CITY OF HOMER

WOODARD CREEK CULVERT REPLACEMENT
AT FAIRVIEW AVENUE
APRIL 25, 2021

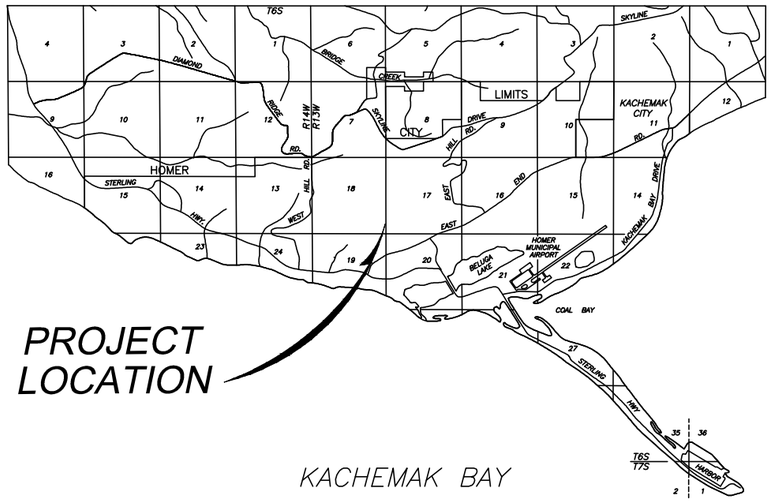
LOCATION MAP

Homer City Council

Mayor
Ken Castner

Councilmembers
Donna Aderhold
Joey Evenson
Storm Hansen-Cavasos
Rachel Lord
Heath Smith
Caroline Venuti

Public Works Director
Janette Keiser, PE



HOMER AREA MAP
SCALE: 1" = 1 MILE

INDEX TO DRAWINGS

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CONTOUR GRADING AND SOIL STABILIZATION PLAN	S-3
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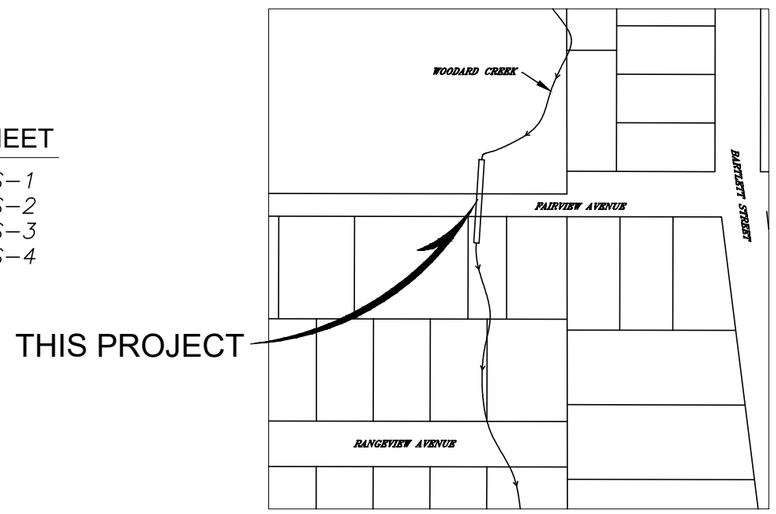
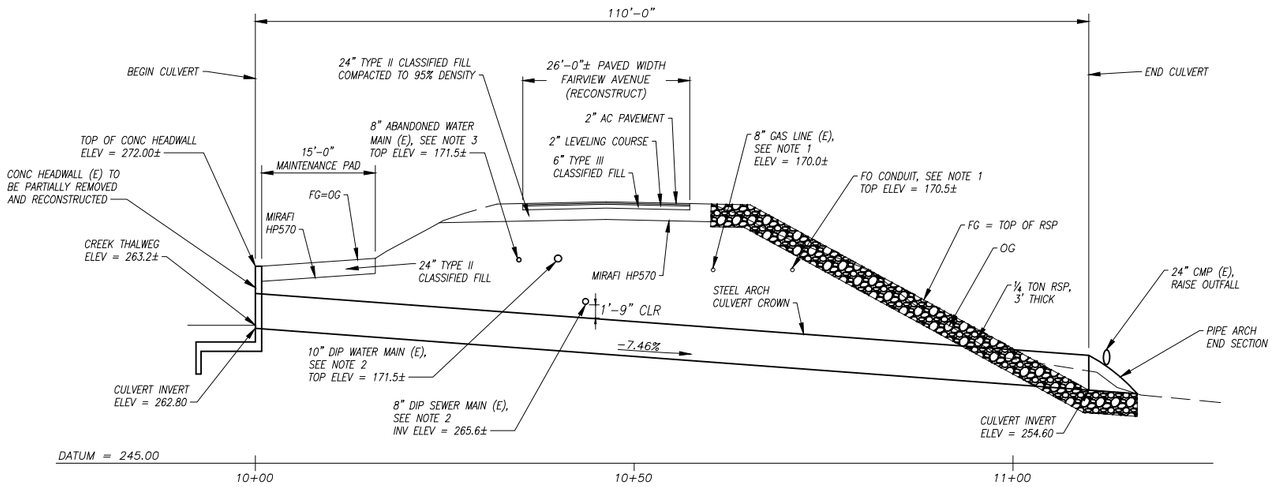
Notes:

