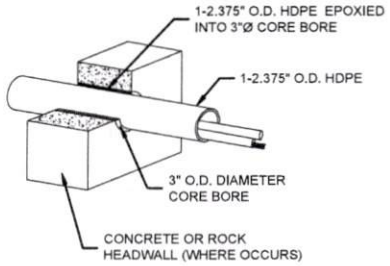
TYPICAL DETAIL "A"
TRENCH & PLACE CONDUIT



TYPICAL DETAIL "B"
CROSS SECTION OF PROPOSED HDPE

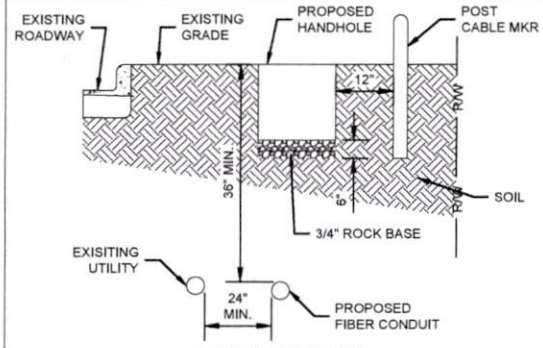


TYPICAL DETAIL "C"
DIRECTIONAL BORE CROSS SECTION FOR CONDUIT

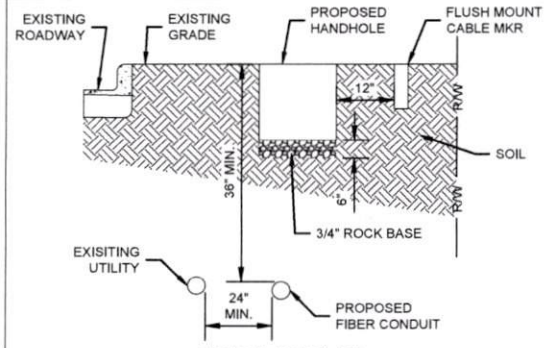


NOTE:
EPOXY GROUT IS USED AT BOTH ENDS OF CORE BORE TO SEAL GAP BETWEEN 2.375" CONDUIT AND PVC SLEEVE.

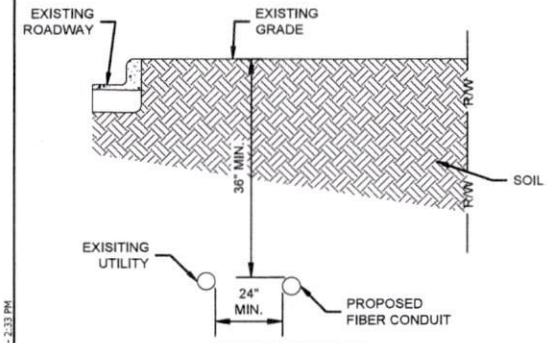
TYPICAL DETAIL "D"
3" CORE BORE



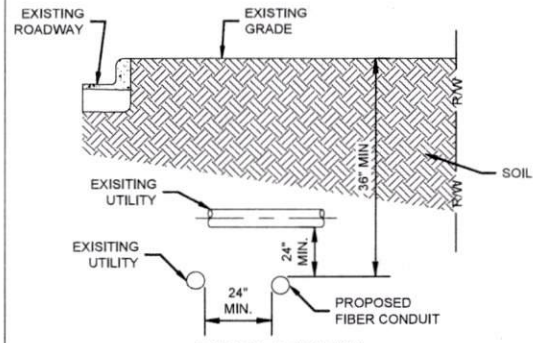
TYPICAL DETAIL "E"
HH WITH ABOVE GROUND MARKER



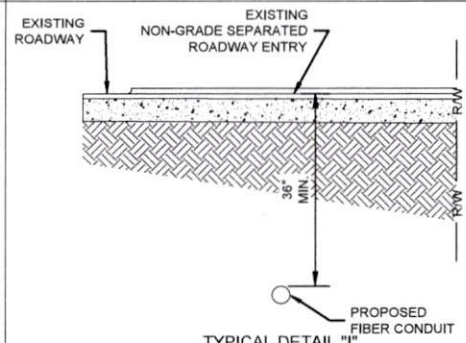
TYPICAL DETAIL "F"
HH WITH FLUSH MOUNT MARKER



TYPICAL DETAIL "G"
PARALLEL TO OTHER UTILITIES



TYPICAL DETAIL "H"
CROSSING OTHER UTILITIES



TYPICAL DETAIL "I"
CROSSING NON-GRADE SEPARATED ROADWAY ENTRY

REVISIONS		
DATE	REV	DESCRIPTION

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REGISTERED PROFESSIONAL ENGINEER
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NO. C 48159
EXP. 6/30/2024
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vero NETWORKS

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TYPICAL DETAIL DRAWINGS

TY.01

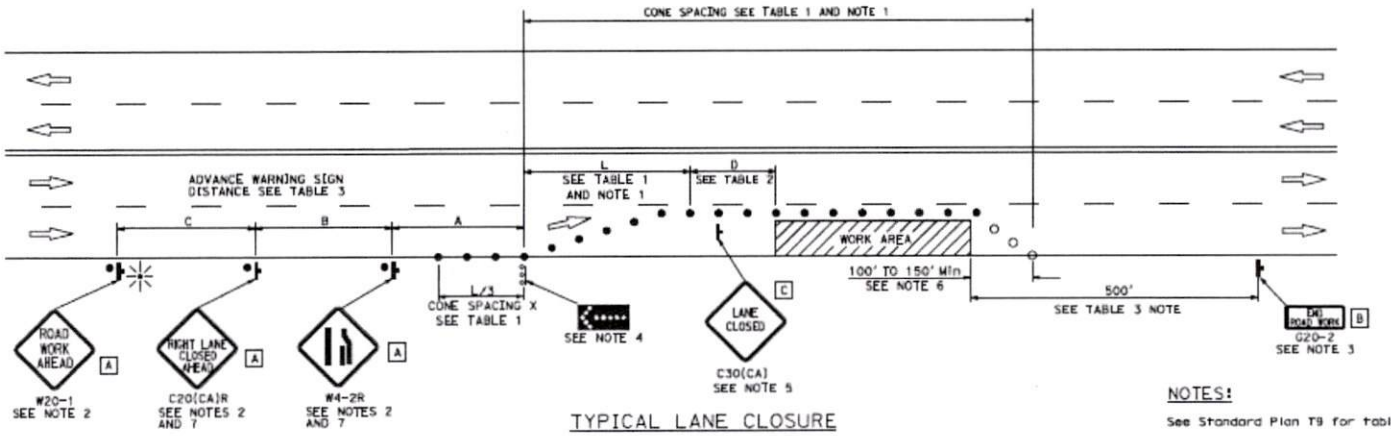
3/10/2021 - 2:33 PM

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

August 1, 2022
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



TYPICAL LANE CLOSURE

NOTES:

See Standard Plan T9 for tables.

Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

Provide at least one person to continuously maintain traffic control devices for lane closures.

LEGEND

- ● TRAFFIC CONE
- ○ TRAFFIC CONE (OPTIONAL TAPER)
- TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER
- PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 36" x 18"
- C 30" x 30"

NOTES:

1. Portable delineators placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.
2. Each advance warning sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
3. A G20-2 "END ROAD WORK" sign shall be placed at the end of the lane closure unless the end of work area is obvious or ends within the larger project's limits.
4. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
5. Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work area.
6. Length may be reduced by the Engineer to address site conditions.
7. Median lane closures shall conform to the details shown except that C20(CA)L and W4-2L signs shall be used.
8. For approach speeds over 50 MPH, use the "Traffic Control System for Lane Closure on Freeways and Expressways" plan for lane closure details and requirements.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS

NO SCALE

T11

2022 STANDARD PLAN T11

APPROVED
SEP 19 2024
Humboldt County
PLANNING

PROJECT ARCATA TO TRINIDAD
HUMBOLDT COUNTY

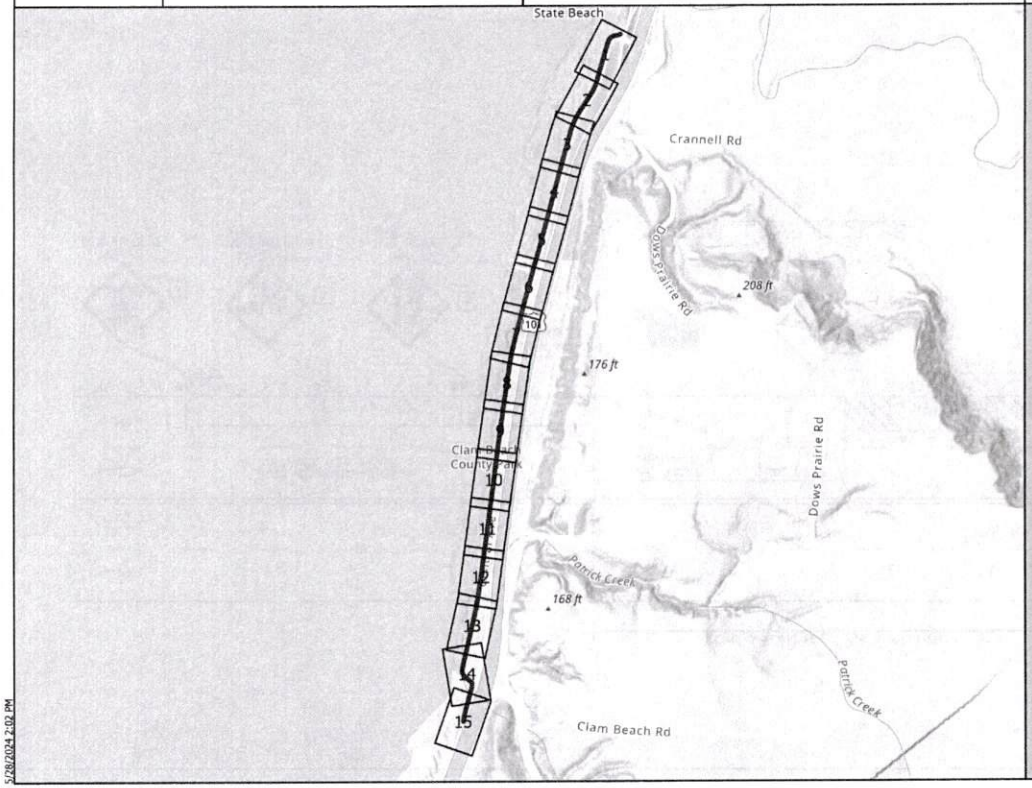
ISSUE FOR PERMIT: 5/28/2024	
PERMIT NAME:	VERO_HUMBOLDT_07
JURISDICTION:	HUMBOLDT COUNTY
COUNTY:	HUMBOLDT
BORE FOOTAGE:	7936'
STRUCTURES:	6 HANDHOLES

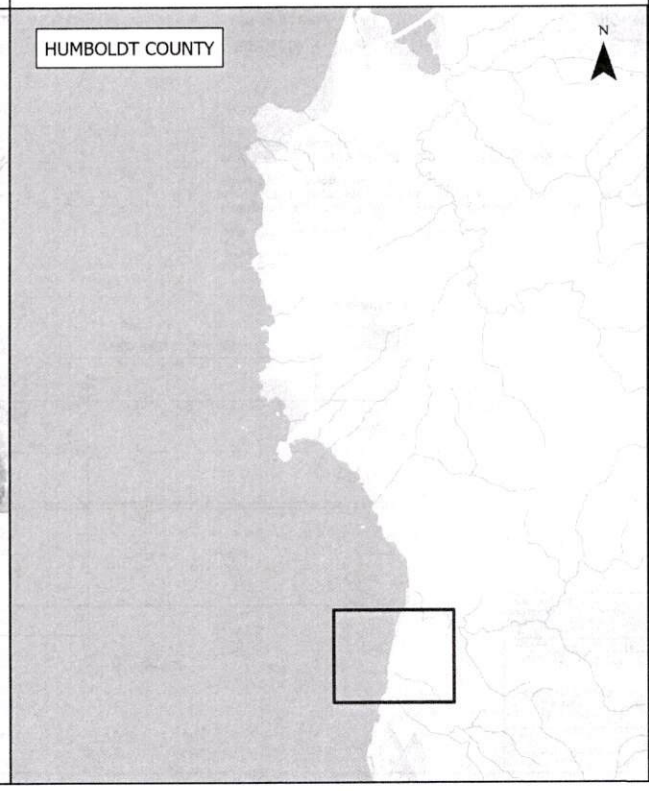
DRAWING INDEX

APPLICATION PREPARED BY:

CHRIS SCHEPMANN
PROJECT MANAGER 2
7101 COLLEGE BLVD. SUITE 400
OVERLAND PARK, KS 66210

BHC
CIVIL ENGINEERING / SURVEYING / UTILITIES





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HUMBOLDT COUNTY
TRINIDAD TO ARCATA
T.01

5/28/2024 7:02 PM

APPROVED
SEP 19 2024
Humboldt County
PLANNING

SYMBOLOGY:

EXISTING:

- Gas Manhole
- Gas Meter
- Gas Valve
- Electrical Manhole
- Electrical Meter
- Electrical Pedestal
- Electrical Vault
- Electrical Cabinet
- Water Hydrant
- Water Manhole
- Water Meter
- Water Valve
- Water Vault
- Sanitary Sewer Manhole
- Sanitary Sewer Other
- Telecom Manhole
- Telecom Pedestal
- Telecom Vault
- Telecom Cabinet
- Traffic Control Light
- Traffic Control Manhole
- Traffic Control Other
- Traffic Control Vault
- Traffic Control Cabinet
- Storm Sewer Grate
- Storm Sewer Manhole
- Storm Sewer Drain
- Light Pole
- Utility Pole w/Light
- Utility Pole
- Electric Line
- Gas Line
- Sanitary Sewer Line
- Storm Sewer Line
- Telecom Line
- Traffic Line
- Water Line
- Right of way
- Easement

- Curb and Gutter
- Dirt
- Driveway
- Edge of Pavement
- Gravel
- Sidewalk
- Centerline
- Fence
- Tree
- Forest
- Contour Lines
- Wetlands

PROPOSED:

- Proposed Vault
- Bore Pit
- Match Line
- Proposed Conduit

ABBREVIATIONS:

CL	Centerline	MMV	Meet Me Vault
CMP	Corrugated Metal Pipe	MON	Monument
CO	County	NO	Number
CONC	Concrete	PRK MTR	Parking Meter
CSG	Casing	P/L	Property Line
CT	Count	PED	Pedestal
CTV PED	Cable TV Pedestal	PED-X SIG	Pedestrian Crossing Signal
CULV	Culvert	PI	Point of Inflection
DBH	Diameter at Breast Height	PKG	Package
		PVC	Polyvinyl Chloride
D.D.	Down Drain	RCB	Reinforced Concrete Box
DEPT	Department	RCP	Reinforced Concrete Pipe
DIA	Diameter	RD MEM	Roadside Memorial
DIR	Directional	REQD	Required
DIST	District	RGS	Rigid Galvanized Steel
DOC	Depth of Cover	ROW	Right of Way
DOT	Department of Transportation	RR	Railroad
		RR HUT	Railroad Signal Hut
DWG	Drawing	SCB	Sprinkler Control Box
DWY	Driveway	SD	Storm Drain/Curb Inlet
E MH	Electric Manhole	SDMH	Storm Water Manhole
E MKR	Electric Line Marker	SEC.	Section
E PED	Electric Pedestal	SF	Silt Fence
E VLT	Electic Vault	SMH	Sanitary Sewer Manhole
EM	Electric Meter	SP	Splice
ENC	Encased	SS CO	Sanitary Sewer Clean Out
ENG	Engineering	SS LIFT	Sanitary Sewer Lift Station
EOP	Edge of Pavement	STA.	Station
EPB	Electric Pull Box	STD	Standard
EXIST	Existing	STR	Section Township Range
FH	Fire Hydrant	SWPPP	Storm Water Pollution Prevention Plan
FO	Fiber Optic		
FO MH	Fiber Optic Manhole	SWT MCH	Switch Machine
FO MKR	Fiber Optic Line Marker	T HH	Telecom Handhole
FO VLT	Fiber Optic Vault	T MH	Telecom Manhole
FOC	Fiber Optic Cable	T MKR	Telecom Line Marker
FS	Filter Sock	T PED	Telecom Pedestal
G MH	Gas Manhole	T VLT	Telecom Access Vault
G MKR	Gas Line Marker	T.P.	Trench Plug
G SD	Grated Storm Drain	TCB	Traffic Control Box
GALV	Galvanized	TCE	Temporary Construction Easement
GEO SRV MKR	Geodetic Survey Marker	TCV	Traffic Control Vault
GM	Gas Meter	TRF MH	Traffic Control Manhole
GV	Gas Valve	TSP	Traffic Signal Light
GWMW	Groundwater Monitoring Well	TYP	Typical
		UG	Underground
HDPE	High Density Polyethylene	UNK MH	Unknown Manhole
		UNK PED	Unknown Pedestal
HH	Handhole	UNK UTL MKR	Unknown Utility Marker
HWY	Highway	UNK VLT	Unknown Vault
IB	Inlet Barrier	USACE	United States Army Corps Of Engineers
ILA	In Line Amplifier		
INC	Incorporated	UTL LP	Utility Light Pole
INT	Intermediate	UTL P	Utility Pole
L/A ROW	Limited Access Right of Way	VDOT	Virginia Department of Transportation
LF	Linear Feet	VLT	Vault
LOC MKR	Locating Marker	VP	Gas Vent Pipe
LP	Light Pole	W MH	Water Manhole
MAX	Maximum	W MKR	Water Line Marker
MB	Mailbox	W SPG	Water Spigot
MH	Manhole	W VLT	Water Vault
MIN	Minimum	WM	Water Meter
MIT	Mitigation	WV	Water Valve
MKR	Marker	X-GATE	Crossing Gate
ML	Maintenance Limits	YRD L	Yard Light

REVISIONS

DATE	REV	DESCRIPTION

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HUMBOLDT COUNTY

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PROJECT CONTACTS

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EUREKA, CA 95501
(707) 445-7388 EX. 2
KFREED@CO.HUMBOLDT.CA.US

CALTRANS DISTRICT 1
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EUREKA, CA 95502-3700
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CONSTRUCTION NOTES

UNDERGOUND CONSTRUCTION

CONDUIT INFRASTRUCTURE CONSTRUCTION

1. RIGHT-OF-WAY PROTECTION AND RESTORATION

1. Contractor shall comply with requirements stipulated by relevant authorities having jurisdiction (City, County, State and Federal), and shall minimize damage to rights of way and ensure all clean up and restoration meets or exceeds such jurisdiction specifications, with all debris and waste removed at Contractor's cost/expense
2. Contractor shall comply with all Environmental Protection agency requirements (State and Federal) and ensure compliance on all projects.

2. MATERIALS

1. CONDUIT
1. HDPE is the default choice for underground conduit, minimum wall thickness SDR-11. The properties and dimensions shall be in accordance with ASTM F2160 standard specification for Solid Wall High Density Polyethylene (HDPE) Conduit unless otherwise approved by Company Project Manager permitting authority. Duct size and number of ducts will be specified on the Engineering Workprints, purchase order or scope of work issued to Contractor. All materials supplied and used by contractors must approved by Company Project Manager.
2. Conduit shall be installed by pulling the duct directly from reels on reel trailers.
• Note: This will ensure as little waste as possible of the Duct, as well as less stress on duct and safer for crew members.
3. Crews will NOT pull duct off reels prior to installing unless there is absolutely no physical way to get a reel trailer set up safely.
• Note: having to shut down a lane to accommodate the reel trailer for pulling duct or any other, other than normal solution, does not meet the criteria of "no physical way"
• Once Duct is in the HH, MH, and or site, etc., they will all be sealed by using the proper duct plugs.
• Photos with Solocator will be taken per written standard. See OSP.1012 Standards Bulletin for further detail.

