

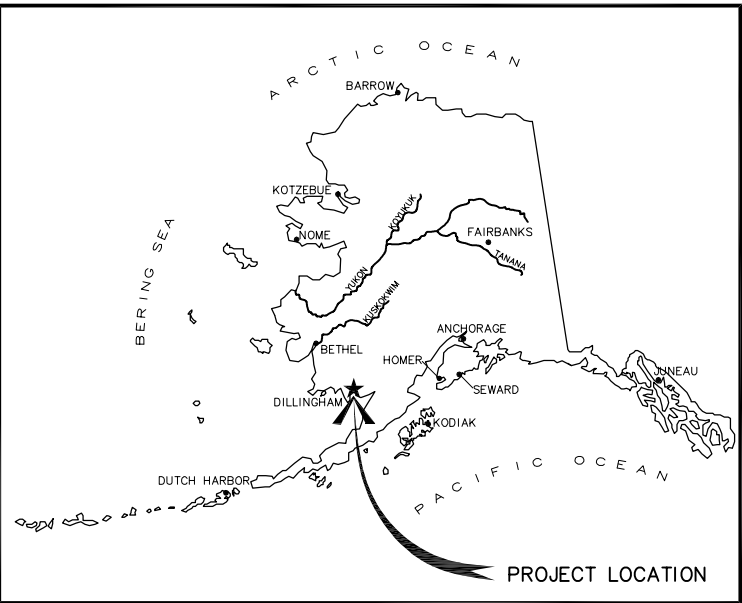
CITY OF DILLINGHAM, ALASKA

DILLINGHAM LAGOON AND DOCK LIFT STATION IMPROVEMENTS



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LOCATION MAP



3940 ARCTIC BLVD. SUITE 300
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
FAX: (907) 561-2273

CONSULTANT

**STATUS:
FINAL**

**DATE:
JUNE 2017**

PROJECT STATUS

RECORD DRAWING

1. DATA PROVIDED
 BY: _____
 This will serve to certify that these Record Drawings are a true and accurate representation of the project as constructed.
 CONTRACTOR: _____
 BY: _____ TITLE: _____
 DATE: _____

2. DATA TRANSFERRED
 BY: CHRISTI MEYN
 COMPANY: CRW ENGINEERING GROUP LLC
 DATE: FEB 2019

3. DATA TRANSFER CHECKED
 Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.
 BY: ANDY HORAZDOVSKY
 COMPANY: CRW ENGINEERING GROUP LLC
 TITLE: PROJECT ENGINEER DATE: FEB 2019

File: J:\jobdata\21102.00 Dillingham City Lagoon Repairs\00 CADD\01 Working_Sht\01 Civil\21102.00 Legend & Key Map.dwg PLOT DATE: 2/20/2019 1:04 PM



GENERAL LAYOUT – DILLINGHAM

LEGEND

| EXISTING | PROPOSED | |
|----------|----------|------------------------|
| — S — | | GRAVITY SEWER |
| — FM — | — FM — | SEWER FORCE MAIN |
| ⊗ c.o. | | SEWER CLEANOUT |
| ○ | | GRAVITY SEWER MANHOLE |
| ● | | SEWER MANHOLE |
| ○ | | LIFT STATION |
| | ⊠ | ELECTRICAL CABINET |
| — E — | — E — | UNDERGROUND ELECTRICAL |
| — OHE — | | OVERHEAD ELECTRICAL |
| ○ | | ELECTRICAL POLE |
| --- | | EDGE OF GRAVEL |
| --- | | EDGE OF PAVEMENT |
| --- | | EDGE OF VEGETATION |
| --- | | PROPERTY LINE |

GENERAL NOTES:

1. THE CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE WORK.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL AS NECESSARY TO COMPLY WITH FEDERAL, STATE, AND MUNICIPAL LAWS THAT PROHIBIT UNPERMITTED DISCHARGE OF POLLUTANTS, INCLUDING SEDIMENTS, THAT ARE A RESULT OF EROSION AND OTHER ACTIVITIES. THE CONTRACTOR SHALL CONDUCT ALL WORK SO SEDIMENT IS NOT TRANSPORTED ONTO THE ROADWAY OR ADJACENT PROPERTY.
3. THE PROJECT SHALL COMPLY WITH THE ALASKA POLLUTION DISCHARGE ELIMINATION SYSTEM (APDES) DURING CONSTRUCTION ACTIVITIES.
4. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES TO VERIFY LOCATIONS PRIOR TO EXCAVATION, CALL BEFORE YOU DIG, "ALASKA DIG LINE" (800) 478-3121.
5. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION, ANY SHORING OR PROTECTION COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
6. CONTRACTOR SHALL VERIFY AND RECORD THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES ENCOUNTERED IN THE FIELD AND RECORD ANY CHANGES ON THE CONTRACT RECORD DRAWINGS.
7. CONTRACTOR SHALL RESTORE ALL DISTURBED PROPERTY, INCLUDING DRAINAGE SWALES, DISTURBED BY CONTRACT ACTIVITIES TO PRE-CONSTRUCTION CONDITION.
8. LOCATION AND ORIENTATION OF PROPOSED IMPROVEMENTS ARE APPROXIMATE, NO SURVEY WAS CONDUCTED. FIELD VERIFY FINAL LAYOUT OF ALL COMPONENTS PRIOR TO ORDERING OF MATERIALS.
9. THE LOCATION OF THE EXISTING FEATURES, UTILITIES, AND EQUIPMENT SHOWN IN THESE DRAWINGS ARE APPROXIMATE. NO SURVEY WAS CONDUCTED. CONTRACTOR SHALL VERIFY VERTICAL AND HORIZONTAL LOCATIONS PRIOR TO COMMENCING WORK.
10. RECORD DRAWINGS OF THE CONSTRUCTED IMPROVEMENTS SHALL BE MAINTAINED AND PROVIDED TO THE ENGINEER.
11. CONTRACTOR IS RESPONSIBLE FOR DIVERTING WASTEWATER FLOWS AROUND WORK AREAS, A DETAILED BYPASS PLAN SHALL BE SUBMITTED. SEE SPECIFICATIONS.
12. ALL NUTS, BOLTS AND WASHERS SHALL BE STAINLESS STEEL (TYPE 316).
13. ALL SEWER FORCE MAIN SHALL BE HDPE, SDR 11.
14. ALL HDPE FITTINGS SHALL HAVE PRESSURE CLASS RATINGS NOT LESS THAN THE PRESSURE CLASS RATING OF THE PIPE TO WHICH THEY ARE JOINED.
15. ALL HDPE PIPE JOINTS SHALL BE BUTT FUSED. ELECTROFUSION FITTINGS ARE NOT ALLOWED.
16. BUTT FUSION OF HDPE PIPE AND FITTINGS IS TO BE PERFORMED IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS AS TO EQUIPMENT AND TECHNIQUE.
17. ALL DUCTILE IRON PIPE SHALL BE CLASS 52.
18. ALL MECHANICAL JOINTS SHALL BE RESTRAINED USING EBAA IRON MEGALUGS OR EQUAL.

RECORD DRAWING
 REVISIONS DRAWN BY: CRM DATE: 2/2019
 THIS WILL SERVE TO CERTIFY TO OUR KNOWLEDGE THAT THIS RECORD DRAWING IS A TRUE AND ACCURATE REPRESENTATION OF THE PROJECT AS CONSTRUCTED.



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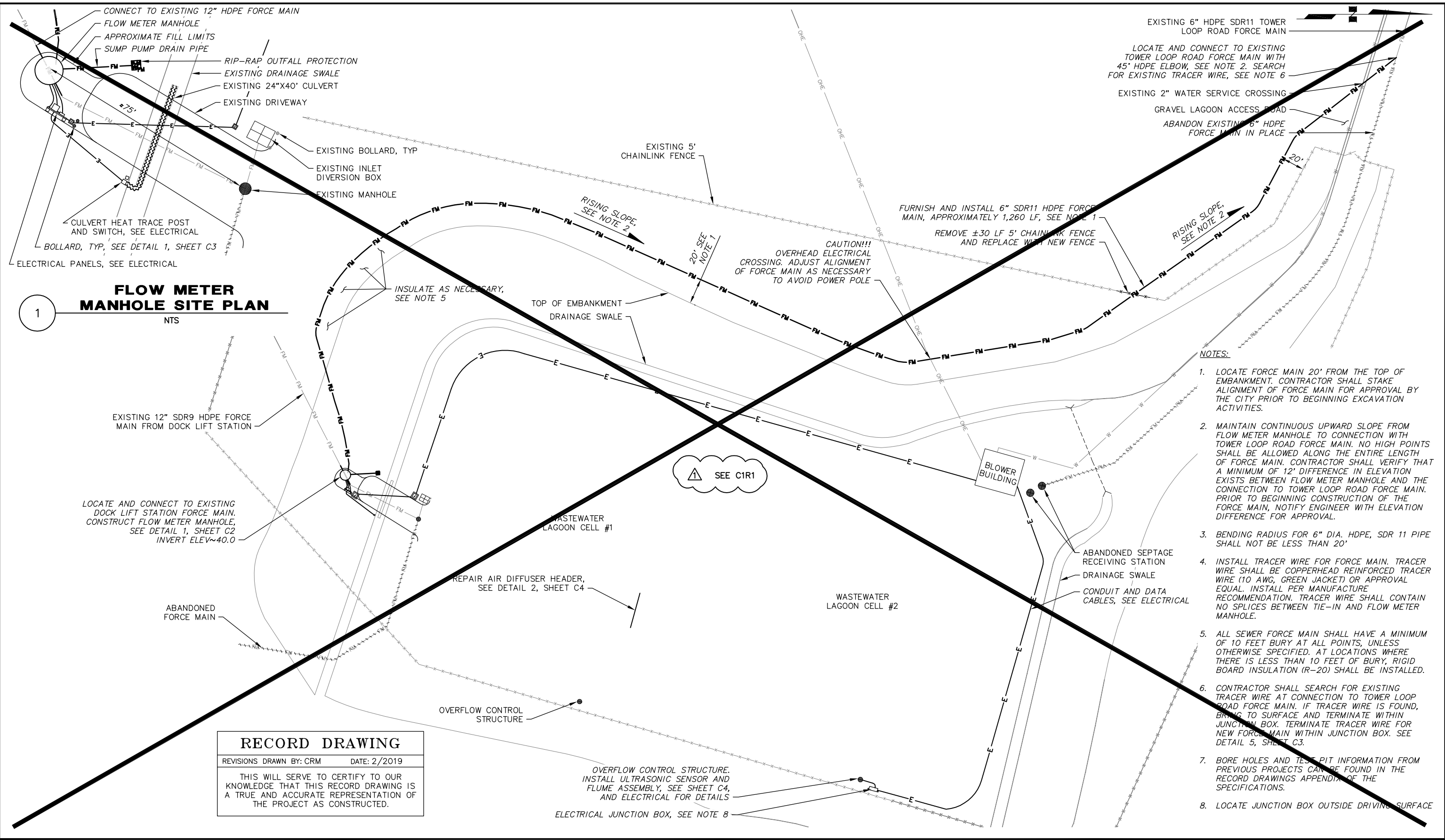


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| DESIGNED BY | MJL |
| DRAWN BY | ETG |
| CHECKED BY | MJL |
| APPROVED BY | PB |

PROJECT NO: 21102.00 DILLINGHAM LAGOON AND DOCK LIFT STATION IMPROVEMENTS
GENERAL NOTES, LEGEND AND KEY MAP
 STATUS: FINAL DATE: JUNE 2017

| | |
|-------------|----------|
| PROJECT NO. | 21102.00 |
| CITY GRID | |
| WATER GRID | |
| SEWER GRID | |
| SHEET | G2 |
| OF | G2 |

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FLOW METER MANHOLE SITE PLAN

1

NTS

NOTES:

1. LOCATE FORCE MAIN 20' FROM THE TOP OF EMBANKMENT. CONTRACTOR SHALL STAKE ALIGNMENT OF FORCE MAIN FOR APPROVAL BY THE CITY PRIOR TO BEGINNING EXCAVATION ACTIVITIES.
2. MAINTAIN CONTINUOUS UPWARD SLOPE FROM FLOW METER MANHOLE TO CONNECTION WITH TOWER LOOP ROAD FORCE MAIN. NO HIGH POINTS SHALL BE ALLOWED ALONG THE ENTIRE LENGTH OF FORCE MAIN. CONTRACTOR SHALL VERIFY THAT A MINIMUM OF 12" DIFFERENCE IN ELEVATION EXISTS BETWEEN FLOW METER MANHOLE AND THE CONNECTION TO TOWER LOOP ROAD FORCE MAIN. PRIOR TO BEGINNING CONSTRUCTION OF THE FORCE MAIN, NOTIFY ENGINEER WITH ELEVATION DIFFERENCE FOR APPROVAL.
3. BENDING RADIUS FOR 6" DIA. HDPE, SDR 11 PIPE SHALL NOT BE LESS THAN 20'
4. INSTALL TRACER WIRE FOR FORCE MAIN. TRACER WIRE SHALL BE COPPERHEAD REINFORCED TRACER WIRE (10 AWG, GREEN JACKET) OR APPROVAL EQUAL. INSTALL PER MANUFACTURE RECOMMENDATION. TRACER WIRE SHALL CONTAIN NO SPLICES BETWEEN TIE-IN AND FLOW METER MANHOLE.
5. ALL SEWER FORCE MAIN SHALL HAVE A MINIMUM OF 10 FEET BURY AT ALL POINTS, UNLESS OTHERWISE SPECIFIED. AT LOCATIONS WHERE THERE IS LESS THAN 10 FEET OF BURY, RIGID BOARD INSULATION (R-20) SHALL BE INSTALLED.
6. CONTRACTOR SHALL SEARCH FOR EXISTING TRACER WIRE AT CONNECTION TO TOWER LOOP ROAD FORCE MAIN. IF TRACER WIRE IS FOUND, BRING TO SURFACE AND TERMINATE WITHIN JUNCTION BOX. TERMINATE TRACER WIRE FOR NEW FORCE MAIN WITHIN JUNCTION BOX. SEE DETAIL 5, SHEET C3.
7. BORE HOLES AND TEST PIT INFORMATION FROM PREVIOUS PROJECTS CAN BE FOUND IN THE RECORD DRAWINGS APPENDIX OF THE SPECIFICATIONS.
8. LOCATE JUNCTION BOX OUTSIDE DRIVING SURFACE

RECORD DRAWING
 REVISIONS DRAWN BY: CRM DATE: 2/2019
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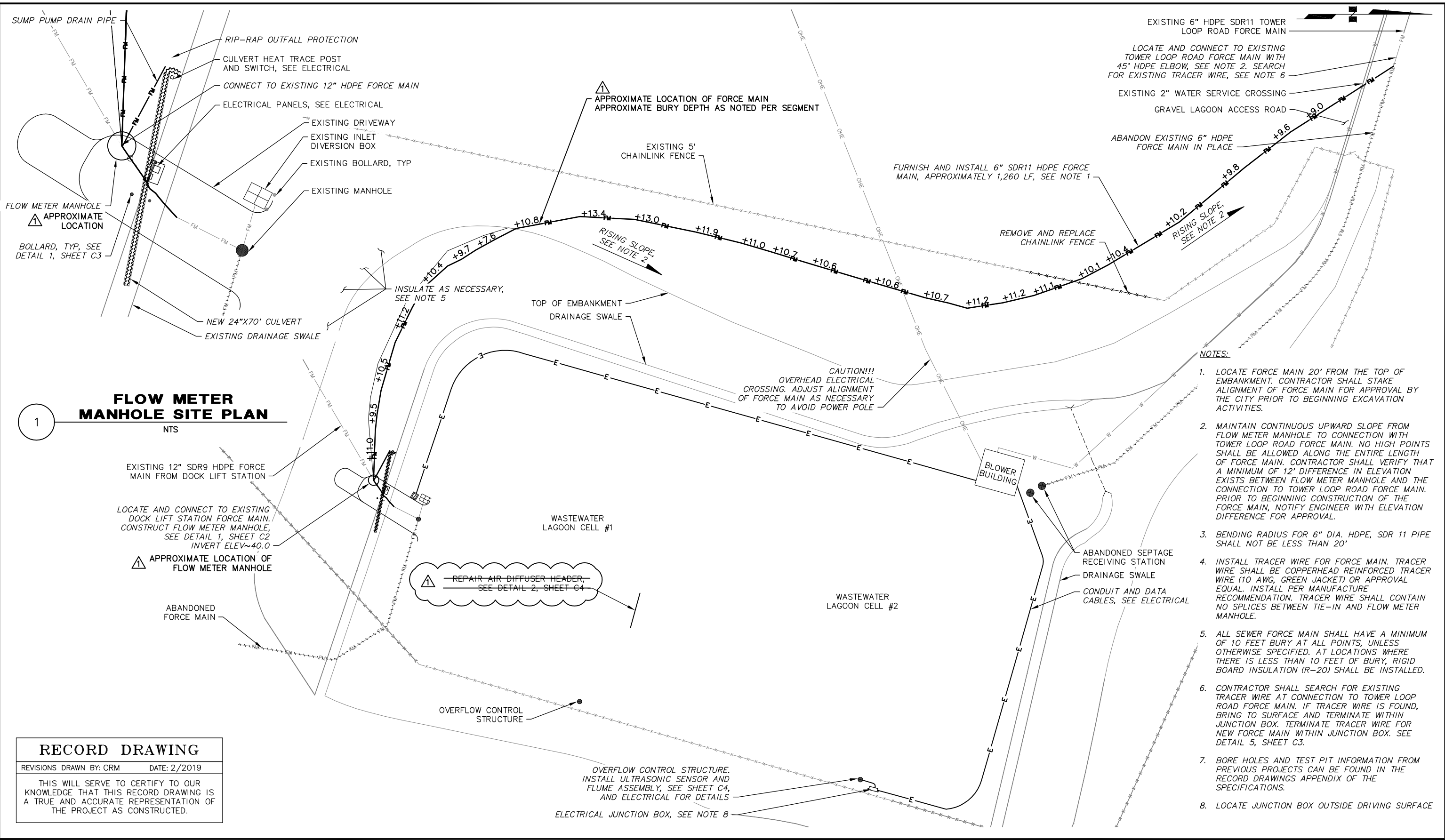
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| DESIGNED BY | MJL |
| DRAWN BY | ETG |
| CHECKED BY | MJL |
| APPROVED BY | PB |

PROJECT NO: 21102.00
DILLINGHAM LAGOON AND DOCK LIFT STATION IMPROVEMENTS
LAGOON IMPROVEMENTS SITE PLAN
 STATUS: FINAL DATE: JUNE 2017

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| PROJECT NO. | 21102.00 |
| CITY GRID | |
| WATER GRID | |
| SEWER GRID | |
| SHEET | C1 |
| OF | C5 |

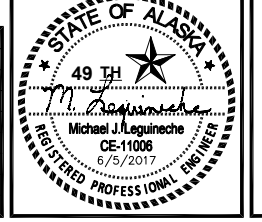


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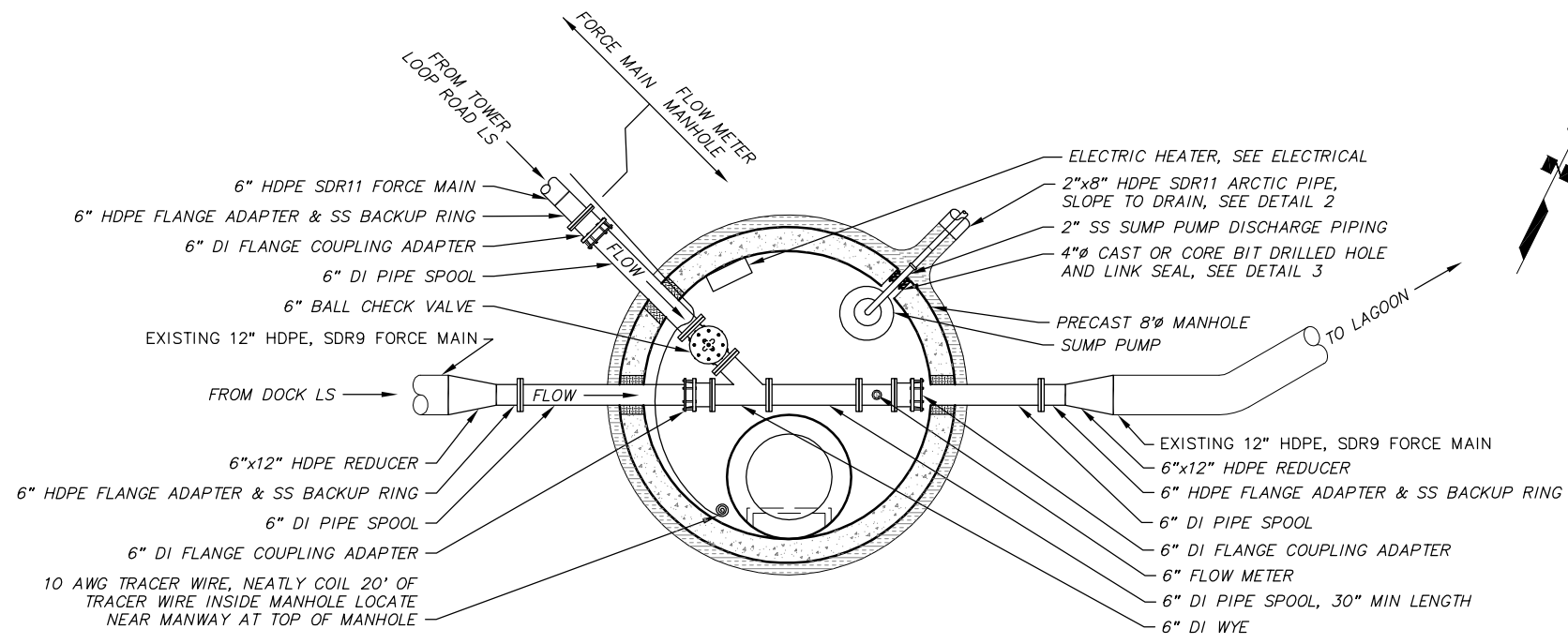
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DILLINGHAM LAGOON AND DOCK LIFT STATION IMPROVEMENTS

LAGOON IMPROVEMENTS SITE PLAN

STATUS: FINAL DATE: JUNE 2017

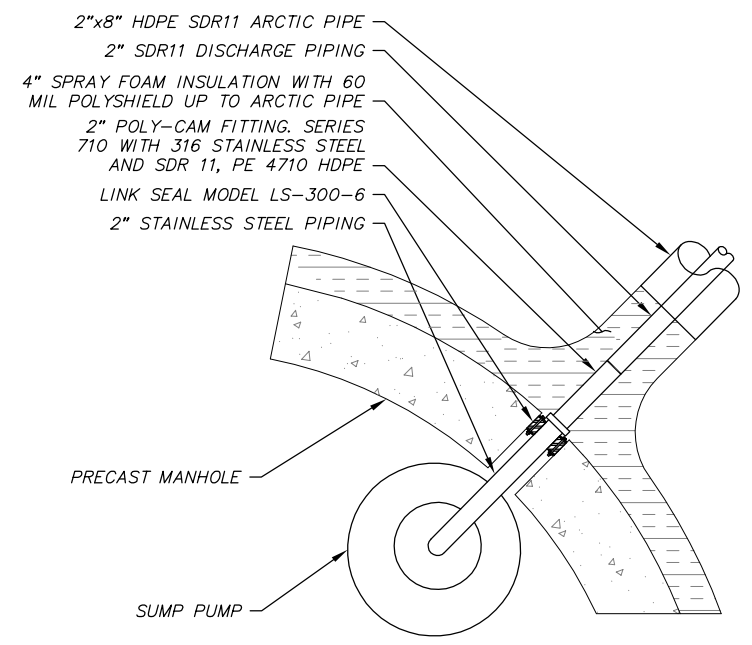
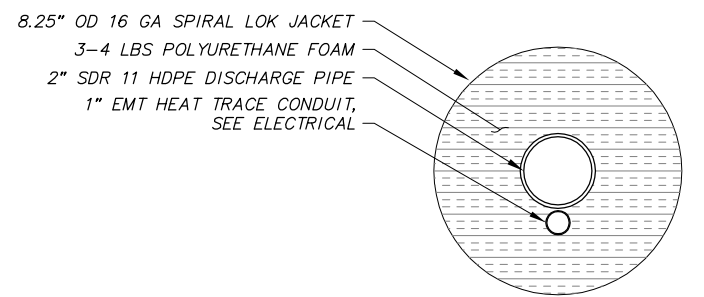
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CITY GRID
WATER GRID
SEWER GRID
SHEET C1R1 OF C5