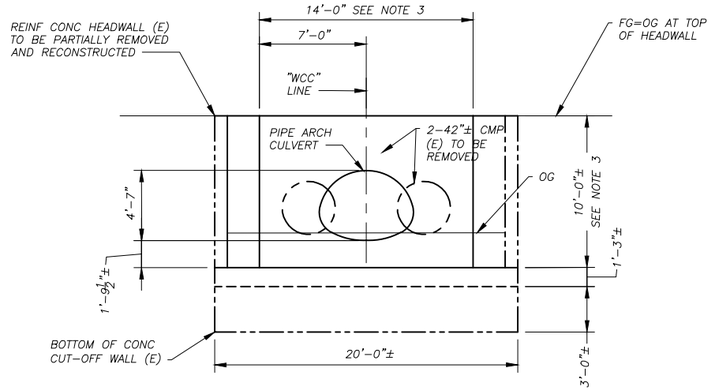
1. BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT: 811, (800) 478-3121, OR (907) 278-3121.



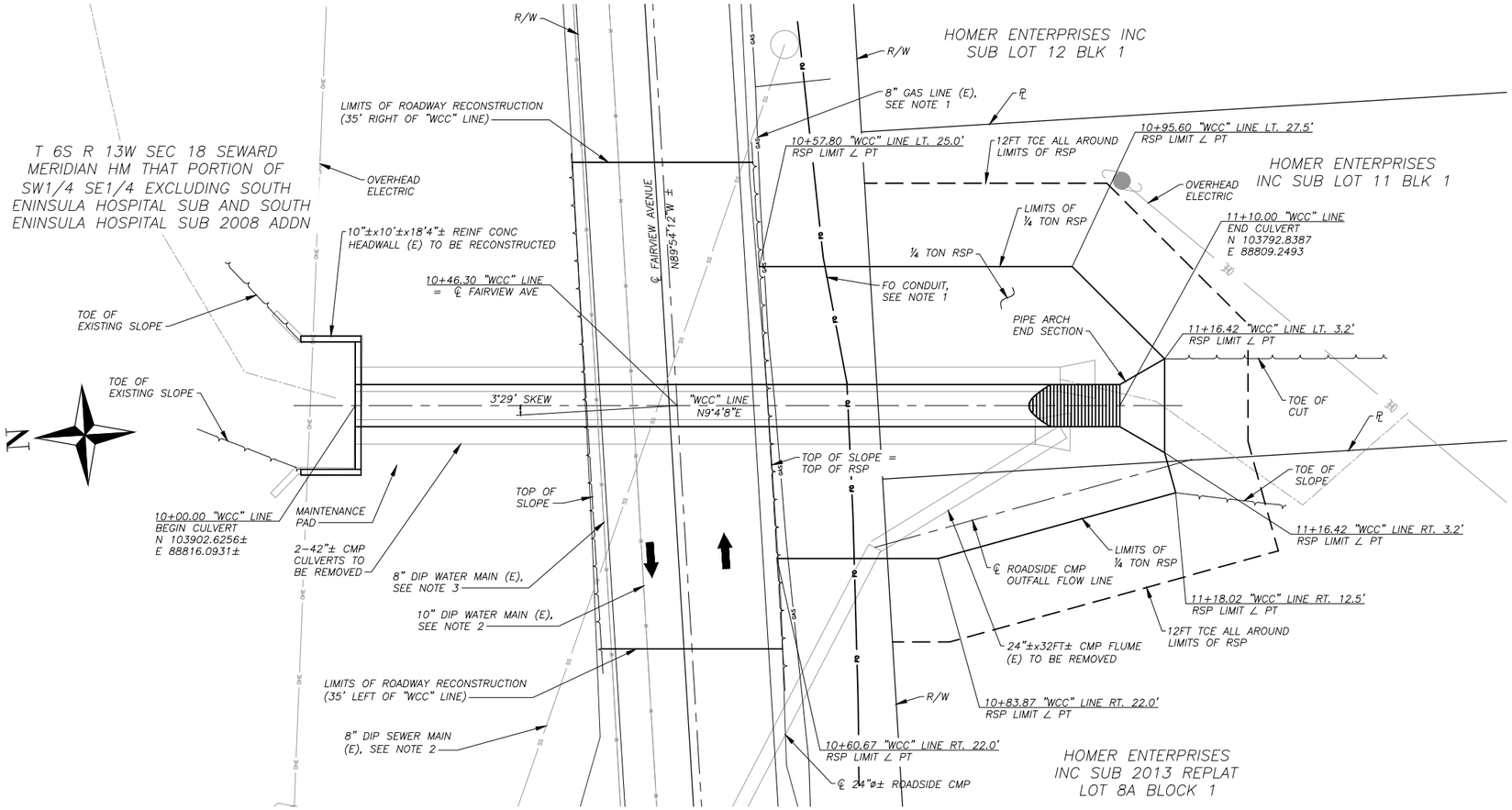
VICINITY MAP
SCALE: 1" = 200'



