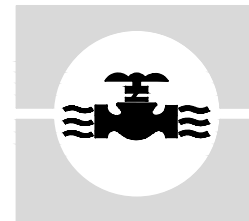
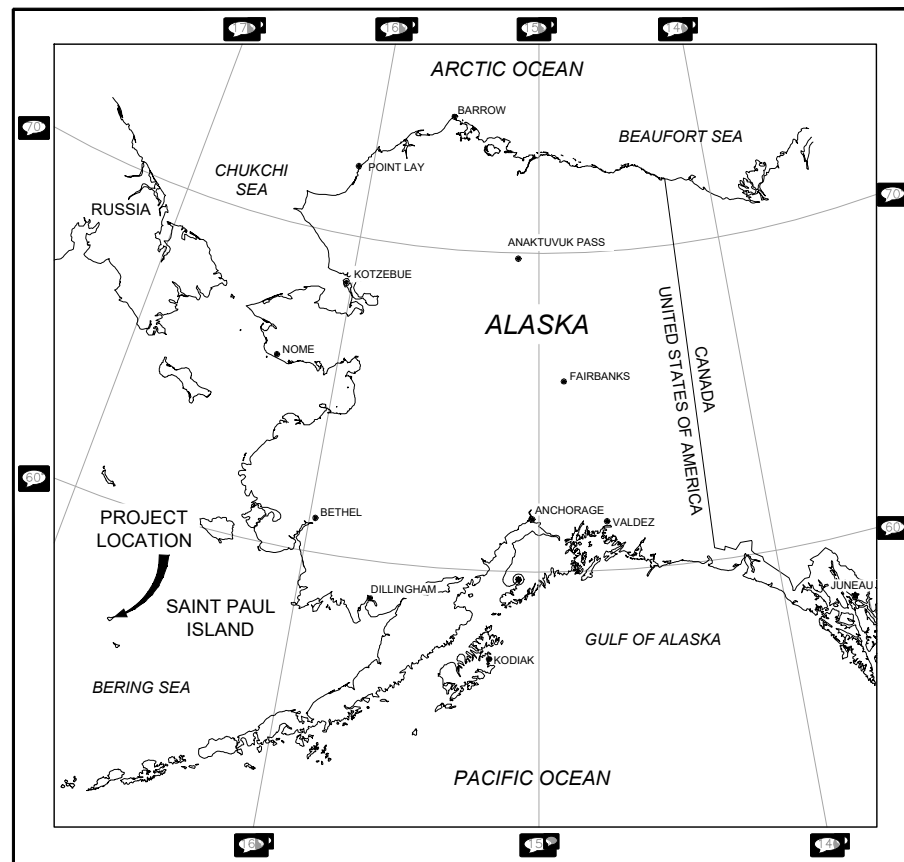


SAINT PAUL, ALASKA LIFT STATION REPLACEMENTS 35% SUBMITTAL - FEBRUARY 2023



IN COOPERATION WITH THE STATE OF ALASKA
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
VILLAGE SAFE WATER PROGRAM
U.S. DEPARTMENT OF AGRICULTURE, RURAL
ECONOMIC AND COMMUNITY DEVELOPMENT

SHEET NO.	TITLE
GENERAL	
G-000	COVER SHEET & SHEET INDEX
G-001	LEGEND, ABBREVIATIONS & VICINITY MAP
G-002	SCOPE OF WORK & DESIGN CRITERIA
G-003	SEWER SYSTEM SCHEMATIC
G-004	OVERALL SITE PLAN & TOPOGRAPHY
SURVEY	
V-100	RIGHT OF WAY MAPS
CIVIL	
C-100	SHEET INDEX
C-200	DEMOLITION PLAN
C-301	PLAN & PROFILE - ELLERMAN HEIGHTS
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MECHANICAL	
M-101	SANDY LANE LIFT STATION PLAN
M-201	ELLERMAN LIFT STATION PLAN
ARCHITECTURAL	
A-100	FLOOR PLAN / SECTIONS / PERSPECTIVE
STRUCTURAL	
S-100	SPECIFICATIONS & DESIGN DATA
ELECTRICAL	
E-100	ELECTRICAL LEGEND AND ABBREVIATIONS
E-201	LIFT STATION ONE-LINE DIAGRAMS



LOCATION MAP

PROJECT NUMBER (CONSULTANT)	030001	VSW-SNP
PROJECT ENGINEER	DAVID W. HARRIS	
CONSTRUCTION PERIOD		
APPROVAL (DATE)		
CONSTRUCTION PERIOD (DATE)		
BUILTS (DATE)		

35% SUBMITTAL

PROJECT START	FEBRUARY 2023
PROJECT SUBMITTAL	FEBRUARY 2023



4300 B Street, Suite 605
Anchorage, AK 99503
Office: 907-339-6500
Fax: 907-339-5327
www.kunaeng.com
License Number: AELS129381

CONSULTANT

SCOPE OF WORK:

1. THIS PROJECT IS INITIATED BY THE CITY OF SAINT PAUL AND VILLAGE SAFE WATER TO IMPROVE THE SAINT PAUL WASTEWATER COLLECTION SYSTEM.
2. BASED ON THE 2020 PRELIMINARY ENGINEERING REPORT (PER), THE COMMUNITY OF SAINT PAUL SELECTED OPTION (D) WHICH IS TO REPLACE THE EXISTING LIFT STATIONS AT ELLERMAN HEIGHTS AND SANDY LANE.
3. KUNA WILL PRODUCE CONSTRUCTION DOCUMENTS FOR THE REPLACEMENT OF THE EXISTING LIFT STATIONS AT ELLERMAN HEIGHTS AND SANDY LANE.
4. BOTH PROPOSED LIFT STATIONS WILL CONTAIN CONCRETE WET WELLS, ADJACENT TO A LIFT STATION FACILITY TO HOUSE PUMPS, INSTRUMENTATION, AND COMPONENTS.

COMMUNITY DATA:

THE CITY OF SAINT PAUL IS A SECOND CLASS CITY LOCATED ON SAINT PAUL ISLAND IN THE BERING SEA OFF THE WEST COAST OF ALASKA. IT IS APPROXIMATELY 750 MILES WEST OF ANCHORAGE AND IS ONLY ACCESSIBLE BY AIR OR SEA. THE COMMUNITY IS LOCATED ABOUT 3 MILES FROM THE 6500-FOOT LONG STATE-OWNED AIRPORT. THE CITY IS HOME TO APPROXIMATELY 360 RESIDENTS AND HOSTS 145 NON-SEASONAL HOMES. THERE ARE APPROXIMATELY 190 SERVICE CONNECTIONS THAT ARE SERVED BY THE TWO LIFT STATIONS. ACCORDING TO THE ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION, THE SAINT PAUL WASTEWATER COLLECTION SYSTEM IS CLASSIFIED AS CLASS 1. THE COMMUNITY OF SAINT PAUL OFTEN REFERS TO SANDY LANE AS "OLD TOWN" AS IDENTIFIED IN PREVIOUS REPORTS AND DRAWINGS.