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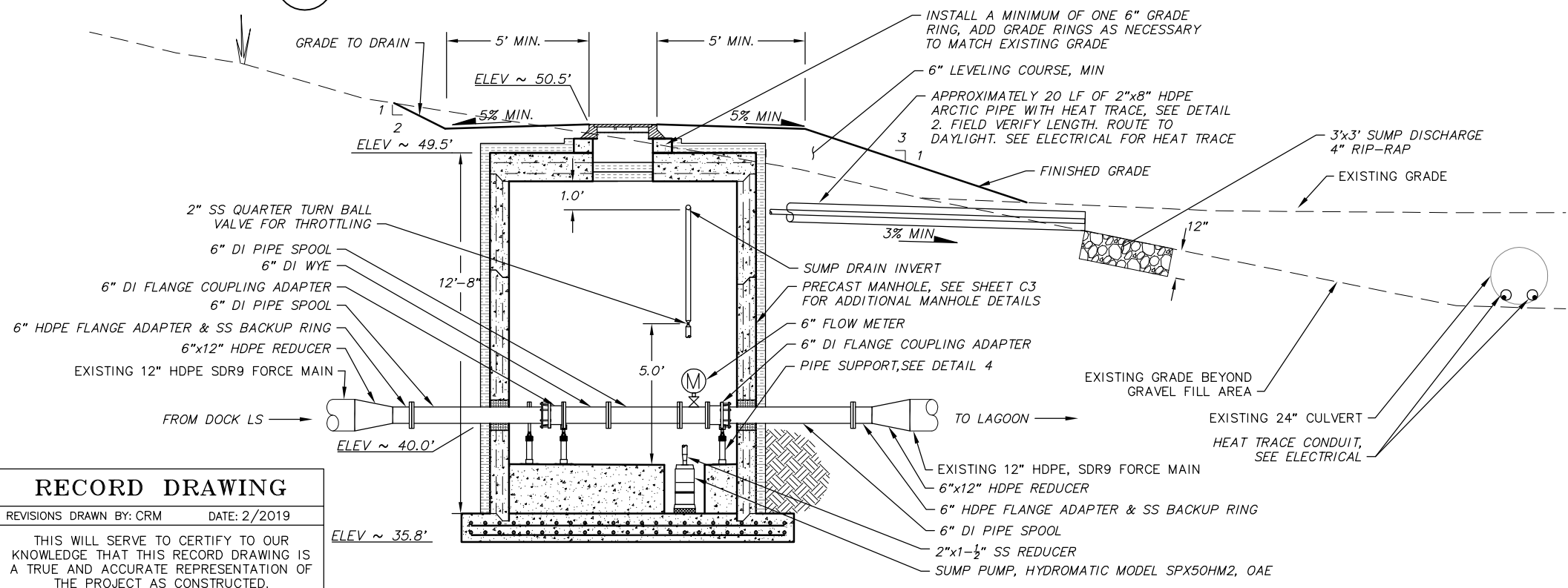


FLOW METER MANHOLE PLAN VIEW
NTS

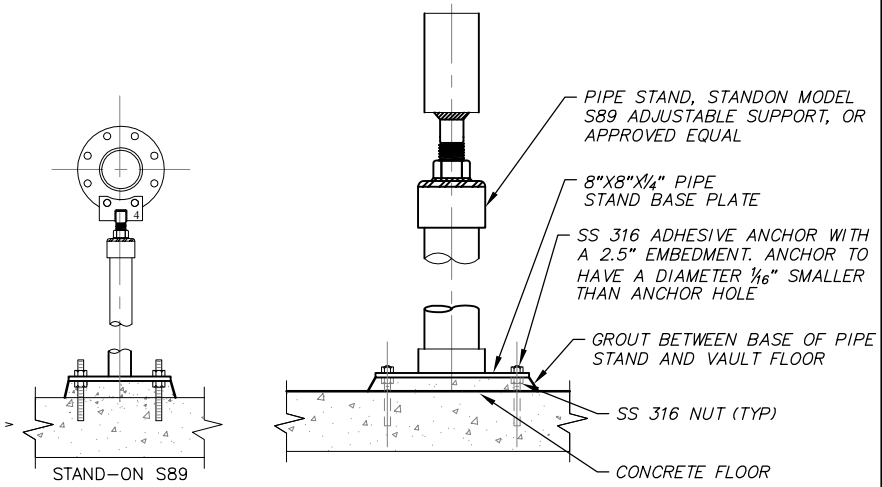
2 ARCTIC PIPE DETAIL
NTS



3 SUMP PUMP PIPING DETAIL
NTS



FLOW METER MANHOLE SECTION VIEW
NTS



4 PIPE STANCHION DETAIL
SCALE: NTS

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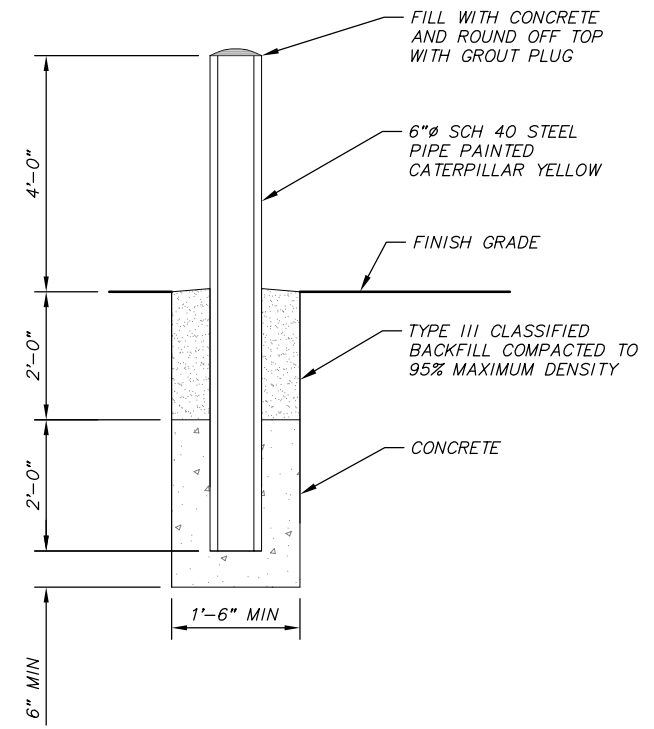
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| DRAWN BY | RWB |
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| APPROVED BY | PB |

PROJECT NO: 21102.00
DILLINGHAM LAGOON AND DOCK LIFT STATION IMPROVEMENTS
FLOW METER MANHOLE
STATUS: FINAL DATE: JUNE 2017

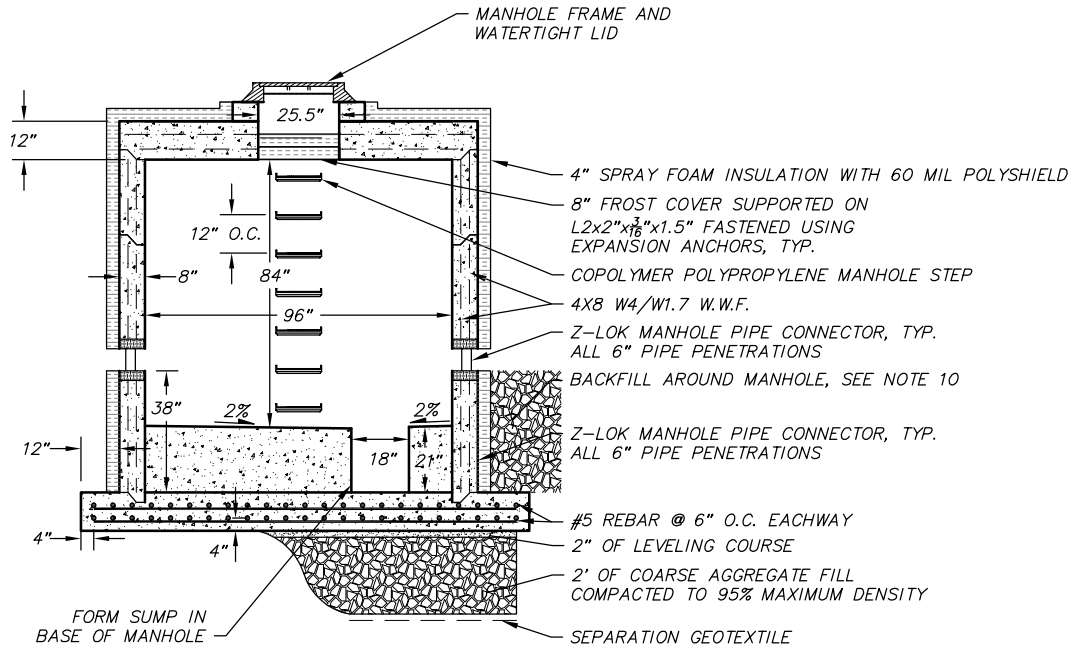
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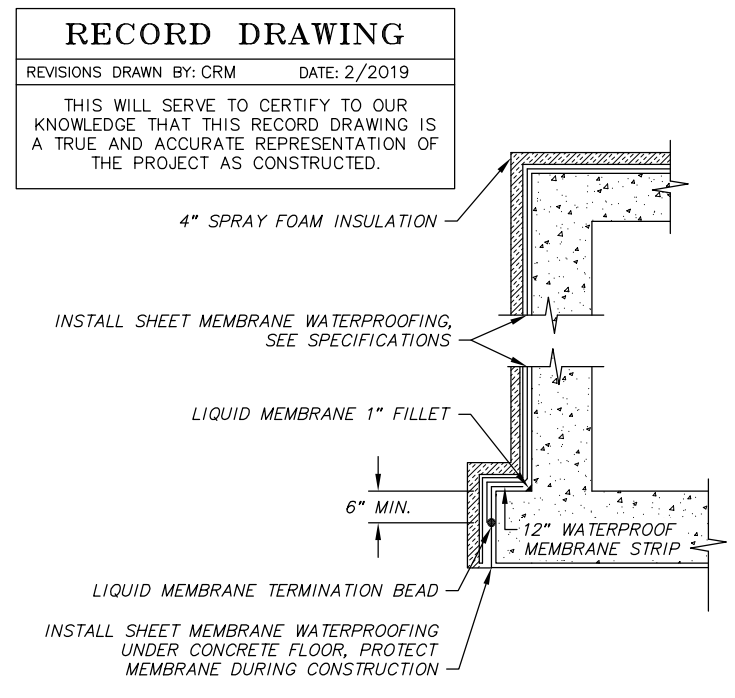
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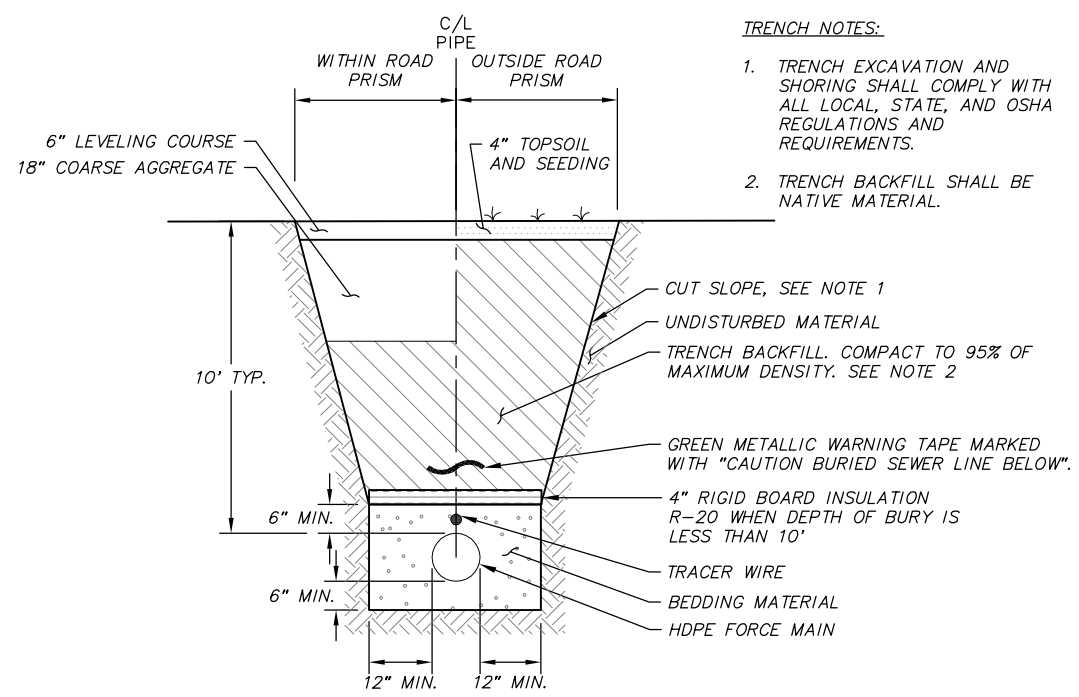
1 TYPICAL BOLLARD DETAIL
NTS



2 FLOW METER MANHOLE
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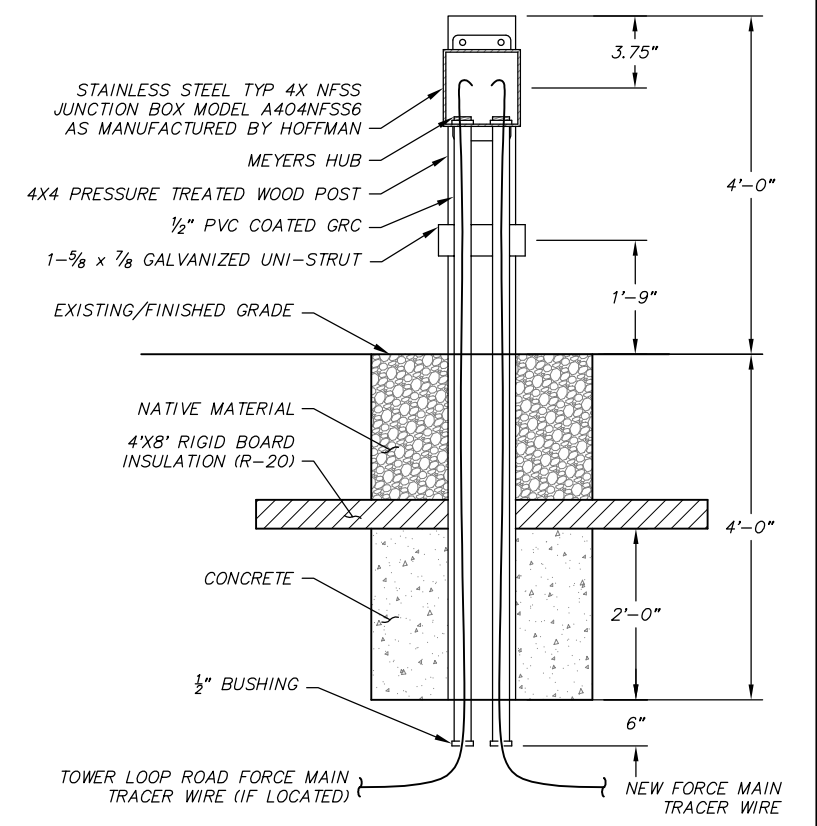
3 MANHOLE WATER PROOFING
NTS



4 TRENCH SECTION
NTS

- MANHOLE NOTES:**
1. STEEL REQUIRED FOR BARREL SHALL CONFORM TO ASTM A-615, GRADE OR BETTER.
 2. ALL MANHOLE SECTIONS SHALL CONFORM TO ASTM C-478.
 3. PROVIDE Z-LOK BOOTS FOR PIPE PENETRATIONS.
 4. COAT ALL EXTERNAL CONCRETE SURFACES OF MANHOLE WITH WATERPROOF BITUMINOUS COATING.
 5. "RAM-NEK" OR EQUAL AND PRIME BARREL JOINTS. HEAT "RAM-NEK" AND SEAL SURFACES BEFORE FINAL ASSEMBLY.
 6. SEAL MANHOLE JOINTS WITH WRAPID SEAL EXTERIOR PIPE JOINT SEALER OR APPROVED EQUAL, AFTER MANHOLE HAS BEEN WATERPROOFED (TYP ALL).
 7. INSTALL INFI-SHIELD EXTERNAL UNI-BAND SEAL OVER FRAME, GRADE RINGS, AND TOP OF CONE.
 8. WRAP EXTERIOR OF MANHOLE, OVER INSULATION, WITH THREE LAYERS OF 8-MIL THICK POLYETHYLENE ENCASMENT AFTER INSTALLING WRAPID SEAL AND INFI-SHIELD.
 9. MANHOLE SHALL HAVE MINIMUM OF ONE (1) SIX-INCH (6") GRADE RING.
 10. BACKFILL AROUND MANHOLE WITH A MINIMUM OF 3' LEVELING COURSE COMPACTED TO 95% MAXIMUM DENSITY.
 11. MANHOLE FRAME AND COVER SHALL BE BOLT DOWN AND WATERTIGHT.
 12. APPLY WATERPROOFING MEMBRANE TO ALL EXTERIOR CONCRETE SURFACES.

- TRENCH NOTES:**
1. TRENCH EXCAVATION AND SHORING SHALL COMPLY WITH ALL LOCAL, STATE, AND OSHA REGULATIONS AND REQUIREMENTS.
 2. TRENCH BACKFILL SHALL BE NATIVE MATERIAL.



5 TRACER WIRE JUNCTION BOX
NTS

CRW ENGINEERING GROUP, LLC
3940 ARCTIC BLVD. SUITE 300
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
#AECL882-AK

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DESIGNED BY: MJL
DRAWN BY: ETG
CHECKED BY: MJL
APPROVED BY: PB

PROJECT NO: 21103.00
DILLINGHAM LAGOON AND DOCK LIFT STATION IMPROVEMENTS

MISCELLANEOUS DETAILS

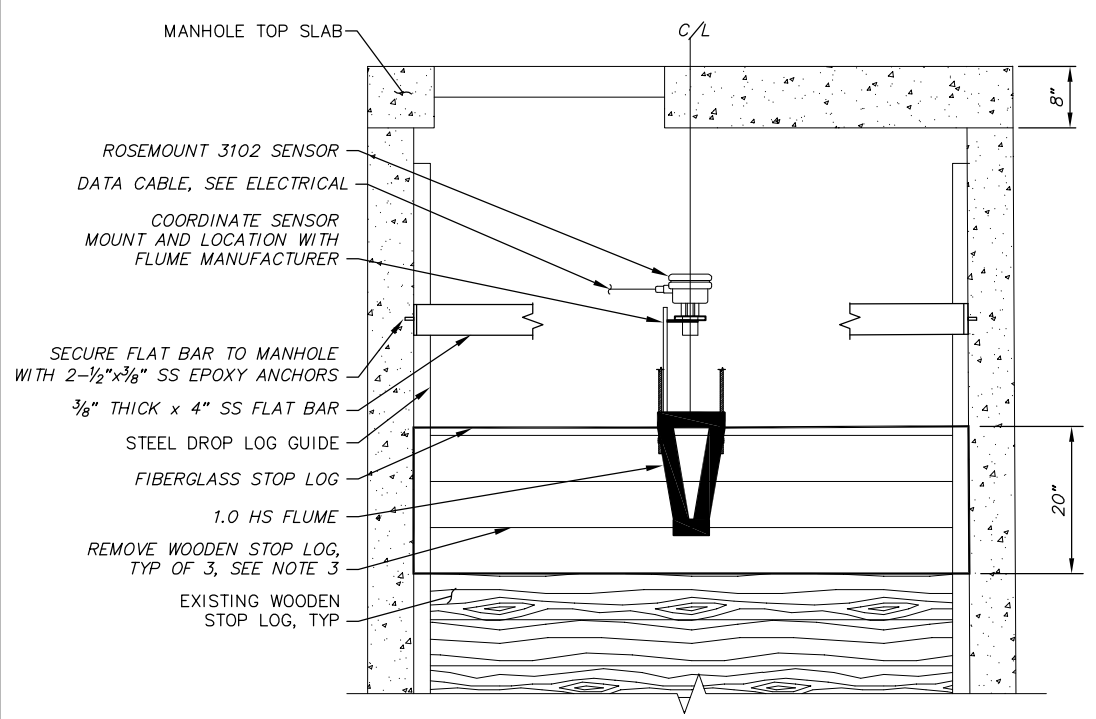
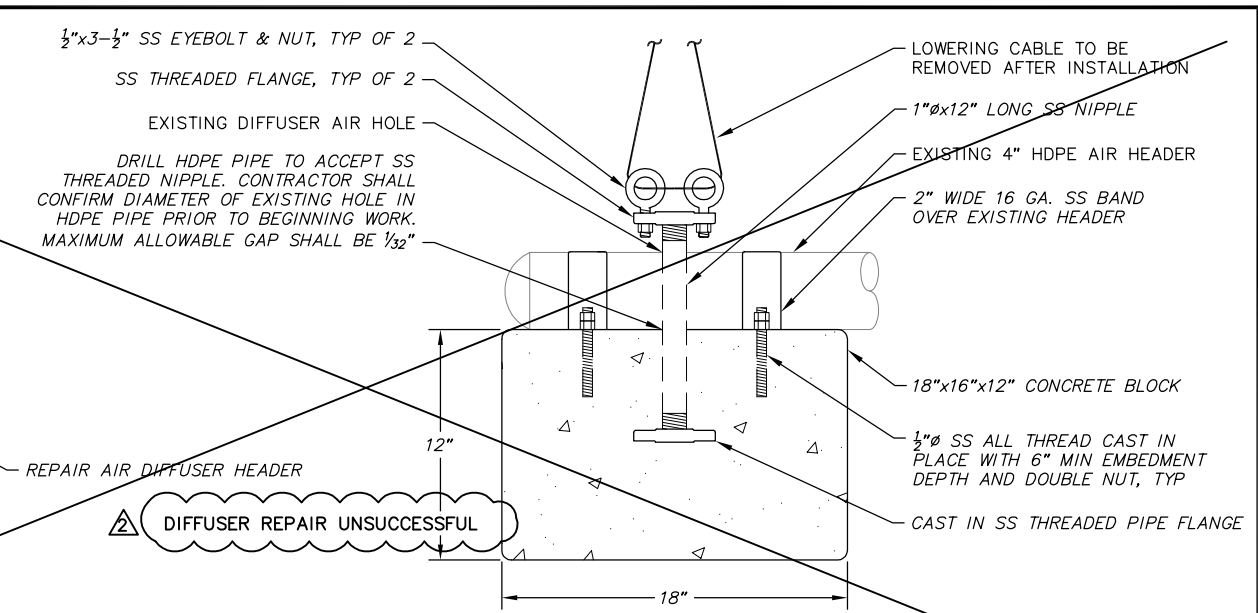
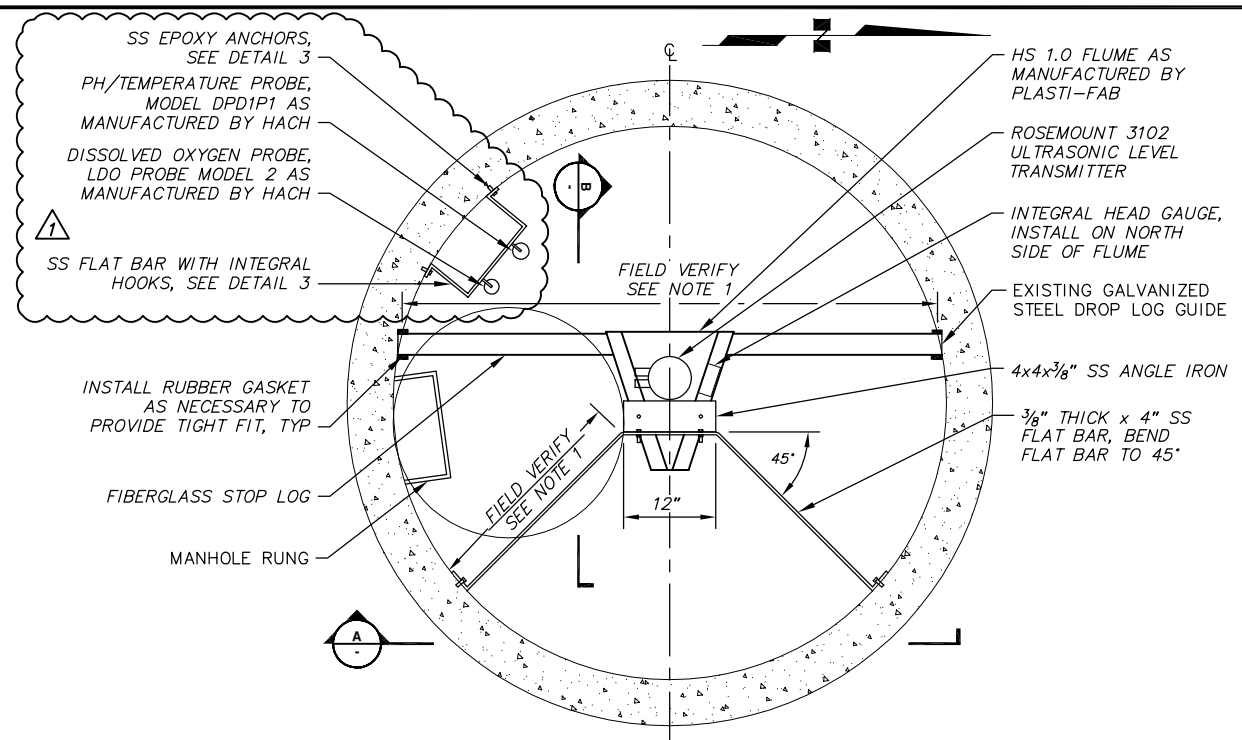
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DATE: JUNE 2017