3. MANHOLES

Manholes provided by contractors must meet Bellcore standards and specifications and be approved by Company Management. All manholes will conform to AASHTO (American Association of State Highway and Transportation Officials) H-20 loading, traffic rated standards.
GPS will be taken at every Manhole placed. Photos with Solocator will be taken at every placed manhole per written
standard. See OSP.1012 Standards Bulletin for further detail. And as required by SOW.

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HUMBOLDT COUNTY

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CONSTRUCTION NOTES

HANDHOLES

Handhole type and manufacture will be specified by COMPANY in the scope of work and the Contractor will be required to purchase and use those for the specific build
Handholes for slack use will be a minimum of 36 inches in depth, 48 inches in length and 30 inches in width Handholes used for splice locations will be a minimum of 48 inches in
depth, 60 inches in length and 36 inches in width
These and any Handhole used on a COMPANY construction project shall be, at a minimum, A Tier 22 with a load rating of 22,000 lbs. minimum If for any reason the contractor is required to acquire COMPANY Handholes, they will meet the above requirements as well as, meeting the Bellcore standards and specifications and be approved by Company Management. All handholes will conform to AASHTO (American Association of State Highway and Transportation Officials) and if required to be in the street or a location where large weight vehicles may sit on and not just cross over them, then they must also be upgraded to a H-20 load rating, traffic rated standards. GPS points will be taken at every Handhole placed Photos with Solocator will be taken at every placed handhole per written standard. See OSP.1012 Standards Bulletin for further detail. And as required by
SOW

SPECIAL DESIGN AND MATERIAL CONSIDERATIONS

1.The contractor shall be responsible for the physical location of ALL foreign utilities within the right-of-way before digging in the vicinity in accordance with local Utility Protection Standards. Any damages to other utilities will be the responsibility of the contractor. Contractor will also be responsible for red-lining all utilities on as-builts
2.Steel pipe shall be considered where obstructions such as buried utilities or other facilities run parallel to the proposed running line and have less than 2 feet of separation.
3.GSP, Steel or PVC Schedule 80 conduit will be proposed for housing HDPE or innerduct at Railroad crossings, river crossings, culvert crossing and other obstacles of the same type crossings.
4.If these methods are used the conduit should extend a minimum of five feet past the edge of the culvert or headwall.
5.All sweeps and field bends and or turns tighter than a 36" radius will require factory fittings at all times

METHODS OF PLACEMENT

PLOWING
1. All OSHA and other governing agencies rules and regulations will apply and be followed
2. Plowing can be considered as an alternative construction method when conditions and governing authorities permit.
3.When plowing is utilized as a construction method, the equipment used by the contractor shall be such as to cause the minimum displacement of the soil. Damage to banks, ditches, driveways, and roads
4.GPS points will be taken at the start and stop of the Plow, every 150 feet along a straight and continuous plow line, and at any and all changes in direction to include drift up or down or side to side in the ROW to ensure running line accuracy.
5. Photos with Solocator will be taken as required in the scope or as needed

TRENCHING/OPEN CUTS

1. All OSHA and other governing agencies rules and regulations will apply and be followed
2. When trenching and open-cutting is an option or requirement, the contractor shall excavate by machine trench, backhoe, hand, etc.
3. The network trench shall be as straight as practicable.
1. The bottom of the trench shall be smooth and free from any sharp edges.
2. The trench shall be kept clear of debris and loose rock.
3. All changes in trench grade shall be gradual
a. Note: The vertical change in grade should not exceed (1.5') within (6') in length.
1. Prior to duct placement in the trench, the duct shall be bundled, tied and or bound by an approved method to eliminate the possibility of the duct twisting and tension shall be applied to the duct to eliminate waving in the trench.
2. Duct shall be placed in the center of the excavation and as straight as practicable. Excessive waving of the duct within the trench will not be allowed.
3. All open trenches and other excavations shall be backfilled at the end of each working day. Any open trench or excavation not backfilled may be covered as approved by the governing authority's rules and regulation
4. GPS points will be taken at the start and stop, every 25 feet along a straight and continuous trench line, and at any and all changes in direction to include drift up or down or side to side in the ROW to ensure running line accuracy.
5. Photos with Solocator will be taken as required in the scope or as needed

BORING

1. All OSHA and other governing agencies rules and regulations will apply and be followed
2. When Boring is allowed the contractor shall use Directional Boring as the preferred method.
3. The contractor will be responsible for all unsuccessful bore attempts. All unsuccessful bore attempts will be filled with grout or as required by the governing authority.
4. The contractor shall not drain any excess material into storm, sanitary systems, ditches or anywhere on the Right of Way.
5. When crossing all deadly utilities they must be daylighted by potholing to verify there is sufficient separation from the Company duct, or if paralleling within 10' horizontally.
1. Note: separation is 24" without written authorization from COMPANY or the governing agency or agencies.
6. All verifications will be physical verification on site of the actual utility
7. Bore logs will be kept and document the start, the stop and every 10 feet in between.
8. The contractor shall submit all boring logs and profiles to Company
9. In general the vertical change in grade shall not exceed one and a half feet (1.5') in six feet (6') in length.
10. GPS points will be taken at the start and stop of every bore, every change of stem (i.e., every 10 feet when using 10-foot stems, 15 feet when using 15-foot stems etc.) along a straight and continuous bore line, and at any and all changes
in direction to include drift up or down or side to side in the ROW to ensure running line accuracy and depth accuracy.
11. Photos with Solocator will be taken as required in the scope or as needed

GENERAL RESTORATION

1. All OSHA and other governing agencies rules and regulations will apply and be followed
1. All rock and debris brought to the surface and not used during backfilling operations shall be removed and disposed of in an appropriate manner.
2. Improved landscape, lawns, shrubs, and hedges removed or damaged shall be replaced in like kind.
4. All areas disturbed by the construction activities in public rights-of-way shall be restored and seeded per the specifications of the governing authority.
5. The contractor shall promptly repair or replace any other property damaged during construction.
6. Contractor shall remove all duct installation debris including construction spoils and remaining installation materials from any public or private properties.
a. NOTE: Such material to be removed would also include litter generated by the construction crews.
7. No debris or litter should ever be disposed of in a trench or other telecommunication excavation. The contractor is responsible for the proper disposal of all soil, concrete, asphalt or other debris.
8. No asphalt shall be permitted in the backfill.
9. Photos with Solocator will be taken before, during and after restoration and as needed

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HUMBOLDT COUNTY

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CONSTRUCTION NOTES

PAVEMENT RESTORATION

1. All OSHA and other governing agencies rules and regulations will apply and be followed
2. It is recommended that Cobblestone or old brick in historic areas, be numbered, photographed, removed, and then stored for replacement. Care must be taken to restore historic areas to their original condition and "look."
3. Pavement, driveways, and sidewalks shall be restored to their original or better condition within five (5) business days or as soon as practicable, following duct placing operations.
4. The backfill within the roadway shall be placed and compacted in not more than six-inch (6") lifts from the bottom to the finished grade.
5. Photos with Solocator will be taken before, during and after restoration and as needed

BACKFILL

1. The trench shall be backfilled and compacted to the satisfaction of Company and local authorities, promptly behind duct placement.
2. The backfill shall be the trench excavated materials, provided the excavated materials are free from debris, rocks measuring less than two inches (2") in diameter and other unsuitable materials.
3. Backfill within the roadway shall be placed and compacted per the governing authority specification or to ninety percent (90%) modified proctor in non-traveled areas and ninety five percent (95%) modified proctor in traveled areas whichever is greater.
4. Company 's engineer has the right to test the soil compaction randomly. If soils do not meet the compaction requirements, the contractor will be directed to remove fill until proper compaction is found. The contractor will not have any claim to additional time or additional costs.
5. If Company 's engineer tests 5 locations that fail compaction, then Company 's engineer can require all backfill lifts to be tested. The contractor will be required to pay for all the testing including, but not limited to, labor, equipment and lab tests.

DEPTH OF PLACEMENT

1. Except where specified in the drawings, approved by Company , or permit specifications dictate a different depth, the top duct shall be placed a minimum of Forty-two inches (≥42") below grade or as required by authority having jurisdiction with a minimum of twelve inches (12") of separation from foreign object or as required by object's owner which is greater.
2. Where the network crosses gullies, ditches, streams, rivers, and washes, the conduit will be placed at a minimum depth of forty-eight inches (48") below the bottom of the waterway unless the controlling authority requires additional depth in which case the greatest depth will be maintained.
3. Where the network route crosses railroads, the network shall be placed at a minimum depth of sixty inches (60") below the base of rail or sixty inches (60") below the paralleling drainage ditches, or at greater depths as required by permitting authorities which is greater.
4. Where the network crosses existing subsurface pipes, cables, or other structures, the network will be placed to maintain a minimum of twelve inches (12") separation (preferred to be 24" whenever possible) from the foreign object or a minimum separation as required by the object's owner, whichever is greater.
5. For special cases when minimum cover cannot be obtained due to the location of subsurface obstructions and/or other utilities, these special considerations will be acceptable, but only with Company Management approval:
a. BSP/GSP or Concrete Encased HDPE will be used with cover between 12" to 35", with Middle Mile Management approval.

COUPLER INSTALLATION

1. Barbed Couplers will be utilized and installed per manufacturer's specification, buried flush with the path/bore/trench of the conduit.
2. Barbed Couplers are the only authorized couplers for any and all COMPANY HDPE duct
3. To prevent the bundling of Barbed couplers at one location or hole and to meet requirements for depth of cover; the couplers must be staggered and sequenced every six inches between multiple conduits and should not overlap or touch another coupler.
4. If micro duct is used (i.e., 7way, 6way, 4way etc.,) a rubber boot will be applied over the micro duct couplers and then heat shrunk for added strength both vertically and horizontally, as well as,sealing the staggered couplers from foreign substances
5. All locations of barbed couplers should be noted and correspond to a depth and station number on the as-built drawings.
6. All Couplers at all Coupler locations will be photographed with Solocator and provided as a deliverable to Company , to include but not limited to the GPS location, station number and a number of all couplers, barbed and or micro coupler, at each location. And as required by SOW.
7. See OSP.1012 Standards Bulletin for further detail.

CABLE MARKER SIGNS

Marker Poles
1. Marker Poles will be set at each Splice, Handhole and Manhole location.
a) The cable marker posts shall be placed whenever possible within a one-
foot offset from the back of the Handhole/Manhole, centered on the back side of the Handhole/Manhole between it and the outside ROW line
b) if due to permitting agency rules, Marker Poles are not allowed then
alternative means will be used to mark these assets.
c) Any deviation from Marker Poles to other devices will require COMPANY written approval.
2. Marker poles will be set at all crossings (i.e., road, river, rail, etc.)
3. Marker poles will be set at all changes of direction in the running line.
4. Marker Poles will be set in such a way so there is never more than 500lineal feet between any two Marker Poles.
5. Marker Poles will be set in such a way that no matter where you stand onthe ROW, you will be able to see a Marker Pole
6. GPS points will be taken at every placed Marker Pole
7. Photos with Solocator will be taken at every placed marker Pole And as required by SOW.

DEPTH OF MARKER SIGN

1. Contractor shall bury the marker post as per Manufacturer's specification, at twenty-four inches (24") below grade and ensure the cross member has been added to ensure stability and the Marker Pole can't be lifted.
2. The cable marker posts shall be placed whenever possible directly over the the network running line or as close as the permitting authority allows.
3. Any offset shall be permanently noted on the space provided by the cable marker sign.
4. All Marker Posts are to be GPS'd

TRACER WIRE

1. When a trace wire is required, a minimum of a 10-gauge poly coated solid copper tracer wire will be placed with every linear foot of duct placed,regardless of the type of construction
2. If armored cable is used, then the locate wire from the enclosure to the Locate test Station pole will be poly coated solid # 6.
3. Locate marker posts, flush mount finks, manholes, handholes, and all other tracer access points will be connected to the tracer/ground wire for locating buried facilities.
4. Tracer wire connectivity tests must be conducted by the contractor to ensure the entire plant is locatable.
5. Damaged tracer/ground wires will be repaired immediately with minimal connectors.
6. COTT or other Company acceptable test stations will be placed at each manhole/handhole, using the ground tree model to ground tracer wire at splice locations. see OSP.1003 – Splice Point Grounding for Locate Test Point Stations in Appendix A

PROOFING DUCT

1. All conduits, regardless of size will be verified for ovality, turning angle, and damage by proofing the duct per manufacturer specification and or with an 85% space capacity mandrel whichever is greater.
2. The mandrel will be made of metal and not to exceed the length of 3 times the diameter of the duct.
3. Proofing of the duct shall be completed with air pressure of at least 50 PSI and no more than 150 PSI or the max duct PSI whichever is less.
4. All proofing results must be witnessed and documented by an appropriate Company representative.
5. Damaged duct should be repaired immediately with minimal couplers.

SEALING DUCTS

All ducts must be properly sealed per manufacturer specifications with Duct plugs or an equivalent approved by the Company Project Manager. Ducts or duct plugs should be labeled with the direction of the conduit path. All ducts with FOC present must be properly sealed with a half Moon or equivalent plug approved by the Company Project Manager.

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HUMBOLDT COUNTY

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CONSTRUCTION NOTES

MANHOLE AND HANDHOLE CONSTRUCTION

1. Handholes and manholes shall be installed by the contractor as designated in the construction drawings. Installation shall include all grouting, installation of extension ladders, required extension rings, and all related work for the complete installation of the structure. The design loading for all man-holes and handholes shall be capable of supporting H-20 loading,
per the American Association of State Highway and Transportation Officials (AASHTO.)
2. All Intermediate Slack Vault (IEV) Hand holes will be sized to a minimum of 30" in width x 48" in length x 36" in depth and open bottom
3. All Network Splice Vault (NSV) HHs will be sized to a minimum of 36" in width x 60" in length x 48" in depth and open bottom.
4. The handholes shall be set on a base minimum thickness of six inches (6") or as provided in manufacturer's specifications consisting of clean gravel or crushed stone with a minimum diameter of three-quarter inch (3/4") and a diameter maximum one and one-half inch (1.5").
5. The ducts shall enter and leave hand holes exactly opposite each other within the handhole to facilitate the cable coils and/or splice closures. When ever possible the duct will enter from underneath the Handhole, not the sides. Each duct length inside handholes and manholes shall be a minimum length of six inches (6") from the inside wall of the HH, but no more than twelve inches (12").
6. Micro duct should be a minimum length of ten inches (10") from the inside wall of the HH, but no more than sixteen inches (16") and then four inches (4") of the outer sheath should be removed to allow the unfettered access to the individual micro ducts.
7. At all splice locations the contractor shall install a 3-rod ground tree for fiber optic cable grounding in accordance with the detailed drawings provided in
Bulletin OSP.1003 – Splice Point Grounding for Locate Test Point Stations.
• Ground Trees will be GPS'd
7. In a Metro area, Handholes shall be set flush to grade or to the specifications of the governing authority or in accordance with the detailed drawings.
8. When outside a metro area, the handhole is to be buried and it should be set with a minimum of 18 inches (18") and or a maximum of twenty-four (24") cover.
9. Manholes shall be installed in the same manner as handholes with the following exceptions:
• The contractor shall not use material less than five thousand (5,000) pounds per square inch (PSI) in density to shim frames and covers.
• Frames and covers shall be installed to match existing grade and shall be
shimmed with either steel or concrete spacers.
• All manhole penetrations shall be sealed with a pre-approved non-shrink grout.
• All conduits, ducts, or casings that enter the manhole wall shall be back filled to 95% compaction by using sand and water or slurry to insure minimal settling of the pipe. This action will help eliminate damaged conduits.
11. Innerduct shall have a gradual sweep into the handholes and manholes, if the depth of innerduct bury exceeds forty-eight inches (48"). The handholes and manholes shall not be installed on steep banks or slopes where the cover cannot be leveled within a tolerance of one-inch (1") of drop to twelve
inches (12") of grade.
12. All innerduct or conduit entering the manhole shall be flush and horizontal to the hole of penetration on the manhole. To prevent settlement and conduit damage near the entry of the manholes, the soil or bottom of the trench will meet 95% compactions by the use of various backfill materials. The suggested method is sand and water or slurry.
13. Upon completion of the innerduct placement in the handhole and manholes, the innerduct shall rest freely without tension. Innerduct on each side shall be plugged and sealed as previously noted.
14. All HH's and MH's, 3 rod ground trees, duct entrances and anything else called out in 4.9 shall be photographed with Solocator and provided as a deliverable to Company . to include but not limited to the GPS location, station number. See OSP.1012 - QA Photo App Standard Bulletin.

SPECIAL CONSTRUCTION CONSIDERATIONS

RAILROAD CROSSINGS

1. All work shall be performed in accordance with Railroad authority and other permitting agencies.

STREAM AND CANAL CROSSINGS

1. Contractor shall comply with all Federal, State, county and local laws, rules, regulations and Company obtained permits when crossing lakes, canals, streams, or river crossings.
2. Restoration and erosion control shall be performed as required by the agency having jurisdiction and as approved by Company .

GAS LINE CROSSINGS

1. Extra care must be taken when working around gas lines.
2. All deadly utilities will be exposed to verify 24" separation from Middle Mile Management duct package when crossing
3. All placements are subject to additional requirements in accordance with standards and specifications of the gas line owner and permitting authorities.

ROCK CONSIDERATIONS

NO ROCK CLAUSE:

• NO ROCK CLAUSE Contracts and RFPs must clearly define whether rock clauses are applicable to a specific project or not.
• For contracts that have no allowances for rock considerations, the contractor is responsible and fully accountable for all construction regardless of the type and amount of rock encountered during construction.

DRAINAGE CULVERTS

1. If underground drainage tile is encountered as the network is installed, the network shall be installed as per drainage district or other governing authority specifications.
2. The contractor consistent with the pre-construction conditions and materials will repair all damaged drainage tiles. In case of a dispute regarding the proper repair of damaged tile lines, the repair specifications of the county Soil and Water Conservation District will be followed.
3. The contractor will be responsible for repair of tile damaged by the construction.
4. Repairs made to damaged tile line must enable the tile lines to operate as well or better after the repairs are completed as before they were damaged.
5. The contractor shall immediately repair any tile lines known to be damaged. Permanent tile line repairs will be made within two (2) days of the date the damage occurred, weather permitting.
6. Where a tile is damaged, the contractor must station the location and indicate the location on the red line as-built
7. Prior to back filling, a Company representative and the governing authority must approve of the final tile repair.

EXISTING UTILITIES AND SUBSURFACE OBSTRUCTIONS

1. Prior to excavation commencement, contractor shall obtain a dig ticket by calling the appropriate Utilities Protection Center number per applicable jurisdiction (state, county, city, federal).The Contractor shall obtain and maintain the Call Before you Dig Programs in all construction areas. Contractor shall also notify all existing utility owners not participating in the CBUD Programs. For Company approval and inspection, contractor shall document and maintain records that evidence the notification of all utility owners no later than seventy-two (72) hours prior to the start of construction. The records shall include date, time of day, name of individual contacted, name of companies contacted, telephone number, and confirmation number.
2. Damaged Utilities: Any utility damage will be reported to the utility owner and Company immediately. This includes any damage to Company duct or cable. Contractor will fully cooperate with Company to facilitate any repairs necessary and provide complete documentation of all activities and restoration.

FENCING

1. Safety fencing shall be erected, around the contractor's excavations and or open holes and equipment left open or out over night or weekends on the ROW or any publicly accessible place.
2. Safety fencing will consist of 6-foot T-Posts and high visibility plastic safety snow fence erected per local, state or federal rules and guidelines

DAILY CLEAN-UP

The contractor shall maintain a clean and hazard free work area including daily removal of all spills, unused or unacceptable excavation materials, and waste. The contractor should sweep all affected street work areas and side-walk areas daily in accordance with Federal, State, county, city and local laws, rules, regulations and standards.