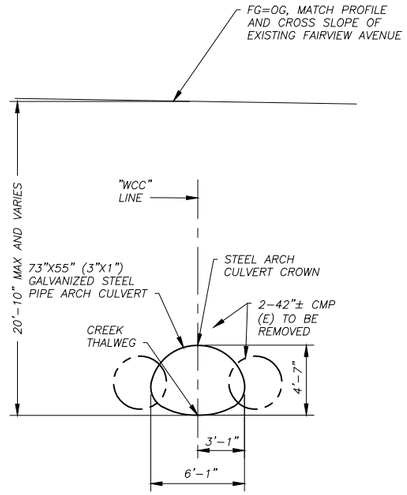
ELEVATION
1"=10'-0"



HEADWALL ELEVATION
1"=5'-0"



PLAN
1"=10'



TYPICAL SECTION
1"=5'-0"

NOTES:

1. UTILITY TO BE TEMPORARILY REROUTED ONTO TEMPORARY SUPPORT BRIDGE AND REMAIN IN SERVICE DURING CONSTRUCTION. COORDINATE WITH UTILITY OWNER ON DESIGN OF TEMPORARY SUPPORT BRIDGE
2. UTILITY SHALL BE TEMPORARILY SHUTDOWN AND REMOVED FROM THE LIMITS OF EXCAVATION. REINSTALL THE UTILITY DURING BACKFILLING OPERATION.
3. ABANDONED UTILITY SHALL BE REMOVED FROM THE LIMITS OF EXCAVATION AND CAPPED AT EACH END.
4. LIMITS OF REINFORCED CONCRETE REMOVAL AND RECONSTRUCTION.
5. FOR PLAN LIMITS OF MAINTENANCE PAD, SEE SHEET S4.
6. FOR LIMITS OF SITE STABILIZATION, SEE SHEET S4.
7. FOR CROSS SECTIONS OF ROCK SLOPE PROTECTION AND ROADSIDE CMP OUTFALL FLOW LINE, SEE SHEET S2.
8. BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE 811, (800) 478-3121, OR (907) 278-3121.

0 1" 2"