THE FIRST SEWER SYSTEM WAS INSTALLED IN THE COMMUNITY OF SAINT PAUL PRIOR TO THE 1950'S. THE SEWER SYSTEM SERVED SANDY LANE. IN 1969, ELLERMAN HEIGHTS SEWER SYSTEM WAS INSTALLED. IN 1978, THE ELLERMAN HEIGHTS COLLECTION SYSTEM WAS EXPANDED, AND AGAIN IN 1985, WHERE THE EXISTING LIFT STATION WAS INSTALLED. THE SANDY LANE LIFT STATION WAS INSTALLED IN 1988.

SINCE THE ORIGINAL CONSTRUCTION, THE LIFT STATIONS HAVE DEGRADED DUE TO CORROSION OF THE STEEL TANKS, PIPING AND OBSOLETE CONTROL SYSTEMS. THE DRY WELLS DO NOT ALLOW EASE OF ACCESS TO THE INDIVIDUAL COMPONENTS AND ARE CONSIDERED CONFINED SPACES.

TDX OWNS THE LAND AT THE ELLERMAN AND SANDY LANE LIFT STATION SITES. THE ALEUT CORPORATION (AEC), THE REGIONAL NATIVE CORPORATION, OWNS THE SUBSURFACE RIGHTS TO THE LAND UNDERLYING BOTH THE ELLERMAN AND SANDY LANE LIFT STATION SITES. BOTH EXISTING LIFT STATIONS ARE WITHIN EASEMENTS PROVIDED TO THE CITY OF SAINT PAUL BY TDX.

ALL PROPOSED WORK WILL FIT WITHIN THE EXISTING EASEMENT AREA AND NO ADDITIONAL LAND WOULD BE REQUIRED.

REFERENCES:

1. 2020 PRELIMINARY ENGINEERING REPORT FOR CITY OF SAINT PAUL WASTEWATER LIFT STATION, POLARCONSULT ALASKA, FEBRUARY 2020.

SAINT PAUL WASTEWATER COLLECTION SYSTEM.
 CONSTRUCTION MUST MEET THE STATE OF ALASKA DOMESTIC WASTEWATER STANDARDS (18 AAC 72). CONTRACTOR WILL COMPLY WITH FEDERAL ENVIRONMENTAL

	ELLERMAN HEIGHTS	SANDY LANE
LIFT STATION DESIGN	1	1
AVERAGE INFLOW	1	1
PEAK INFLOW	1	1
LOW PEAKING FACTOR	1	1
WIND OF RECORD	1	1
PUMP RUN TIME	1	1
AVERAGE PUMP RATE	1	1
PUMP RATE	1	1

DEVELOPMENT SCALED FROM EXISTING DEVELOPMENT, WITH GENERATION, TO FULL DEVELOPMENT UNDER CURRENT ZONING.
 3.1 TIMES AVERAGE FLOW WAS OBSERVED IN ELLERMAN LIFT STATION AND DUE TO SIGNIFICANTLY HIGHER RESIDENT

	ELLERMAN HEIGHTS	SANDY LANE
DESCRIPTION	1	1
ANNUAL POPULATION DISTRIBUTION	1	1
MONTHLY POPULATION DISTRIBUTION	1	1
ESTIMATE POPULATION AT	1	1
ESTIMATE DAILY	1	1
DAILY AVERAGE DAILY	1	1
PEAKING FACTOR	1	1
PEAKING PEAK	1	1
PEAK DAILY	1	1
AVERAGE LIFT STATION	1	1
PEAK LIFT STATION	1	1

WASTEWATER FLOW OF RESIDENTIAL IS 100 GPCD AND COMMERCIAL IS 50 GPCD

	ELLERMAN HEIGHTS	SANDY LANE
RECOMMENDED WET WELL	1	1
DEPTH REASONABLE	1	1
TIME (AVG) REASONABLE	1	1
RECOMMENDED PUMP	1	1
EFFICIENCY % REASONABLE	1	1
PIPE MAIN DIAMETER	1	1
PIPE MAIN LENGTH	1	1
PUMP PUMP	1	1
PIPE VOLUME	1	1
PIPE MAIN LIQUID VOLUME	1	1

WASTEWATER FLOW OF RESIDENTIAL IS 100 GPCD AND COMMERCIAL IS 50 GPCD



35% SUBMITTAL

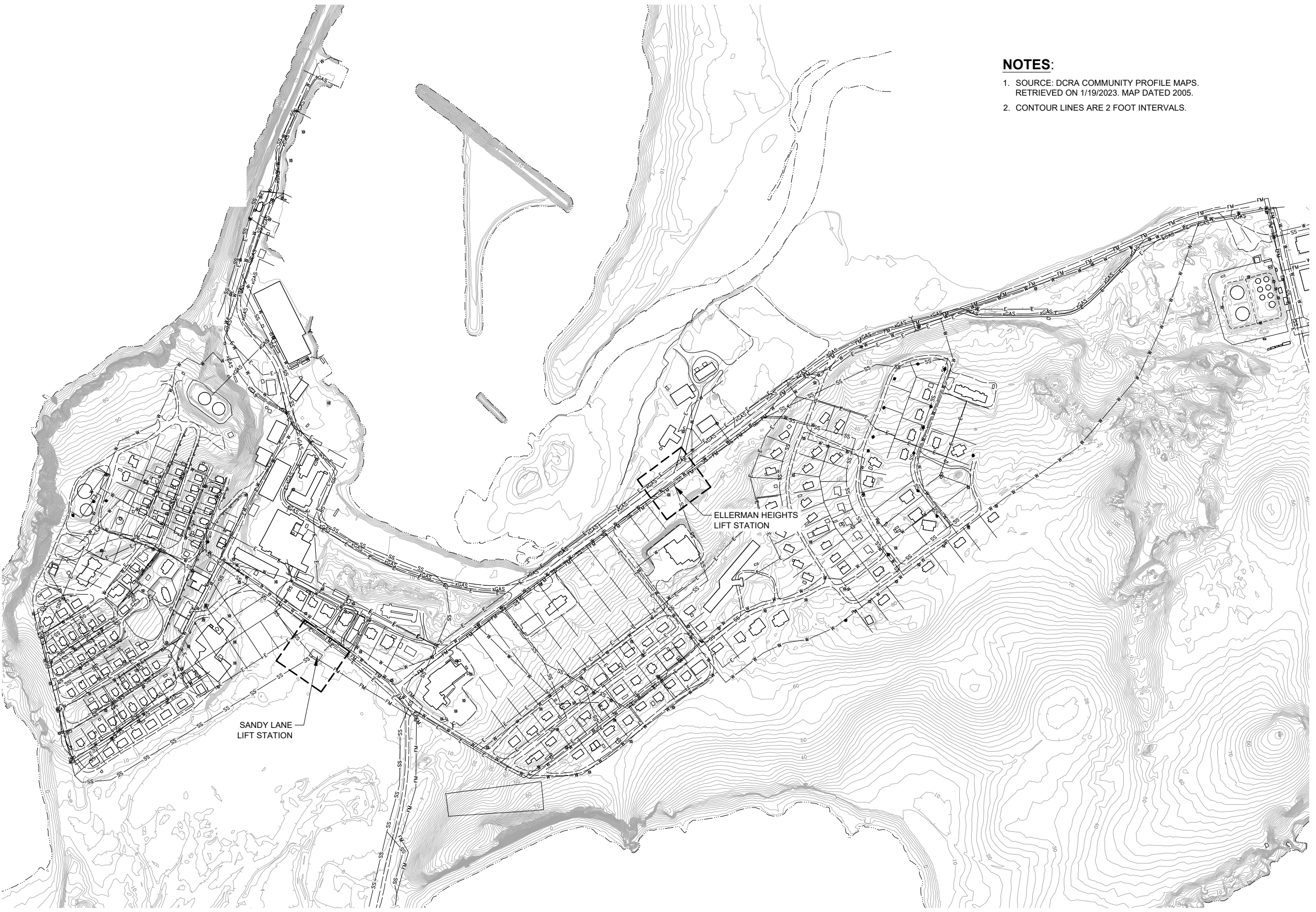
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MANAGEMENT	DESIGNED	DRAWN	CHECKED	APPROVED	LAST EDIT	PLOT DATE	SUBMITTAL