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HUMBOLDT COUNTY

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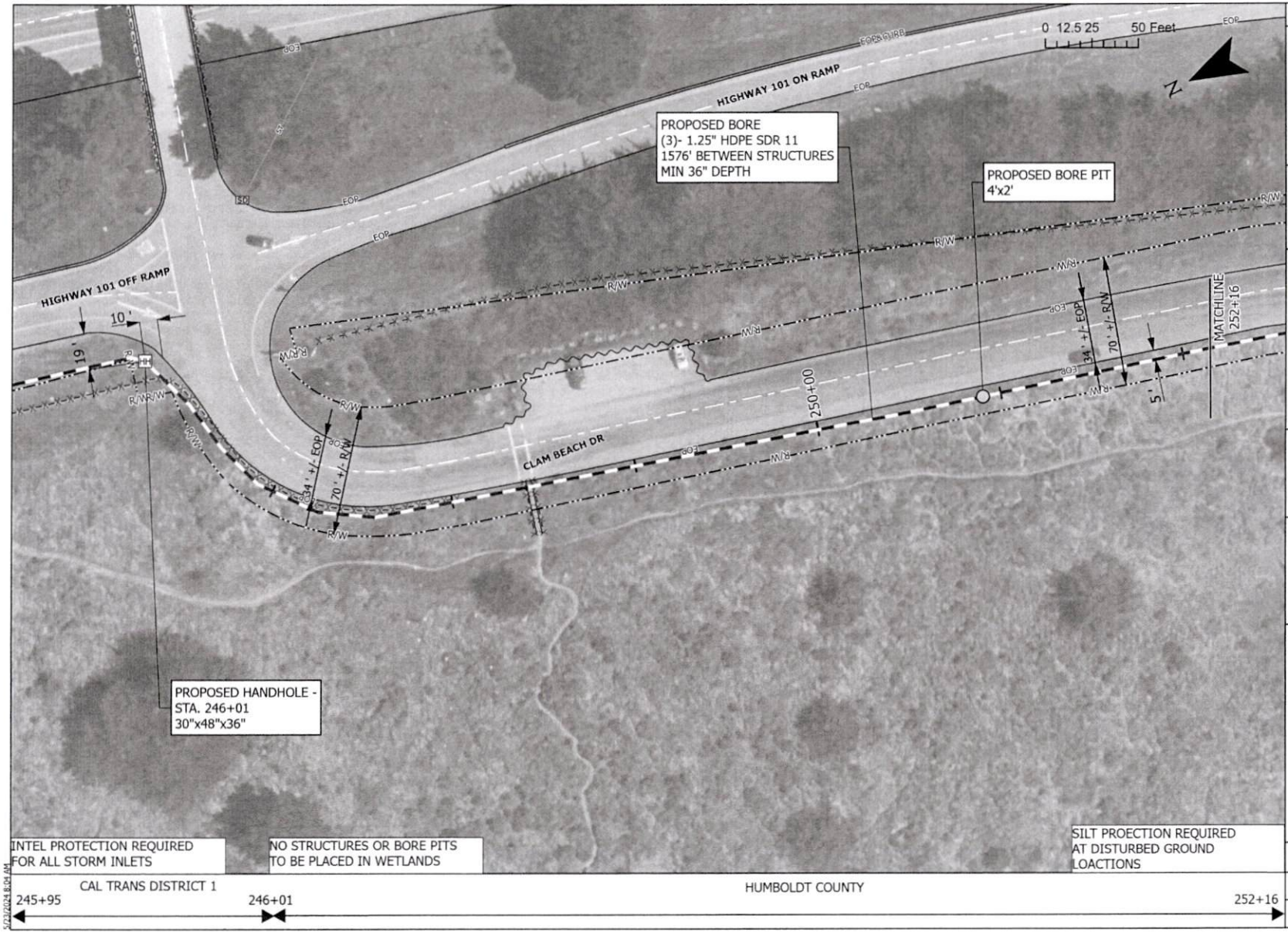

APPROVED
SEP 19 2024
Humboldt County
PLANNING

Scale: 1 INCH: 50 FEET

PERMIT EXPORT: 5/23/2024
REVISIONS:

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REGISTERED PROFESSIONAL ENGINEER
BAUTHASER A. BRUNKHORST
NO. C 48159
EXP. 6/30/2024
CIVIL
STATE OF CALIFORNIA

BHC
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OVERLAND PARK, KS 66210
PHONE: (913) 663-1900

vero NETWORKS

California 811

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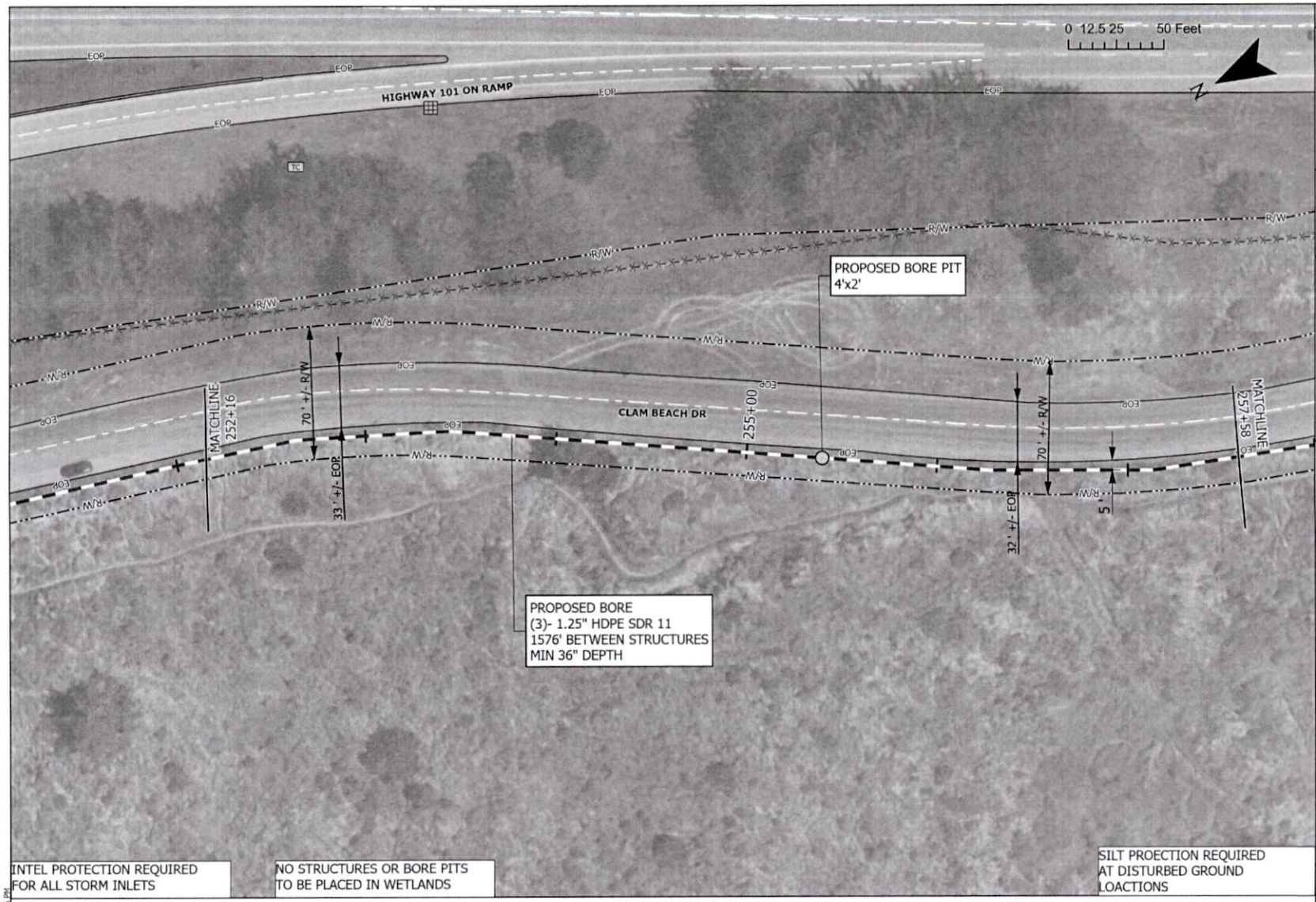
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.1

5/23/2024 8:04 AM



Scale: 1 INCH: 50 FEET

PERMIT EXPORT: 5/28/2024

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REGISTERED PROFESSIONAL ENGINEER
BALTHASER A. BRUNGARDT
NO. C 48159
EXP. 6/30/2024
CIVIL
STATE OF CALIFORNIA

BHC
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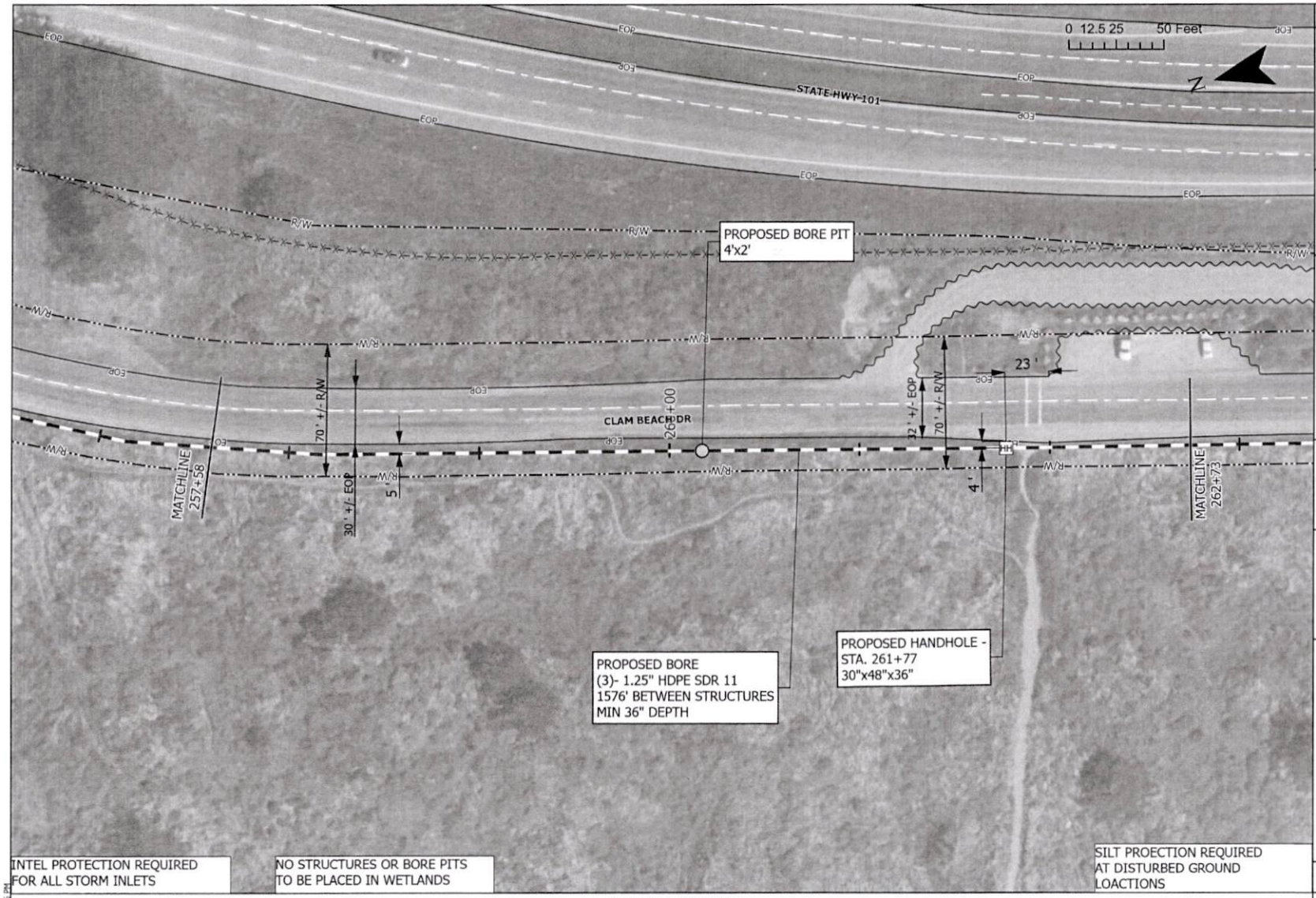
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.2



INTEL PROTECTION REQUIRED FOR ALL STORM INLETS

NO STRUCTURES OR BORE PITS TO BE PLACED IN WETLANDS

SILT PROECTION REQUIRED AT DISTURBED GROUND LOACTIONS

HUMBOLDT COUNTY
257+58 TO 262+73

5/28/2024 2:16 PM

Scale: 1 INCH: 50 FEET

PERMIT EXPORT: 5/28/2024

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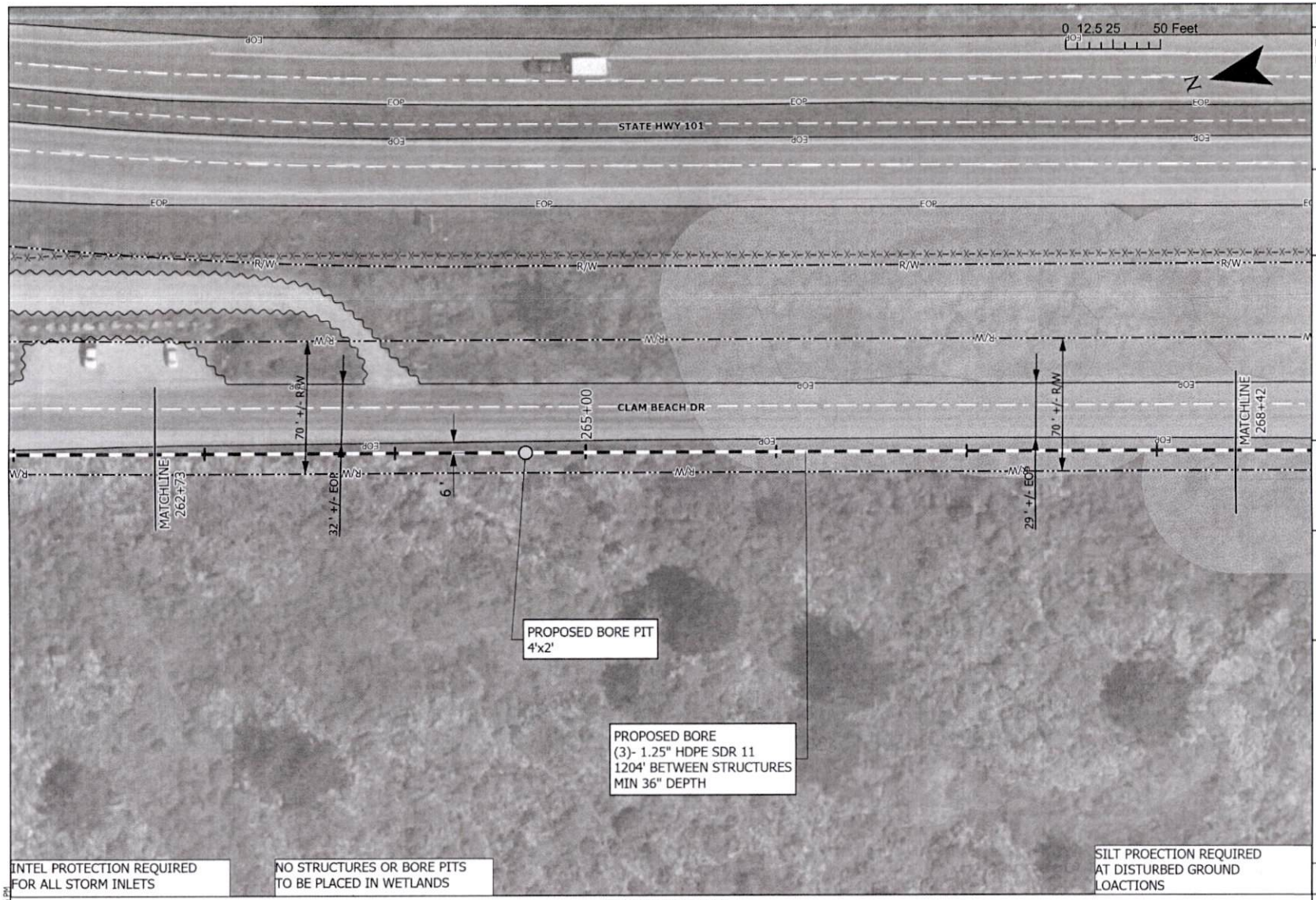
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.3



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California811

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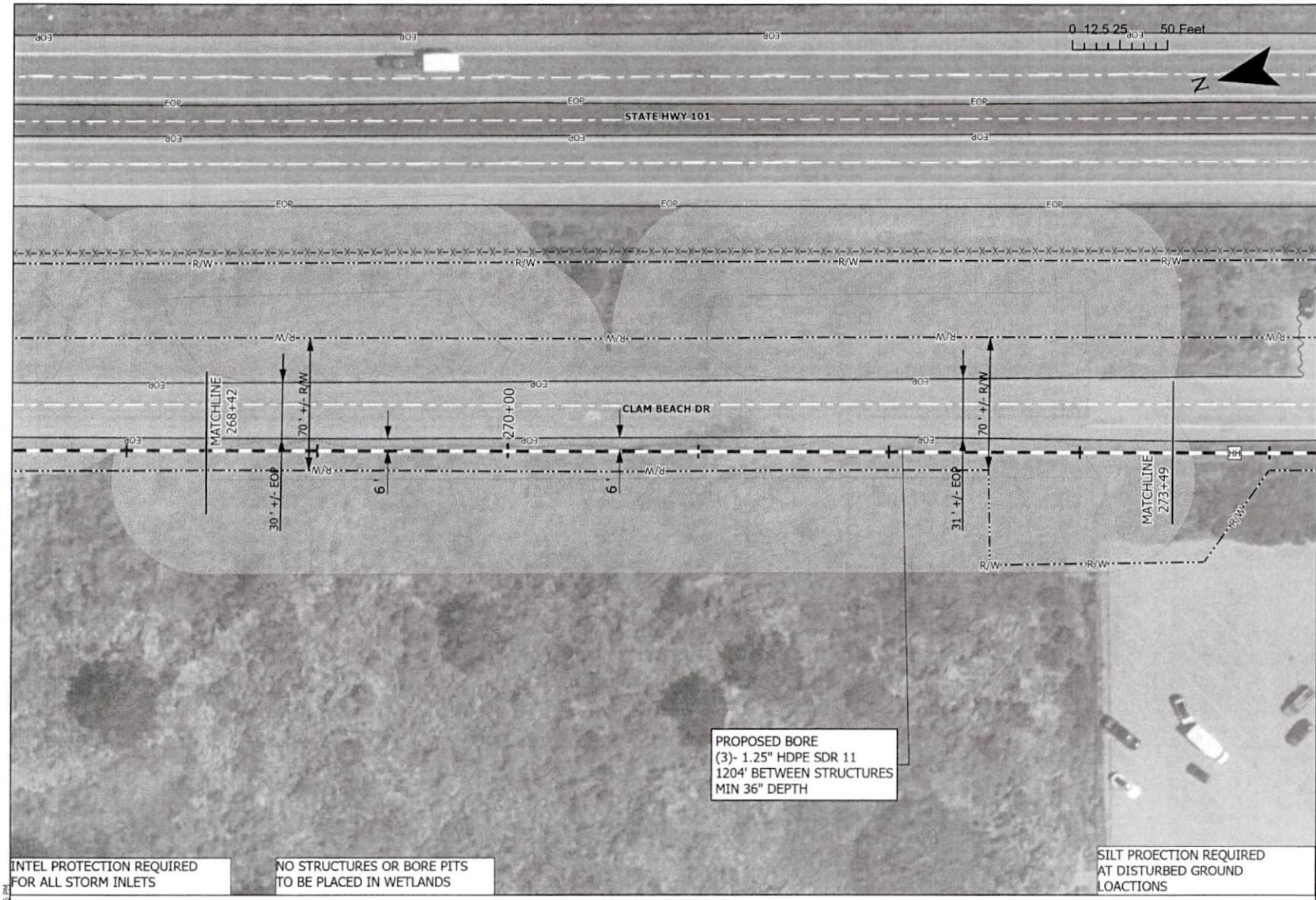
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.4