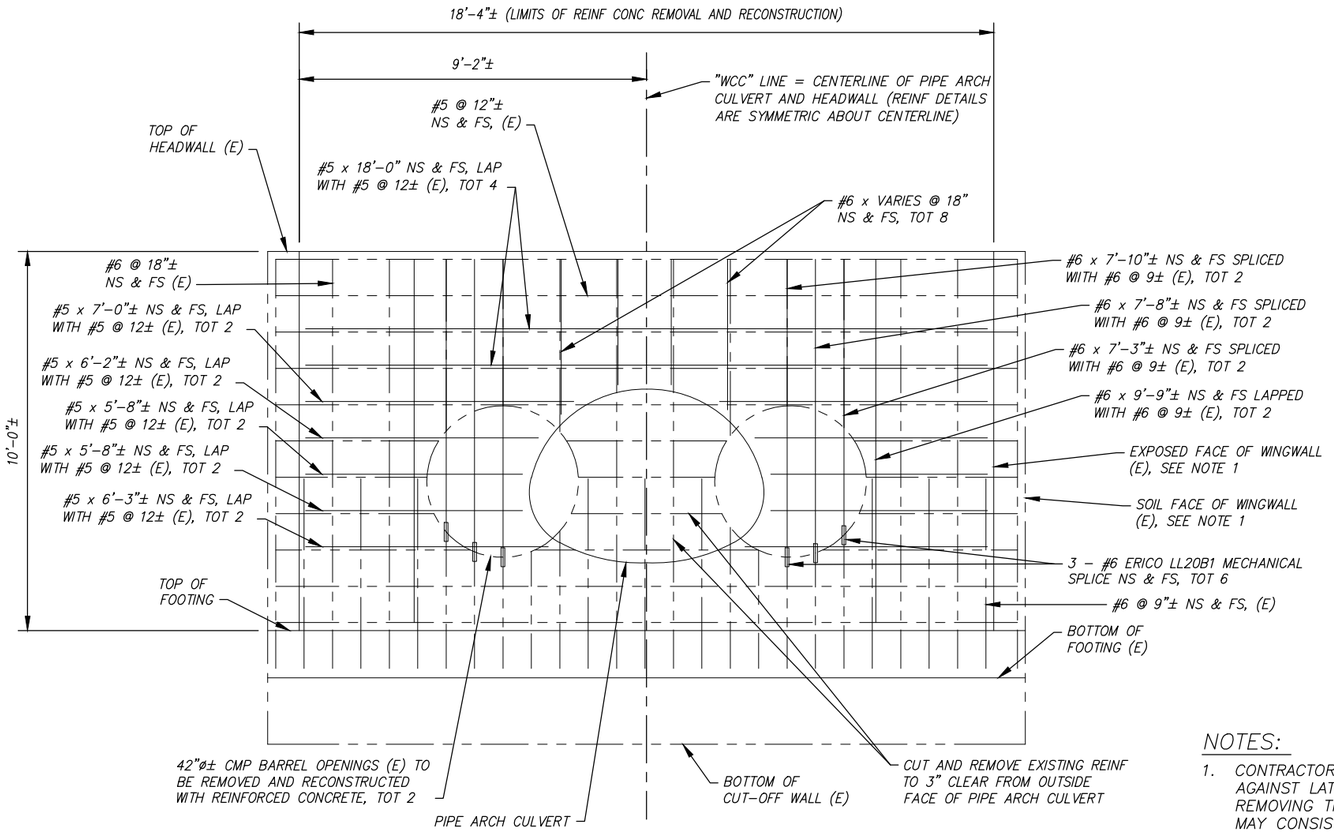
WOODARD CREEK CULVERT REPLACEMENT AT FAIRVIEW AVENUE

GENERAL PLAN

BISHOP ENGINEERING, LLC
PO BOX 2501 HOMER, ALASKA 99603
(907) 299-7609

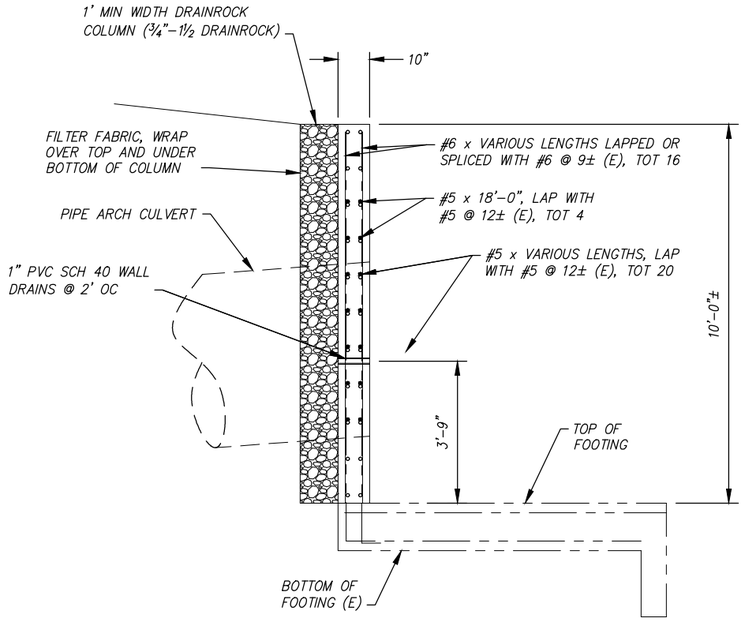
DATE: 4/25/2021
CHK'D: JSB
SCALE: AS NOTED
PROJ. NO.: 2020142

SHEET NO.:
S-1



HEADWALL ELEVATION

1"=2'-0"

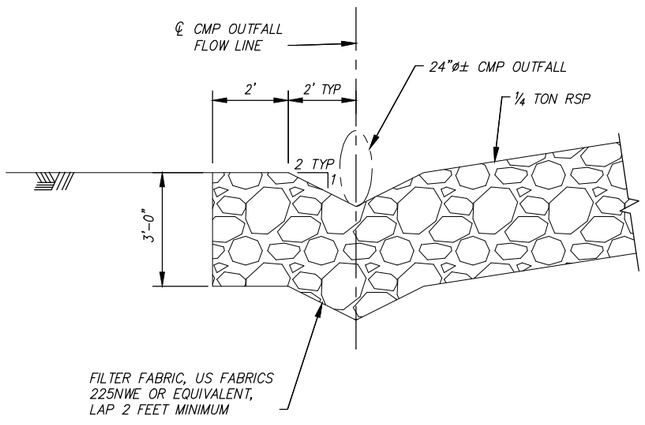


HEADWALL SECTION

1"=2'-0"

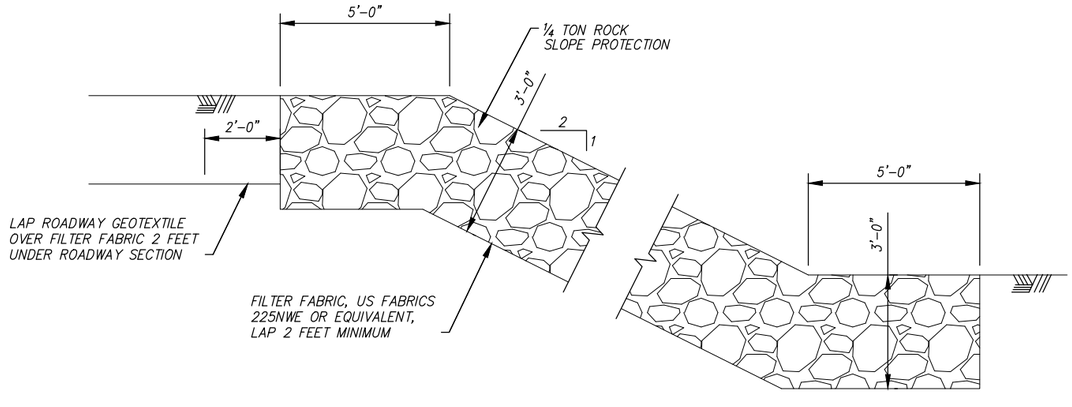
NOTES:

1. CONTRACTOR SHALL BRACE THE WINGWALLS AGAINST LATERAL EARTH PRESSURE BEFORE REMOVING THE HEADWALL CONCRETE. BRACING MAY CONSIST OF STRUTS BETWEEN THE TWO WALLS OR SEPARATE BRACING CAPABLE OF RESISTING A FORCE OF 1500 POUNDS PER HORIZONTAL FOOT LOCATED 5 FEET ABOVE THE TOP OF FOOTING. BACKFILL MAY BE REMOVED AND REPLACED AT THE OPTION OF CONTRACTOR.
2. BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE 811, (800) 478-3121, OR (907) 278-3121.