PROJECT NO: 21102.00

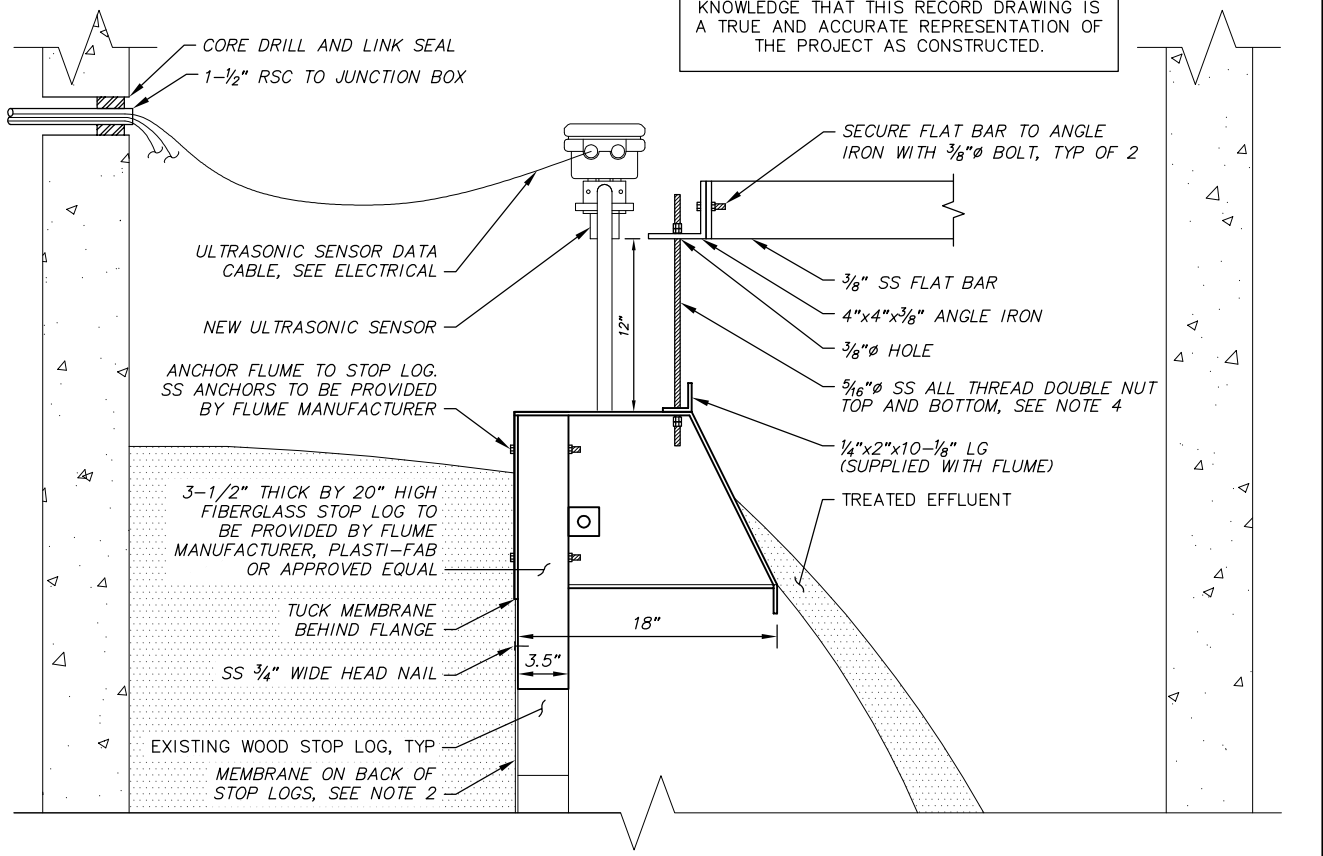
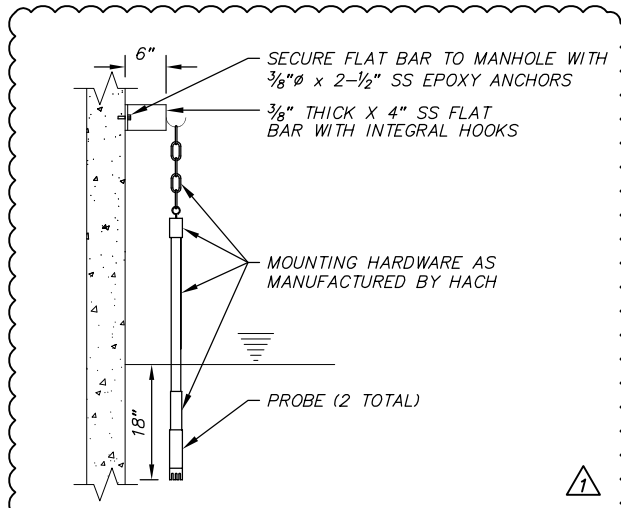
CITY GRID
WATER GRID
SEWER GRID

SHEET **C3**
OF **C5**

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- NOTES:**
1. VERIFY ALL DIMENSIONS PRIOR TO ORDERING MATERIALS.
 2. CAREFULLY REMOVE MEMBRANE FROM BACK OF STOP LOGS, ROLL MEMBRANE DOWN TO REMOVE STOP LOGS. REINSTALL MEMBRANE WITH SS 3/4" WIDE HEAD NAILS. CAREFULLY CUT MEMBRANE TO MATCH OPENING OF FLUME AND TUCK BEHIND FLANGE OF FLUME PER SECTION B.
 3. DO NOT REMOVE SUBSEQUENT STOP LOGS UNTIL THE LAGOON HAS STABILIZED.
 4. FLUME SHALL BE INSTALLED LEVEL IN BOTH DIRECTIONS.
 5. CALIBRATE ROSEMOUNT ULTRASONIC SENSOR PER MANUFACTURER'S RECOMMENDATIONS.



RECORD DRAWING

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| Δ | 6/28/17 | ADDENDUM 1: DO AND PH/TEMP PROBES | MJL |
| Δ | 2/2019 | RECORD DRAWING | CRM |

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SCALE
HOR. N/A
VER. N/A

DESIGNED BY: MJL
DRAWN BY: RWB
CHECKED BY: MJL
APPROVED BY: PB

PROJECT NO: 21103.00
DILLINGHAM LAGOON AND DOCK LIFT STATION IMPROVEMENTS

MISCELLANEOUS DETAILS

STATUS: FINAL DATE: JUNE 2017

PROJECT NO: 21102.00

CITY GRID
WATER GRID
SEWER GRID

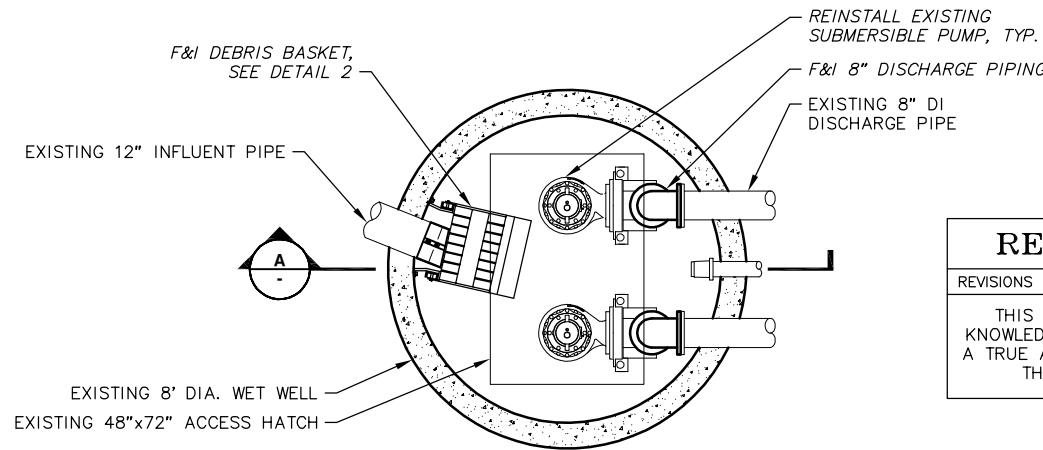
SHEET: C4R1
OF: C5

NOTES:

1. CHIP AWAY LOOSE/SPALLING CONCRETE AT FLOOR OF LIFT STATIONS UNTIL SOUND CONCRETE IS REACHED.
2. REINSTALL PUMPS IN SAME LOCATION.
3. REATTACH UPPER GUIDE RAIL BRACKET TO HATCH OPENING (NUT RAIL).
4. MOUNT PUMP DISCHARGE ELBOWS USING ANCHOR BOLTS 2" LONGER THAN BOLTS RECOMMENDED BY PUMP MANUFACTURER.
5. ADHESIVE ANCHORS SHALL BE STAINLESS STEEL (TYPE 316) AND INSTALLED USING SET EPOXY ADHESIVE AS MANUFACTURED BY SIMPSON.
6. ALL FITTINGS SHALL BE FLANGED.
7. PREPARE SURFACE AND INSTALL EPOXY GROUT TO A DEPTH OF 2" IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. PREHEAT EXISTING CONCRETE TO 70°F FOR A MINIMUM OF 24 HOURS PRIOR TO INSTALLATION OF GROUT. EPOXY GROUT SHALL BE PLANIGROUT 830 SP AS MANUFACTURED BY MAPEI. MAINTAIN A MINIMUM OF 6" FROM EDGE OF EPOXY GROUT TO CENTER OF ADHESIVE ANCHORS (TYP).
8. EPOXY GROUT FOR FLOOR REPAIR SHALL EXTEND TO EXISTING GROUT RING.

DEBRIS BASKET NOTE:

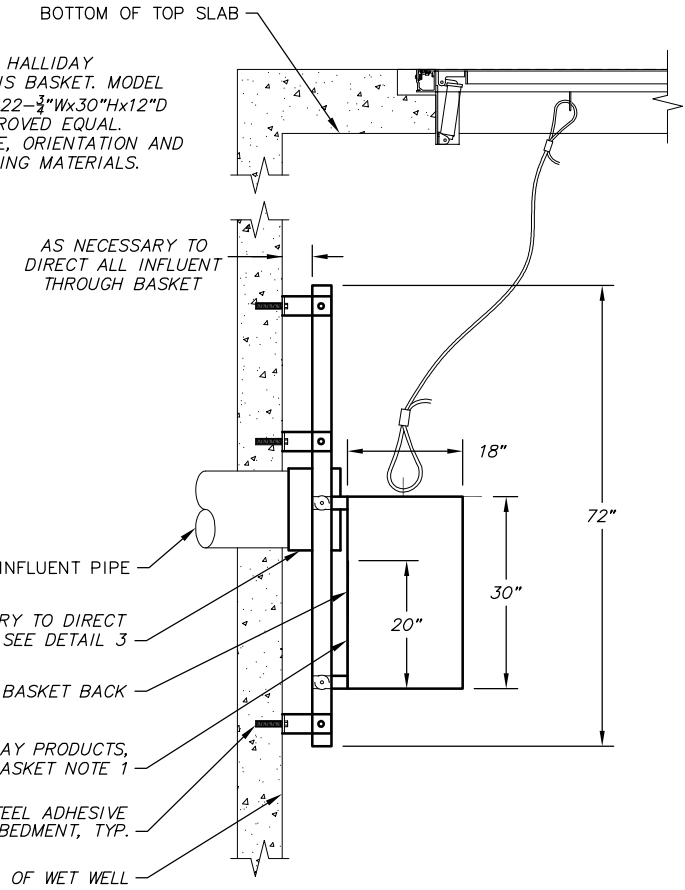
1. DEBRIS BASKETS SHALL BE HALLIDAY PRODUCTS ALUMINUM DEBRIS BASKET, MODEL B1B CUSTOM BAR BASKET, 22-3/4"Wx30"Hx12"D WITH A 20" BACK, OR APPROVED EQUAL. VERIFY DEBRIS BASKET SIZE, ORIENTATION AND LOCATION PRIOR TO ORDERING MATERIALS.



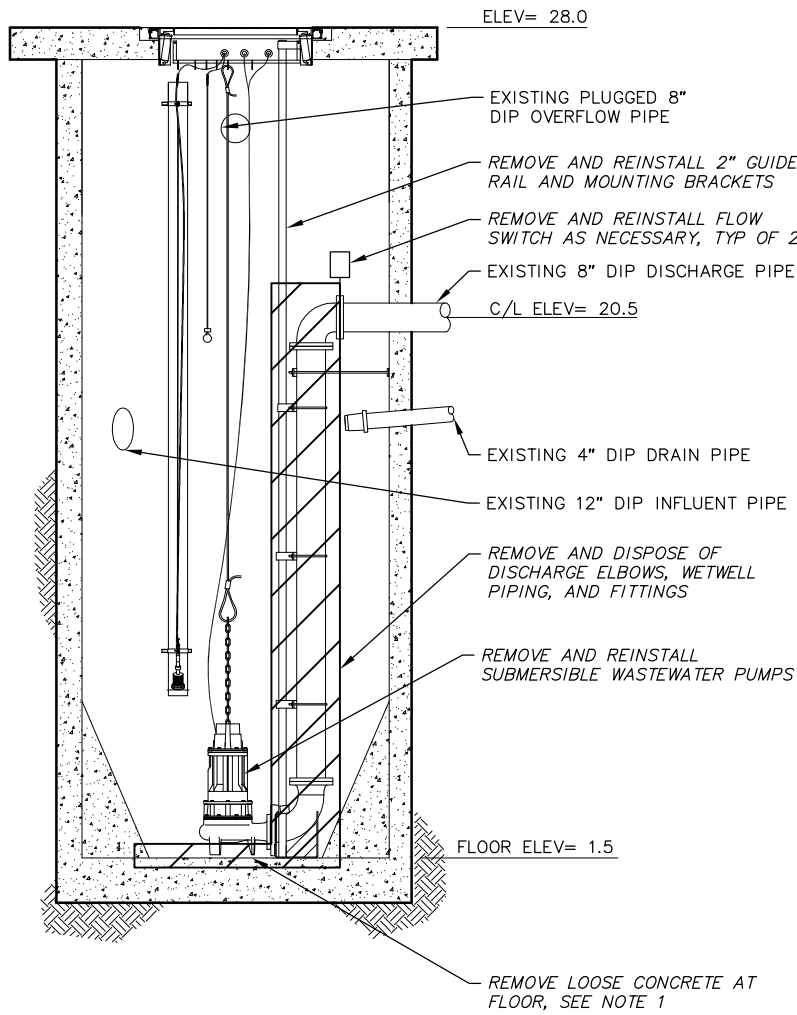
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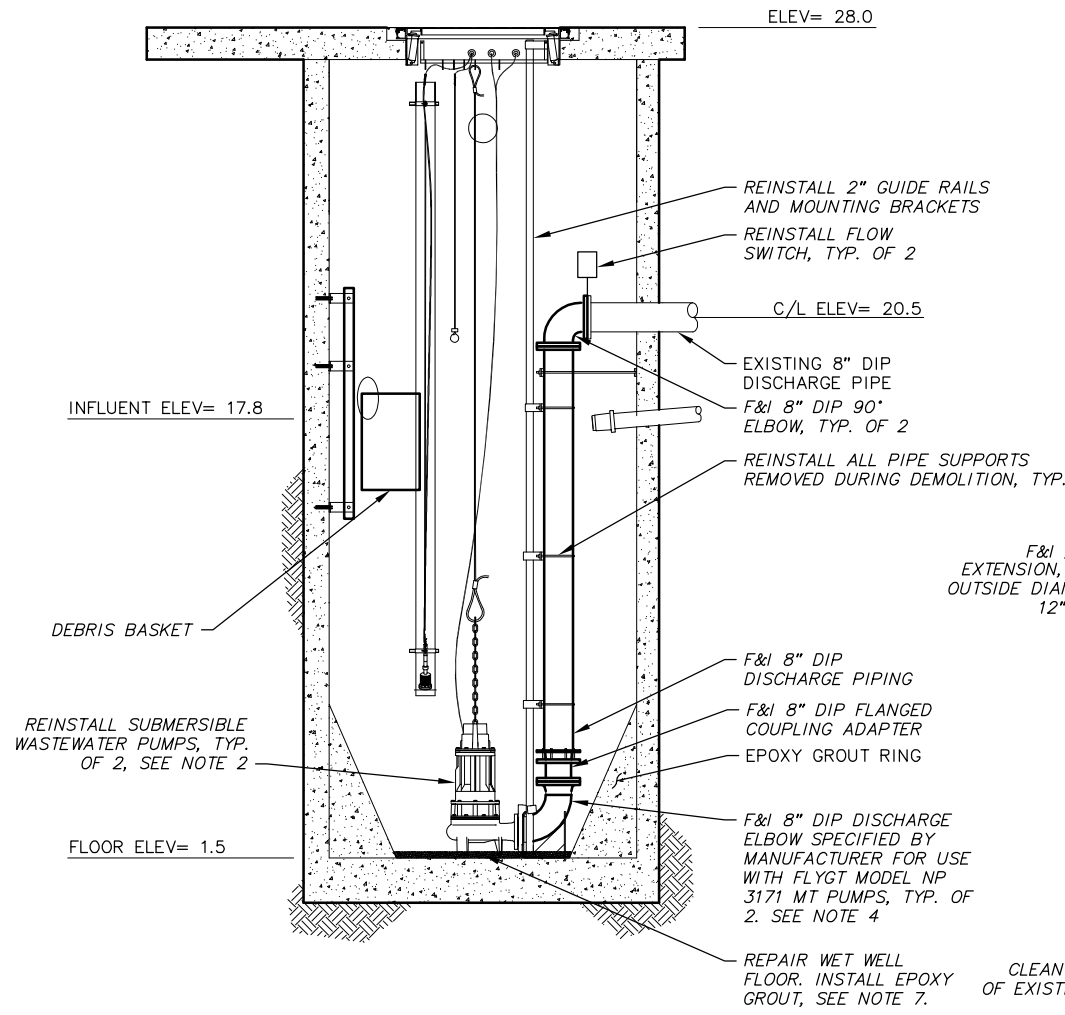
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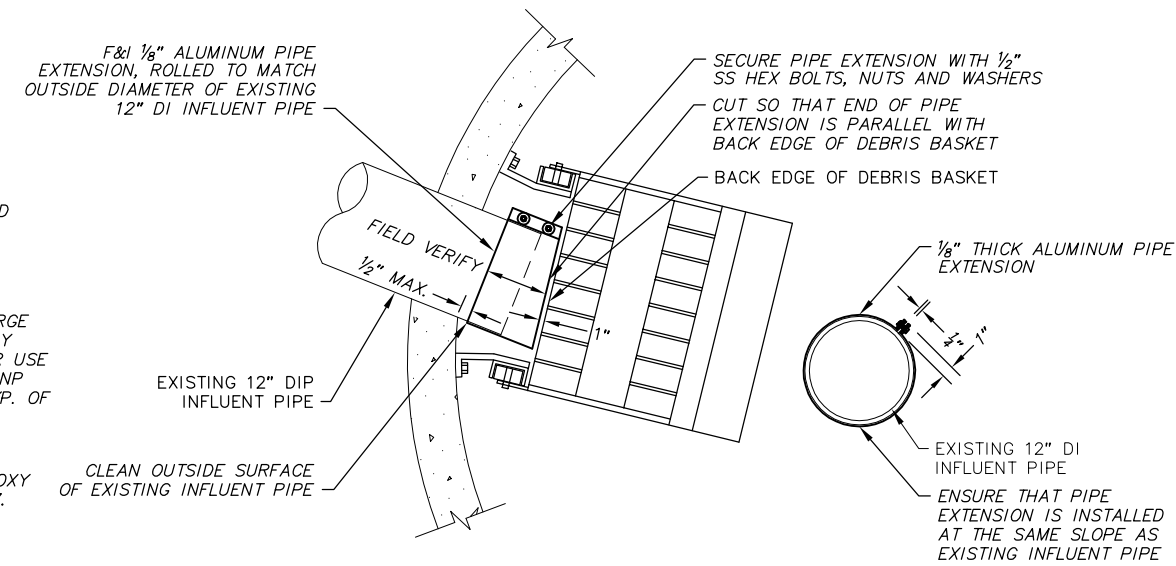
2 DEBRIS BASKET DETAIL
NTS



1 DOCK LIFT STATION DEMO
NTS



A DOCK LIFT STATION SECTION
NTS



3 PIPE EXTENSION DETAIL
NTS

File: J:\Jebdata\21102.00 Dillingham City Lagoon Repairs\00 CADD\01 Working_Sht\01 Civil\21102.00 Dock Lift Station.dwg PLOT DATE: 2/20/2019 1:14 PM



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| SCALE | HOR. N/A VER. N/A |
| DESIGNED BY | MJL |
| DRAWN BY | ETG |
| CHECKED BY | MJL |
| APPROVED BY | PB |

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| PROJECT NO: | DILLINGHAM LAGOON AND DOCK LIFT STATION IMPROVEMENTS |
| DOCK LIFT STATION SECTIONS & DETAILS | |
| STATUS: FINAL | DATE: JUNE 2017 |

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| PROJECT NO. | 21102.00 |
| CITY GRID | |
| WATER GRID | |
| SEWER GRID | |
| SHEET | C5 |
| OF | C5 |

ELECTRICAL SPECIFICATIONS

SCOPE OF WORK: Furnish and install all material and equipment as required for the installation as specified here and as shown on the drawings.