5/28/2024 2:16 PM



Scale: 1 INCH: 50 FEET

PERMIT EXPORT: 5/28/2024

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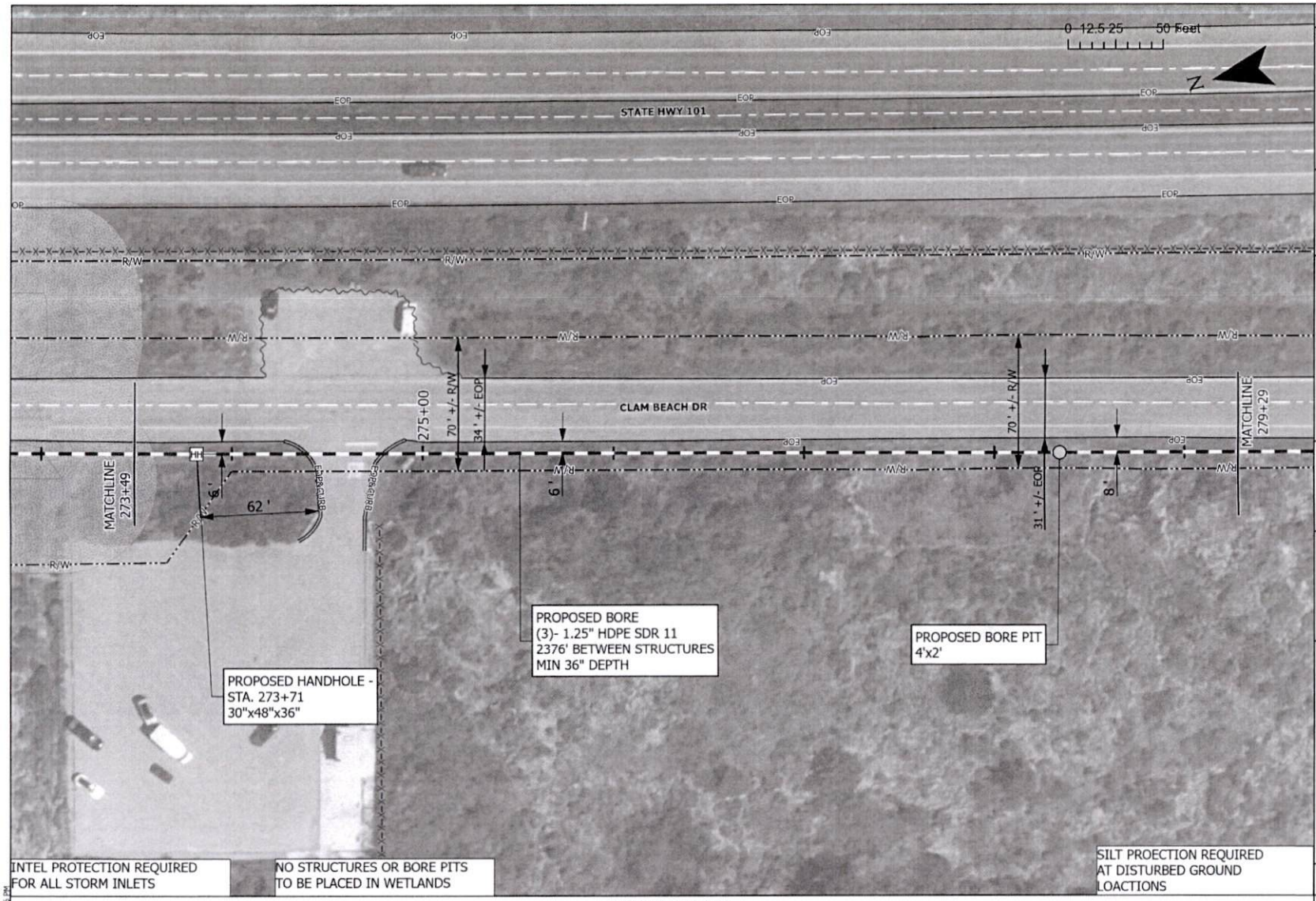
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.5

5/28/2024 2:16 PM



Scale: 1 INCH: 50 FEET

PERMIT EXPORT: 5/28/2024

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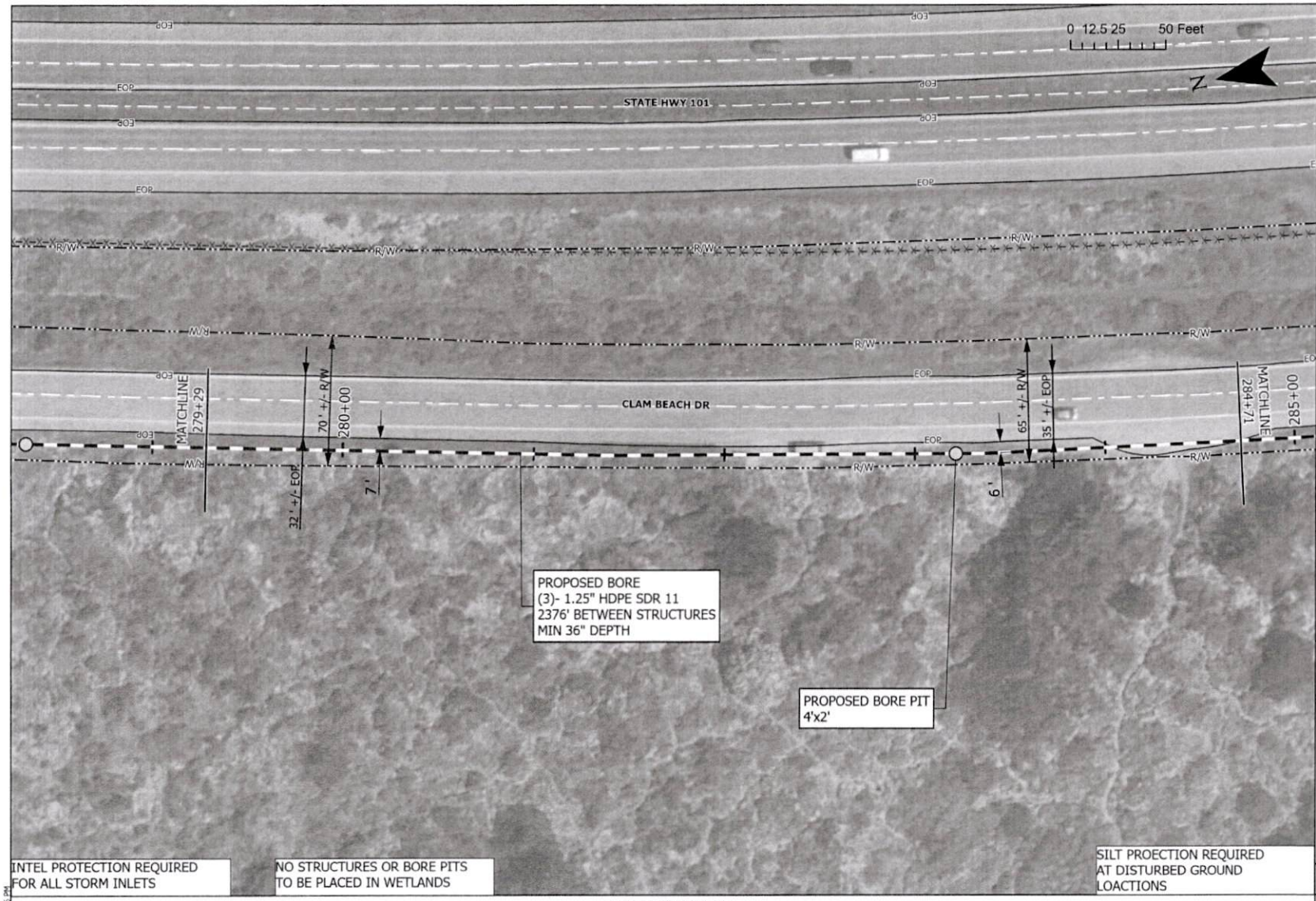
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.6

5/28/2024 2:16 PM



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NO STRUCTURES OR BORE PITS TO BE PLACED IN WETLANDS

SILT PROECTION REQUIRED AT DISTURBED GROUND LOACTIONS

HUMBOLDT COUNTY
279+29 TO 284+71

5/28/2024 2:16 PM

Scale: 1 INCH: 50 FEET

PERMIT EXPORT: 5/28/2024

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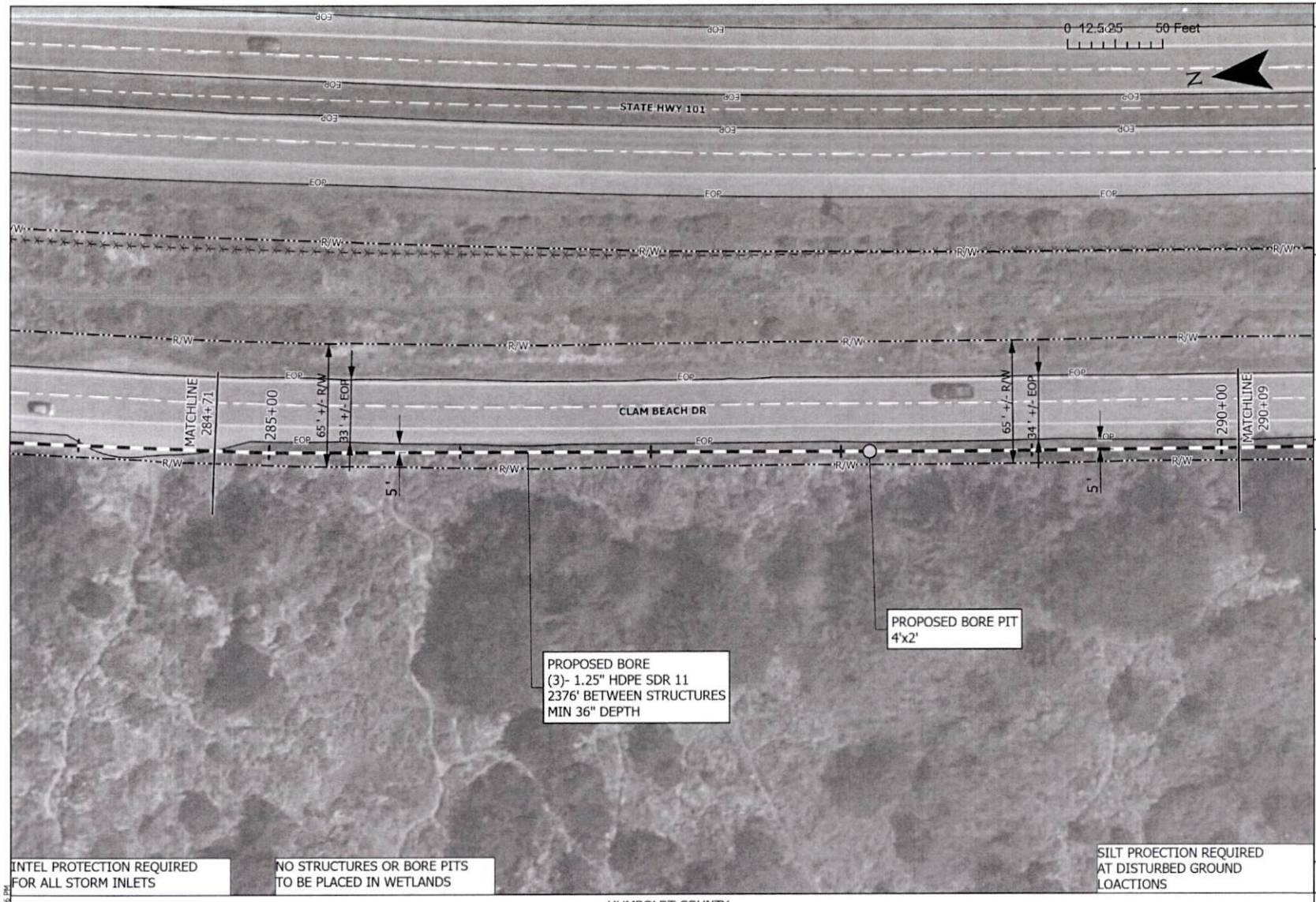
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.7



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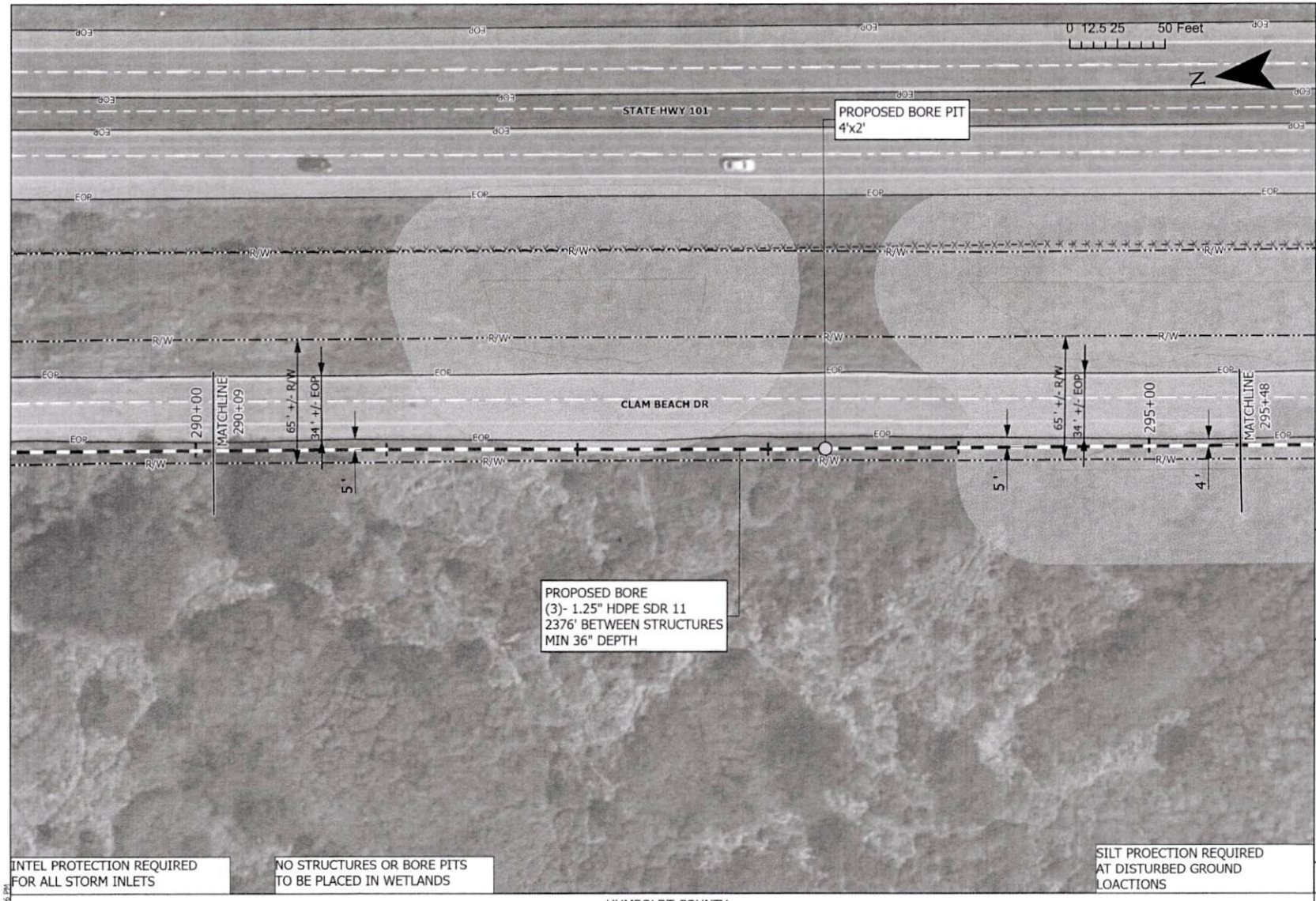
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.8

5/28/2024 2:16 PM



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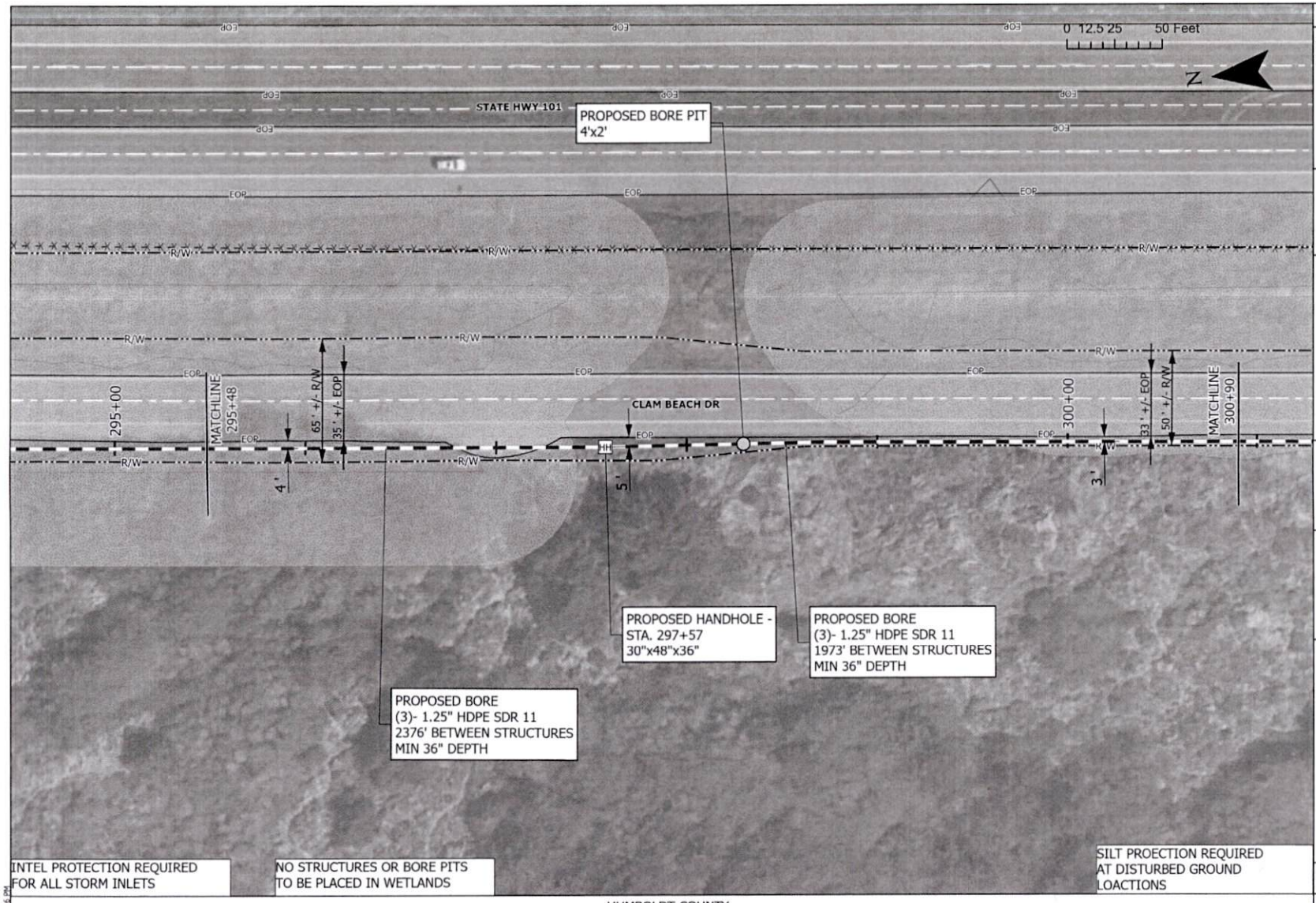
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.9