ROADSIDE CMP OUTFALL FLOW LINE

1"=2'-0"



ROCK SLOPE PROTECTION SECTION

1"=2'-0"

0 1" 2"

WOODARD CREEK CULVERT REPLACEMENT AT FAIRVIEW AVENUE

CONSTRUCTION DETAILS

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(907) 299-7609

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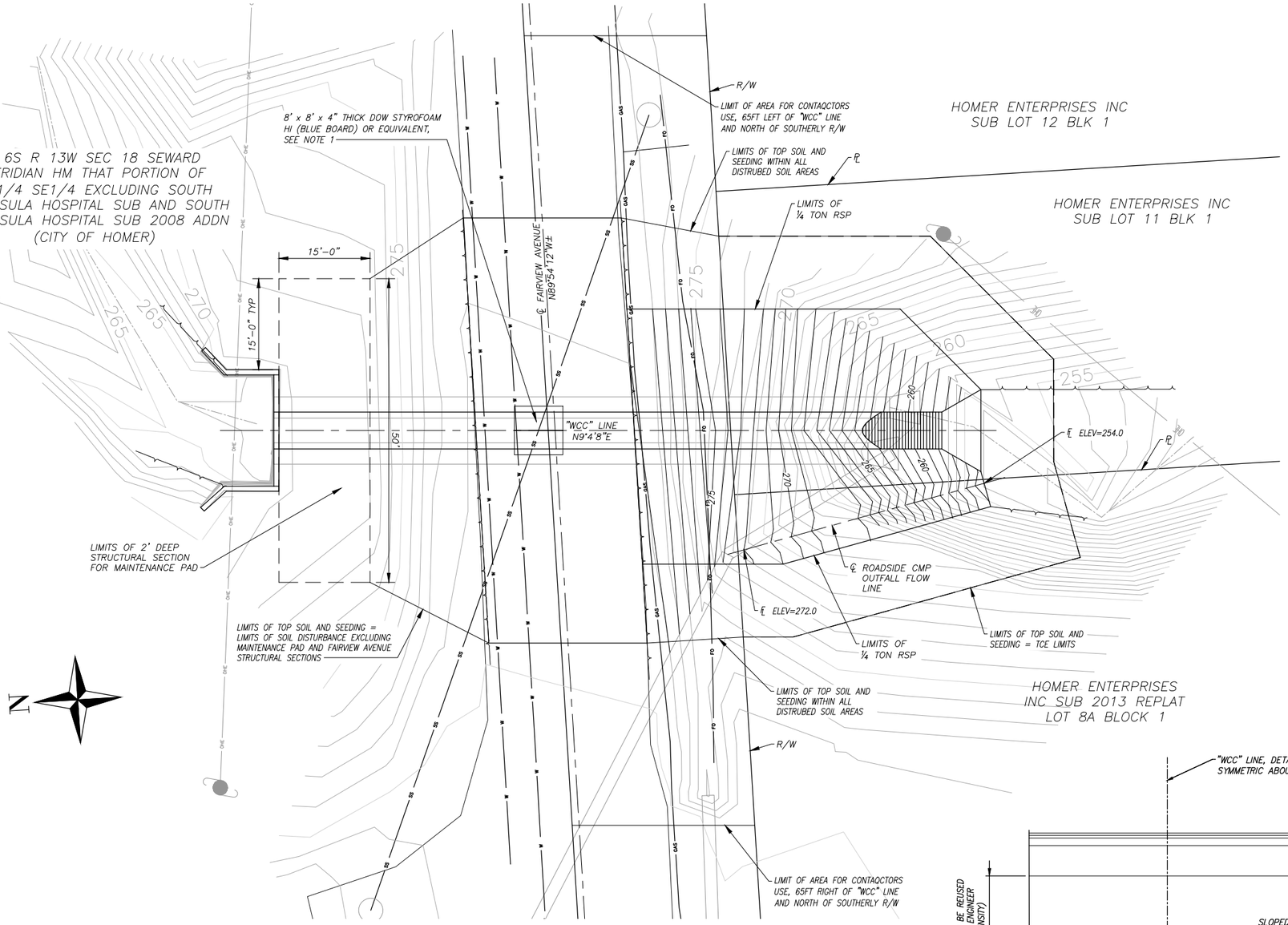
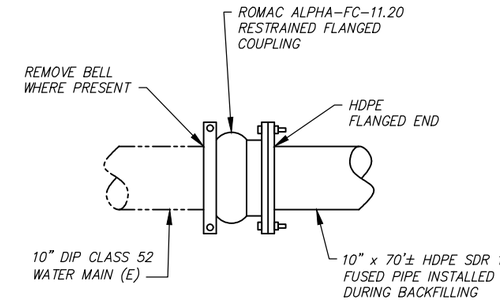
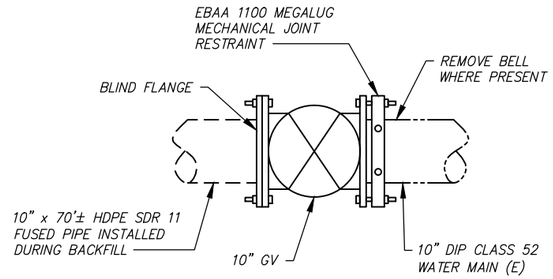
SHEET NO.:
S-2