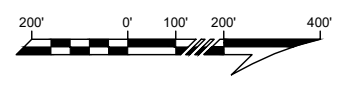
SAINT PAUL, ALASKA
 LIFT STATION REPLACEMENTS
 SCOPE OF WORK & DESIGN CRITERIA
 PROJECT NUMBER: 165.030540
 DRAWING FILE NAME: 030540-G02.DWG
 DRAWING SCALE: AS SHOWN

SHEET NUMBER
G-002

35% SUBMITTAL



- NOTES:**
1. SOURCE: DCRA COMMUNITY PROFILE MAPS. RETRIEVED ON 1/19/2023. MAP DATED 2005.
 2. CONTOUR LINES ARE 2 FOOT INTERVALS.



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KUNA
ENGINEERING

4300 B Street, Suite 605
Anchorage, AK 99503
Office: 907-539-6500
www.kunaeng.com
License Number: AELS12381

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REVISIONS & ADDENDUMS		
#	DATE	REMARKS

MANAGEMENT	
DESIGNED	BJK
DRAWN	BJK
CHECKED	BUD
APPROVED	DEN
LAST EDIT	2/1/23
PLOT DATE	2/1/23
SUBMITTAL	02/01/23

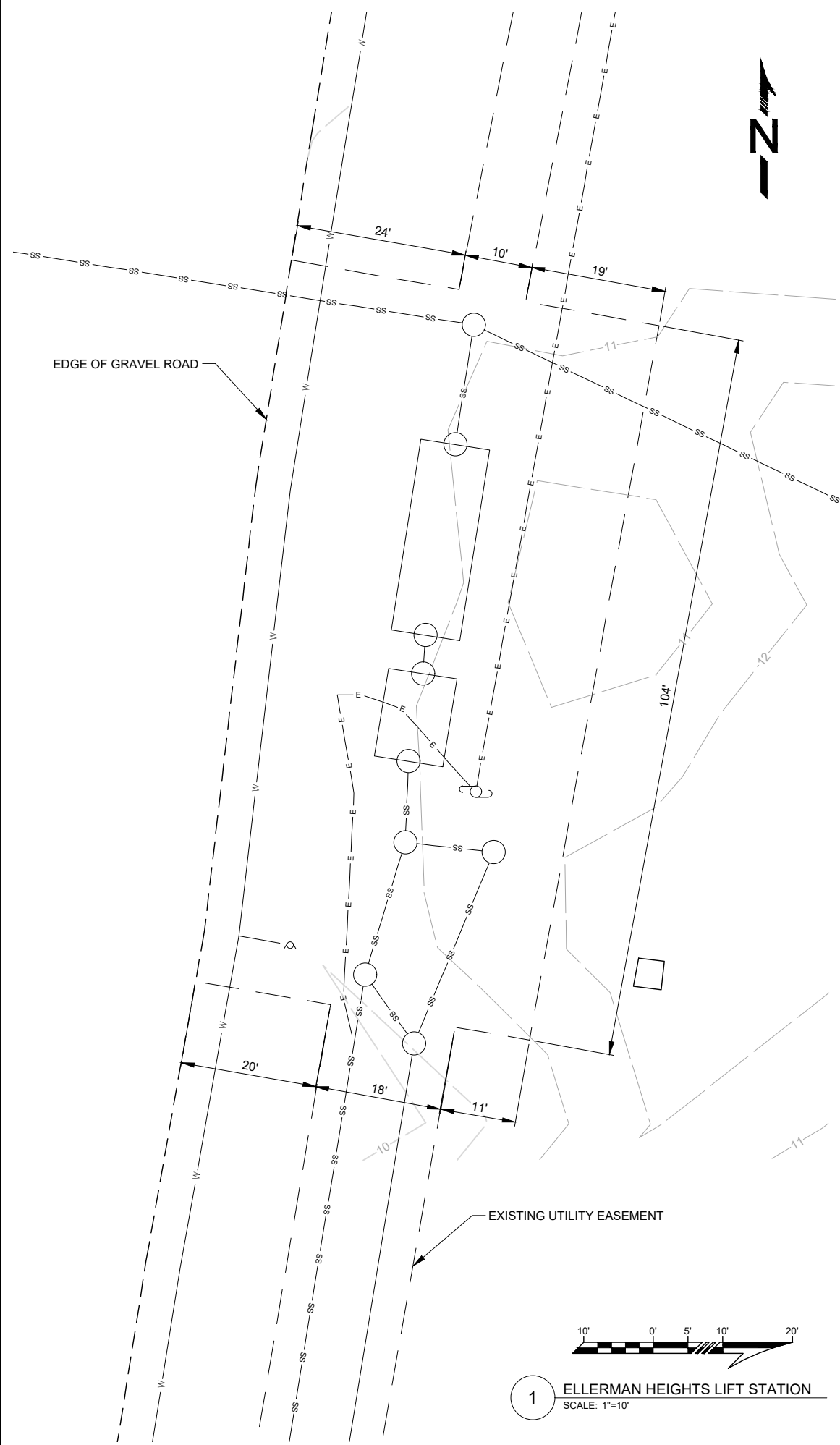
SAINT PAUL, ALASKA
LIFT STATION REPLACEMENTS
OVERALL SITE PLAN & TOPOGRAPHY

PROJECT NUMBER: 165.030540
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DRAWING SCALE: AS SHOWN