STANDARDS, CODES AND REGULATIONS: Contractor shall comply with the latest adopted edition of the National Electrical Code (NEC), International Building Code (IBC), and International Fire Code (IFC) including all state and local amendments to these codes.

DRAWINGS: The drawings are diagrammatic, not necessarily showing all offsets or exact locations of fixtures, equipment, etc., unless specifically dimensioned. Review the drawings and specifications for equipment furnished by other crafts but installed in accordance with this section. Bring questionable or obscure items, apparent conflicts between plans, specifications, governing codes and/or utilities regulations to the attention of the Engineer. Codes, ordinances, regulations, manufacturer's instructions or standards take precedence when they are more stringent or conflict with the drawings and specifications.

RECORD DRAWINGS: Mark up a clean set of drawings as the work progresses to show the dimensioned location and routing of all electrical work that will become permanently concealed. Show routing of work in permanently concealed blind spaces within buildings and structures. Show complete routing and sizing of any significant revisions to the systems shown.

WORKMANSHIP: Installation of all work shall be made so that its several component parts shall function as a workable system complete with all accessories necessary for its operation. All material and equipment shall be installed in accordance with the manufacturer's recommendations, instructions and/or installation drawings and in accordance with NECA standards. Materials and equipment shall be new and shall conform to applicable industry standards, NEMA standards and Underwriters Laboratories (U/L) standards.

OPERATION AND MAINTENANCE MANUALS: Provide operation and maintenance manuals for training of the owner's personnel. Describe in the manuals the procedures necessary to operate the system including start-up, operation, emergency operation and shutdown. Provide instructions and a schedule of preventive maintenance in tabular form for all routine cleaning, inspection and lubrication with recommended lubricants. Provide instructions for minor repair or adjustments required for preventive maintenance routines. Provide manufacturer's descriptive literature including approved shop drawings covering devices used in any contractor-provided equipment or systems with illustration, exploded views, etc. Provide a non-password protected PDF file of each manual in its entirety on a CD in addition to the required hard copies.

REFERENCE SYMBOLS: The Electrical "LEGEND" on the drawings is a standardized version, and all symbols shown may not be used. Use the "LEGEND" as a reference for the symbols used on the drawings.

IDENTIFICATION: Provide engraved three-layer laminated plastic nameplates with black letters on a white background to identify all electrical distribution and control equipment, loads served and as noted on the drawings. Letter heights shall be 1/8" for individual switches, motor starters and loads served and 1/4" on panelboards. Secure nameplates to equipment fronts using screws, rivets or adhesives.

CONDUITS: Mark all conduits entering or leaving panelboards/control panels with an indelible black marker with the circuit numbers of the circuits contained inside.

JUNCTION BOXES: Mark all circuit numbers of wiring on all junction boxes with sheet steel covers. Mark with indelible black marker. Mark all other special system junction boxes with sheet steel covers.

CONDUIT: In General, all wiring below 8' AFF shall be installed in galvanized rigid steel or intermediate metal raceway with cast boxes and gasketed covers. EMT and pressed steel shall be permitted at or above 8' unless otherwise noted (See WIRING METHODS at the end of the specifications). All metallic fittings, connectors, boxes, etc., shall be approved for use as a grounding means. Utilize short extensions (36" maximum) of flexible, low temperature, liquidtight flexible metallic conduit for connection of all motors and other equipment subject to vibration and where conduits transition between structures or on risers from below grade. Paint all exposed raceways to match the surface to which it is attached or crosses. Otherwise paint industrial gray. Completely and thoroughly swab raceway system before installing conductors. An equipment ground wire is required in all conduits whether shown or not.

CONDUCTORS: Conductors shall be copper, solid or stranded, with type XHHW-2, 90° insulation. Minimum branch circuit conductor size shall be #12 AWG. Minimum control circuit conductor size for field wiring shall be #14 AWG unless noted otherwise on drawings. Pull all conductors into the raceway at the same time. Use UL listed wire-pulling lubricant for pulling #4 AWG and larger wires. Color code conductors as follows: 208Y/120 volt systems: black (AØ), red (BØ), blue

(CØ), white (N) and green or bare (G). 240/120 volt systems: black (L1), red (L2), white (N), green or bare (G). Use properly sized insulated spring wire connectors with plastic caps for all conductors #8 AWG and smaller. Terminate #6 AWG and larger conductors with crimp or compression type connectors installed with tool recommended by connection manufacturer and insulate with properly sized 600-volt rated heat shrink tubing.

CIRCUIT BREAKERS: Molded case circuit breakers shall be bolt-on with common trip handle for all poles. Thermal magnetic trip type unless specifically shown as magnetic only (MCP).

LIGHTING EQUIPMENT: Provide all lighting equipment or approved equal as shown on the drawings and described in the "fixture schedule". Provide lighting equipment complete, wired, assembled, with proper flanges, mounting supports, hardware, etc. Provide high power factor, regulating or constant wattage type ballasts for HID fixtures.

EQUIPMENT CONNECTIONS: Provide wiring and connection to equipment requiring electrical power but specified under other divisions of the specifications. Equipment shall include but is not limited to motors, pumps, dispensing equipment, etc. Review equipment submittal from the other trades prior to installation and electrical rough-in. Verify location, size, type of connections, and that equipment is ready for electrical connection. Make wiring connections in control panel or in wiring compartment of pre-wired equipment in accordance with the manufacturer's instructions. Provide interconnecting wiring and disconnects where required.

DISCONNECT SWITCHES: Provide 600V and 250V heavy duty non-fusible quick-make, quick break, load interrupter, enclosed knife switches with externally operable handle interlocked to prevent opening front cover with switch in on position, handle lockable in off position. For motors under 1HP, specification grade snap switched rated for HP duty may be used. Where locking is required, provide suitable cover plate with locking feature.

POWER CONTACTORS: Provide full voltage HP rated contactors, NEMA rated, AC general-purpose, class A, with coil voltage as shown. Provide with NEMA 12 rated enclosure, pilot devices as shown on drawings.

EQUIPMENT MOUNTING: Provide all bracing as required to securely mount enclosures, fixtures and devices. Unless otherwise noted use galvanized hardware and galvanized formed steel components such as Unistrut or equal. When bolting to structure, verify that the original structural and performance (i.e. water tight) characteristics are maintained.

WIRING METHODS: Unless noted otherwise, enclosures, junction boxes and other equipment shall be installed in accordance with the following schedule:

Exterior - Cast weatherproof device boxes with gasketed covers, RMC or LTFMC. NEMA 4X enclosure rating. NOTE: Receptacles shall retain their weatherproof rating while in use.

RECORD DRAWING

REVISIONS DRAWN BY: CRM DATE: 2/2019

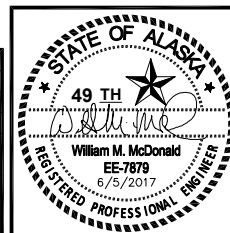
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GRAPHIC SCALE

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| DESIGNED BY | WMM |
| DRAWN BY | CvH |
| CHECKED BY | WMM |
| APPROVED BY | WMM |

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| PROJECT NO: 21103.00 | DILLINGHAM LAGOON AND DOCK LIFT STATION IMPROVEMENTS |
| ELECTRICAL SPECIFICATIONS | |
| STATUS: FINAL | DATE: JUNE 2017 |

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| PROJECT NO. | |
| CITY GRID | |
| WATER GRID | |
| SEWER GRID | |
| SHEET OF | EO E5 |

LEGEND

- HEAT TRACE
- EXPOSED CONDUIT, PROVIDE 3/4"C, 3#12 UNLESS OTHERWISE NOTED
- CONDUIT/CABLE RUN UNDERGROUND OR IN CONCRETE BURIAL DEPTH - 24" MINIMUM
- HOMERUN TO PANEL "X", CIRCUITS NO. Y AND Z CONDUIT RUNS NOT DEFINED ARE 1/2" C with 3#12.
- GROUND
- CONDUIT RUN - CHANGE IN ELEVATION
- GROUND ROD
- LIQUID-TIGHT FLEXIBLE CONDUIT
- MOTOR, HP AS SHOWN, SINGLE PHASE, "F" = FRACTIONAL
- MOTOR, HP AS SHOWN, THREE PHASE
- SHEET NOTE "X"
- ELECTRICAL EQUIPMENT TAG "X"
- PANELBOARD
- DISCONNECT SWITCH
- TRANSFORMER
- KILOWATT-HOUR METER
- 125V DUPLEX GROUND FAULT INTERRUPT WEATHER PROOF RECEPTACLE, NEMA CONFIGURATION 5 - 20R
- STUB POLE
- HEAT TAPE POWER POINT
- HEAT TAPE END KIT
- CONDUIT SEAL-OFF FITTING

- MOTOR OVERLOAD
- FIELD MOUNTED INSTRUMENT XX = FUNCTION; YY = TAG NO.
- INSTRUMENT DEVICE LOCATION (SEE TAG)
- NORMALLY OPEN CONTACT
- NORMALLY CLOSED CONTACT
- PILOT LIGHT R=RED, B=BLUE, A=AMBER, G=GREEN
- RELAY COIL
- TIME DELAY RELAY CONTACTS NORMALLY CLOSED TIMED OPEN XXX= DESCRIPTION YYY=RELATED COIL & CONTACT # ZZZ=COIL RUNG
- TIME DELAY RELAY CONTACTS NORMALLY OPEN TIMED CLOSED XXX= DESCRIPTION YYY=RELATED COIL & CONTACT # ZZZ=COIL RUNG
- TIME DELAY RELAY CONTACTS NORMALLY OPEN TIMED OPEN XXX= DESCRIPTION YYY=RELATED COIL & CONTACT # ZZZ=COIL RUNG
- FLOAT OPERATED SWITCH, NORMALLY CLOSED
- FLOAT OPERATED SWITCH, NORMALLY OPEN
- PUSHBUTTON NORMALLY CLOSED, MOMENTARY CONTACT
- PUSHBUTTON NORMALLY OPEN, MOMENTARY CONTACT
- MOTORIZED VALVE
- SOLENOID VALVE

- JUNCTION BOX OR FITTING
- CONDUIT TEE
- FUSE, X=SIZE IN AMPS
- MANUAL MOTOR STARTER (FVNR)
- COMBINATION MAGNETIC MOTOR STARTER (FVNR) WITH DISCONNECT
- MOLDED CASE CIRCUIT BREAKER, X = AMPERE RATING, Y = NO. OF POLES THERMAL/MAGNETIC UON
- CONTROL PANEL
- SINGLE POLE SWITCH 120/277V 20A
- SEAL-OFF FITTING
- PHOTO ELECTRIC CONTROL
- INSTRUMENT DEVICE LOCATION (SEE TAG)
- MUSHROOM HEAD, EMERGENCY PUSHBUTTON
- REMOTE OPERATOR FOR CONTROL PANEL
- PUSH TO TEST PILOT LIGHT X= LENS TINT
- TERMINAL - X = CONTRACTOR DERIVED NUMBERING
- STROBE ALARM
- HAND-OFF-AUTO SWITCH

ABBREVIATIONS

- A AMPERE
- AFF ABOVE FINISH FLOOR
- AIC AMPERES INTERRUPTING CAPACITY
- AVEC ALASKA VILLAGE ELECTRIC COOPERATIVE
- bCU BARE COPPER
- BKT BRACKET
- BFU BULK FUEL UPGRADES
- C CONDUIT
- CCT CORRELATED COLOR TEMPERATURE
- C1D1 CLASS 1, DIVISION 1
- C1D2 CLASS 1, DIVISION 2
- CITY CITY OF TOGIAK
- CP CONTROL PANEL
- CT CURRENT TRANSFORMER
- DWG DRAWING
- E EXISTING
- EA EACH
- ENT ELECTRICAL NON-METALLIC TUBING
- EOL END OF LINE RESISTOR
- ESD EMERGENCY SHUTDOWN
- EXP EXPLOSION PROOF
- FVNR FULL VOLTAGE NON-REVERSING, THERMAL MAGNETIC OCP
- G GROUND CONDUCTOR
- GFI GROUND FAULT INTERRUPTING
- H HOT CONDUCTOR
- HOA HAND OFF AUTO
- HP HORSEPOWER
- HPS HIGH PRESSURE SODIUM
- KVA KILO-VOLT-AMPERES
- KW KILOWATT
- LTFC LIQUID-TIGHT FLEXIBLE METAL CONDUIT
- LTG LIGHTING
- MAX MAXIMUM
- MCM THOUSAND CIRCULAR MILLS
- MCP MAGNETIC ONLY CIRCUIT PROTECTOR
- MIN MINIMUM
- MV MOTORIZED VALVE
- N NEUTRAL CONDUCTOR
- NEMA NATIONAL ELECTRICAL MANUFACTURES ASSOCIATION
- NTS NOT TO SCALE
- OCPP OVERCURRENT PROTECTION
- P POLE
- RCP RECEPTACLE
- RMC RIGID METAL CONDUIT, GALVANIZED
- SG SPECIFIC GRAVITY
- SIG SIGNAL CONDUCTOR
- SL SWITCH LEG
- SS STAINLESS STEEL
- TWS TWISTED/SHIELDED CONDUCTOR
- TYP TYPICAL
- U/G UNDERGROUND
- UON UNLESS OTHERWISE NOTED
- V VOLTS
- VA VOLT-AMPERES
- VFD VARIABLE FREQUENCY DRIVE
- WP WEATHER PROOF
- XFMR TRANSFORMER

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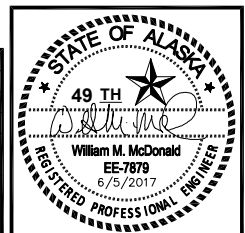
RECORD DRAWING

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PROJECT NO: 21103.00 DILLINGHAM LAGOON AND DOCK LIFT STATION IMPROVEMENTS

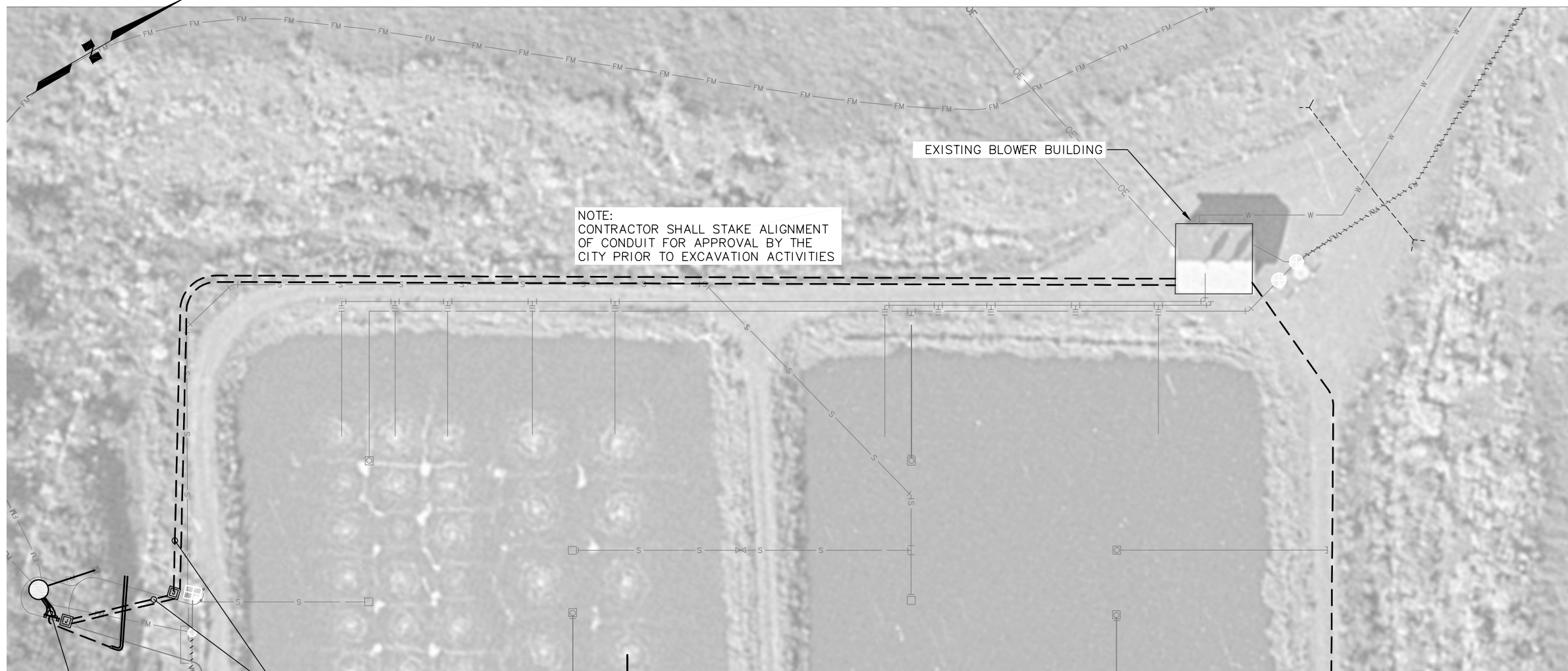
ELECTRICAL LEGEND & ABBREVIATIONS

STATUS: FINAL DATE: JUNE 2017



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| PROJECT NO. |
| CITY GRID |
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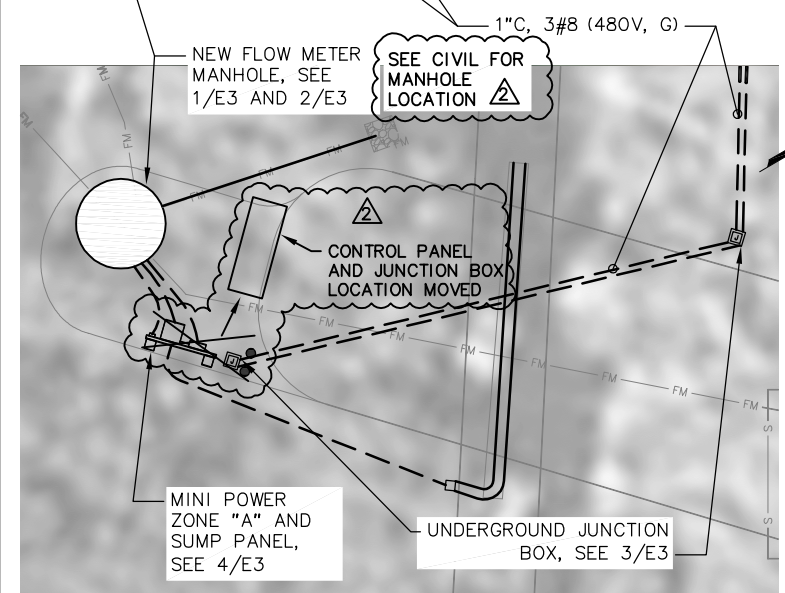
- SHEET NOTES**
- ① SCHEDULE 40 STEEL PIPE BURIED 5' WITH ENDCAP.
 - ② 18"X18"X6" JUNCTION BOX WITH (2) DIGITAL JUNCTION BOX UNITS FOR SENSOR CABLE EXTENSIONS.
 - ③ 1-1/2" C FROM EFFLUENT MANHOLE.
 - ④ 1-1/2" C TO BLOWER BUILDING.

RECORD DRAWING

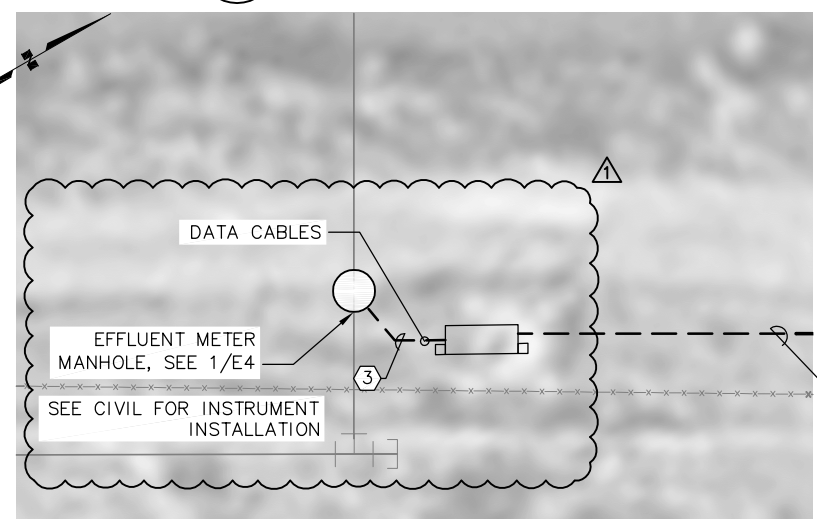
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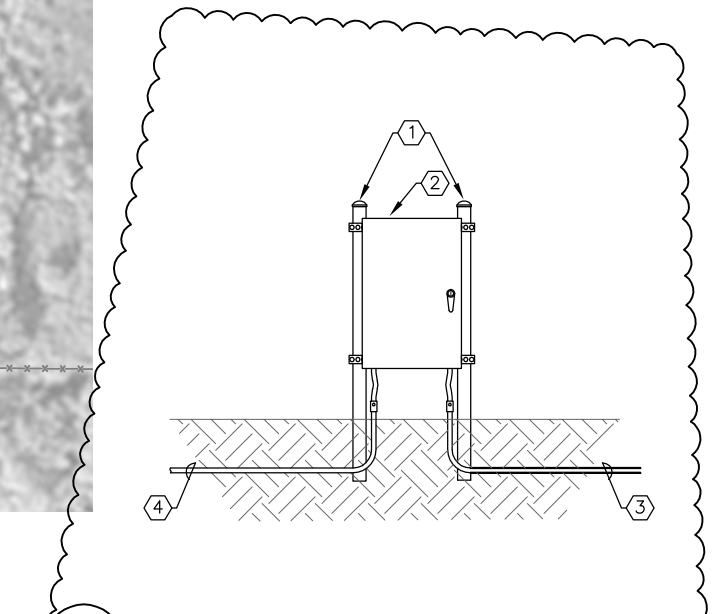
① **ELECTRICAL SITE PLAN**
NTS



② **INFLUENT METER MANHOLE**
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③ **EFFLUENT METER MANHOLE**
NTS



④ **EFFLUENT PANEL DETAIL**
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DESIGNED BY
WMM

DRAWN BY
CvH

CHECKED BY
WMM

APPROVED BY
WMM

PROJECT NO: 21103.00 DILLINGHAM LAGOON AND DOCK LIFT STATION IMPROVEMENTS

ELECTRICAL SITE PLAN

STATUS: FINAL DATE: JUNE 2017

PROJECT NO.