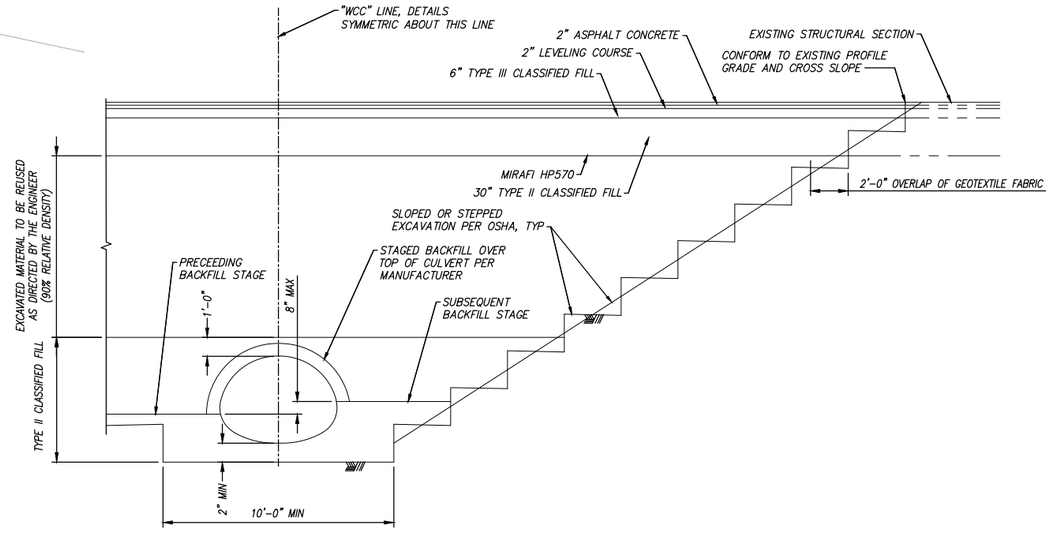
PLAN
1"=10'



HDPE TO DIP WATER MAIN TRANSITION
½" = 1'-0"



GATE VALVE DETAIL
½" = 1'-0"



EXCAVATION AND BACKFILL SECTION
NOT TO SCALE

0 1" 2"

NOTES:
1. INSTALL INSULATION BOARDS CENTERED ABOUT THE INTERSECTION OF THE SEWER MAIN CENTERLINE AND "WCC" LINE. PLACE THE INSULATION BOARDS 1 FOOT ABOVE THE PIPE ARCH CULVERT CROWN.
2. ADDITIONAL AREAS FOR CONTRACTORS USE WILL BE MADE AVAILABLE BY THE CITY OF HOMER.
3. BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE 811, (800) 478-3121, OR (907) 278-3121.

WOODARD CREEK CULVERT REPLACEMENT AT FAIRVIEW AVENUE
CONSTRUCTION DETAILS NO. 2

BISHOP ENGINEERING, LLC
PO BOX 2501 HOMER, ALASKA 99603
(907) 299-7609

DATE: 5/3/2021
CHK'D: JSB
SCALE: AS NOTED
PROJ. NO.: 2020142

SHEET NO.:
S-3

DESIGN SPECIFICATIONS

DESIGN CODE: AASHTO LRFD BRIDGE DESIGN SPECIFICATION
SPECIFICATION 9TH EDITION

DESIGN DATA:

LIVE LOAD: HL93

SOIL PRESSURES:
ø = 34°
ɣ = 120 PCF

NET ALLOWABLE SOIL BEARING CAPACITY = 2000 PSF

MATERIAL SPECIFICATIONS

CONCRETE
CEMENT SHALL BE TYPE II PER ASTM C150–96. READY MIXED PER ASTM C–94. MIN. 28 DAY COMPRESSIVE STRENGTH – 3250 PSI – MAX. SLUMP = 5". MAXIMUM WATER–CEMENTITIOUS MATERIALS RATIO, BY WEIGHT, NORMAL–WEIGHT AGGREGATE CONCRETE SHALL BE 0.5. AIR CONTENT SHALL BE 4% MIN AND 7% MAX. CLEAR COVER SHALL BE 3" TO GROUND AND 2" TO FORMED SURFACES.