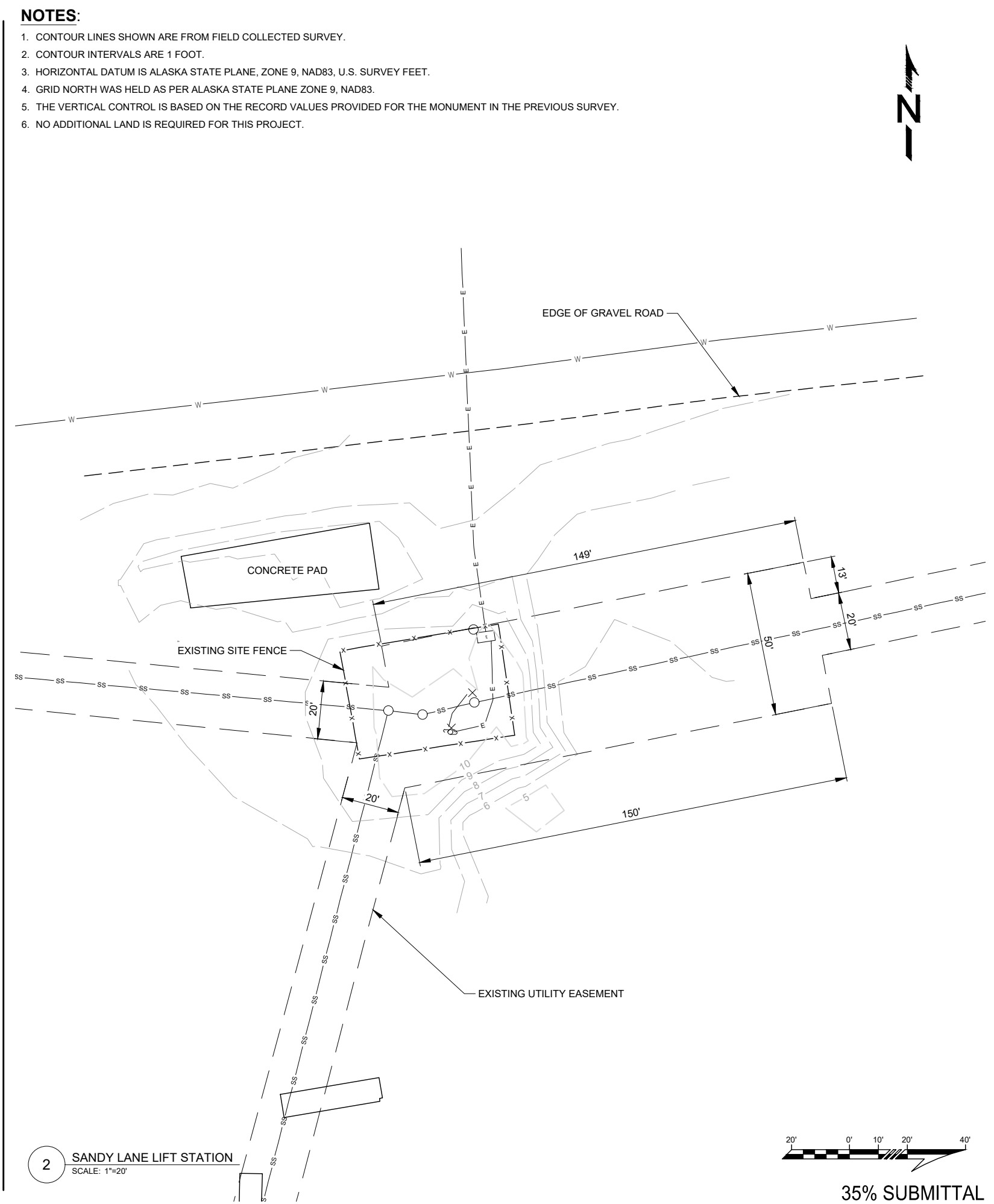
SHEET NUMBER
G-004

NOTES:

1. CONTOUR LINES SHOWN ARE FROM FIELD COLLECTED SURVEY.
2. CONTOUR INTERVALS ARE 1 FOOT.
3. HORIZONTAL DATUM IS ALASKA STATE PLANE, ZONE 9, NAD83, U.S. SURVEY FEET.
4. GRID NORTH WAS HELD AS PER ALASKA STATE PLANE ZONE 9, NAD83.
5. THE VERTICAL CONTROL IS BASED ON THE RECORD VALUES PROVIDED FOR THE MONUMENT IN THE PREVIOUS SURVEY.
6. NO ADDITIONAL LAND IS REQUIRED FOR THIS PROJECT.