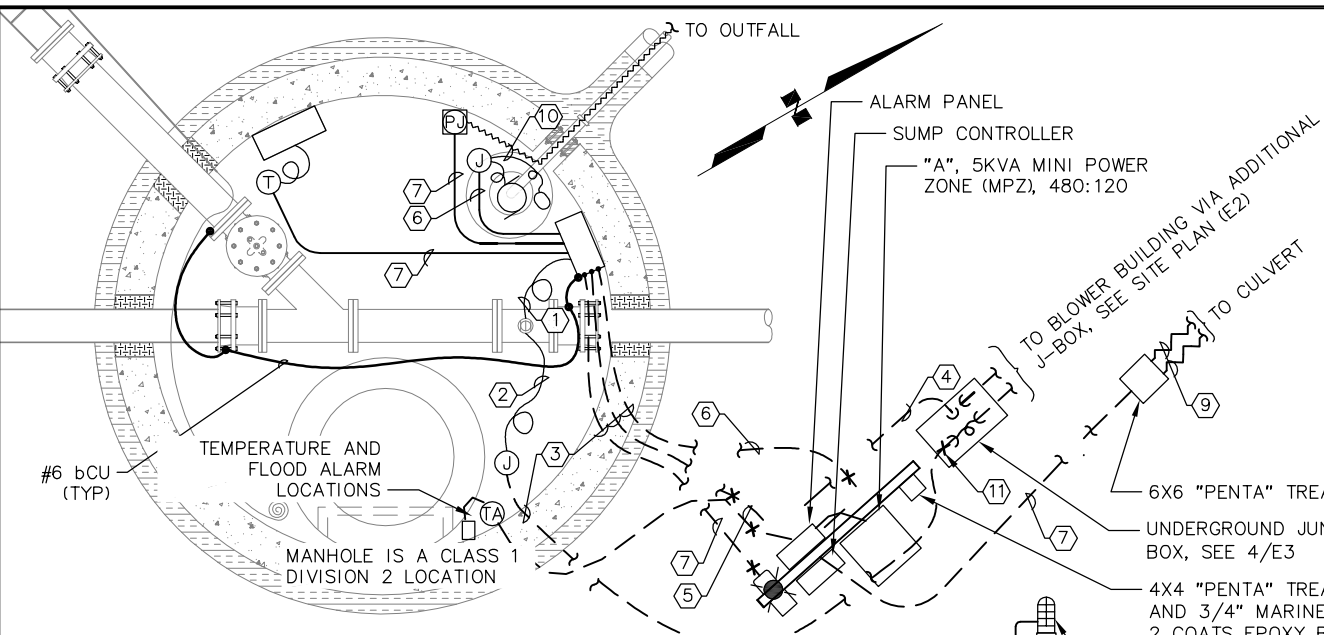
CITY GRID

WATER GRID

SEWER GRID

SHEET **E2R1**
OF **E5**

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| MPZ "A" SCHEDULE | | | | | | | | | | |
|------------------|--------|---------------------------------|------------------|--------|-----|--------------------|-------------------|---------------------|---------|--|
| Location: | | NEXT TO MANHOLE BLOWER BUILDING | | | | 10,000 AIC NEMA 3R | | | | |
| Served from: | POLE # | AMP TRIP | LOAD DESCRIPTION | 120V | | POLE kVa | LOAD DESCRIPTION | AMP TRIP | POLE # | |
| | | | | MLO L1 | L2 | | | | | |
| | 1 | 15/2 | HEATER | 1.3 | 1.4 | 0.1 | FLOW METER | 15/1 | 2 | |
| | 3 | 15/2 | | 1.3 | 1.5 | 0.2 | DRAIN HEAT TAPE | 15/1* | 4 | |
| | 5 | 15/2 | SUMP | 0.5 | 0.6 | 0.1 | ALARM PANEL | 20/1 | 6 | |
| | 7 | 15/2 | | 0.5 | 0.5 | 0.0 | | 20/1 | 8 | |
| | 9 | 20/1 | | 0.0 | 1.0 | 1.0 | CULVERT HEAT TAPE | 20/1* | 10 | |
| | | | | | | | | Total kVA = | 5.0 kVA | |
| | | | | | | | | Total Amps @ 120V = | 41.7 A | |

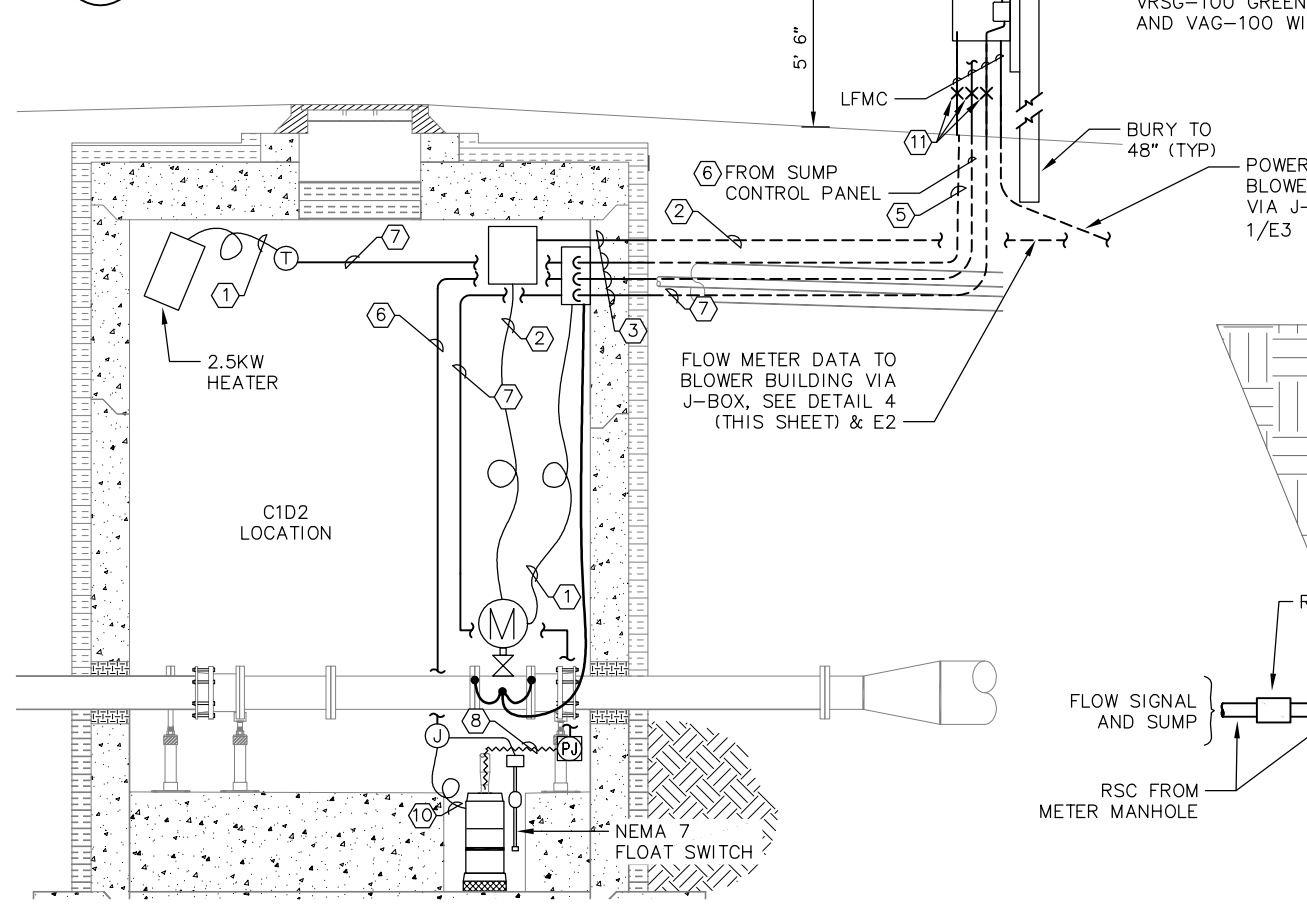
- SHEET NOTES**
- ① 1/2" LFMC, 3#12
 - ② 1/2" LFMC, (1) PR#18TWSH
 - ③ PROVIDE LINK SEAL (OR EQUAL) AT ALL PENETRATIONS.
 - ④ 1"C, (3)#8 (2H,G)
 - ⑤ 1"C, (7)#12 (2 HEAT, 2 FM, 2 HT, G)
 - ⑥ 3/4"C, (3)#12 (PUMP,N,G), (3)#14 FLOAT
 - ⑦ 1/2"C, (3)#12 (HEAT TRACE)
 - ⑧ HEAT TAPE C1,D2 RATED 5W/FT, 120V WITH POWER POINT AND END KIT. RUN TO END OF OUTFALL.
 - ⑨ HEAT TAPE C1,D2 RATED 5W/FT, 120V WITH POWER POINT AND END KIT. RUN THROUGH 24" CULVERT
 - ⑩ PUMP CORD
 - ⑪ SEAL-OFF FITTING

RECORD DRAWING

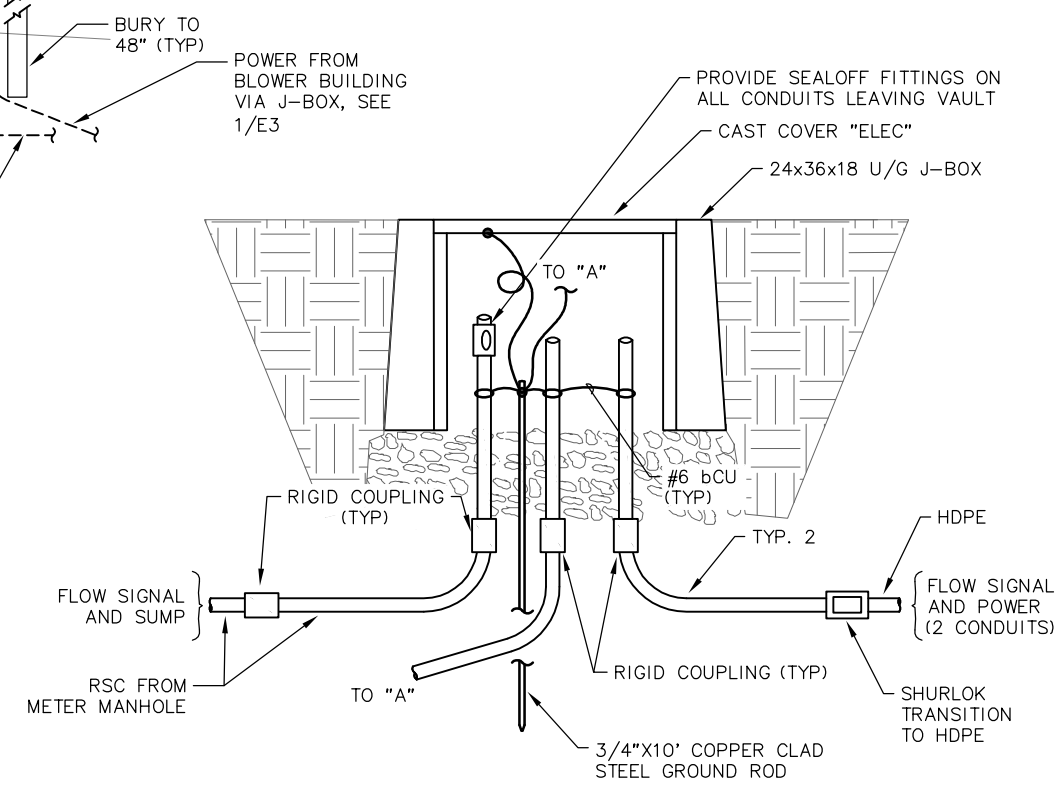
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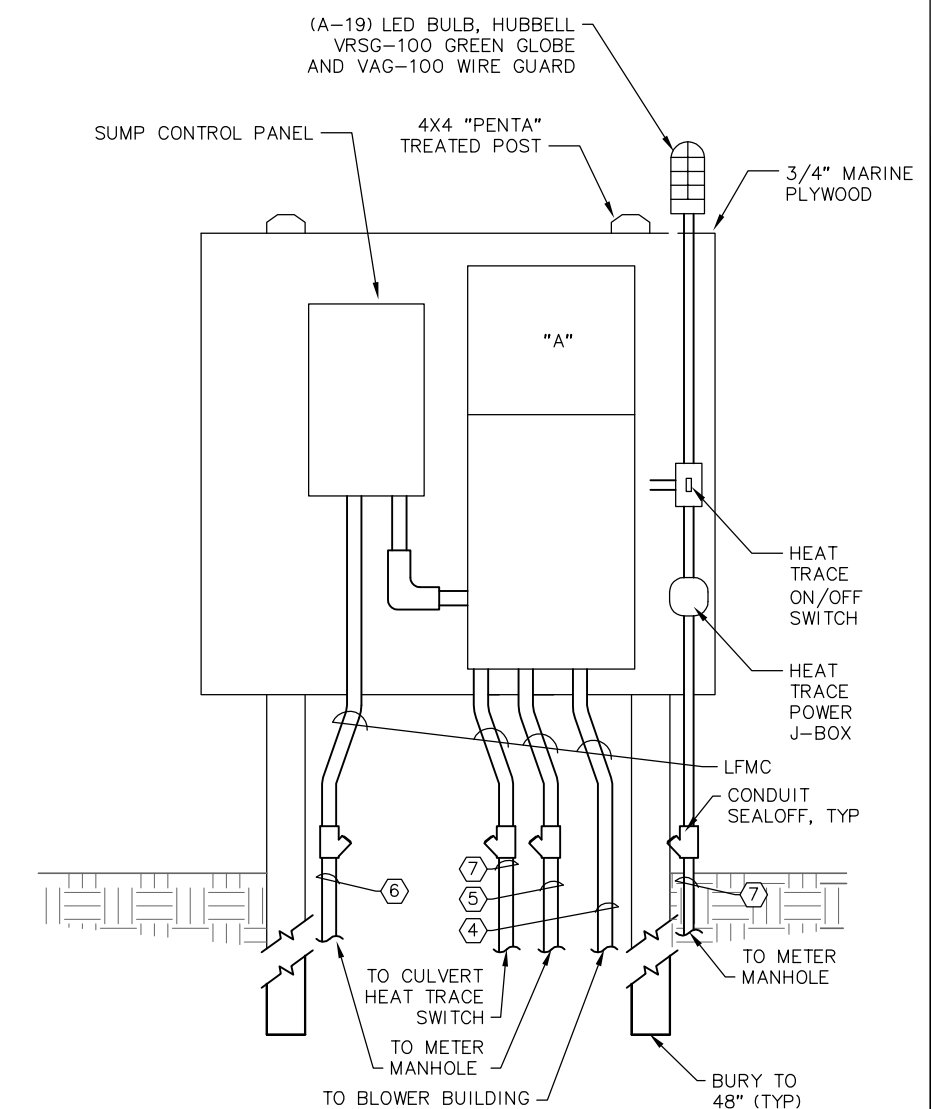
1 INFLUENT MANHOLE PLAN VIEW
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2 INFLUENT MANHOLE SECTION VIEW
NTS



3 UNDERGROUND JUNCTION BOX (TYP.)
NTS



4 ELECTRICAL PANEL
NTS



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| 1 | 4/18 | ADDED ALARM PANEL | WMM | | | | |



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VER. N/A

DESIGNED BY: WMM
DRAWN BY: CvH
CHECKED BY: WMM
APPROVED BY: WMM

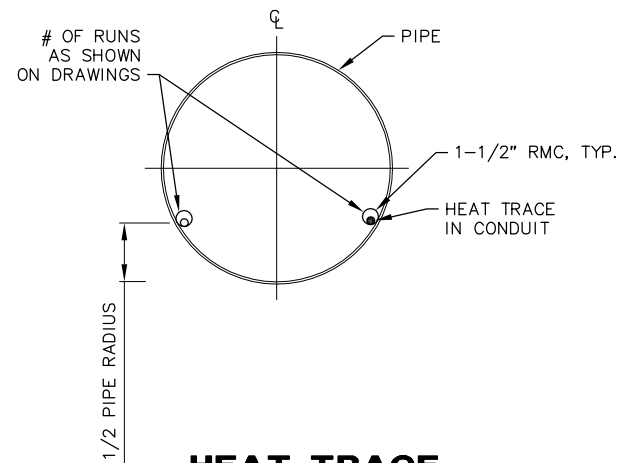
PROJECT NO: 21103.00
DILLINGHAM LAGOON AND DOCK LIFT STATION IMPROVEMENTS

INFLUENT MANHOLE DETAILS

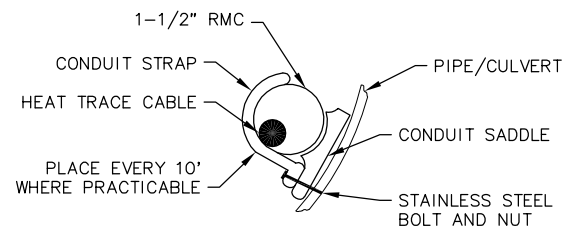
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| PROJECT NO. | |
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| SHEET OF | E3 E5 |

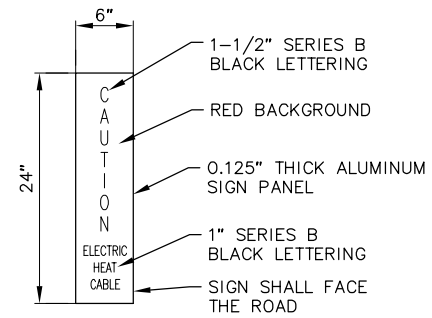
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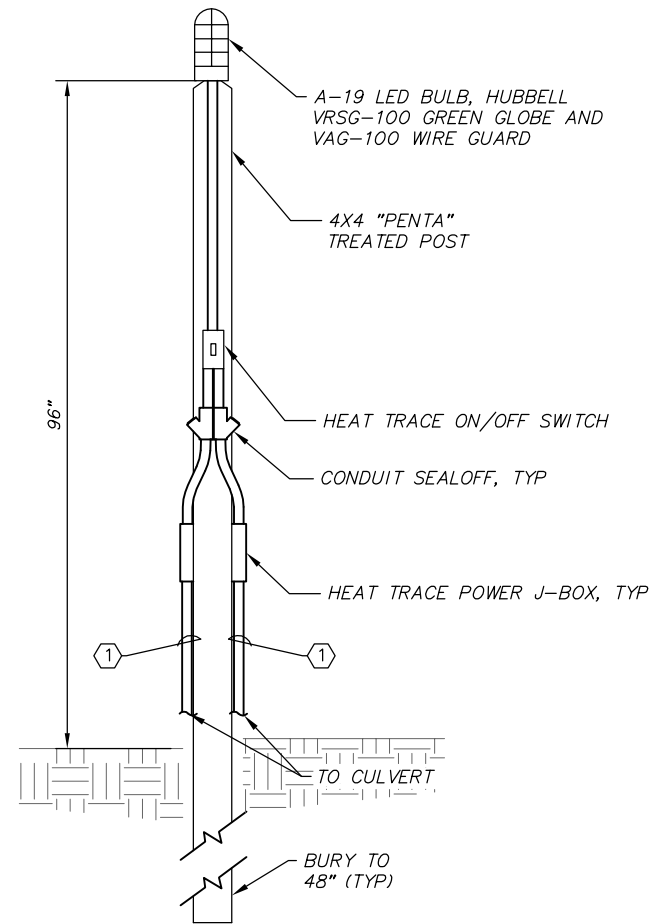
1 HEAT TRACE MOUNTING DETAILS
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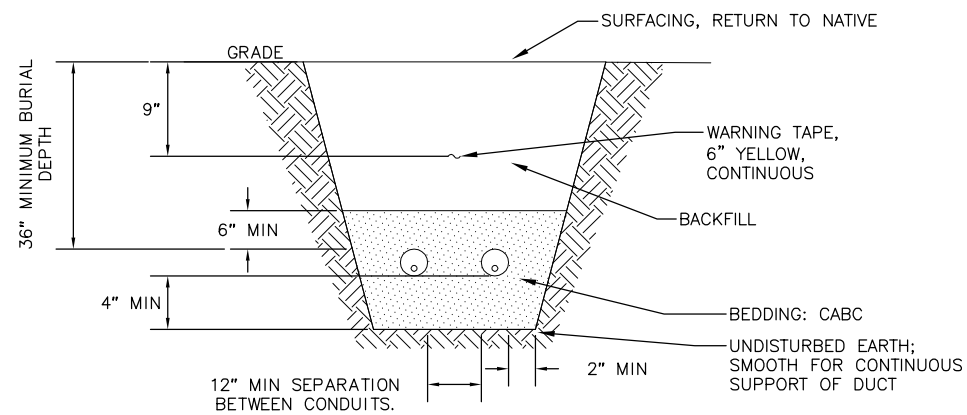
2 CONDUIT SADDLE & STRAP
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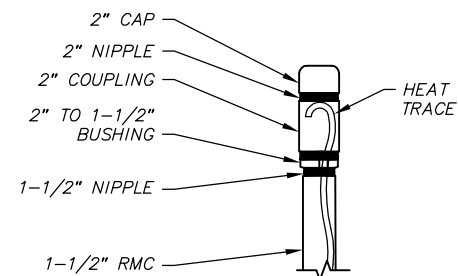
3 CAUTION SIGN
NTS



4 HEAT TAPE SWITCH DETAIL
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5 TRENCH DETAIL (TYP.)
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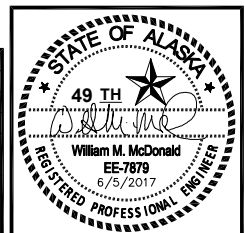


6 HEAT TAPE END KIT DETAIL
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RECORD DRAWING
REVISIONS DRAWN BY: CRM DATE: 2/2019
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| APPROVED BY | WMM |

PROJECT NO: 21103.00 DILLINGHAM LAGOON AND DOCK LIFT STATION IMPROVEMENTS
HEAT TAPE DETAILS
STATUS: FINAL DATE: JUNE 2017

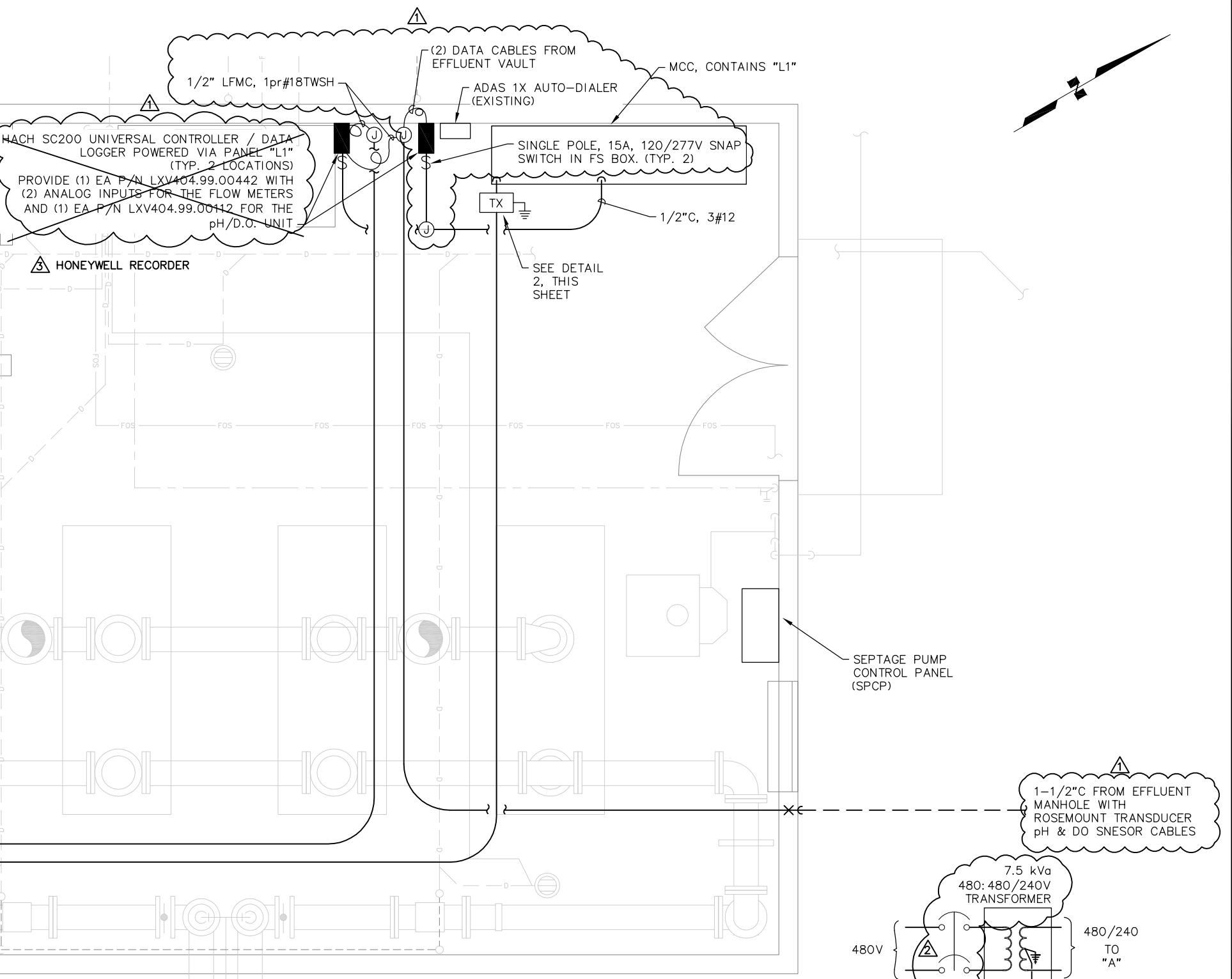


| |
|-------------|
| PROJECT NO. |
| CITY GRID |
| WATER GRID |
| SEWER GRID |
| SHEET OF |
| E4 E5 |

File: J:_jeb\data\21102.00 Dillingham City Lagoon Repairs\00 CAD\01 Working Set\03 Electrical\21102.00 - Blower Building Electrical.dwg PLOT DATE: 2/20/2019 1:19 PM

| PANEL "L1" SCHEDULE (EXISTING) | | | | | | | | | |
|--------------------------------|----------|------------------------------------|---------------------|-----------|---------|----------|-----------------------|----------|--------|
| Location: | | Part of MCC, Blower Bldg NW Corner | | 100 A MCB | | 10,000 | | AIC | |
| Served from | | 240/120V | | | | | | | |
| POLE # | AMP TRIP | LOAD DESCRIPTION | POLE Kva | MLO L1 | L2 | POLE Kva | LOAD DESCRIPTION | AMP TRIP | POLE # |
| 1 | 20/1 | General Receptacles (5x) | 0.0 | 0.0 | 0.0 | 0.0 | Exterior Lighting | 20/1 | 2 |
| 3 | 20/1 | Workbench Receptacles & Water Htr | 0.0 | 0.0 | 0.0 | 0.0 | Bathroom Lights & Fan | 20/1 | 4 |
| 5 | 20/1 | Blower Room Lighting (5x) | 0.0 | 0.0 | 0.0 | 0.0 | Exhaust Fan & Louvers | 20/1 | 6 |
| 7 | 15/1 | Fuel Transfer Pump | 0.0 | 0.0 | 0.0 | 0.0 | Unit Heater | 15/1 | 8 |
| 9 | 20/1 | Septage Pump Ctrl Panel (SPCP) | 0.0 | 0.0 | 0.0 | 0.0 | Auto Dialer | 15/1 | 10 |
| 11 | 15/1 | Flowmeters | 0.0 | 0.0 | 0.0 | 0.0 | Spare | 20/1 | 12 |
| 13 | 20/2 | WUH (Unit Heater) | 0.0 | 0.0 | 0.0 | 0.0 | | | 14 |
| 15 | | | 0.0 | 0.0 | 0.0 | 0.0 | | | 16 |
| 17 | 15/1 | Data Logger | 0.1 | 0.1 | 0.0 | 0.0 | | | 18 |
| 19 | 15/1 | HACH SC200 | 0.1 | 0.1 | 0.0 | 0.0 | | | 20 |
| | | | Total kVA = | | 0.0 kVA | | | | |
| | | | Total Amps @ 240V = | | 0.0 A | | | | |