REINFORCEMENT:
REINFORCING SHALL BE DEFORMED BARS, ASTM A615–60. LAP BARS 35 BAR DIAMETERS AT ALL LAP SPLICES ERICO LL20B1 LOCK MECHANICAL SPLICE OR AN EQUIVALENT APPROVED BY THE ENGINEER SHALL BE USED FOR #6 BAR MECHANICAL SPLICES.

PIPE ARCH CULVERT:
SHALL CONSIST OF CONTECH ALUMINIZED (ALT2) 73"X55" – 3"X1" CORRUGATED STEEL PIPE.

CITY OF HOMER STANDARD DRAWINGS INDEX

200.01 TYPICAL ROADWAY SECTION RURAL

LEGEND & SYMBOLS

EDGE EXISTING GRAVEL
CUT CATCH LINE
FILL CATCH LINE
CENTERLINE 7+00
UNDERGROUND ELECTRIC UGE
OVERHEAD ELECTRIC OHE
UNDERGROUND TELEPHONE UGT
WATER MAIN W
SANITARY SEWER SS
CONTOURS MAJOR 85
CONTOURS MINOR
TEST PIT LOCATION TP–1
SIGN
PIPE CULVERT W/ END SECTION
FIRE HYDRANT
VALVE OR RISER
EXISTING VALVE OR RISER
PRESSURIZED SEWER SERVICE POLY VALVE

ABBREVIATIONS

AKDOT&PF	ALASKA DEPT. OF TRANSPORTATION & PUBLIC FACILITIES
ASDS	ALASKA SIGN DESIGN SPECIFICATIONS
APDES	ALASKA POLLUTION DISCHARGE ELIMINATION SYSTEM
△	DELTA / CENTRAL ANGLE OF CURVE
BP	BEGIN PROJECT
C/L	CENTERLINE
CMP	CORREGATED METAL PIPE
CO	CONTRACTING OFFICER
COH	CITY OF HOMER
CONC	CONCRETE
CY	CUBIC YARD
DIA	DIAMETER
DIST	DISTANCE
E	EASTING
EL	ELEVATION
ELEV	ELEVATION
EP	END PROJECT
ESMT	EASEMENT
(E)	EXISTING
FL	FLANGE
FS	FAR SIDE
FT	FOOT
GV	GATE VALVE
HDPE	HIGH–DENSITY POLYETHYLENE
IN	INCH
INV	INVERT
L	LENGTH OF CURVE
LF	LINEAR FOOT
LT	LEFT
MIN	MINIMUM
MAX	MAXIMUM
MJ	MECHANICAL JOINT
MPH	MILES PER HOUR
MSF	1000 SQUARE FEET
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
N	NORTHING
NS	NEAR SIDE
OHE	OVERHEAD ELECTRIC
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PRC	POINT OF REVERSE CURVATURE
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PT	POINT OF TANGENCY
R	RADIUS
REINF	REINFORCED
RT	RIGHT
R/W	RIGHT–OF–WAY
SEC	SECTION
SI	STREET INTERSECTION
SF	SQUARE FOOT
SMH	SEWER MANHOLE
S.S.	SANITARY SEWER
STA.	STATION
STD	STANDARD
SY	SQUARE YARD
UGE	UNDERGROUND ELECTRIC
UGT	UNDERGROUND TELEPHONE
UTIL	UTILITY
TCE	TEMPORARY CONSTRUCTION EASEMENT
TYP.	TYPICAL
W	WATER MAIN OR SERVICE