1 ELLERMAN HEIGHTS LIFT STATION
SCALE: 1"=10'



2 SANDY LANE LIFT STATION
SCALE: 1"=20'



**35%
SUBMITTAL**

REVISIONS & ADDENDUMS		
#	DATE	REMARKS

MANAGEMENT	
DESIGNED	BJK
DRAWN	BJK
CHECKED	BJD
APPROVED	DEN
LAST EDIT	2/1/23
PLOT DATE	2/1/23
SUBMITTAL	02/01/23

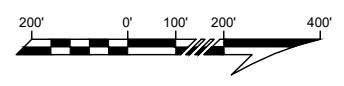
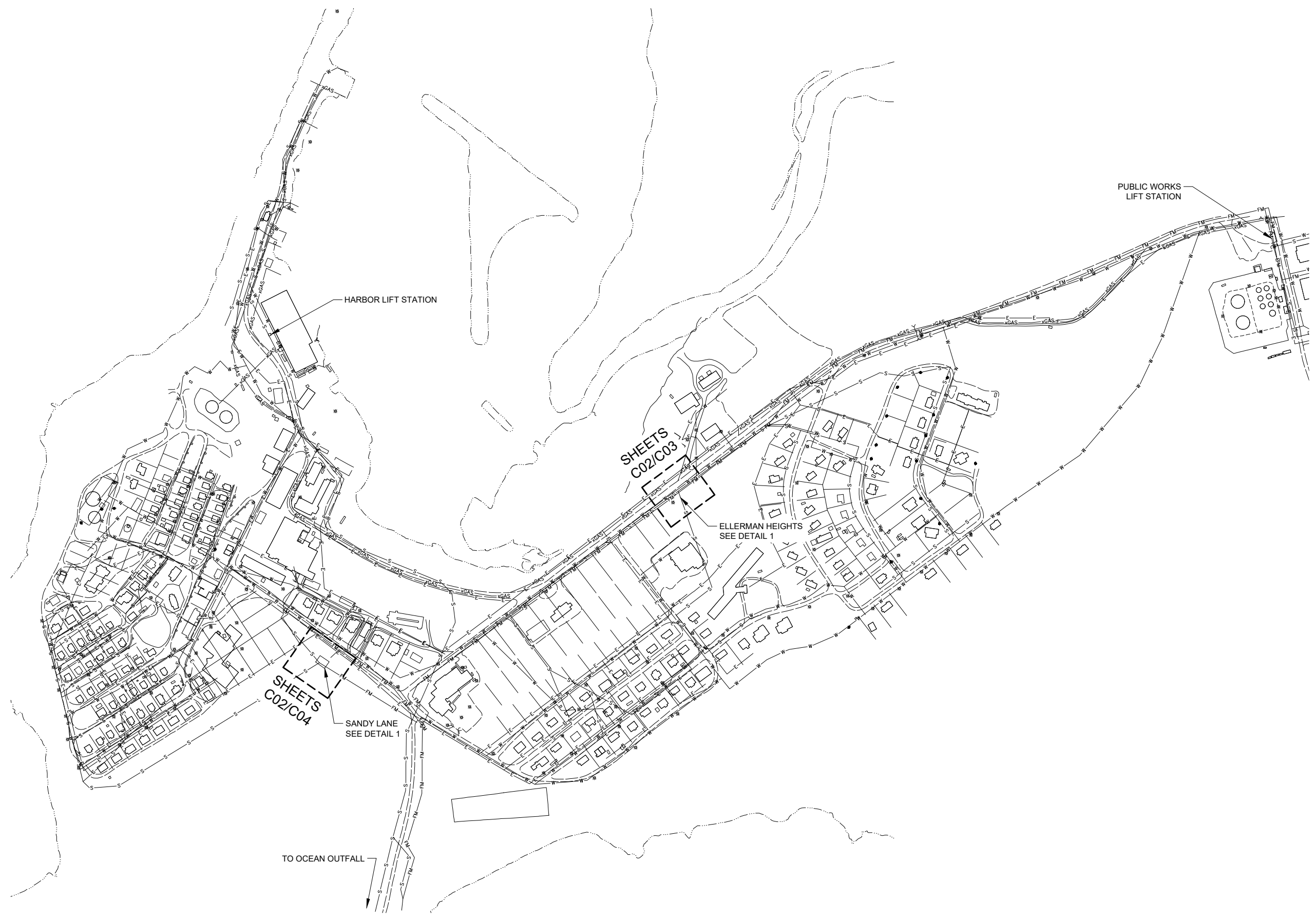
**SAINT PAUL, ALASKA
LIFT STATION REPLACEMENTS
RIGHT OF WAY MAPS**

PROJECT NUMBER: 165.030540
DRAWING FILE NAME: 030540-C02.DWG

DRAWING SCALE: AS SHOWN

SHEET NUMBER
V-100

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35% SUBMITTAL

KUNA ENGINEERING
 4300 B Street, Suite 605
 Anchorage, AK 99503
 Office: 907-339-6500
 Cell: 907-339-6501
 www.kunaeng.com
 License Number: AELS12381

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REVISIONS & ADDENDUMS		
#	DATE	REMARKS

MANAGEMENT	
DESIGNED	BJK
DRAWN	BJK
CHECKED	BJD
APPROVED	DEN
LAST EDIT	2/1/23
PLOT DATE	2/1/23
SUBMITTAL	02/01/23

SAINT PAUL, ALASKA
LIFT STATION REPLACEMENTS
SHEET INDEX

PROJECT NUMBER: 165.030540
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 DRAWING SCALE: AS SHOWN

SHEET NUMBER
C-100

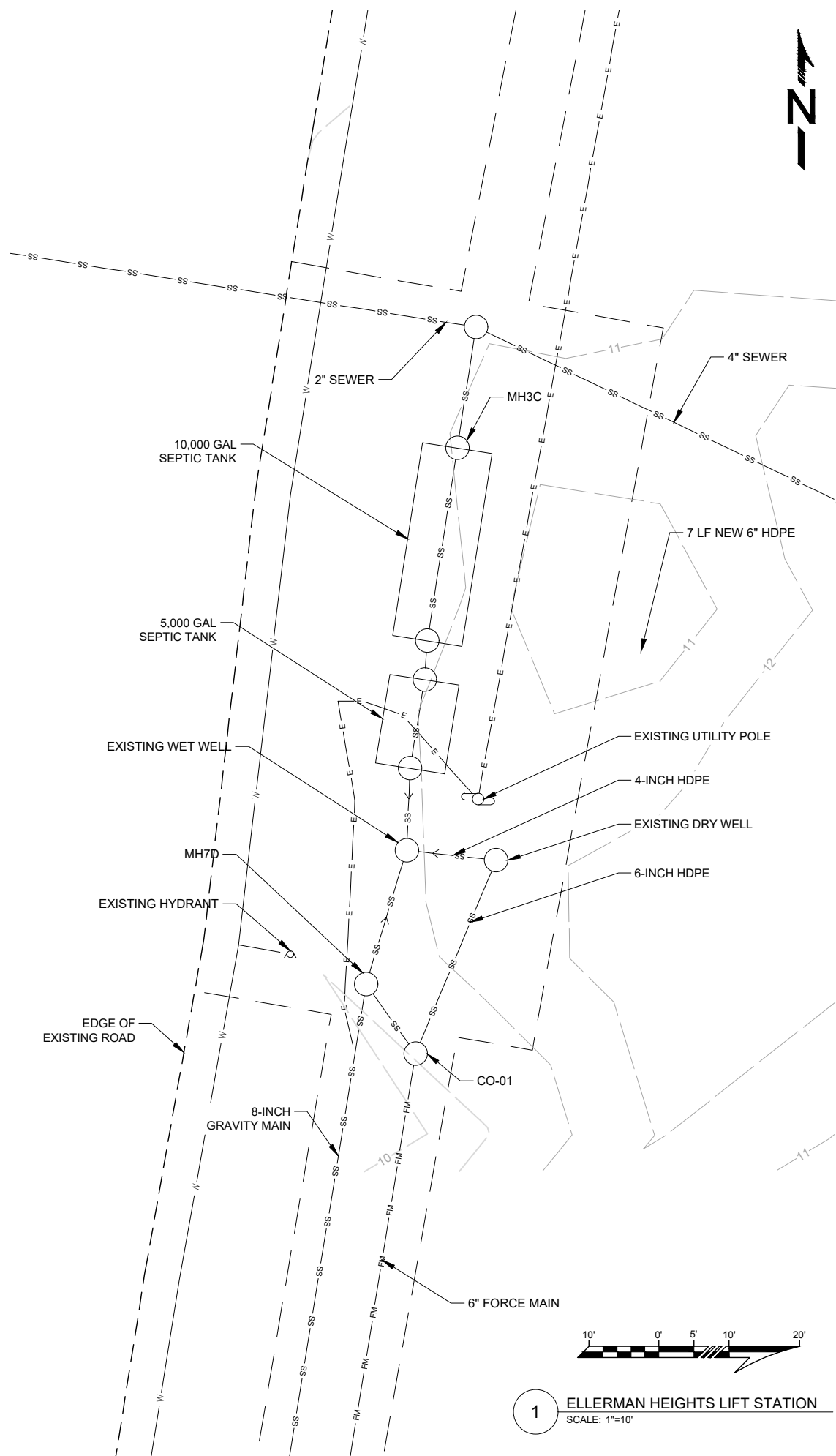
DEMOLITION NOTES:

ELLERMAN HEIGHTS

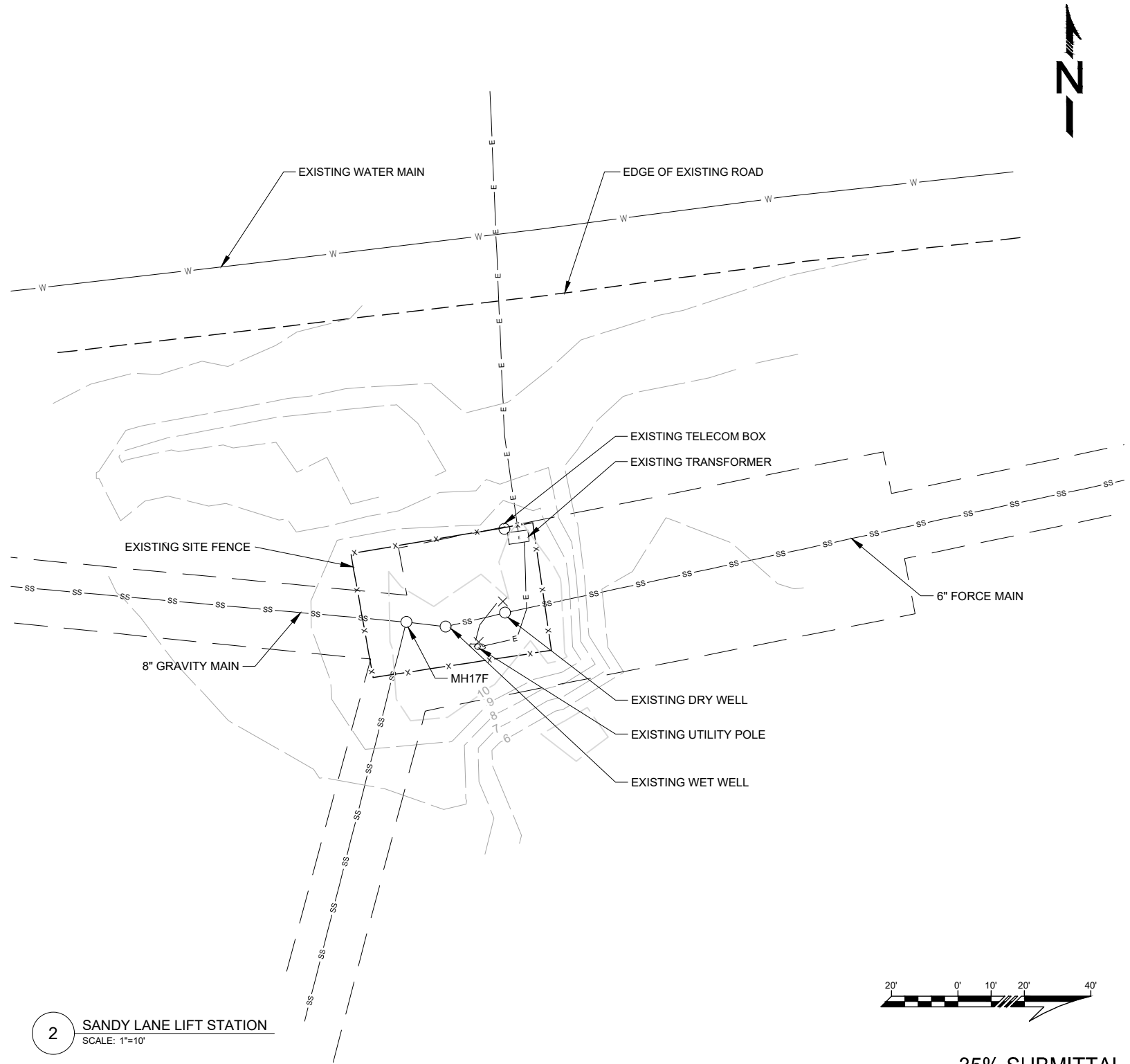
1. DISCONNECT EXISTING LIFT STATION WIRING FROM TRANSFORMER. REMOVE WIRING A MINIMUM 6-INCH BELOW GRADE. ABANDONED IN PLACE ELECTRICAL SERVICE TO LIFT STATION.
2. REMOVE UTILITY POLE AND ALL EQUIPMENT. REMOVE ELECTRICAL WIRING BETWEEN UTILITY POLE, DRY WELL, AND WET WELL.
3. REMOVE DRY WELL, INCLUDING ALL PIPING, PUMPS, WIRING, AND PUMPS.
4. REMOVE WET WELL, INCLUDING ALL PIPING, FLOATS, AND WIRING.
5. REMOVE PIPING BETWEEN DRY WELL AND WET WELL.
6. REMOVE PIPING BETWEEN DRY WELL AND CO#1.
7. REMOVE CO#1 INSIDE VALVING.

SANDY LANE

1. REMOVING ALL FENCING, INCLUDING POST AND FOOTINGS.
2. REMOVE ALL ABOVEGROUND AND BELOWGROUND WIRING BETWEEN TRANSFORMER, UTILITY POLE, DRY WELL, AND WET WELL. REMOVE UTILITY POLE AND ALL EQUIPMENT.
3. REMOVE ALL PIPING, PUMPS, WIRING, AND PUMPS FROM DRY WELL.
4. REMOVE ALL PIPING, FLOATS, AND WIRING FROM WET WELL.
5. ABANDONED WET WELL AND DRY WELL IN PLACE. WASHDOWN AND VACUUM WET WELLS. REMOVE LIDS AND GRADE RINGS TO 12-INCHES BELOW GRADE. FILL IN PIPES AND MANHOLES WILL COMPACTED BORROW MATERIAL.
6. REMOVE LARGE RIP RAP AND STORE FOR USE ON PAD EXPANSION.