PROVIDE 15/1 IN POLE 19



POWER, CONTROLS, AND DATA TO/FROM NEW FLOW METER
480V

RECORD DRAWING
 REVISIONS DRAWN BY: CRM DATE: 2/2019
 THIS WILL SERVE TO CERTIFY TO OUR KNOWLEDGE THAT THIS RECORD DRAWING IS A TRUE AND ACCURATE REPRESENTATION OF THE PROJECT AS CONSTRUCTED.

1 BLOWER BUILDING ELECTRICAL
NTS

2 TRANSFORMER ONE-LINE
NTS



| REVISION | | | | REVISION | | | |
|----------|---------|---------------------------------|-----|----------|------|-------------|----|
| REV | DATE | DESCRIPTION | BY | REV | DATE | DESCRIPTION | BY |
| Δ | 6/2017 | ADDENDUM 1 | JJ | | | | |
| Δ | 12/2017 | REVISED VALVE VAULT TRANSFORMER | WMM | | | | |
| Δ | 2/2019 | RECORD DRAWING | CRM | | | | |



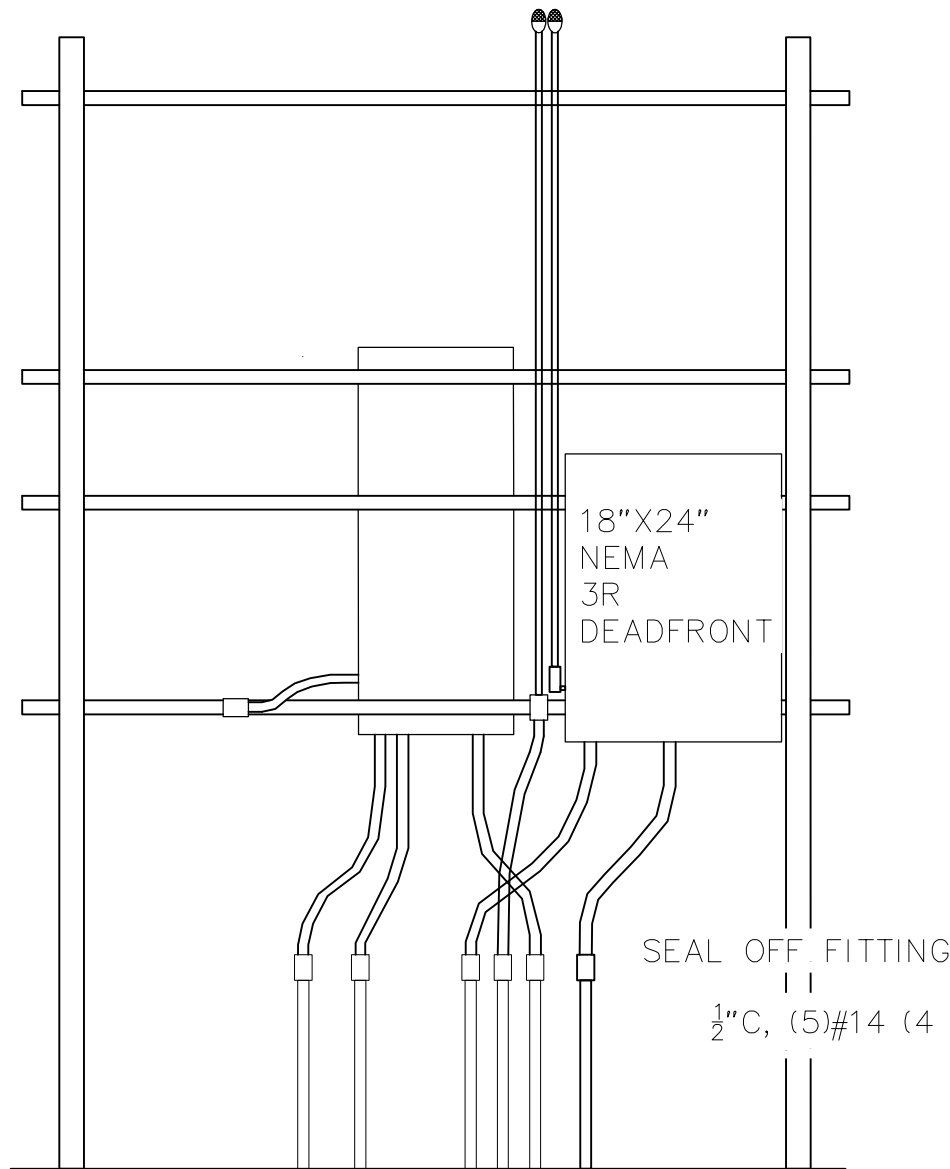
| | |
|-------------|----------------------|
| SCALE | HOR. N/A VER. N/A |
| DESIGNED BY | WMM |
| DRAWN BY | CvH |
| CHECKED BY | WMM |
| APPROVED BY | WMM |

PROJECT NO: 21103.00 DILLINGHAM LAGOON AND DOCK LIFT STATION IMPROVEMENTS
BLOWER BUILDING ELECTRICAL PLAN
 STATUS: FINAL DATE: JUNE 2017

| | |
|-------------|------------|
| PROJECT NO. | |
| CITY GRID | |
| WATER GRID | |
| SEWER GRID | |
| SHEET OF | E5R1 E5 |

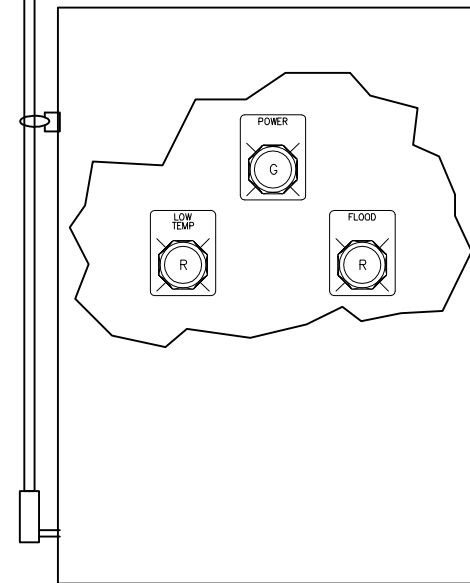
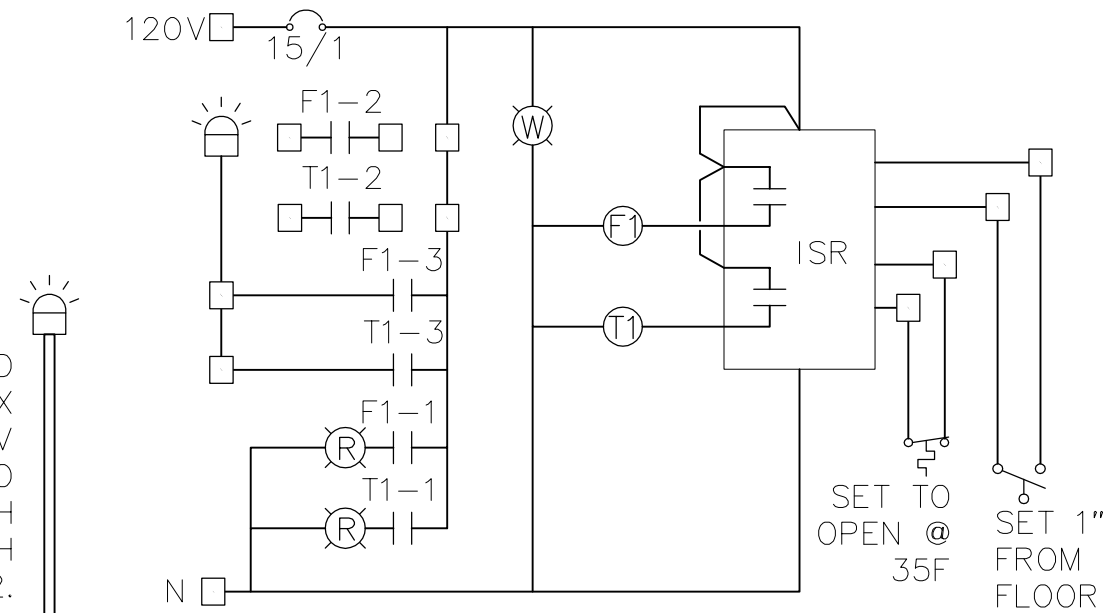
ADD FLOOD AND TEMPERATURE ALARM

- 1) PROVIDE ALARM PANEL MOUNTED AS SHOWN WITH STROBE AND RISER.
- 2) PROVIDE 1/2" C, 3#12 BETWEEN ALARM PANEL AND LOADCENTER
- 3) PROVIDE 1/2" C AND 5#14 INTRINSICALLY SAFE CONDUCTORS BETWEEN ALARM PANEL AND SENSORS IN MANHOLE.
- 4) SEE DETAIL 1 ON E3 FOR PANEL POWER AND SENSOR LOCATION. MOUNT FLOOD SENSOR TO ALARM AT 6" AND LOCATE THERMOSTAT AT 48" AND ALARM AT 35F.



1 ALARM PANEL TOPSIDE ELEVATION

STROBE RED
NEMA 4X
RATED, 120V
ON RISER TO
MATCH
EXISTING WITH
3#12.



- Pilot Light, 120V, LED, 32MM, NEMA 4X ALLEN BRADLEY 800 SERIES.
- TERMINAL BLOCK, 20A RATED, ENTROLEC.
- DIN RAIL MTD CIRCUIT BREAKER.
- 120V 3PDT, RELAY, 15A RATED CONTACT.
- THERMOSTAT, HONEYWELL FARMOSTAT.
- FLOOD SWITCH MADISON M4300.
- ISR INTRINSICALLY SAFE MODULE, 2-CHANNEL, 120V SUPPLY

2 ALARM PANEL

RECORD DRAWING

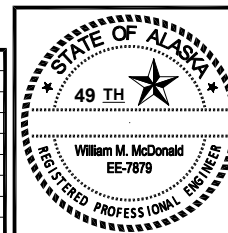
REVISIONS DRAWN BY: CRM DATE: 2/2019

THIS WILL SERVE TO CERTIFY TO OUR KNOWLEDGE THAT THIS RECORD DRAWING IS A TRUE AND ACCURATE REPRESENTATION OF THE PROJECT AS CONSTRUCTED.



GRAPHIC SCALE

| REVISION | | | | REVISION | | | |
|----------|------|-------------|----|----------|------|-------------|----|
| REV | DATE | DESCRIPTION | BY | REV | DATE | DESCRIPTION | BY |
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|-------------|----------------------|
| SCALE | HOR. N/A VER. N/A |
| DESIGNED BY | WMM |
| DRAWN BY | CvH |
| CHECKED BY | WMM |
| APPROVED BY | WMM |

| | |
|----------------------|--|
| PROJECT NO: 21103.00 | DILLINGHAM LAGOON AND DOCK LIFT STATION IMPROVEMENTS |
| ALARM | |
| STATUS: FINAL | DATE: JUNE 2017 |

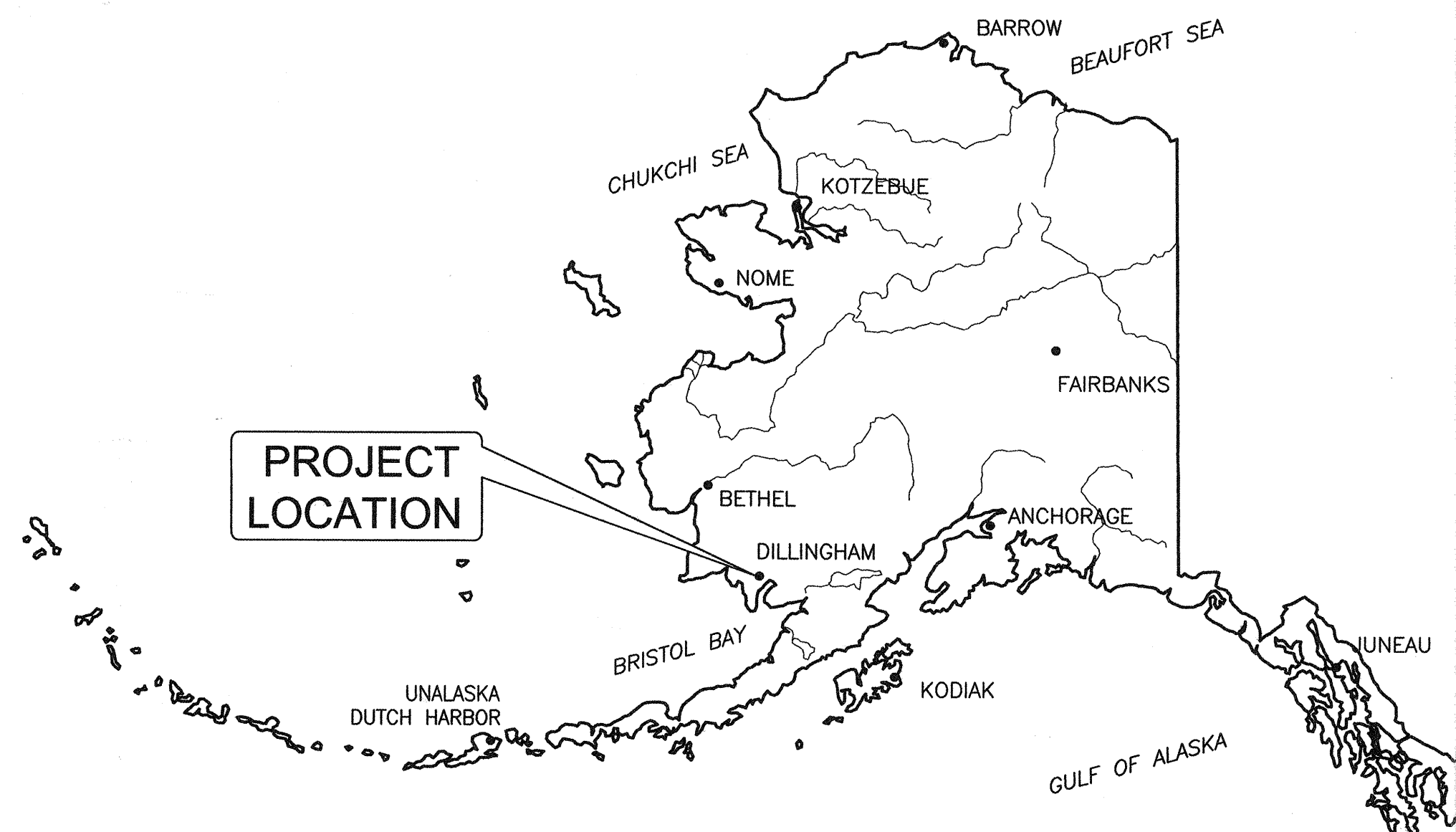
| | |
|-------------|----|
| PROJECT NO. | |
| CITY GRID | |
| WATER GRID | |
| SEWER GRID | |
| SHEET | E6 |
| OF | E5 |

CITY OF DILLINGHAM SEWER FORCE MAIN RELOCATION

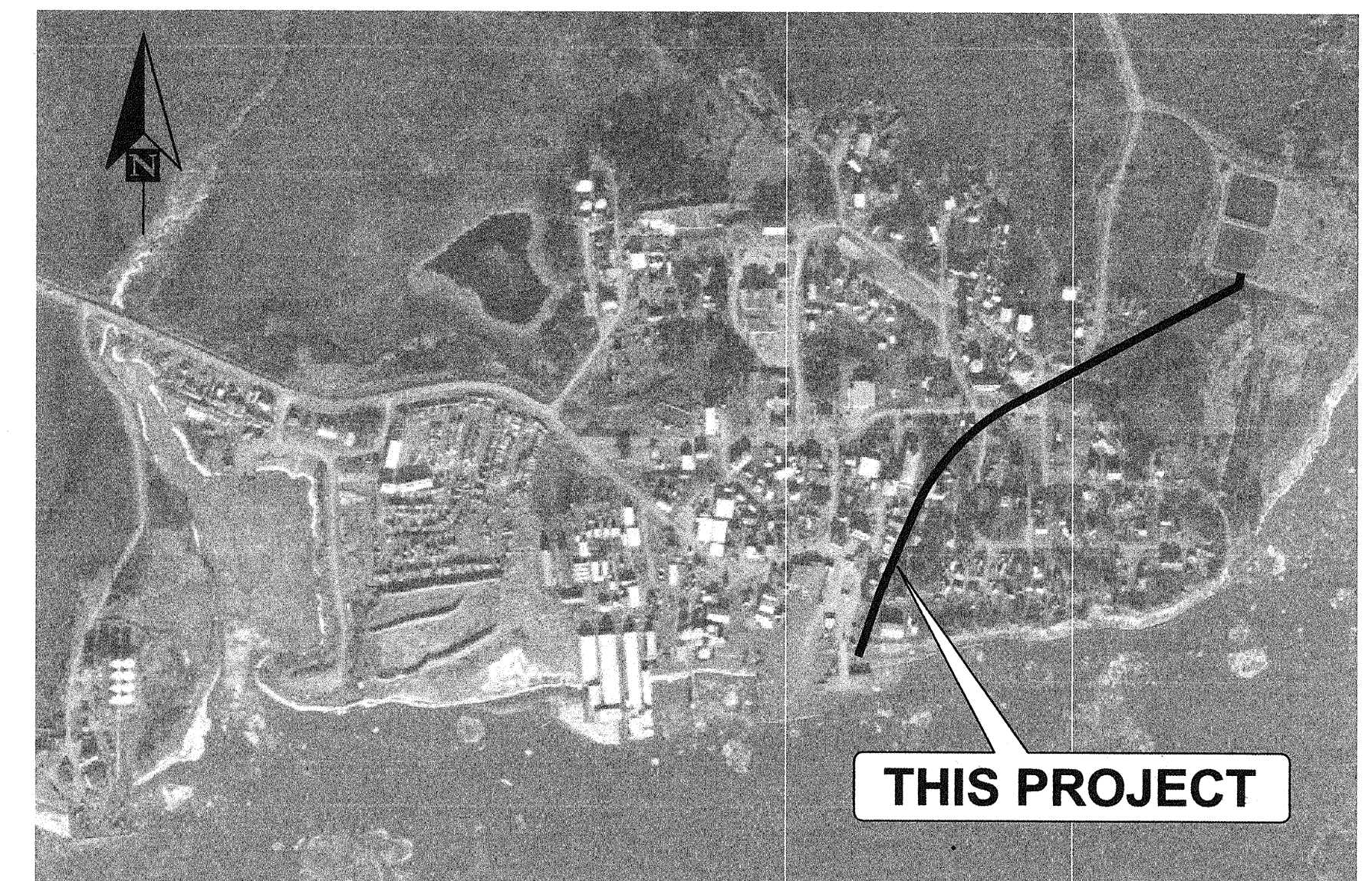
DILLINGHAM, ALASKA
JULY 2012
ISSUED FOR CONSTRUCTION

SHEET INDEX

| SHEET TITLE | SHEET NUMBER |
|--|--------------|
| COVER SHEET | 1 |
| EXISTING CONDITIONS & SURVEY CONTROL | 2 |
| OVERALL SITE PLAN | 3 |
| SEWER PLAN & PROFILE STA 10+00 TO 18+00 | 4 |
| SEWER PLAN & PROFILE STA 18+00 TO 26+00 | 5 |
| SEWER PLAN & PROFILE STA 26+00 TO 34+50 | 6 |
| SEWER PLAN & PROFILE STA 34+50 TO 37+89 | 7 |
| SEWER DETAILS (1 of 2) | 8 |
| SEWER DETAILS (2 of 2) | 9 |
| ACCESS ROAD & PAD DETAILS | 10 |
| GENERAL NOTES | 11 |
| GEOTECHNICAL BOREHOLE LOGS (BH-1) | 12 |
| GEOTECHNICAL BOREHOLE LOGS (BH-2) | 13 |
| GEOTECHNICAL BOREHOLE LOGS (BH-3) | 14 |
| GEOTECHNICAL BOREHOLE LOGS (BH-4 & BH-5) | 15 |



STATE OF ALASKA



VICINITY MAP



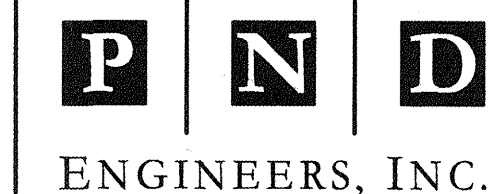
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| REV | DATE | DESCRIPTION |
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| | | |
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DATE: _____

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| | | | |
|--|-----------------------|-------------|-------|
| PROJECT: CITY OF DILLINGHAM SEWER FORCE MAIN RELOCATION | | | |
| TITLE: COVER SHEET | | | |
| DESIGNED BY: DDH | DATE: 07/19/12 | SHEET NO: 1 | OF 15 |
| CHECKED BY: DST | PROJECT NO: 111062.08 | | |