5/28/2024 2:16 PM



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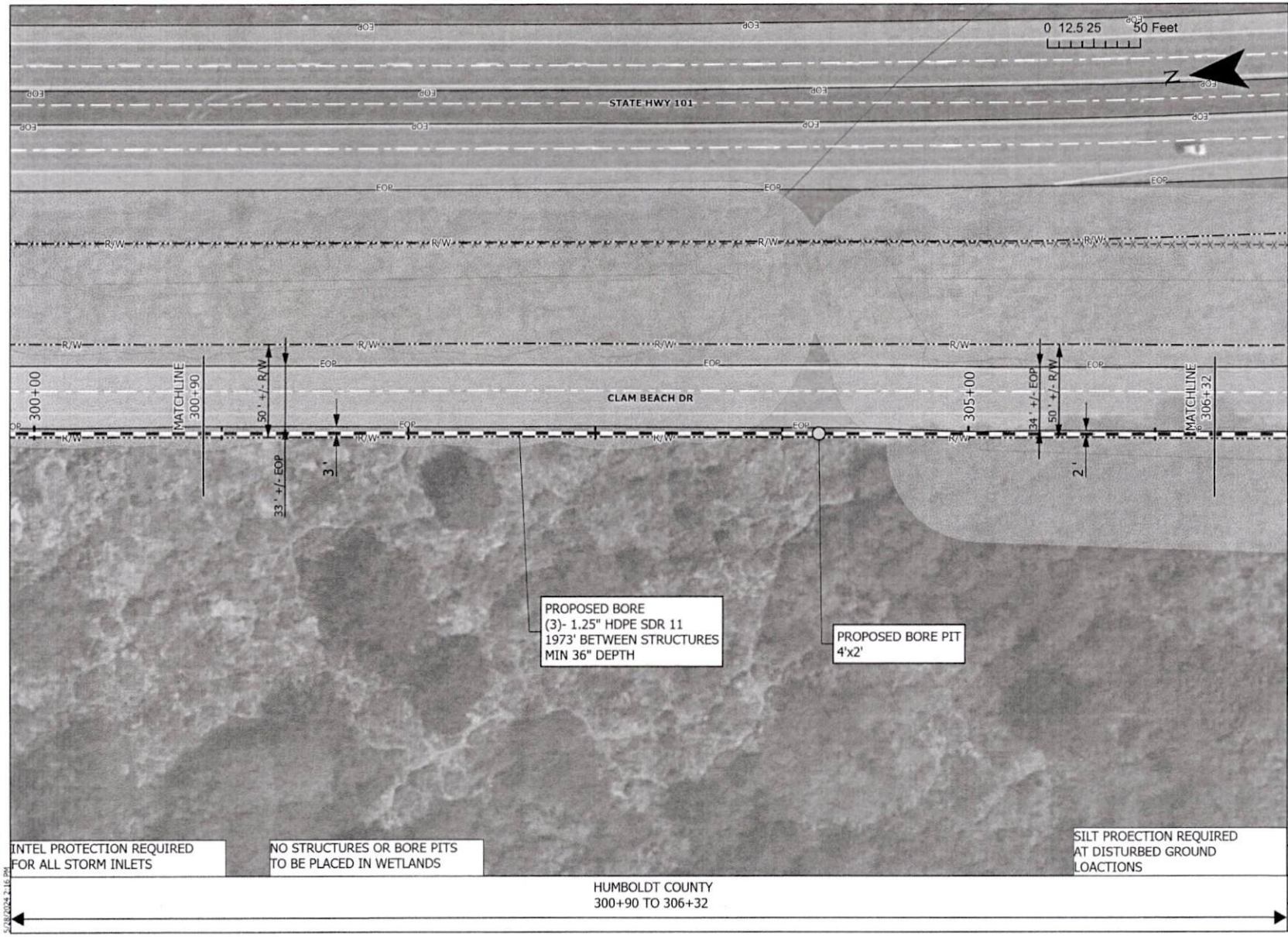
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.10



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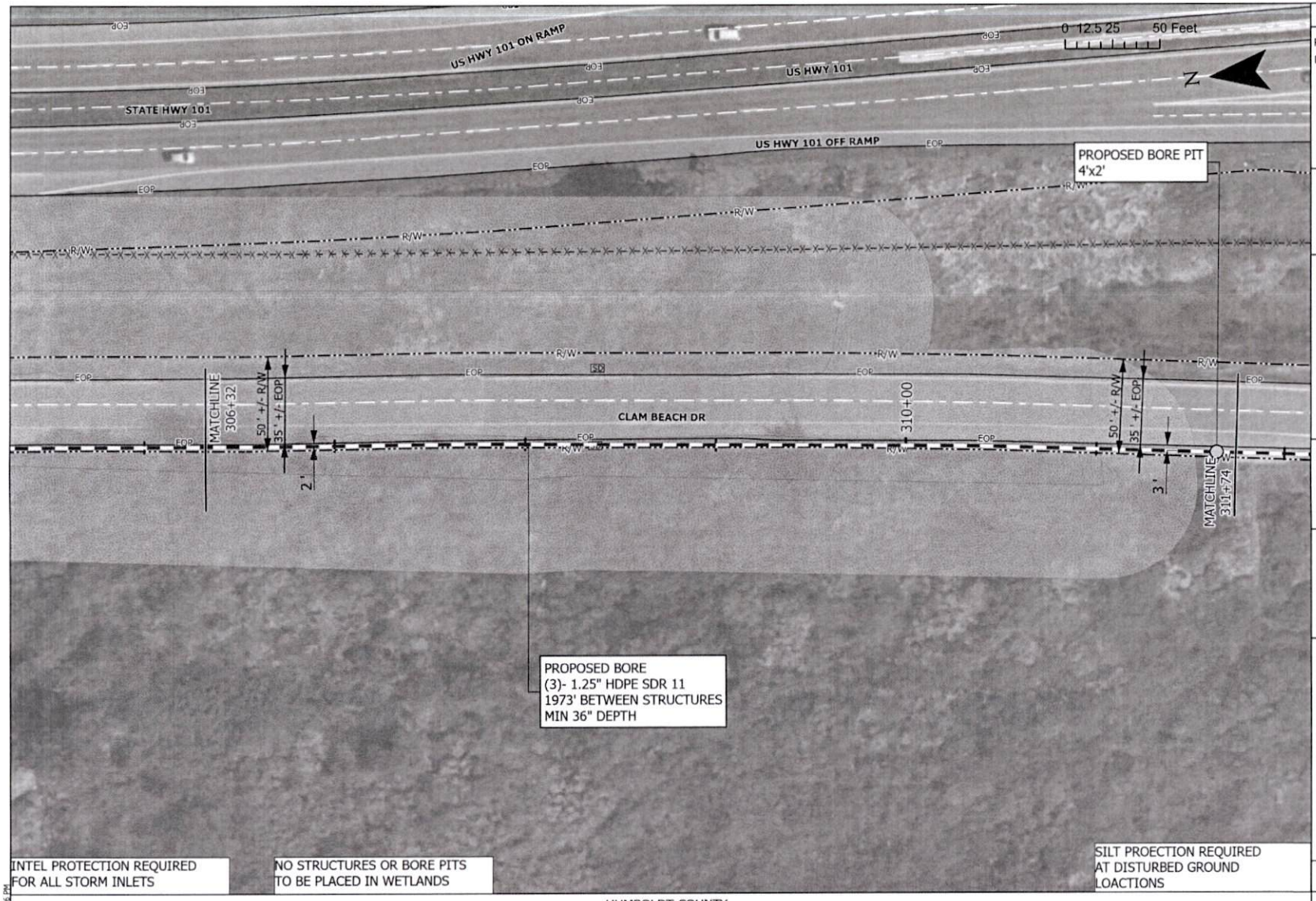
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.11



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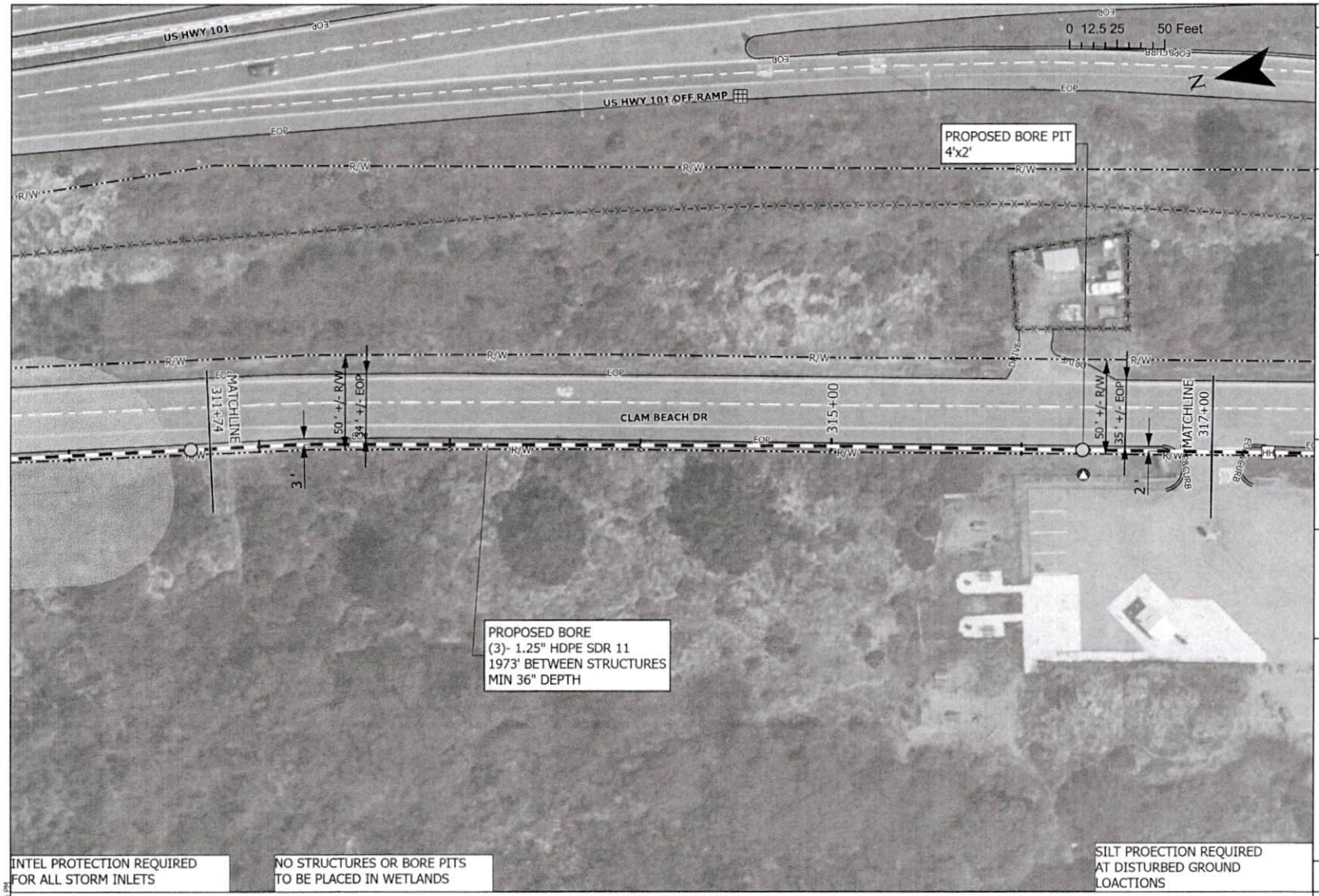
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.12

5/28/2024 2:16 PM



Scale: 1 INCH: 50 FEET

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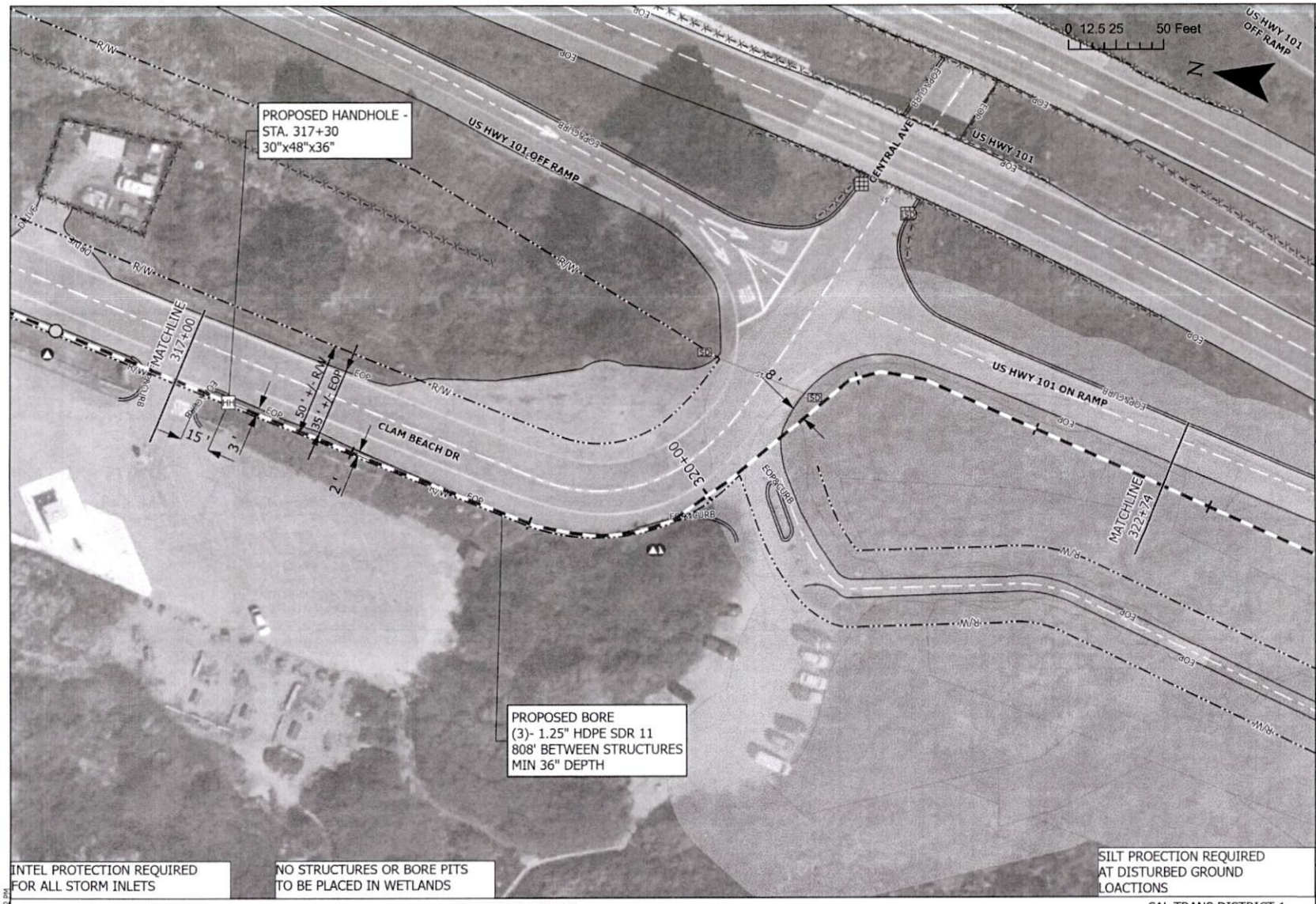
SILT PROECTION REQUIRED AT DISTURBED GROUND LOACTIONS

HUMBOLDT COUNTY
311+74 TO 317+00

HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.13



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SILT PROECTION REQUIRED AT DISTURBED GROUND LOACTIONS

HUMBOLDT COUNTY

317+15

320+64

CAL TRANS DISTRICT 1

322+74

5/28/2024 2:23 PM

Scale: 1 INCH: 50 FEET

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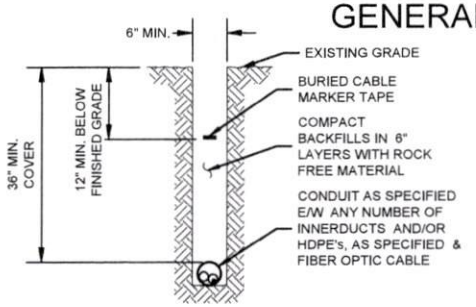
HUMBOLDT COUNTY

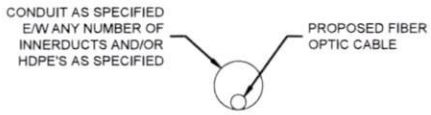
TRINIDAD TO ARCATA

PL.14

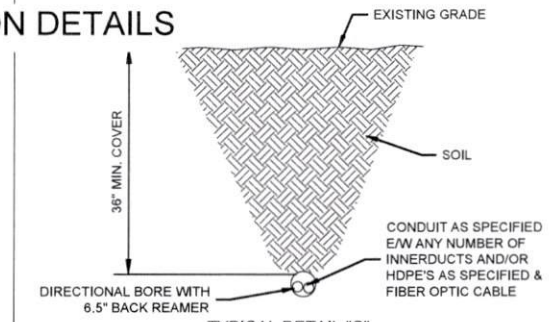
GENERAL UNDERGROUND CONSTRUCTION DETAILS



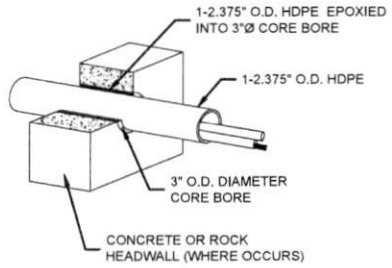
TYPICAL DETAIL "A"
TRENCH & PLACE CONDUIT



TYPICAL DETAIL "B"
CROSS SECTION OF PROPOSED HDPE

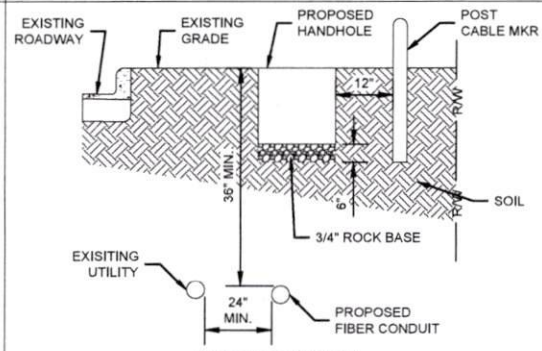


TYPICAL DETAIL "C"
DIRECTIONAL BORE CROSS SECTION FOR CONDUIT

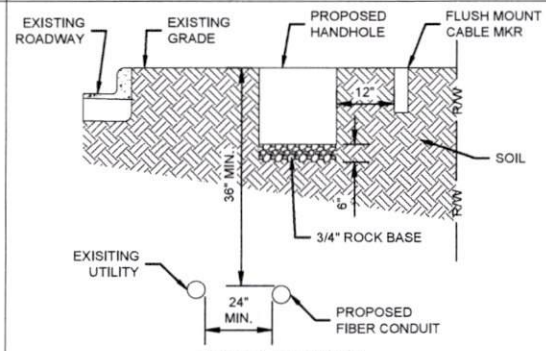


NOTE:
EPOXY GROUT IS USED AT BOTH ENDS OF CORE BORE TO SEAL GAP BETWEEN 2.375" CONDUIT AND PVC SLEEVE.