1 ELLERMAN HEIGHTS LIFT STATION
SCALE: 1"=10'



2 SANDY LANE LIFT STATION
SCALE: 1"=10'



35% SUBMITTAL

REVISIONS & ADDENDUMS		
#	DATE	REMARKS

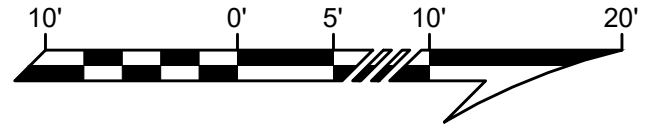
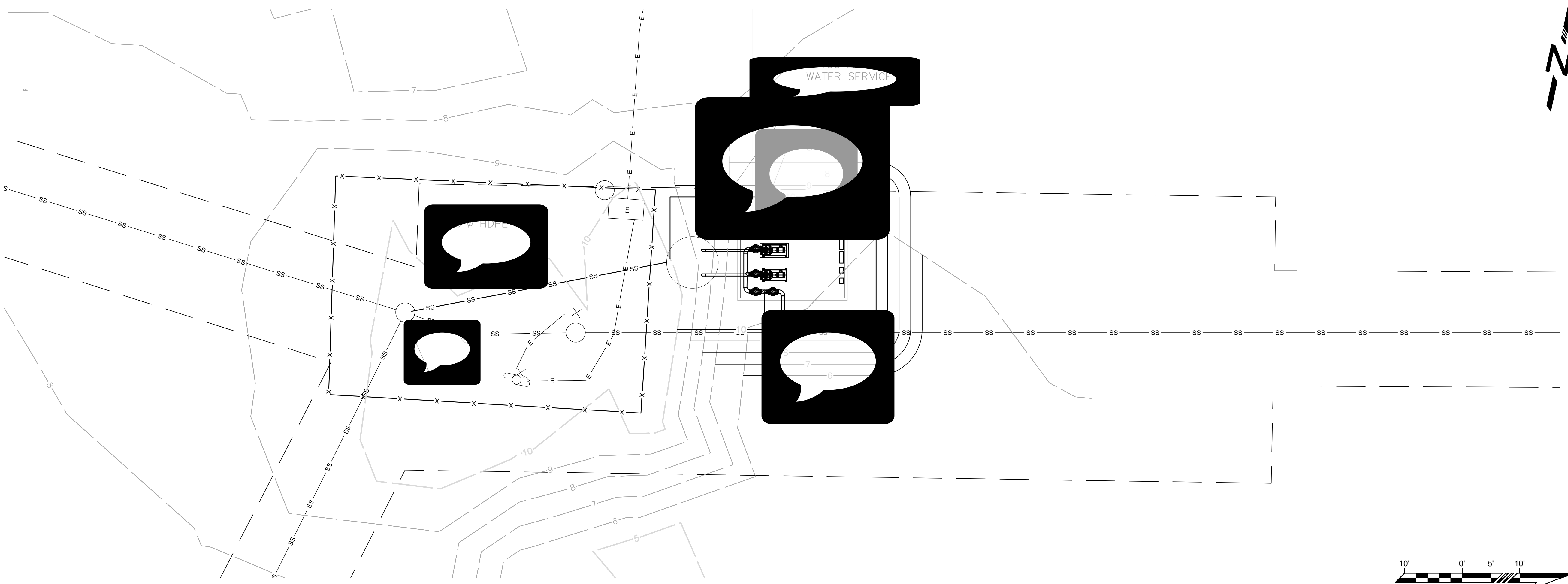
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DESIGNED	BJK
DRAWN	BJK
CHECKED	BJD
APPROVED	DEN
LAST EDIT	2/1/23
PLOT DATE	2/1/23
SUBMITTAL	02/01/23

DRAWING SCALE
AS SHOWN

SAINT PAUL, ALASKA
LIFT STATION REPLACEMENTS
DEMOLITION SHEET
PROJECT NUMBER: 165.030540
DRAWING FILE NAME: 030540-C02.DWG

SHEET NUMBER
C-200

35% SUBMITTAL



**35%
SUBMITTAL**

REVISIONS & ADDENDUMS		
#	DATE	REMARKS

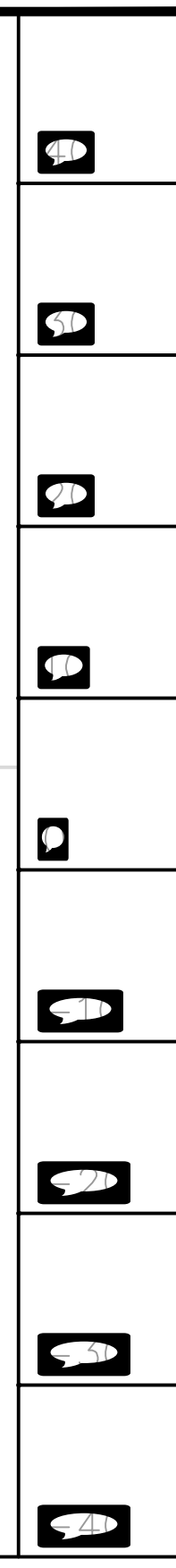
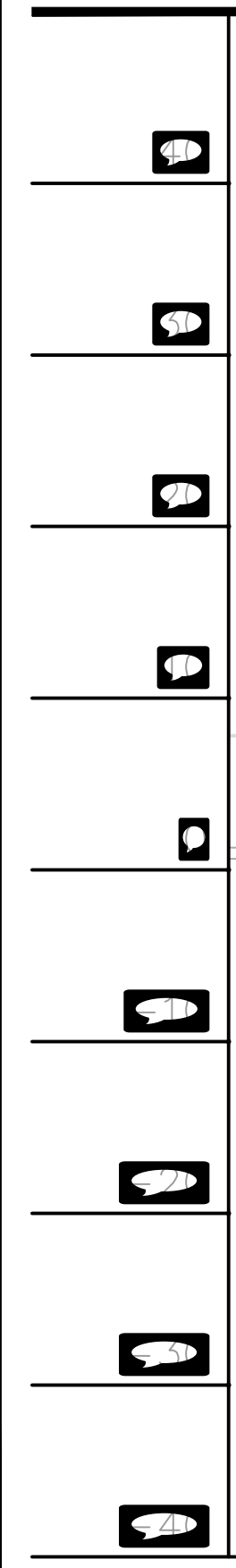
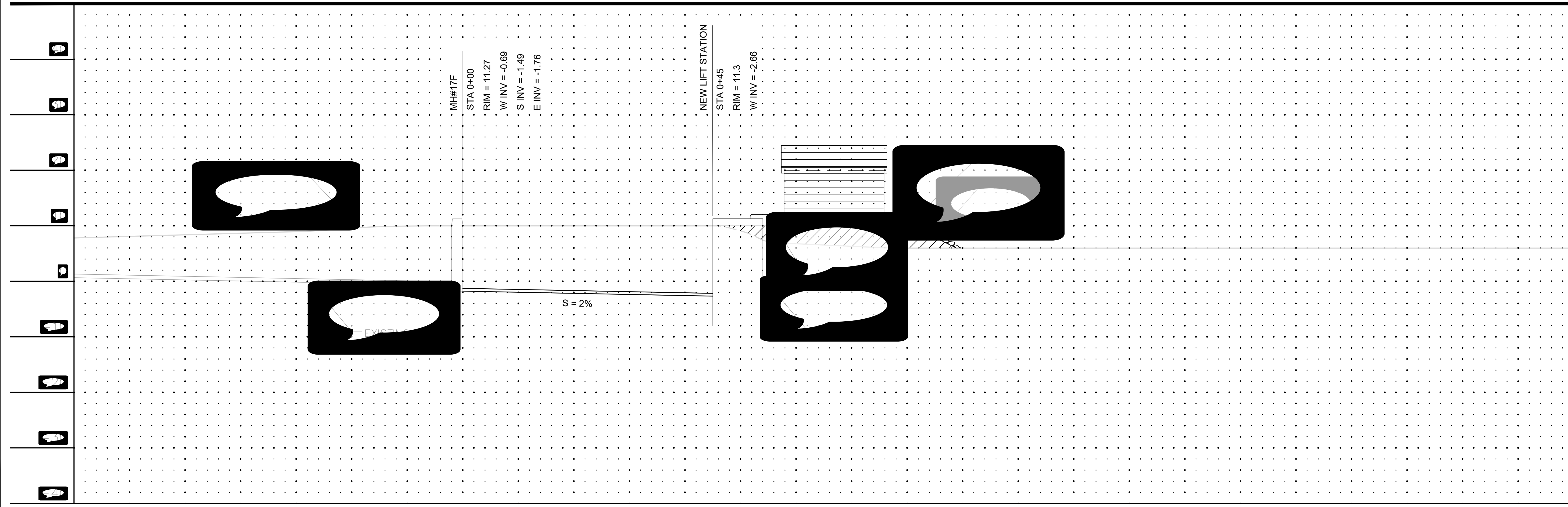
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DRAWN	RW
CHECKED	DEN
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PLOT DATE	2/1/23
SUBMITTAL	02/01/23