LEGEND

- xx ▲ PROJECT CONTROL POINT NO
- FND PROPERTY CORNER
- STORM DRAIN MANHOLE
- STORM DRAIN CATCH BASIN
- ⊙ SANITARY SEWER MANHOLE
- ⊖ WATER VALVE
- ⊕ WATER KEY BOX
- PHONE PEDESTAL
- BOLLARD
- ⊠ ELECTRIC TRANSFORMER
- POWER POLE
- ⊥ GUY ANCHOR
- ⊗ LIGHT POLE
- ⊕ MONITOR WELL
- ⊖ BORE HOLES
- ▣ CONCRETE
- ▤ RIP-RAP
- ▥ FUEL TANK
- ▧ BUILDING
- O.H.ELECTRIC
- U.G.ELECTRIC
- UT U.G.PHONE
- S SEWER LINE
- FM FORCE MAIN SEWER
- W WATER LINE
- X CHAIN LINK FENCE
- ==== WOOD FENCE
- ◊ — GUARDRAIL
- - - - - EDGE OF ROADWAY
- - - - - EXTENTS OF SURVEY (APPROX)

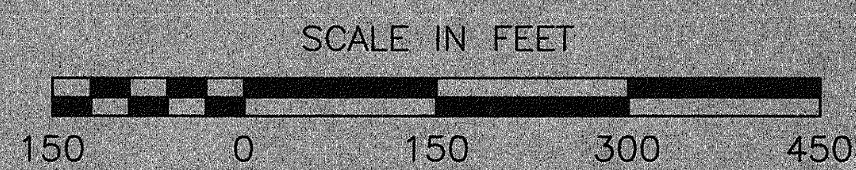
SURVEY NOTES:

1. VERTICAL DATUM IS MEAN LOWER LOW WATER (MLLW = 0.00').
2. BASIS OF VERTICAL DATUM FOR THIS SURVEY IS FROM NOAA TIDAL BENCH MARK "5374 D 2007" ELEVATION 60.25' MLLW (SEE NOTE 1), LOCATED ON THE NORTH PATIO OF THE CITY OFFICE BUILDING 4.2' NW OF FLAG POLE.
3. BASIS OF BEARING FOR THIS SURVEY IS NAD 83 ALASKA STATE PLANE COORDINATE SYSTEM ZONE 6 GRID BEARING.
4. BASIS OF COORDINATES - PROJECT COORDINATES ARE BASED ON ADOT&PF "DILL - 1", A LOCAL, GROUND BASE, U.S. SURVEY FOOT COORDINATE SYSTEM. ALL PROJECT COORDINATES ARE REFERENCED TO RECOVERED CONTROL POINT "DILLINGHAM". THE LOCAL "DILL - 1" COORDINATE VALUES FOR "DILLINGHAM" ARE N 208,962.82, E 239,478.74.
5. TRANSLATION PARAMETERS - TO CONVERT THE "DILL - 1" LOCAL U.S. SURVEY FEET COORDINATES TO NAD 83 (92) ALASKA STATE PLANE ZONE 6 U.S. SURVEY FEET COORDINATES:
 TRANSLATE BY +1,640,584.5220 N AND +1,312,468.5499 E
 SCALE RESULTANT COORDINATE VALUES BY 0.9999111843
6. UNDERGROUND UTILITY LOCATIONS SHOWN ON THIS DRAWING ARE BASED ON A COMBINATION OF AS-BUILT DRAWINGS AND PUBLIC WORKS PERSONNEL FIELD LOCATES.
7. DUE TO WINTER CONDITIONS (ICE & DEEP SNOW) THE SURVEY CREWS MAY HAVE MISSED SOME FEATURES.
8. CONTOURS ARE IN FEET, WITH TWO FOOT INTERVALS.
9. FIELD SURVEY WAS COMPLETED FEBRUARY 10, 2012.

PROJECT CONTROL

| POINT # | NORTHING | EASTING | ELEVATION | DESCRIPTION |
|---------|------------|------------|-----------|-----------------------|
| 10 | 200252.734 | 241000.993 | 44.80 | FOUND 2" ALUMINUM CAP |
| 20 | 200839.695 | 241206.405 | 70.44 | FOUND 2" ALUMINUM CAP |
| 30 | 200869.122 | 241436.108 | 83.00 | SET NAIL / SPIKE |
| 40 | 201178.037 | 241566.359 | 85.49 | SET NAIL / SPIKE |
| 50 | 201250.397 | 241841.151 | 84.88 | SET NAIL / SPIKE |
| 60 | 201474.858 | 242116.595 | 83.96 | SET NAIL / SPIKE |
| 70 | 201934.235 | 242128.536 | 70.46 | SET NAIL / SPIKE |
| 80 | 202805.871 | 242393.997 | 63.23 | FOUND 2" ALUMINUM CAP |

NOTE:
IMAGERY DATE IS OCTOBER 2005



SNAG POINT SEWER FORCE MAIN AND OUTFALL LINES SHOWN ARE APPROXIMATE AND WERE NOT LOCATED AS PART OF THIS SURVEY



CAUTION!!

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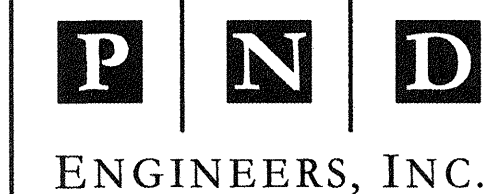
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**CITY OF DILLINGHAM
SEWER FORCE MAIN RELOCATION**

EXISTING CONDITIONS & SURVEY CONTROL

DESIGNED BY: DDH DATE: 07/19/12
 CHECKED BY: DST PROJECT NO: 111082.08

SHEET NO: **2** OF 15

| REV | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |

DATE: 07/19/12



NOTE:
ACCESS ROADS AND
DRILLING/LAYDOWN PAD TO BE
CONSTRUCTED BY OTHERS PRIOR TO
CONSTRUCTION OF THIS PROJECT



CAUTION!!

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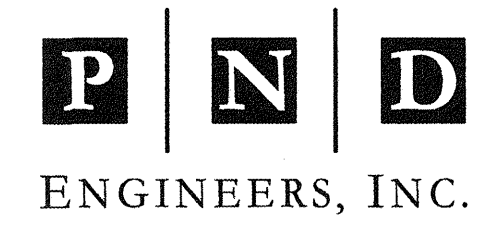
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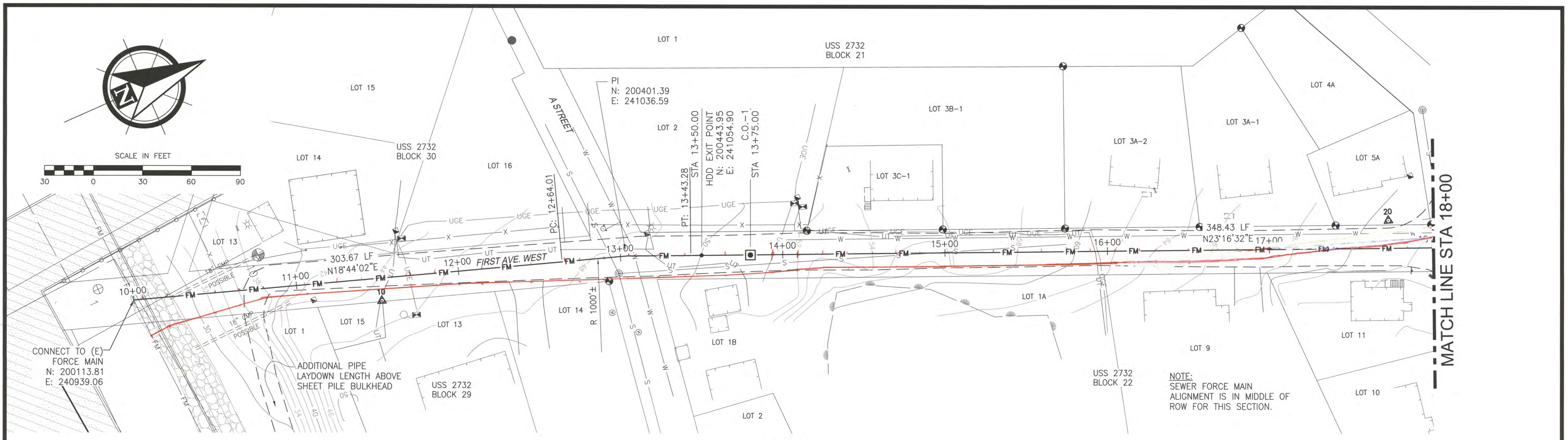


DATE: 07/19/12

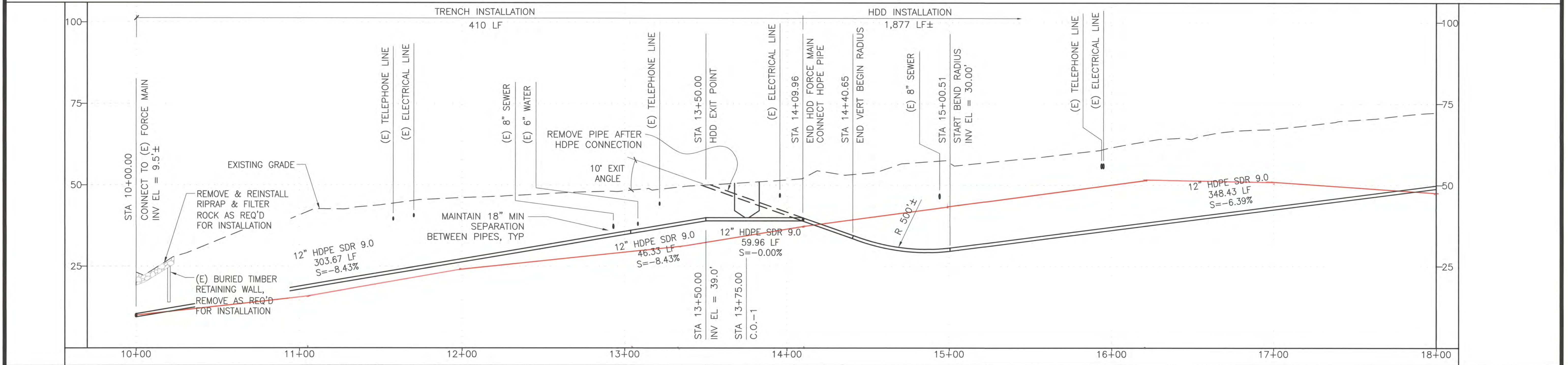
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| | | | |
|--------------|-----|---|----------------|
| PROJECT: | | CITY OF DILLINGHAM SEWER FORCE MAIN RELOCATION | |
| TITLE: | | OVERALL SITE PLAN | |
| DESIGNED BY: | DDH | DATE: | 07/19/12 |
| CHECKED BY: | DST | PROJECT NO.: | 111062.08 |
| SHEET NO.: | | | 3 OF 15 |



PLAN



PROFILE

SCALE: 2V:1H



CAUTION!!

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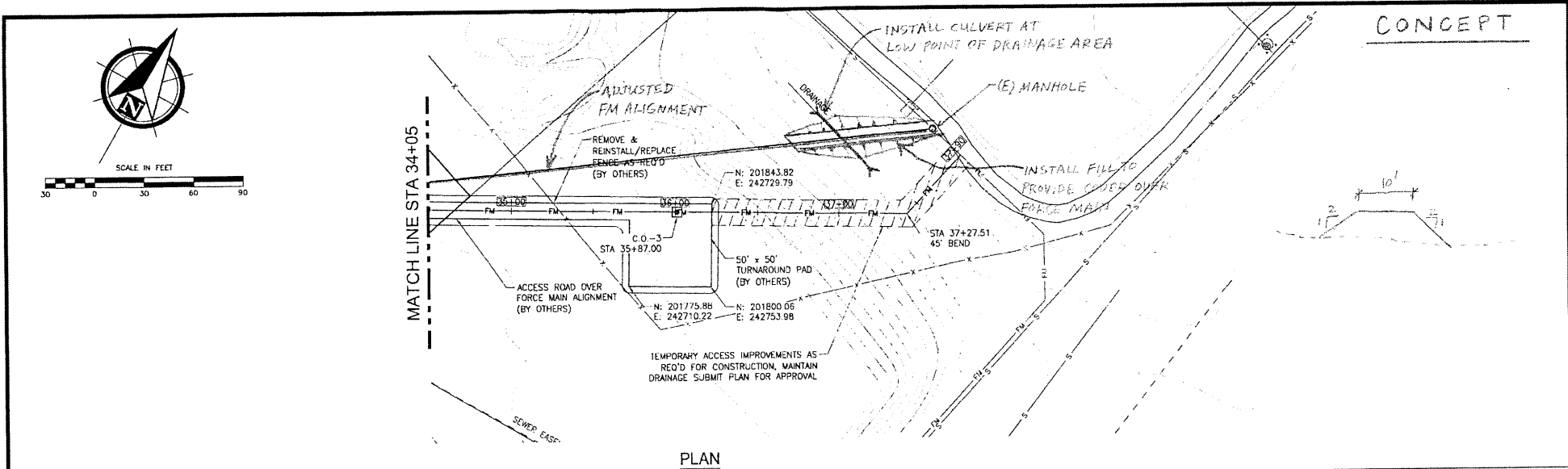
PROJECT: **CITY OF DILLINGHAM SEWER FORCE MAIN RELOCATION**

TITLE: **SEWER PLAN AND PROFILE STA 10+00 TO 18+00**

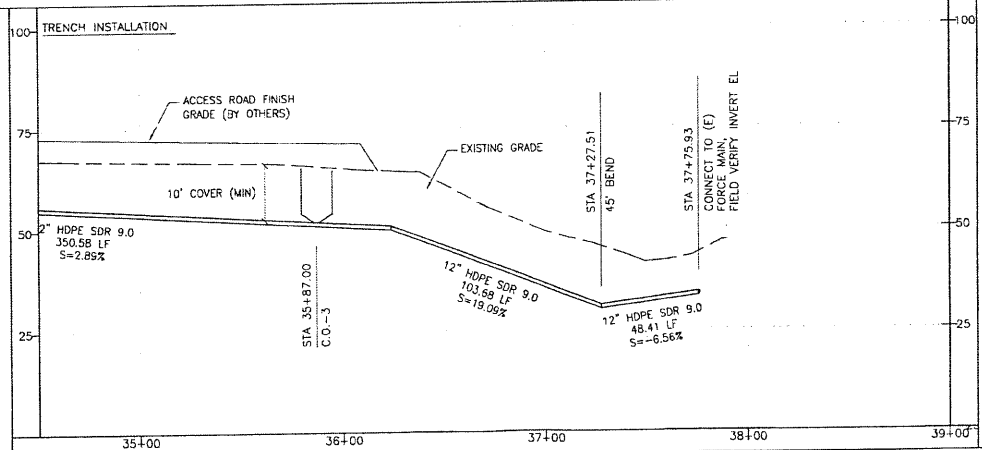
DESIGNED BY: DDH DATE: 07/19/12
 CHECKED BY: DST PROJECT NO: 111062.08

SHEET NO: **4** OF 15

J:\2011\11062 Dillingham Sewer Force Main Relocation\Drawings\Sheet P1 Sewer Force Main Relocation\A4 Dillingham\Sheet 11062_06_04-07 Sewer Plan and Profiles.dwg, 07/19/2012 4:33:38 PM, Director Horvath, PND Engineers, Inc., 12



PLAN



PROFILE
SCALE: 2V:1H



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| REV | DATE | DESCRIPTION |
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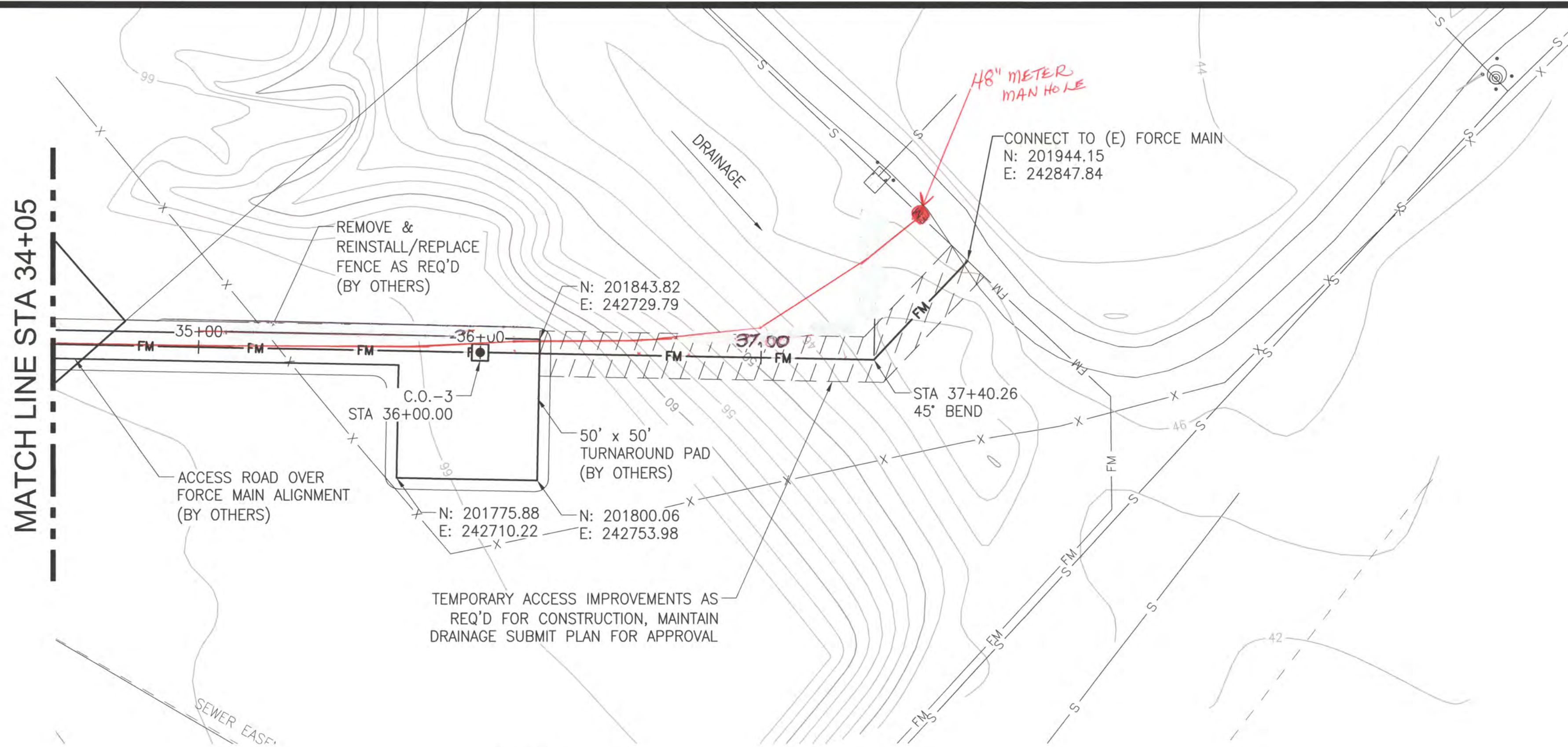
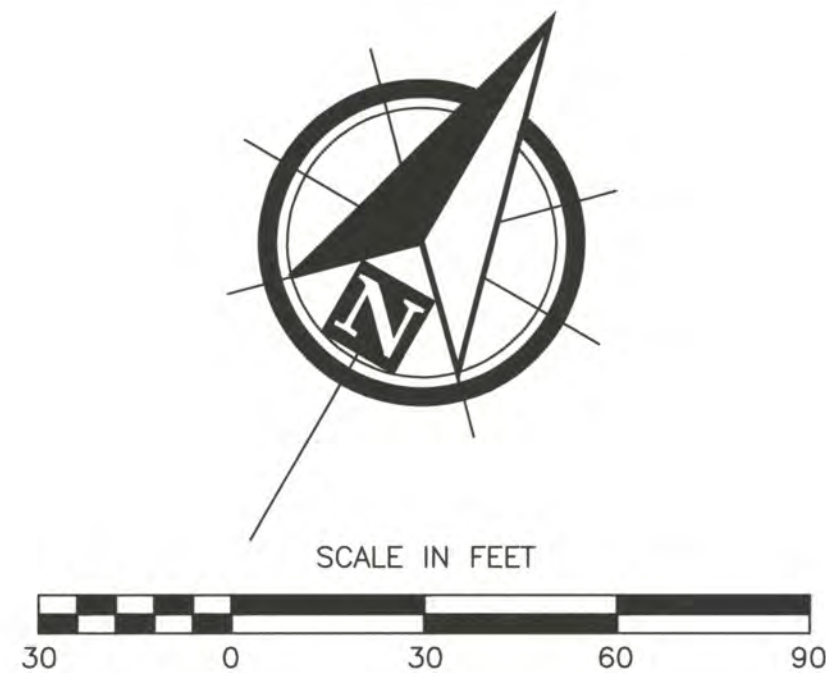
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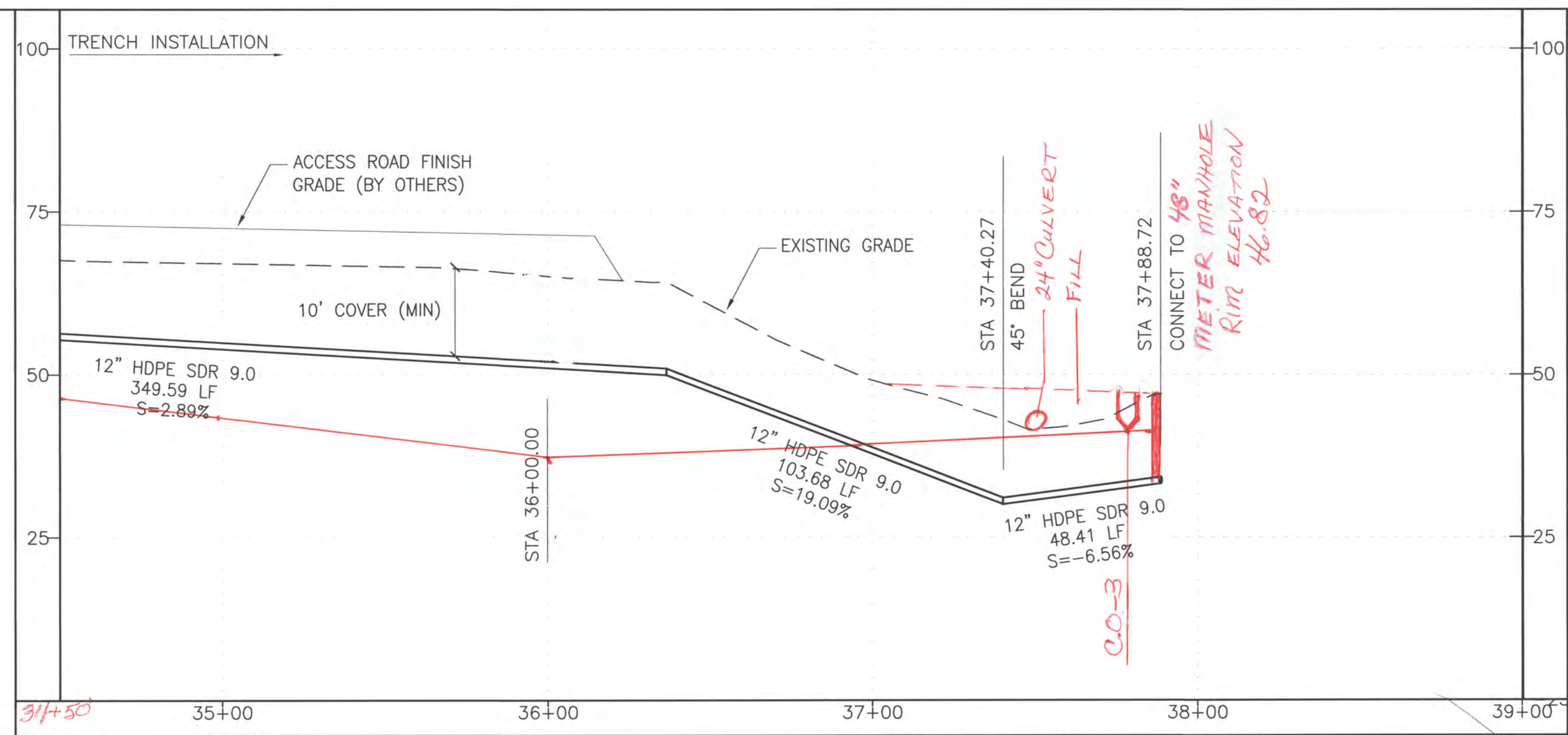
CITY OF DILLINGHAM
SEWER FORCE MAIN RELOCATION