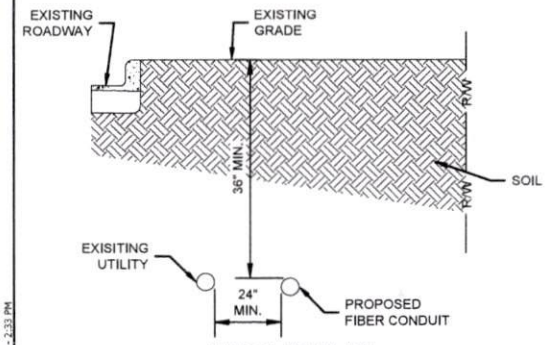
TYPICAL DETAIL "D"
3" CORE BORE



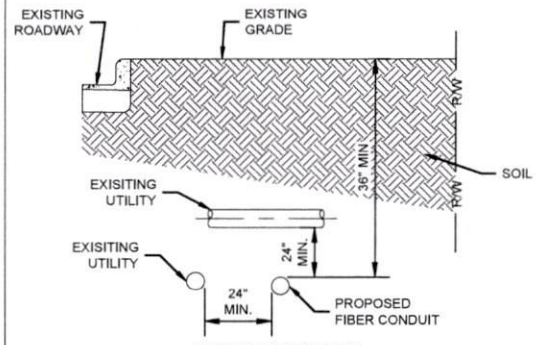
TYPICAL DETAIL "E"
HH WITH ABOVE GROUND MARKER



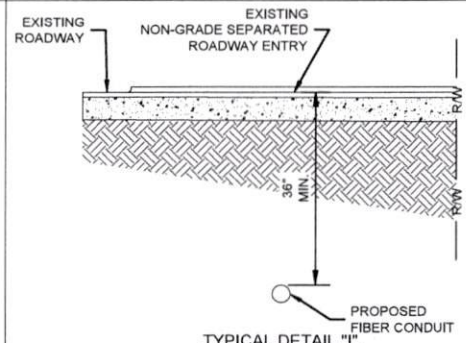
TYPICAL DETAIL "F"
HH WITH FLUSH MOUNT MARKER



TYPICAL DETAIL "G"
PARALLEL TO OTHER UTILITIES



TYPICAL DETAIL "H"
CROSSING OTHER UTILITIES



TYPICAL DETAIL "I"
CROSSING NON-GRADE SEPARATED ROADWAY ENTRY

REVISIONS		
DATE	REV	DESCRIPTION

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vero NETWORKS

California 811

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TYPICAL DETAIL DRAWINGS

TY.01

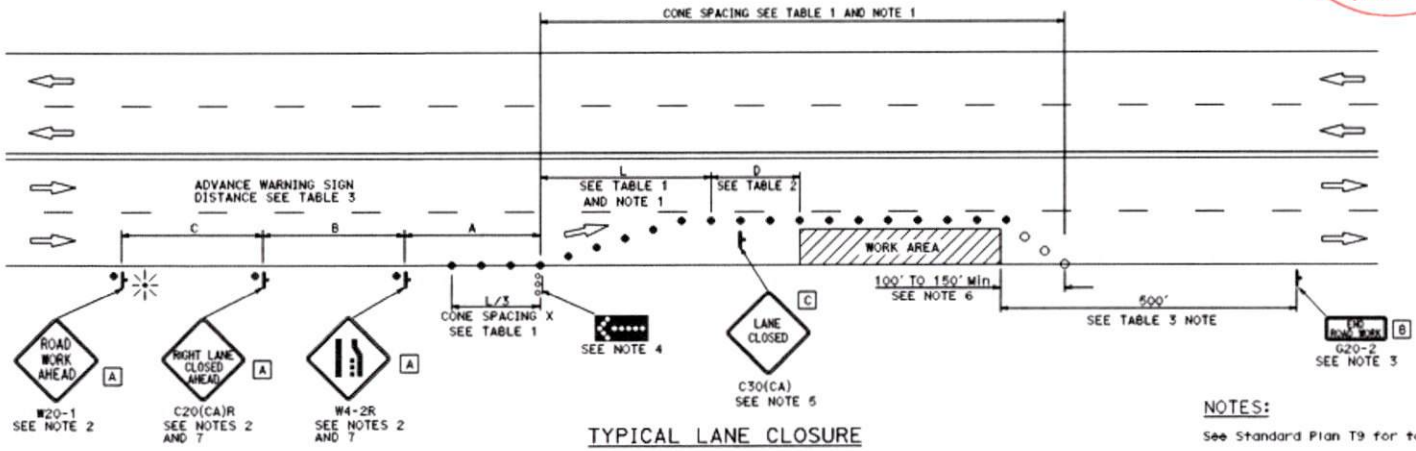
2/10/2021 - 2:33 PM

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

August 1, 2022
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



TYPICAL LANE CLOSURE

NOTES:

See Standard Plan T9 for tables.

Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

Provide at least one person to continuously maintain traffic control devices for lane closures.

LEGEND

- ● TRAFFIC CONE
- ○ TRAFFIC CONE (OPTIONAL TAPER)
- TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER
- PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 36" x 18"
- C 30" x 30"

NOTES:

1. Portable delineators placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.
2. Each advance warning sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
3. A G20-2 "END ROAD WORK" sign shall be placed at the end of the lane closure unless the end of work area is obvious or ends within the larger project's limits.
4. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
5. Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work area.
6. Length may be reduced by the Engineer to address site conditions.
7. Median lane closures shall conform to the details shown except that C20(CA)L and W4-2L signs shall be used.
8. For approach speeds over 50 MPH, use the "Traffic Control System for Lane Closure on Freeways and Expressways" plan for lane closure details and requirements.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS

NO SCALE

T11

6-24-22

2022 STANDARD PLAN T11

PROJECT ARCATA TO TRINIDAD
HUMBOLDT COUNTY

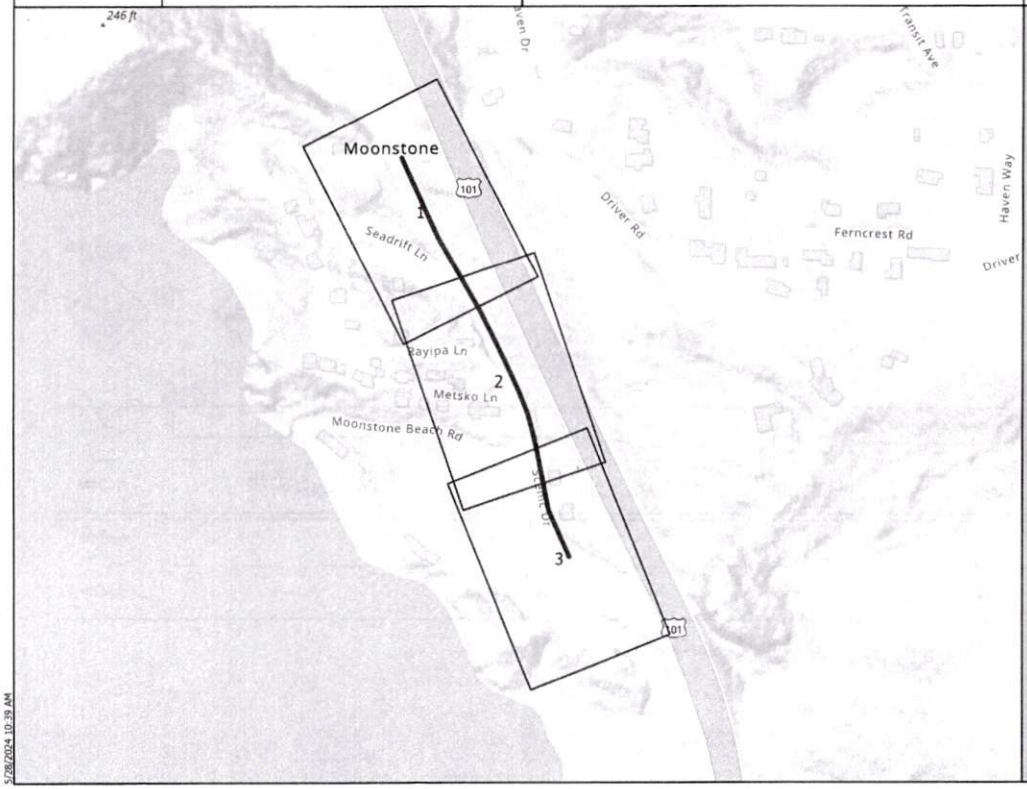
ISSUE FOR PERMIT: 5/28/2024	
PERMIT NAME:	VERO_HUMBOLDT_03
JURISDICTION:	HUMBOLDT COUNTY
COUNTY:	HUMBOLDT
BORE FOOTAGE:	1257'
STRUCTURES:	2 HANDHOLES

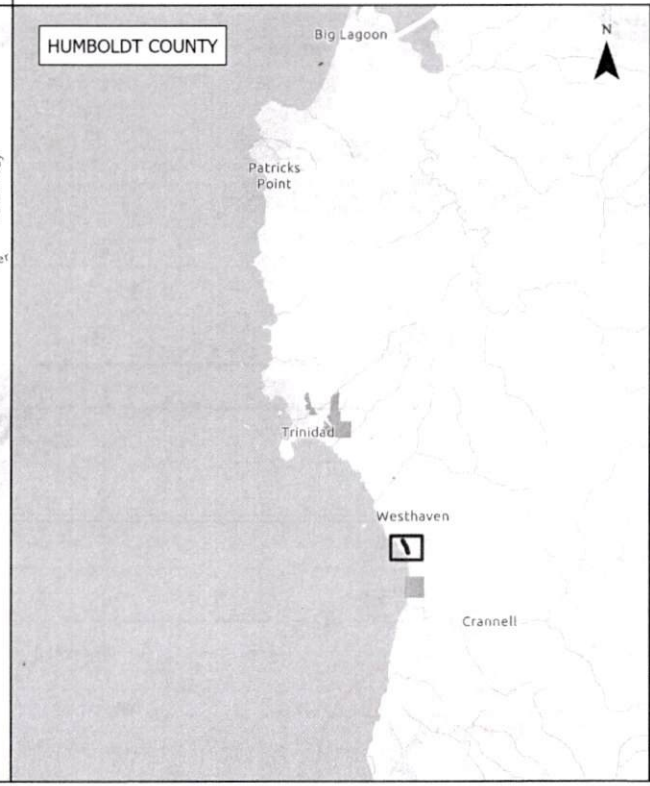
DRAWING INDEX

APPLICATION PREPARED BY:

CHRIS SCHEPMANN
PROJECT MANAGER 2
7101 COLLEGE BLVD. SUITE 400
OVERLAND PARK, KS 66210

BHC
CIVIL ENGINEERING / SURVEYING / UTILITIES





PERMIT ISSUE: 5/28/2024
REVISIONS:

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REGISTERED PROFESSIONAL ENGINEER
BALTHASER A. BRUNGARDT
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California811

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HUMBOLDT COUNTY
TRINIDAD TO ARCATA
T.01

5/28/2024 10:39 AM

SYMBOLOGY:

EXISTING:

- Gas Manhole
- Gas Meter
- Gas Valve
- Electrical Manhole
- Electrical Meter
- Electrical Pedestal
- Electrical Vault
- Electrical Cabinet
- Water Hydrant
- Water Manhole
- Water Meter
- Water Valve
- Water Vault
- Sanitary Sewer Manhole
- Sanitary Sewer Other
- Telecom Manhole
- Telecom Pedestal
- Telecom Vault
- Telecom Cabinet
- Traffic Control Light
- Traffic Control Manhole
- Traffic Control Other
- Traffic Control Vault
- Traffic Control Cabinet
- Storm Sewer Grate
- Storm Sewer Manhole
- Storm Sewer Drain
- Light Pole
- Utility Pole w/Light
- Utility Pole
- Electric Line
- Gas Line
- Sanitary Sewer Line
- Storm Sewer Line
- Telecom Line
- Traffic Line
- Water Line
- Right of way
- Easement

- Curb and Gutter
- Dirt
- Driveway
- Edge of Pavement
- Gravel
- Sidewalk
- Centerline
- Fence
- Tree
- Forest
- Contour Lines

PROPOSED:

- Proposed Vault
- Bore Pit
- Match Line
- Proposed Conduit

ABBREVIATIONS:

CL	Centerline	MMV	Meet Me Vault
CMP	Corrugated Metal Pipe	MON	Monument
CO	County	NO	Number
CONC	Concrete	PRK MTR	Parking Meter
CSG	Casing	P/L	Property Line
CT	Count	PED	Pedestal
CTV PED	Cable TV Pedestal	PED-X SIG	Pedestrian Crossing Signal
CULV	Culvert	PI	Point of Inflection
DBH	Diameter at Breast Height	PKG	Package
		PVC	Polyvinyl Chloride
D.D.	Down Drain	RCB	Reinforced Concrete Box
DEPT	Department	RCP	Reinforced Concrete Pipe
DIA	Diameter	RD MEM	Roadside Memorial
DIR	Directional	REQD	Required
DIST	District	RGS	Rigid Galvanized Steel
DOC	Depth of Cover	ROW	Right of Way
DOT	Department of Transportation	RR	Railroad
		RR HUT	Railroad Signal Hut
DWG	Drawing	SCB	Sprinkler Control Box
DWY	Driveway	SD	Storm Drain/Curb Inlet
E MH	Electric Manhole	SDMH	Storm Water Manhole
E MKR	Electric Line Marker	SEC.	Section
E PED	Electric Pedestal	SF	Silt Fence
E VLT	Electic Vault	SMH	Sanitary Sewer Manhole
EM	Electric Meter	SP	Splice
ENC	Encased	SS CO	Sanitary Sewer Clean Out
ENG	Engineering	SS LIFT	Sanitary Sewer Lift Station
EOP	Edge of Pavement	STA.	Station
EPB	Electric Pull Box	STD	Standard
EXIST	Existing	STR	Section Township Range
FH	Fire Hydrant	SWPPP	Storm Water Pollution Prevention Plan
FO	Fiber Optic		
FO MH	Fiber Optic Manhole	SWT MCH	Switch Machine
FO MKR	Fiber Optic Line Marker	T HH	Telecom Handhole
FO VLT	Fiber Optic Vault	T MH	Telecom Manhole
FOC	Fiber Optic Cable	T MKR	Telecom Line Marker
FS	Filter Sock	T PED	Telecom Pedestal
G MH	Gas Manhole	T VLT	Telecom Access Vault
G MKR	Gas Line Marker	T.P.	Trench Plug
G SD	Grated Storm Drain	TCB	Traffic Control Box
GALV	Galvanized	TCE	Temporary Construction Easement
GEO SRV MKR	Geodetic Survey Marker	TCV	Traffic Control Vault
		TRF MH	Traffic Control Manhole
GM	Gas Meter	TSP	Traffic Signal Light
GV	Gas Valve	TYP	Typical
GWMW	Groundwater Monitoring Well	UG	Underground
		UNK MH	Unknown Manhole
HDPE	High Density Polyethylene	UNK PED	Unknown Pedestal
		UNK UTL MKR	Unknown Utility Marker
HH	Handhole	UNK VLT	Unknown Vault
HWY	Highway	USACE	United States Army Corps Of Engineers
IB	Inlet Barrier		
ILA	In Line Amplifier	UTL LP	Utility Light Pole
INC	Incorporated	UTL P	Utility Pole
INT	Intermediate	VDOT	Virginia Department of Transportation
L/A ROW	Limited Access Right of Way		
		VLT	Vault
LF	Linear Feet	VP	Gas Vent Pipe
LOC MKR	Locating Marker	W MH	Water Manhole
LP	Light Pole	W MKR	Water Line Marker
MAX	Maximum	W SPG	Water Spigot
MB	Mailbox	W VLT	Water Vault
MH	Manhole	WM	Water Meter
MIN	Minimum	WV	Water Valve
MIT	Mitigation	X-GATE	Crossing Gate
MKR	Marker	YRD L	Yard Light
ML	Maintenance Limits		

5/22/2024 6:00 PM

REVISIONS

DATE	REV	DESCRIPTION

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APPROVED
SEP 19 2024
Humboldt County
PLANNING

BHC

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vero NETWORKS

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HUMBOLDT COUNTY

ARCATA TO TRINIDAD

T.02

PROJECT CONTACTS

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KFREED@CO.HUMBOLDT.CA.US

CALTRANS DISTRICT 1
1656 UNION STREET
P.O. BOX 3700
EUREKA, CA 95502-3700
(707) 498-0578
D1PERMITS@DOT.CA.GOV

CONSTRUCTION NOTES

UNDERGOUND CONSTRUCTION

CONDUIT INFRASTRUCTURE CONSTRUCTION

1. RIGHT-OF-WAY PROTECTION AND RESTORATION

1. Contractor shall comply with requirements stipulated by relevant authorities having jurisdiction (City, County, State and Federal), and shall minimize damage to rights of way and ensure all clean up and restoration meets or exceeds such jurisdiction specifications, with all debris and waste removed at Contractor's cost/expense
2. Contractor shall comply with all Environmental Protection agency requirements (State and Federal) and ensure compliance on all projects.

2. MATERIALS

1. CONDUIT
1. HDPE is the default choice for underground conduit, minimum wall thickness SDR-11. The properties and dimensions shall be in accordance with ASTM F2160 standard specification for Solid Wall High Density Polyethylene (HDPE) Conduit unless otherwise approved by Company Project Manager permitting authority. Duct size and number of ducts will be specified on the Engineering Workprints, purchase order or scope of work issued to Contractor. All materials supplied and used by contractors must approved by Company Project Manager.
2. Conduit shall be installed by pulling the duct directly from reels on reel trailers.
• Note: This will ensure as little waste as possible of the Duct, as well as less stress on duct and safer for crew members.
3. Crews will NOT pull duct off reels prior to installing unless there is absolutely no physical way to get a reel trailer set up safely.
• Note: having to shut down a lane to accommodate the reel trailer for pulling duct or any other, other than normal solution, does not meet the criteria of "no physical way"
• Once Duct is in the HH, MH, and or site, etc., they will all be sealed by using the proper duct plugs.
• Photos with Solocator will be taken per written standard. See OSP.1012 Standards Bulletin for further detail.

3. MANHOLES

Manholes provided by contractors must meet Bellcore standards and specifications and be approved by Company Management. All manholes will conform to AASHTO (American Association of State Highway and Transportation Officials) H-20 loading, traffic rated standards.
GPS will be taken at every Manhole placed. Photos with Solocator will be taken at every placed manhole per written
standard. See OSP.1012 Standards Bulletin for further detail. And as required by SOW.