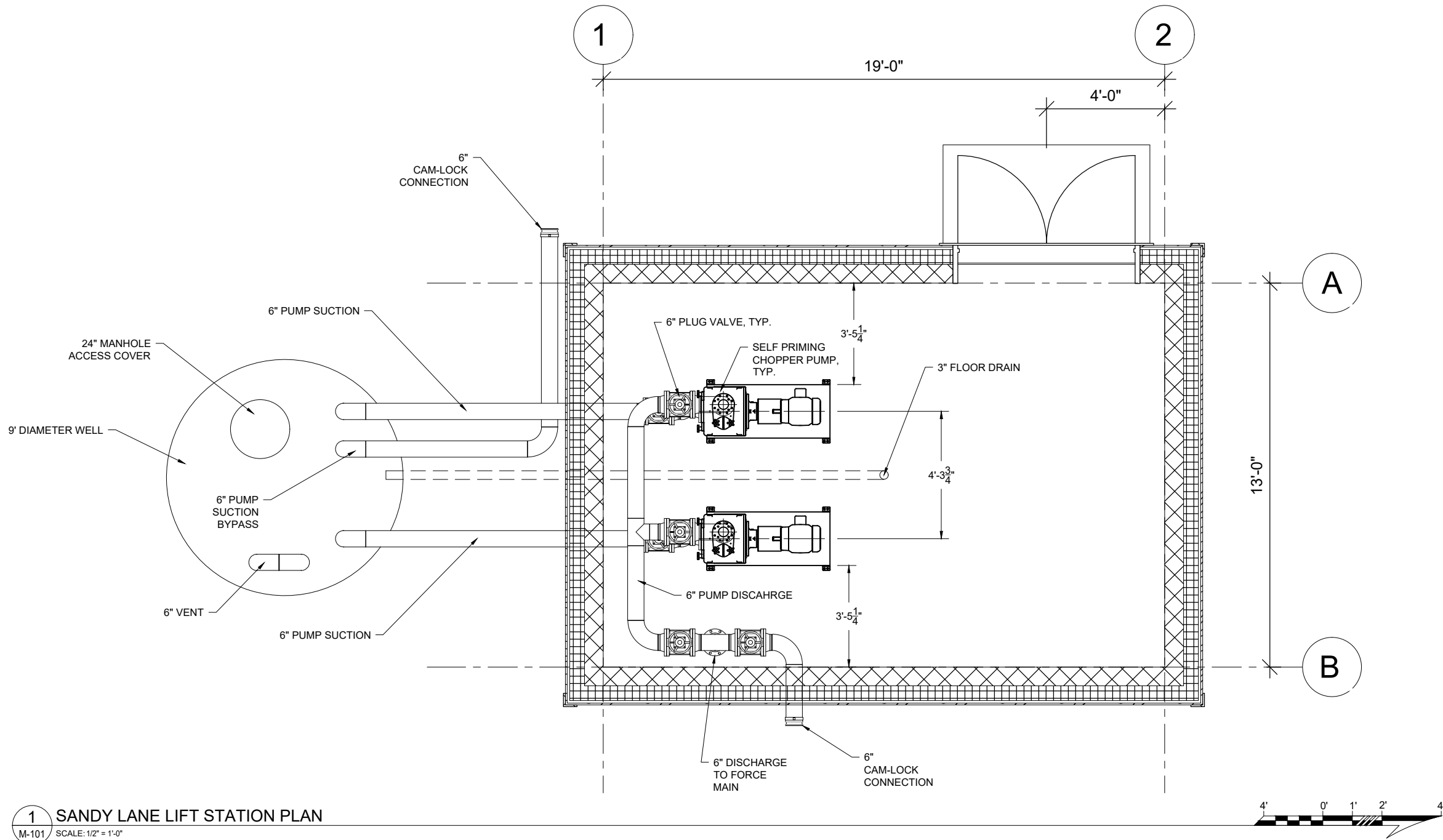
SAINT PAUL, ALASKA
LIFT STATION REPLACEMENTS
PLAN AND PROFILE - SANDY LANE

PROJECT NUMBER: 165.030540
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DRAWING SCALE: AS SHOWN

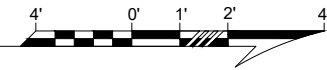
SHEET NUMBER
C-302

35% SUBMITTAL





1 SANDY LANE LIFT STATION PLAN
 M-101 SCALE: 1/2" = 1'-0"



35%
 SUBMITTAL

REVISIONS & ADDENDUMS		
#	DATE	REMARKS

MANAGEMENT	
DESIGNED	JDD
DRAWN	JDD
CHECKED	-
APPROVED	-
LAST EDIT	2/1/23
PLOT DATE	2/1/23
SUBMITTAL	02/01/23

SAINT PAUL, ALASKA
 LIFT STATION REPLACEMENTS
 SANDY LANE LIFT STATION PLAN

PROJECT NUMBER: 165.030540
 DRAWING FILE NAME: M-101
 DRAWING SCALE: AS SHOWN

SHEET NUMBER
M-101

35% SUBMITTAL