CONSTRUCTION NOTES

1. CONTRACTOR SHALL COMPLETE CONSTRUCTION IN ACCORDANCE WITH THE CITY OF HOMER STANDARD SPECIFICATIONS 2011 EDITION INCLUDING ITEMS. DRAWINGS, TECHNICAL SPECIFICATIONS, AND SPECIAL PROVISIONS TAKE PRECEDENCE OVER THE STANDARD SPECIFICATIONS.
2. THE CONTRACTOR SHALL ADHERE TO ALL REQUIREMENTS CONTAINED IN LOCAL, STATE AND FEDERAL PERMITS OBTAINED BY THE CITY FOR CONSTRUCTION OF THIS PROJECT. COPIES OF THE PERMITS SHALL BE MAINTAINED AT THE JOB SITE.
3. CONTRACTOR SHALL MAINTAIN "REDLINE" RECORD DRAWINGS ON A CLEAN SET OF CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL MAINTAIN THE "REDLINES" CURRENT ON A DAILY BASIS WHICH SHALL BE AVAILABLE TO THE ENGINEER FOR INSPECTION ON THE JOB SITE. CONTRACTOR SHALL RECORD SURVEY NOTES FOR SUBMITTAL WITH RECORD DRAWINGS, INCLUDING HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES ENCOUNTERED IN THE FIELD.
4. LOCATIONS DEPICTED FOR THE UTILITIES AND OTHER EXISTING FEATURES ARE APPROXIMATE. SOME UTILITIES HAVE BEEN LOCATED FROM RECORD DRAWINGS AND UTILITY COMPANY LOCATES. CONTRACTOR SHALL LOCATE AND VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
5. ALL WORK IN CLOSE PROXIMITY TO EXISTING UNDERGROUND AND TEMPORARILY RELOCATED GAS, ELECTRICAL, AND TELECOMMUNICATION LINES SHALL COMPLY WITH THE APPLICABLE FEDERAL, STATE AND LOCAL STATUTES, CODES AND GUIDELINES, AND THE ELECTRICAL FACILITY CLEARANCE REQUIREMENTS OF THE GOVERNING UTILITY. CONTRACTOR SHALL HAND DIG WITHIN TWO FEET OF BURIED ELECTRICAL CABLE.
6. GAS, ELECTRICAL, AND TELECOMMUNICATION LINES SHALL REMAIN IN SERVICE EXCEPT PERIODS OF TEMPORARY SHUTDOWN FOR RELOCATION. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITIES TO PROVIDE SPACE OUTSIDE THE ACTIVE WORK ZONE OR CONSTRUCT UTILITY BRIDGES, APPROVED BY THE UTILITY, OVER THE WORK ZONE TO SUPPORT THE UTILITIES DURING CONSTRUCTION.
7. THE CITY WATER MAIN AND SEWER MAINS WILL BE SHUT DOWN DURING CONSTRUCTION. THE CONSTRACTOR SHALL REMOVE THE SECTIONS OF WATER AND SEWER MAINS WITHIN THE LIMITS OF EXCAVATION AND SEAL THE EXPOSED ENDS AGAINST THE INTRUSION OF CONTAMINANTS. THE WATER MAIN SHALL BE REINSTALLED, PRESSURE TESTED AND DISINFECTED DURING BACKFILLING OPERATIONS. THE SEWER MAIN SHALL BE REINSTALLED AND PRESSURE TESTED DURING BACKFILLING OPERATIONS.
8. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION THAT DEMONSTRATES THAT NEW WATER MAIN PIPE MATERIAL IS CERTIFIED TO CONFORM TO ANSI/NSF STANDARD 61.
9. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION THAT DEMONSTRATES THE CHEMICAL ADDITIVE FOR DISINFECTION IS CERTIFIED TO CONFORM TO ANSI/NSF STANDARD 60.
10. DISCHARGES OF EFFLUENT FROM HYDROSTATIC TESTING AND DISINFECTION SHALL CONFORM SECTIONS 4.0 CONTROL MEASURES, 5.1 LAND DISPOSAL DISCHARGES OF HYDROSTATIC TESTING, AND 6.0 REPORTING AND RECORDKEEPING OF THE ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM "GENERAL PERMIT FOR HYDROSTATIC AND AQUIFER PUMP TESTING" PERMIT NUMBER AKG003000.
11. THIS PROJECT IS REQUIRED TO BE CONSTRUCTED IN ACCORDANCE WITH THE APDES GENERAL CONSTRUCTION PERMIT FOR STORM WATER POLLUTION. THE CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF THE PERMIT.
12. ALL DISTANCES SHOWN ARE HORIZONTAL GROUND DISTANCES IN U.S. SURVEY FEET.
13. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE CITY ENGINEER FOR APPROVAL T LEAST TWO WEEKS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.
14. EXCAVATION AND BACKFILL AROUND THE PIPE ARCH SHALL CONFORM TO ASTM A798.
15. CONTRACTOR SHALL SEED ALL DISTURBED AREAS WHERE OTHER SURFACE IS NOT SPECIFIED.
16. IF CONTAMINATED SOIL, GROUNDWATER, OR FREE–PRODUCT ARE ENCOUNTERED, THE CONSTRUCTION CONTRACTOR SHALL IMMEDIATELY CONTACT THE ENGINEER WHO WILL IMMEDIATELY CONTACT THE ADEC PREVENTION AND EMERGENCY RESPONSE (PERP) OFFICE STAFF AT (907) 465–5340 / FAX (907) 465–2237 IN ACCORDANCE WITH SPILL REPORTING REQUIREMENTS UNDER 18 AAC 75.300, AND COORDINATE MANAGEMENT OF ALL CONTAMINATED MEDIA WITH EMERGENCY RESPONSE PERSONNEL.
17. ROCKS FOR ROCK SLOPE PROTECTION MAY BE PLACED BY DUMPING WHERE NO DAMAGE TO THE PIPE ARCH IS ASSURED. WHERE PLACEMENT BY DUMPING MAY CAUSE DAMAGE TO PIPES AND ASSOCIATED HARDWARE, THE ROCKS SHALL HAVE BE PLACED INDIVIDUALLY WITH THEIR LONGITUDINAL AXIS NORMAL TO THE SLOPE. PLACE ROCKS SO THERE IS A MINIMUM OF VOIDS, LARGER ROCKS SHALL BE IN THE BASE COURSE AND OUTSIDE SURFACE OF THE SLOPE PROTECTION. ROCK SHALL CONSIST OF 0%–5% LARGER THAN 1/2–TON, 50%–100% LARGER THAN 1/4–TON, AND 95%–100% LARGER THAN 200 POUNDS.

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CONSTRUCTION NOTES

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S–4