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HUMBOLDT COUNTY

TRINIDAD TO ARCATA

GN.01

2/27/2024 11:05 AM

CONSTRUCTION NOTES

HANDHOLES

Handhole type and manufacture will be specified by COMPANY in the scope of work and the Contractor will be required to purchase and use those for the specific build
Handholes for slack use will be a minimum of 36 inches in depth, 48 inches in length and 30 inches in width Handholes used for splice locations will be a minimum of 48 inches in
depth, 60 inches in length and 36 inches in width
These and any Handhole used on a COMPANY construction project shall be, at a minimum, A Tier 22 with a load rating of 22,000 lbs. minimum If for any reason the contractor is required to acquire COMPANY Handholes, they will meet the above requirements as well as, meeting the Bellcore standards and specifications and be approved by Company Management. All handholes will conform to AASHTO (American Association of State Highway and Transportation Officials) and if required to be in the street or a location where large weight vehicles may sit on and not just cross over them, then they must also be upgraded to a H-20 load rating, traffic rated standards. GPS points will be taken at every Handhole placed Photos with Solocator will be taken at every placed handhole per written standard. See OSP.1012 Standards Bulletin for further detail. And as required by
SOW

SPECIAL DESIGN AND MATERIAL CONSIDERATIONS

1.The contractor shall be responsible for the physical location of ALL foreign utilities within the right-of-way before digging in the vicinity in accordance with local Utility Protection Standards. Any damages to other utilities will be the responsibility of the contractor. Contractor will also be responsible for red-lining all utilities on as-builts
2.Steel pipe shall be considered where obstructions such as buried utilities or other facilities run parallel to the proposed running line and have less than 2 feet of separation.
3.GSP, Steel or PVC Schedule 80 conduit will be proposed for housing HDPE or innerduct at Railroad crossings, river crossings, culvert crossing and other obstacles of the same type crossings.
4.If these methods are used the conduit should extend a minimum of five feet past the edge of the culvert or headwall.
5.All sweeps and field bends and or turns tighter than a 36" radius will require factory fittings at all times

METHODS OF PLACEMENT

PLOWING
1. All OSHA and other governing agencies rules and regulations will apply and be followed
2. Plowing can be considered as an alternative construction method when conditions and governing authorities permit.
3.When plowing is utilized as a construction method, the equipment used by the contractor shall be such as to cause the minimum displacement of the soil. Damage to banks, ditches, driveways, and roads
4.GPS points will be taken at the start and stop of the Plow, every 150 feet along a straight and continuous plow line, and at any and all changes in direction to include drift up or down or side to side in the ROW to ensure running line accuracy.
5. Photos with Solocator will be taken as required in the scope or as needed

TRENCHING/OPEN CUTS

1. All OSHA and other governing agencies rules and regulations will apply and be followed
2. When trenching and open-cutting is an option or requirement, the contractor shall excavate by machine trench, backhoe, hand, etc.
3. The network trench shall be as straight as practicable.
1. The bottom of the trench shall be smooth and free from any sharp edges.
2. The trench shall be kept clear of debris and loose rock.
3. All changes in trench grade shall be gradual
a. Note: The vertical change in grade should not exceed (1.5') within (6') in length.
1. Prior to duct placement in the trench, the duct shall be bundled, tied and or bound by an approved method to eliminate the possibility of the duct twisting and tension shall be applied to the duct to eliminate waving in the trench.
2. Duct shall be placed in the center of the excavation and as straight as practicable. Excessive waving of the duct within the trench will not be allowed.
3. All open trenches and other excavations shall be backfilled at the end of each working day. Any open trench or excavation not backfilled may be covered as approved by the governing authority's rules and regulation
4. GPS points will be taken at the start and stop, every 25 feet along a straight and continuous trench line, and at any and all changes in direction to include drift up or down or side to side in the ROW to ensure running line accuracy.
5. Photos with Solocator will be taken as required in the scope or as needed

BORING

1. All OSHA and other governing agencies rules and regulations will apply and be followed
2. When Boring is allowed the contractor shall use Directional Boring as the preferred method.
3. The contractor will be responsible for all unsuccessful bore attempts. All unsuccessful bore attempts will be filled with grout or as required by the governing authority.
4. The contractor shall not drain any excess material into storm, sanitary systems, ditches or anywhere on the Right of Way.
5. When crossing all deadly utilities they must be daylighted by potholing to verify there is sufficient separation from the Company duct, or if paralleling within 10' horizontally.
1. Note: separation is 24" without written authorization from COMPANY or the governing agency or agencies.
6. All verifications will be physical verification on site of the actual utility
7. Bore logs will be kept and document the start, the stop and every 10 feet in between.
8. The contractor shall submit all boring logs and profiles to Company
9. In general the vertical change in grade shall not exceed one and a half feet (1.5') in six feet (6') in length.
10. GPS points will be taken at the start and stop of every bore, every change of stem (i.e., every 10 feet when using 10-foot stems, 15 feet when using 15-foot stems etc.) along a straight and continuous bore line, and at any and all changes
in direction to include drift up or down or side to side in the ROW to ensure running line accuracy and depth accuracy.
11. Photos with Solocator will be taken as required in the scope or as needed

GENERAL RESTORATION

1. All OSHA and other governing agencies rules and regulations will apply and be followed
1. All rock and debris brought to the surface and not used during backfilling operations shall be removed and disposed of in an appropriate manner.
2. Improved landscape, lawns, shrubs, and hedges removed or damaged shall be replaced in like kind.
4. All areas disturbed by the construction activities in public rights-of-way shall be restored and seeded per the specifications of the governing authority.
5. The contractor shall promptly repair or replace any other property damaged during construction.
6. Contractor shall remove all duct installation debris including construction spoils and remaining installation materials from any public or private properties.
a. NOTE: Such material to be removed would also include litter generated by the construction crews.
7. No debris or litter should ever be disposed of in a trench or other telecommunication excavation. The contractor is responsible for the proper disposal of all soil, concrete, asphalt or other debris.
8. No asphalt shall be permitted in the backfill.
9. Photos with Solocator will be taken before, during and after restoration and as needed

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HUMBOLDT COUNTY

TRINIDAD TO ARCATA

GN.02

2/27/2024 11:00 AM

CONSTRUCTION NOTES

PAVEMENT RESTORATION

1. All OSHA and other governing agencies rules and regulations will apply and be followed
2. It is recommended that Cobblestone or old brick in historic areas, be numbered, photographed, removed, and then stored for replacement. Care must be taken to restore historic areas to their original condition and "look."
3. Pavement, driveways, and sidewalks shall be restored to their original or better condition within five (5) business days or as soon as practicable, following duct placing operations.
4. The backfill within the roadway shall be placed and compacted in not more than six-inch (6") lifts from the bottom to the finished grade.
5. Photos with Solocator will be taken before, during and after restoration and as needed

BACKFILL

1. The trench shall be backfilled and compacted to the satisfaction of Company and local authorities, promptly behind duct placement.
2. The backfill shall be the trench excavated materials, provided the excavated materials are free from debris, rocks measuring less than two inches (2") in diameter and other unsuitable materials.
3. Backfill within the roadway shall be placed and compacted per the governing authority specification or to ninety percent (90%) modified proctor in non-traveled areas and ninety five percent (95%) modified proctor in traveled areas whichever is greater.
4. Company 's engineer has the right to test the soil compaction randomly. If soils do not meet the compaction requirements, the contractor will be directed to remove fill until proper compaction is found. The contractor will not have any claim to additional time or additional costs.
5. If Company 's engineer tests 5 locations that fail compaction, then Company 's engineer can require all backfill lifts to be tested. The contractor will be required to pay for all the testing including, but not limited to, labor, equipment and lab tests.

DEPTH OF PLACEMENT

1. Except where specified in the drawings, approved by Company , or permit specifications dictate a different depth, the top duct shall be placed a minimum of Forty-two inches (≥42") below grade or as required by authority having jurisdiction with a minimum of twelve inches (12") of separation from foreign object or as required by object's owner which is greater.
2. Where the network crosses gullies, ditches, streams, rivers, and washes, the conduit will be placed at a minimum depth of forty-eight inches (48") below the bottom of the waterway unless the controlling authority requires additional depth in which case the greatest depth will be maintained.
3. Where the network route crosses railroads, the network shall be placed at a minimum depth of sixty inches (60") below the base of rail or sixty inches (60") below the paralleling drainage ditches, or at greater depths as required by permitting authorities which is greater.
4. Where the network crosses existing subsurface pipes, cables, or other structures, the network will be placed to maintain a minimum of twelve inches (12") separation (preferred to be 24" whenever possible) from the foreign object or a minimum separation as required by the object's owner, whichever is greater.
5. For special cases when minimum cover cannot be obtained due to the location of subsurface obstructions and/or other utilities, these special considerations will be acceptable, but only with Company Management approval:
a. BSP/GSP or Concrete Encased HDPE will be used with cover between 12" to 35", with Middle Mile Management approval.

COUPLER INSTALLATION

1. Barbed Couplers will be utilized and installed per manufacturer's specification, buried flush with the path/bore/trench of the conduit.
2. Barbed Couplers are the only authorized couplers for any and all COMPANY HDPE duct
3. To prevent the bundling of Barbed couplers at one location or hole and to meet requirements for depth of cover; the couplers must be staggered and sequenced every six inches between multiple conduits and should not overlap or touch another coupler.
4. If micro duct is used (i.e., 7way, 6way, 4way etc.,) a rubber boot will be applied over the micro duct couplers and then heat shrunk for added strength both vertically and horizontally, as well as,sealing the staggered couplers from foreign substances
5. All locations of barbed couplers should be noted and correspond to a depth and station number on the as-built drawings.
6. All Couplers at all Coupler locations will be photographed with Solocator and provided as a deliverable to Company , to include but not limited to the GPS location, station number and a number of all couplers, barbed and or micro coupler, at each location. And as required by SOW.
7. See OSP.1012 Standards Bulletin for further detail.

CABLE MARKER SIGNS

Marker Poles
1. Marker Poles will be set at each Splice, Handhole and Manhole location.
a) The cable marker posts shall be placed whenever possible within a one-
foot offset from the back of the Handhole/Manhole, centered on the back side of the Handhole/Manhole between it and the outside ROW line
b) if due to permitting agency rules, Marker Poles are not allowed then
alternative means will be used to mark these assets.
c) Any deviation from Marker Poles to other devices will require COMPANY written approval.
2. Marker poles will be set at all crossings (i.e., road, river, rail, etc.)
3. Marker poles will be set at all changes of direction in the running line.
4. Marker Poles will be set in such a way so there is never more than 500lineal feet between any two Marker Poles.
5. Marker Poles will be set in such a way that no matter where you stand onthe ROW, you will be able to see a Marker Pole
6. GPS points will be taken at every placed Marker Pole
7. Photos with Solocator will be taken at every placed marker Pole And as required by SOW.

DEPTH OF MARKER SIGN

1. Contractor shall bury the marker post as per Manufacturer's specification, at twenty-four inches (24") below grade and ensure the cross member has been added to ensure stability and the Marker Pole can't be lifted.
2. The cable marker posts shall be placed whenever possible directly over the the network running line or as close as the permitting authority allows.
3. Any offset shall be permanently noted on the space provided by the cable marker sign.
4. All Marker Posts are to be GPS'd

TRACER WIRE

1. When a trace wire is required, a minimum of a 10-gauge poly coated solid copper tracer wire will be placed with every linear foot of duct placed,regardless of the type of construction
2. If armored cable is used, then the locate wire from the enclosure to the Locate test Station pole will be poly coated solid # 6.
3. Locate marker posts, flush mount finks, manholes, handholes, and all other tracer access points will be connected to the tracer/ground wire for locating buried facilities.
4. Tracer wire connectivity tests must be conducted by the contractor to ensure the entire plant is locatable.
5. Damaged tracer/ground wires will be repaired immediately with minimal connectors.
6. COTT or other Company acceptable test stations will be placed at each manhole/handhole, using the ground tree model to ground tracer wire at splice locations. see OSP.1003 – Splice Point Grounding for Locate Test Point Stations in Appendix A

PROOFING DUCT

1. All conduits, regardless of size will be verified for ovality, turning angle, and damage by proofing the duct per manufacturer specification and or with an 85% space capacity mandrel whichever is greater.
2. The mandrel will be made of metal and not to exceed the length of 3 times the diameter of the duct.
3. Proofing of the duct shall be completed with air pressure of at least 50 PSI and no more than 150 PSI or the max duct PSI whichever is less.
4. All proofing results must be witnessed and documented by an appropriate Company representative.
5. Damaged duct should be repaired immediately with minimal couplers.

SEALING DUCTS

All ducts must be properly sealed per manufacturer specifications with Duct plugs or an equivalent approved by the Company Project Manager. Ducts or duct plugs should be labeled with the direction of the conduit path. All ducts with FOC present must be properly sealed with a half Moon or equivalent plug approved by the Company Project Manager.

APPROVED
SEP 19 2024
Humboldt County
PLANNING

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REGISTERED PROFESSIONAL ENGINEER
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vero NETWORKS

California811

EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND BASED ON AVAILABLE RECORDS AND FIELD OBSERVATIONS. CONTRACTOR IS RESPONSIBLE FOR CALLING 811 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION AND FOR LOCATING ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND ANY DAMAGE TO THE UTILITIES SHALL BE IMMEDIATELY REPAIRED AT THE CONTRACTORS EXPENSE.

HUMBOLDT COUNTY

TRINIDAD TO ARCATA

GN.03

CONSTRUCTION NOTES

MANHOLE AND HANDHOLE CONSTRUCTION

1. Handholes and manholes shall be installed by the contractor as designated in the construction drawings. Installation shall include all grouting, installation of extension ladders, required extension rings, and all related work for the complete installation of the structure. The design loading for all man-holes and handholes shall be capable of supporting H-20 loading,
per the American Association of State Highway and Transportation Officials (AASHTO.)
2. All Intermediate Slack Vault (IEV) Hand holes will be sized to a minimum of 30" in width x 48" in length x 36" in depth and open bottom
3. All Network Splice Vault (NSV) HHs will be sized to a minimum of 36" in width x 60" in length x 48" in depth and open bottom.
4. The handholes shall be set on a base minimum thickness of six inches (6") or as provided in manufacturer's specifications consisting of clean gravel or crushed stone with a minimum diameter of three-quarter inch (3/4") and a diameter maximum one and one-half inch (1.5").
5. The ducts shall enter and leave hand holes exactly opposite each other within the handhole to facilitate the cable coils and/or splice closures. When ever possible the duct will enter from underneath the Handhole, not the sides. Each duct length inside handholes and manholes shall be a minimum length of six inches (6") from the inside wall of the HH, but no more than twelve inches (12").
6. Micro duct should be a minimum length of ten inches (10") from the inside wall of the HH, but no more than sixteen inches (16") and then four inches (4") of the outer sheath should be removed to allow the unfettered access to the individual micro ducts.
7. At all splice locations the contractor shall install a 3-rod ground tree for fiber optic cable grounding in accordance with the detailed drawings provided in
Bulletin OSP.1003 – Splice Point Grounding for Locate Test Point Stations.
• Ground Trees will be GPS'd
7. In a Metro area, Handholes shall be set flush to grade or to the specifications of the governing authority or in accordance with the detailed drawings.
8. When outside a metro area, the handhole is to be buried and it should be set with a minimum of 18 inches (18") and or a maximum of twenty-four (24") cover.
9. Manholes shall be installed in the same manner as handholes with the following exceptions:
• The contractor shall not use material less than five thousand (5,000) pounds per square inch (PSI) in density to shim frames and covers.
• Frames and covers shall be installed to match existing grade and shall be
shimmed with either steel or concrete spacers.
• All manhole penetrations shall be sealed with a pre-approved non-shrink grout.
• All conduits, ducts, or casings that enter the manhole wall shall be back filled to 95% compaction by using sand and water or slurry to insure minimal settling of the pipe. This action will help eliminate damaged conduits.
11. Innerduct shall have a gradual sweep into the handholes and manholes, if the depth of innerduct bury exceeds forty-eight inches (48"). The handholes and manholes shall not be installed on steep banks or slopes where the cover cannot be leveled within a tolerance of one-inch (1") of drop to twelve
inches (12") of grade.
12. All innerduct or conduit entering the manhole shall be flush and horizontal to the hole of penetration on the manhole. To prevent settlement and conduit damage near the entry of the manholes, the soil or bottom of the trench will meet 95% compactions by the use of various backfill materials. The suggested method is sand and water or slurry.
13. Upon completion of the innerduct placement in the handhole and manholes, the innerduct shall rest freely without tension. Innerduct on each side shall be plugged and sealed as previously noted.
14. All HH's and MH's, 3 rod ground trees, duct entrances and anything else called out in 4.9 shall be photographed with Solocator and provided as a deliverable to Company . to include but not limited to the GPS location, station number. See OSP.1012 - QA Photo App Standard Bulletin.

SPECIAL CONSTRUCTION CONSIDERATIONS

RAILROAD CROSSINGS

1. All work shall be performed in accordance with Railroad authority and other permitting agencies.

STREAM AND CANAL CROSSINGS

1. Contractor shall comply with all Federal, State, county and local laws, rules, regulations and Company obtained permits when crossing lakes, canals, streams, or river crossings.
2. Restoration and erosion control shall be performed as required by the agency having jurisdiction and as approved by Company .

GAS LINE CROSSINGS

1. Extra care must be taken when working around gas lines.
2. All deadly utilities will be exposed to verify 24" separation from Middle Mile Management duct package when crossing
3. All placements are subject to additional requirements in accordance with standards and specifications of the gas line owner and permitting authorities.

ROCK CONSIDERATIONS

NO ROCK CLAUSE:

• NO ROCK CLAUSE Contracts and RFPs must clearly define whether rock clauses are applicable to a specific project or not.
• For contracts that have no allowances for rock considerations, the contractor is responsible and fully accountable for all construction regardless of the type and amount of rock encountered during construction.

DRAINAGE CULVERTS

1. If underground drainage tile is encountered as the network is installed, the network shall be installed as per drainage district or other governing authority specifications.
2. The contractor consistent with the pre-construction conditions and materials will repair all damaged drainage tiles. In case of a dispute regarding the proper repair of damaged tile lines, the repair specifications of the county Soil and Water Conservation District will be followed.
3. The contractor will be responsible for repair of tile damaged by the construction.
4. Repairs made to damaged tile line must enable the tile lines to operate as well or better after the repairs are completed as before they were damaged.
5. The contractor shall immediately repair any tile lines known to be damaged. Permanent tile line repairs will be made within two (2) days of the date the damage occurred, weather permitting.
6. Where a tile is damaged, the contractor must station the location and indicate the location on the red line as-built
7. Prior to back filling, a Company representative and the governing authority must approve of the final tile repair.

EXISTING UTILITIES AND SUBSURFACE OBSTRUCTIONS

1. Prior to excavation commencement, contractor shall obtain a dig ticket by calling the appropriate Utilities Protection Center number per applicable jurisdiction (state, county, city, federal).The Contractor shall obtain and maintain the Call Before you Dig Programs in all construction areas. Contractor shall also notify all existing utility owners not participating in the CBUD Programs. For Company approval and inspection, contractor shall document and maintain records that evidence the notification of all utility owners no later than seventy-two (72) hours prior to the start of construction. The records shall include date, time of day, name of individual contacted, name of companies contacted, telephone number, and confirmation number.
2. Damaged Utilities: Any utility damage will be reported to the utility owner and Company immediately. This includes any damage to Company duct or cable. Contractor will fully cooperate with Company to facilitate any repairs necessary and provide complete documentation of all activities and restoration.

FENCING

1. Safety fencing shall be erected, around the contractor's excavations and or open holes and equipment left open or out over night or weekends on the ROW or any publicly accessible place.
2. Safety fencing will consist of 6-foot T-Posts and high visibility plastic safety snow fence erected per local, state or federal rules and guidelines

DAILY CLEAN-UP

The contractor shall maintain a clean and hazard free work area including daily removal of all spills, unused or unacceptable excavation materials, and waste. The contractor should sweep all affected street work areas and side-walk areas daily in accordance with Federal, State, county, city and local laws, rules, regulations and standards.

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vero NETWORKS

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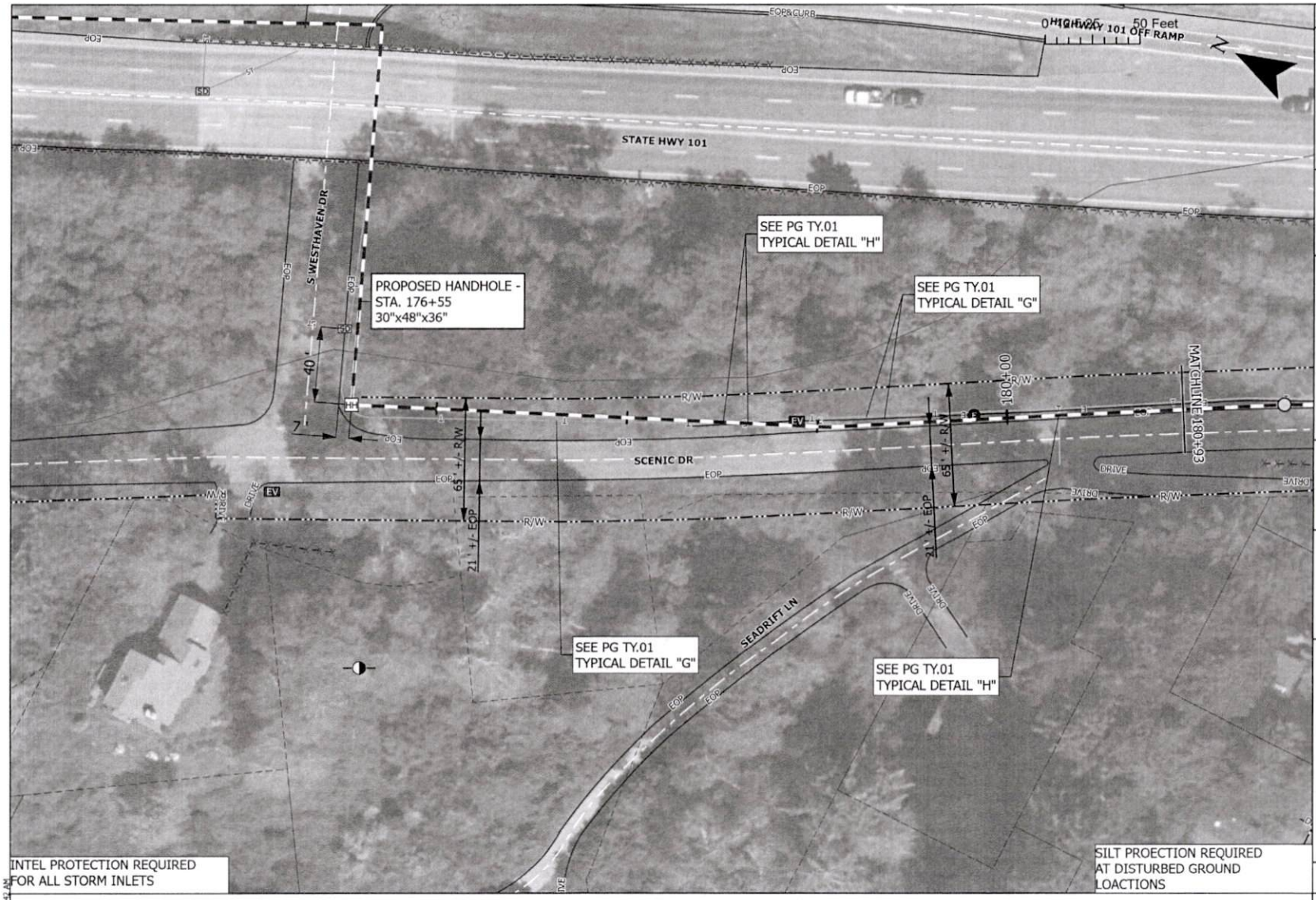
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

GN.04



INTEL PROTECTION REQUIRED FOR ALL STORM INLETS

SILT PROECTION REQUIRED AT DISTURBED GROUND LOACTIONS

HUMBOLDT COUNTY
176+50 TO 180+93

5/28/2024 10:42 AM

APPROVED
SEP 19 2024
Humboldt County
PLANNING

Scale: 1 INCH: 50 FEET

PERMIT EXPORT: 5/28/2024

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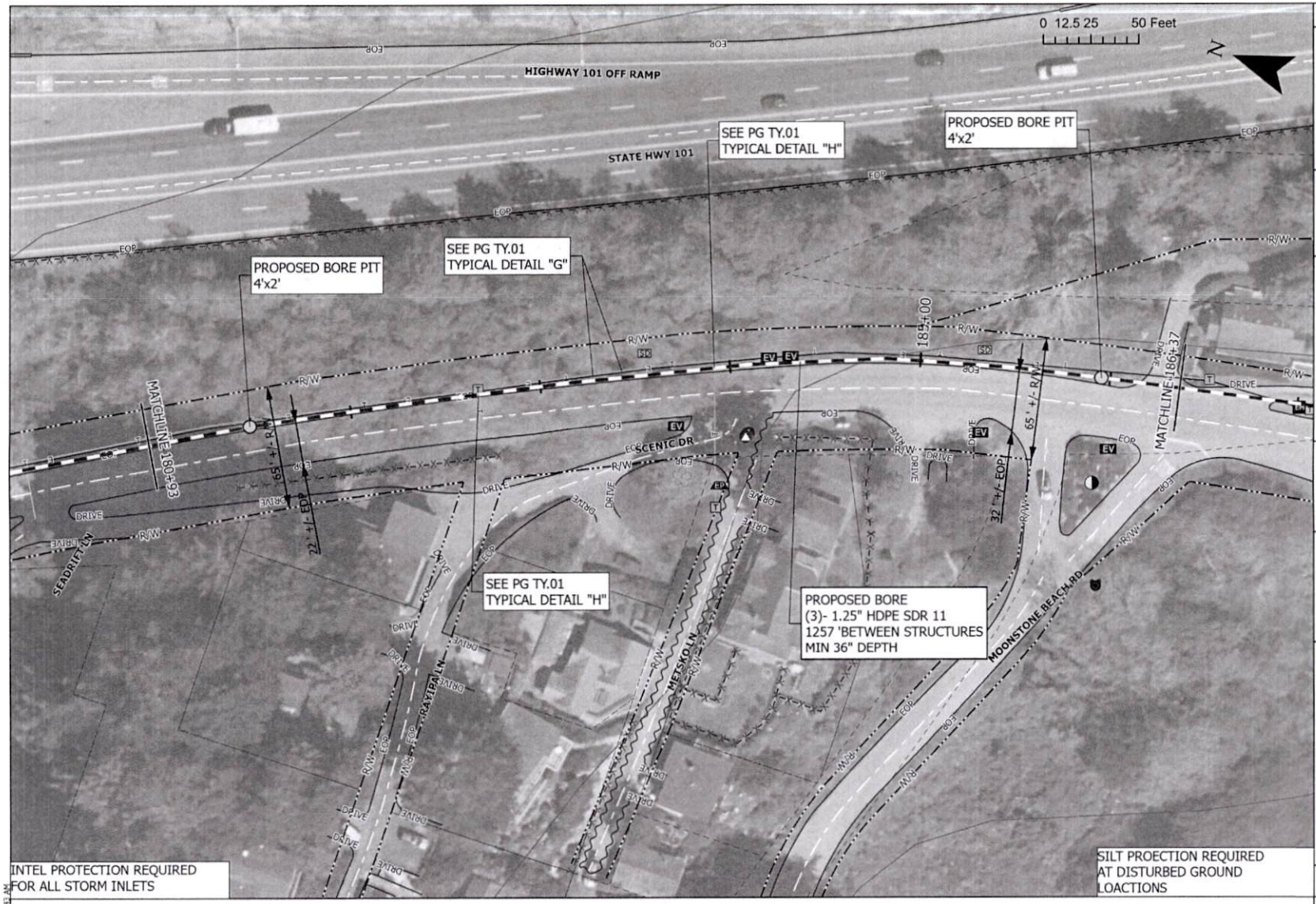
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.01



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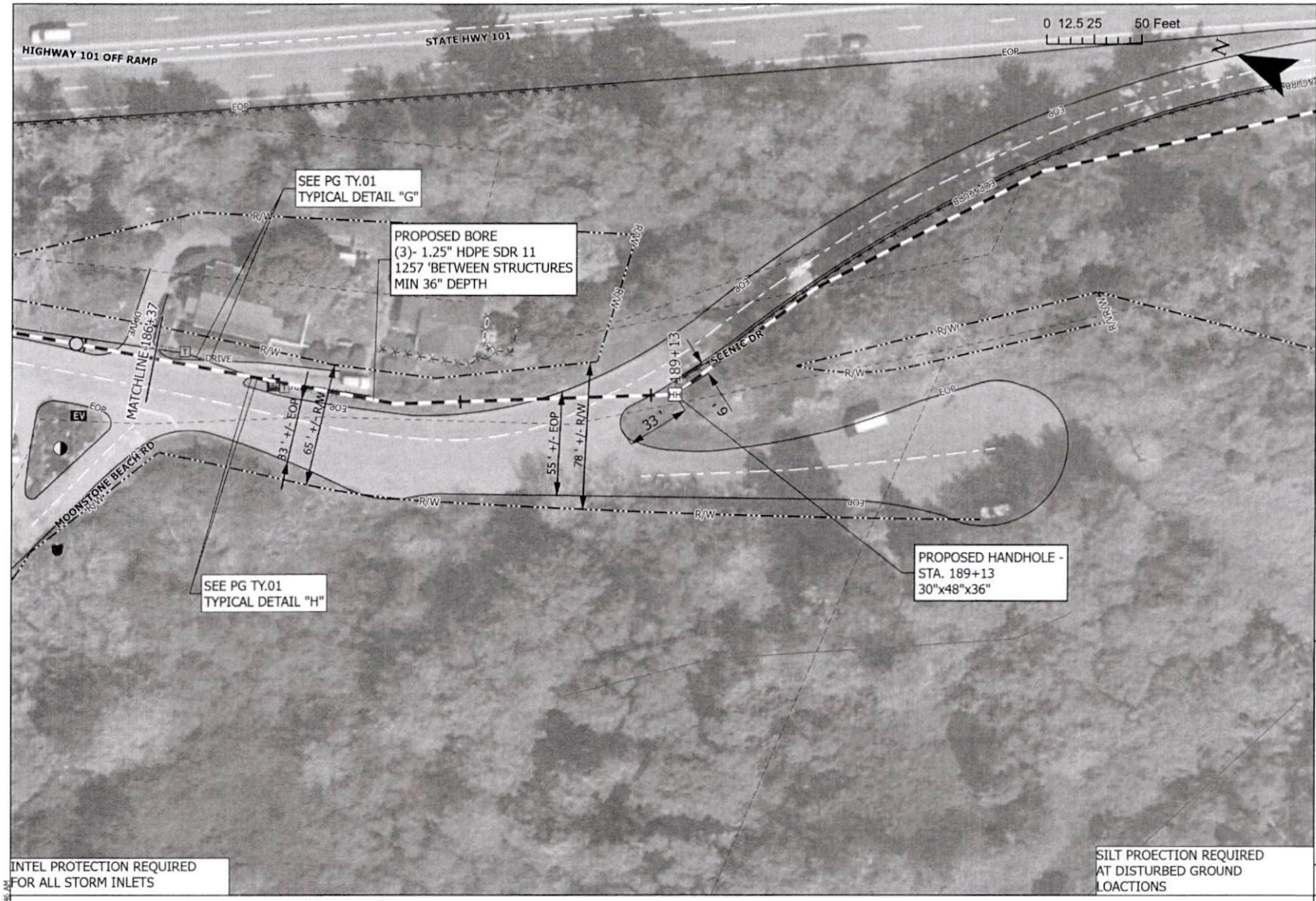
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

PL.02

5/28/2024 10:43 AM



Scale: 1 INCH: 50 FEET

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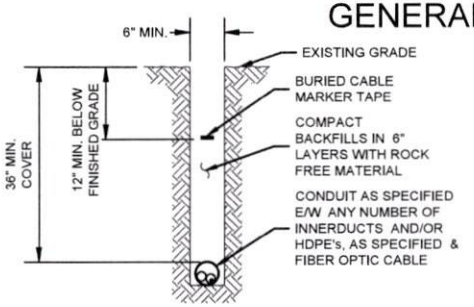
HUMBOLDT COUNTY

TRINIDAD TO ARCATA

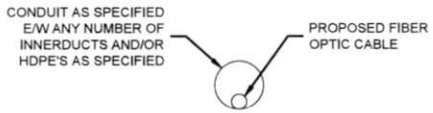
PL.03

5/28/2024 10:46 AM

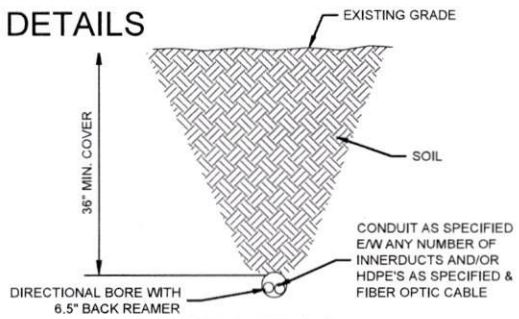
GENERAL UNDERGROUND CONSTRUCTION DETAILS



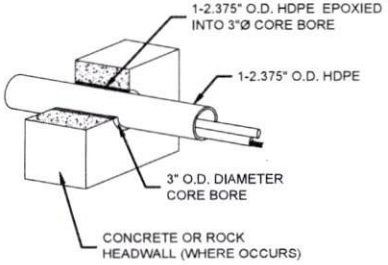
TYPICAL DETAIL "A"
TRENCH & PLACE CONDUIT



TYPICAL DETAIL "B"
CROSS SECTION OF PROPOSED HDPE

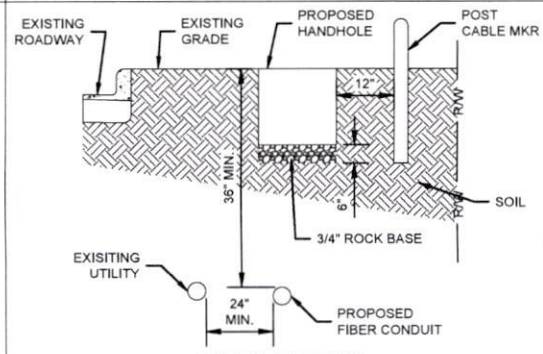


TYPICAL DETAIL "C"
DIRECTIONAL BORE CROSS SECTION FOR CONDUIT

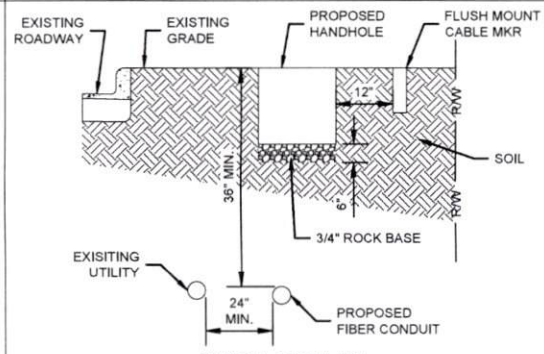


NOTE:
EPOXY GROUT IS USED AT BOTH ENDS OF CORE BORE TO SEAL GAP BETWEEN 2.375" CONDUIT AND PVC SLEEVE.

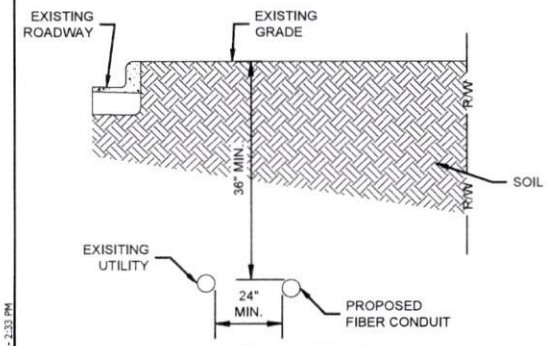
TYPICAL DETAIL "D"
3" CORE BORE



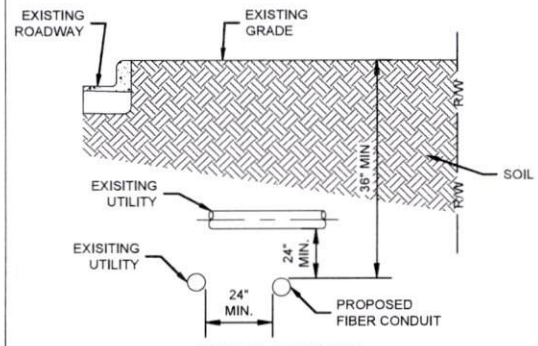
TYPICAL DETAIL "E"
HH WITH ABOVE GROUND MARKER



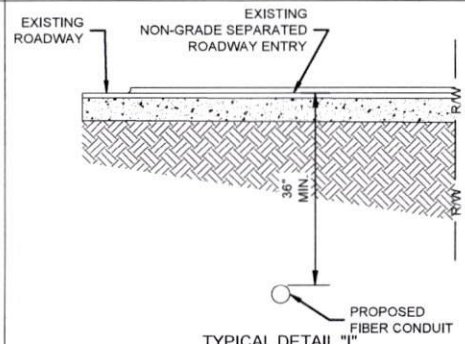
TYPICAL DETAIL "F"
HH WITH FLUSH MOUNT MARKER



TYPICAL DETAIL "G"
PARALLEL TO OTHER UTILITIES



TYPICAL DETAIL "H"
CROSSING OTHER UTILITIES



TYPICAL DETAIL "I"
CROSSING NON-GRADE SEPARATED ROADWAY ENTRY

REVISIONS		
DATE	REV	DESCRIPTION

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TYPICAL DETAIL DRAWINGS

TY.01

3/10/2021 - 2:33 PM

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

August 1, 2022
PLANS APPROVAL DATE

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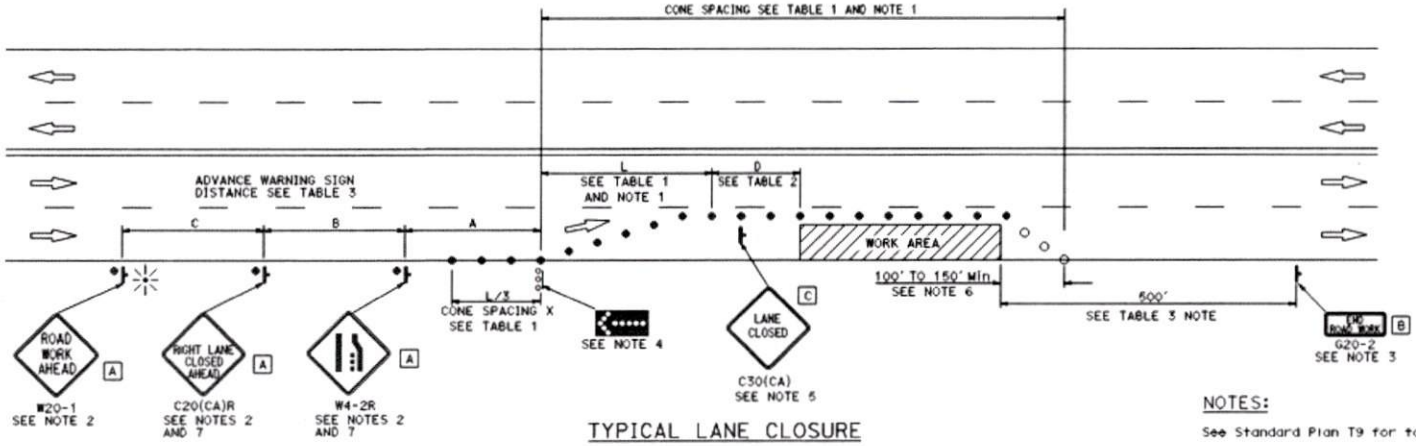

TYPICAL LANE CLOSURE

APPROVED
SEP 19 2024
Humboldt County
PLANNING

NOTES:

See Standard Plan T9 for tables.

Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

Provide at least one person to continuously maintain traffic control devices for lane closures.

LEGEND

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER
- PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

- [A] 48" x 48"
- [B] 36" x 18"
- [C] 30" x 30"

NOTES:

1. Portable delineators placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.
2. Each advance warning sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
3. A G20-2 "END ROAD WORK" sign shall be placed at the end of the lane closure unless the end of work area is obvious or ends within the larger project's limits.
4. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
5. Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work area.
6. Length may be reduced by the Engineer to address site conditions.
7. Median lane closures shall conform to the details shown except that C20(CA)L and W4-2L signs shall be used.
8. For approach speeds over 50 MPH, use the "Traffic Control System for Lane Closure on Freeways and Expressways" plan for lane closure details and requirements.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS

NO SCALE

T11

2022 STANDARD PLAN T11

8-20-21