SEWER PLAN AND PROFILE
STA 34+50 TO 37+89

| | | | | |
|--------------|-----|--------------|-----------|-----------------------------|
| DESIGNED BY: | DNH | DATE: | 07/19/12 | SHEET NO. 7 OF 15 |
| CHECKED BY: | DST | PROJECT NO.: | 111062.08 | |



PLAN



PROFILE
SCALE: 2V:1H



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DATE: 07/19/12

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PROJECT: CITY OF DILLINGHAM
 SEWER FORCE MAIN RELOCATION

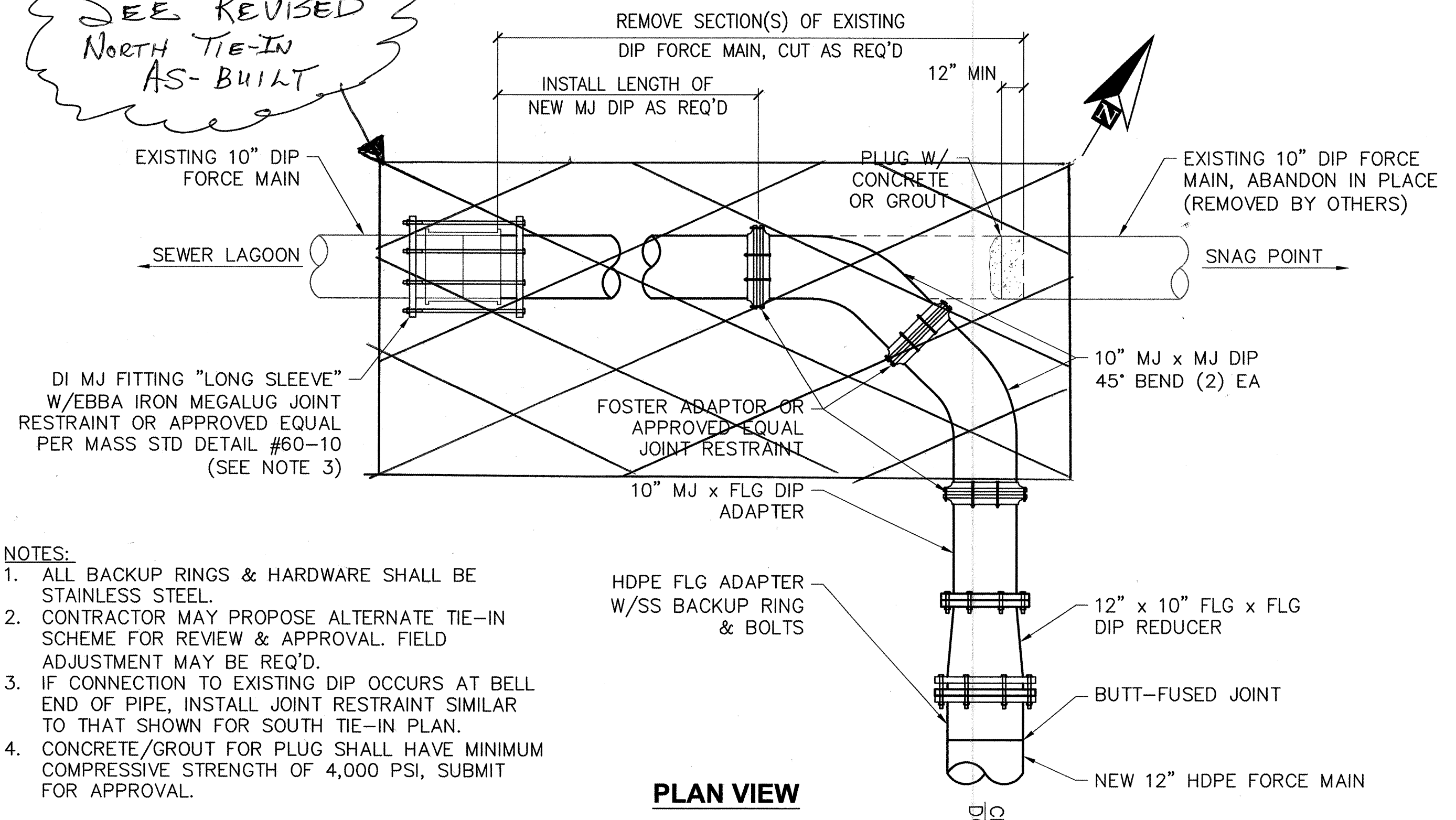
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 STA 34+50 TO 37+89

DESIGNED BY: DDH DATE: 07/19/12
 CHECKED BY: DST PROJECT NO: 111062.08

SHEET NO: 7 OF 15

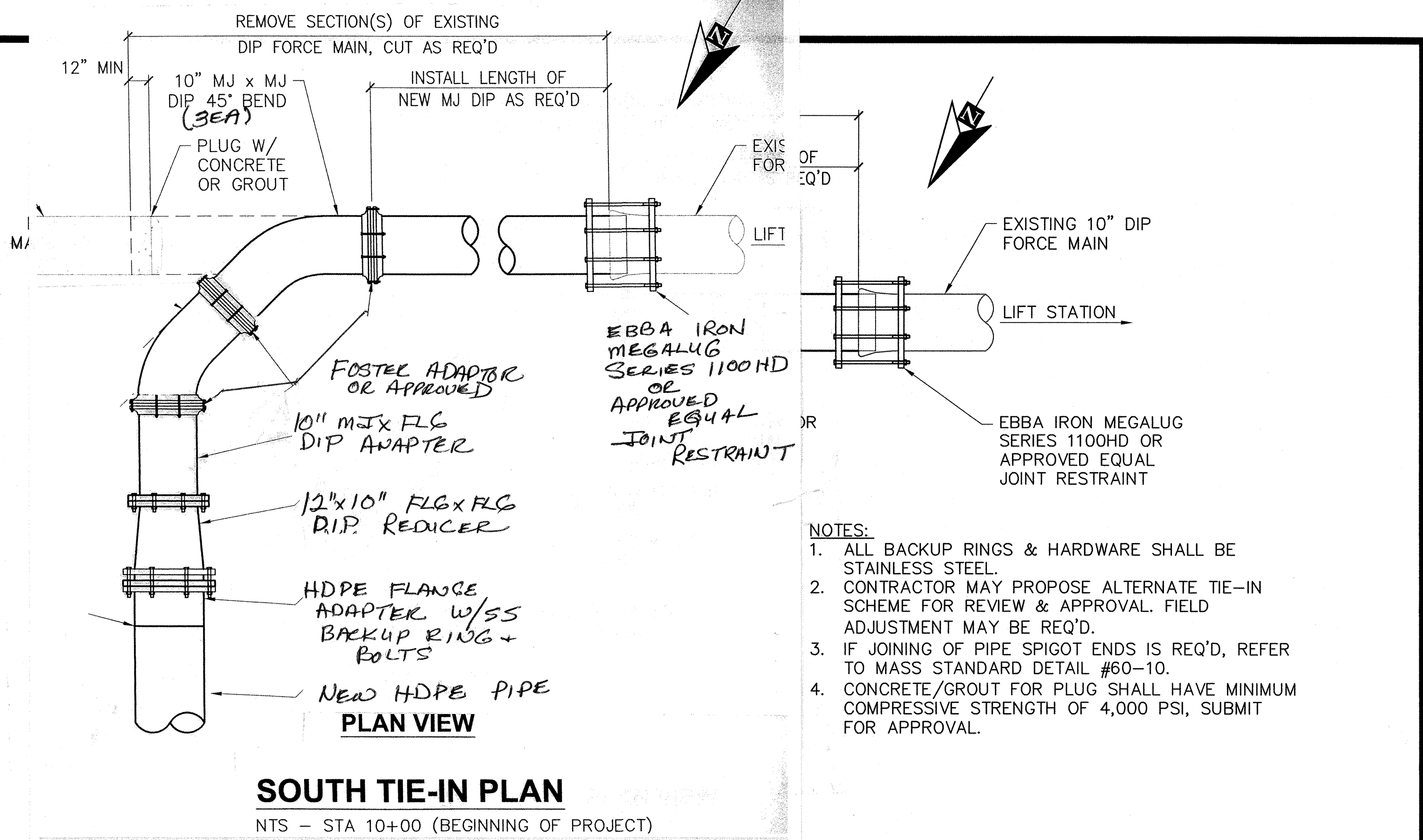
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SEE REVISED NORTH TIE-IN AS-BUILT



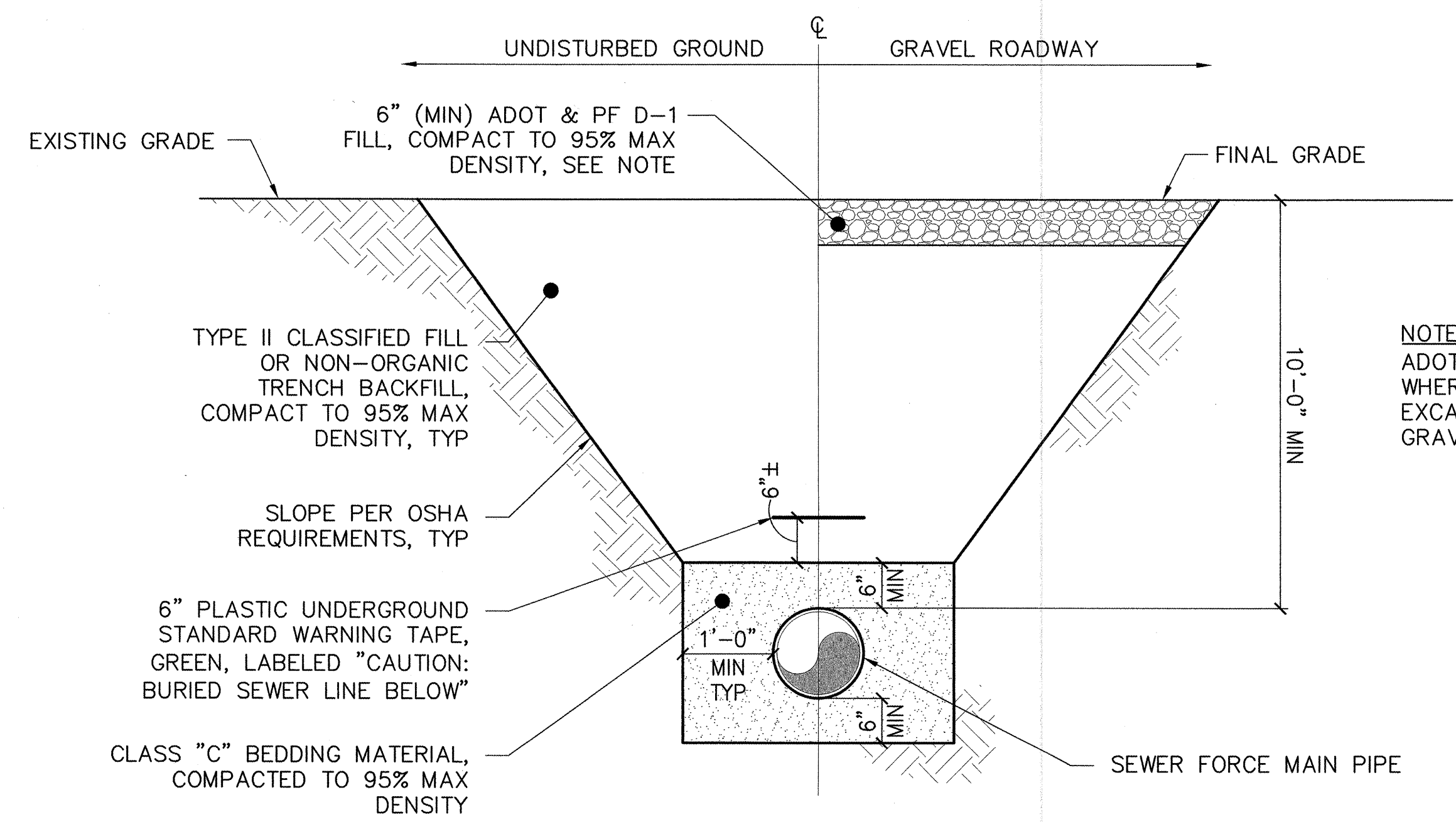
- NOTES:**
1. ALL BACKUP RINGS & HARDWARE SHALL BE STAINLESS STEEL.
 2. CONTRACTOR MAY PROPOSE ALTERNATE TIE-IN SCHEME FOR REVIEW & APPROVAL. FIELD ADJUSTMENT MAY BE REQ'D.
 3. IF CONNECTION TO EXISTING DIP OCCURS AT BELL END OF PIPE, INSTALL JOINT RESTRAINT SIMILAR TO THAT SHOWN FOR SOUTH TIE-IN PLAN.
 4. CONCRETE/GROUT FOR PLUG SHALL HAVE MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI, SUBMIT FOR APPROVAL.

PLAN VIEW
NORTH TIE-IN PLAN
NTS - STA 37+89 (END OF PROJECT)

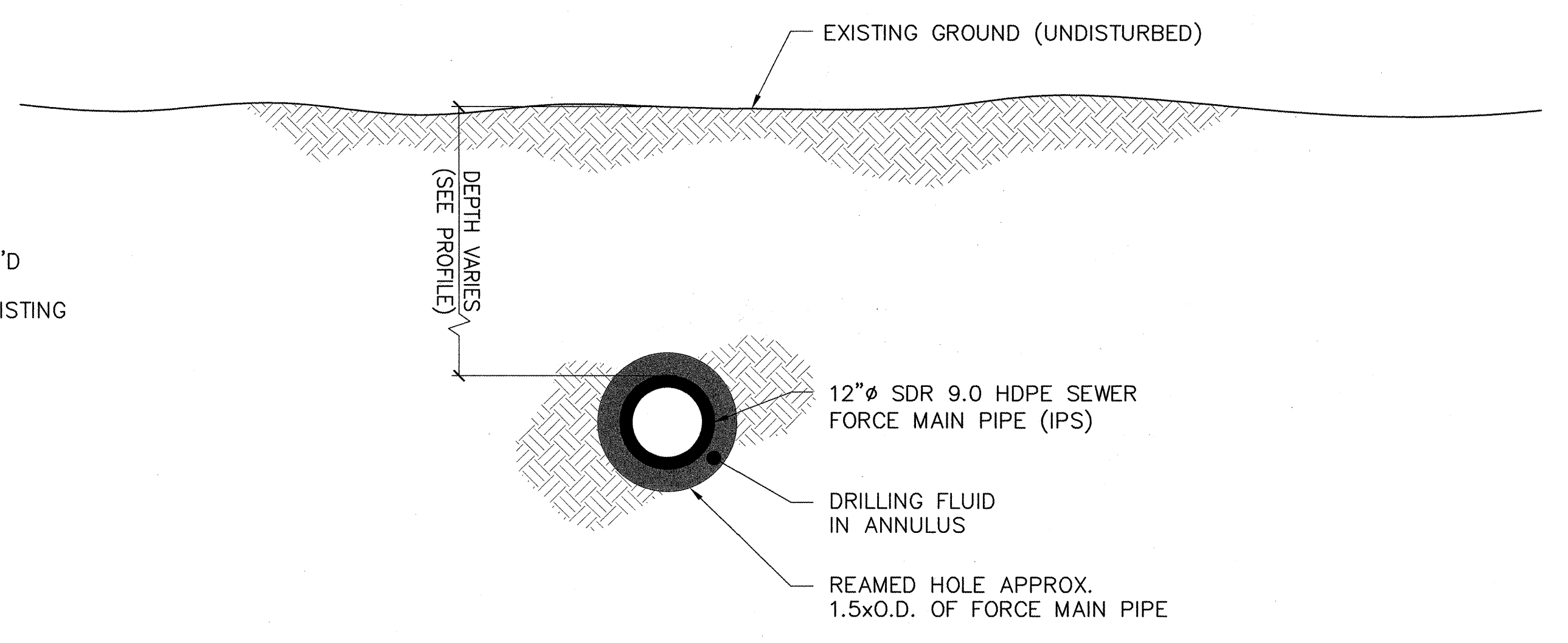


- NOTES:**
1. ALL BACKUP RINGS & HARDWARE SHALL BE STAINLESS STEEL.
 2. CONTRACTOR MAY PROPOSE ALTERNATE TIE-IN SCHEME FOR REVIEW & APPROVAL. FIELD ADJUSTMENT MAY BE REQ'D.
 3. IF JOINING OF PIPE SPIGOT ENDS IS REQ'D, REFER TO MASS STANDARD DETAIL #60-10.
 4. CONCRETE/GROUT FOR PLUG SHALL HAVE MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI, SUBMIT FOR APPROVAL.

SOUTH TIE-IN PLAN
NTS - STA 10+00 (BEGINNING OF PROJECT)



TYPICAL TRENCH SECTION
NTS



HDD FORCE MAIN TYPICAL SECTION
NTS



CAUTION!!

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| REV | DATE | DESCRIPTION |
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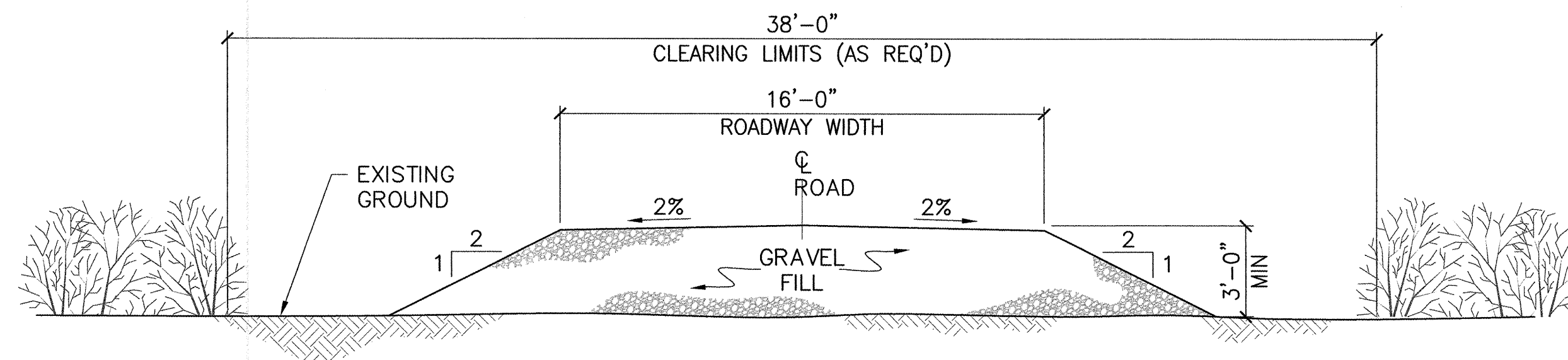
P | N | D
ENGINEERS, INC.

PROJECT: **CITY OF DILLINGHAM**
SEWER FORCE MAIN RELOCATION

TITLE: **SEWER DETAILS (1 OF 2)**

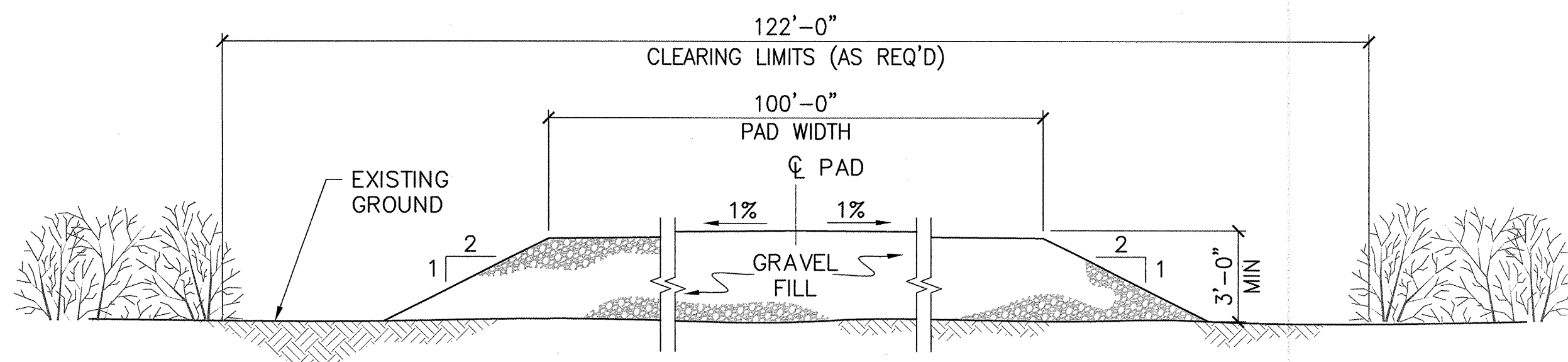
DESIGNED BY: DDH DATE: 07/19/12
 CHECKED BY: DST PROJECT NO: 111062.08

SHEET NO: **8** OF 15



ACCESS ROAD TYPICAL SECTION

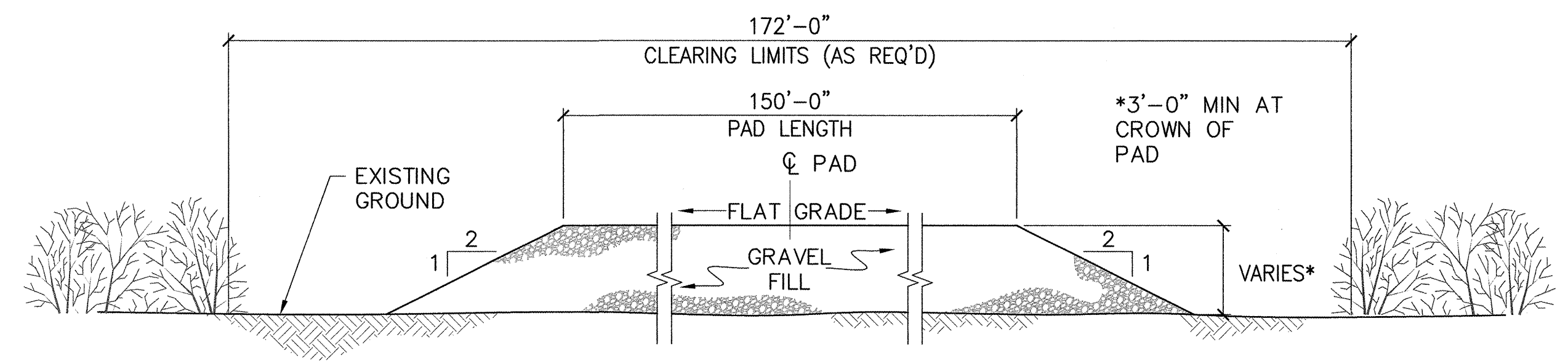
NTS



LAYDOWN AREA PAD TYPICAL SECTION (TRANSVERSE)

NTS

NOTE:
GRAVEL FILL SHALL BE AK DOT&PF SELECTED MATERIAL, TYPE A. COMPACT TO 95% PROCTOR DENSITY.



LAYDOWN AREA PAD TYPICAL SECTION (LONGITUDINAL)

NTS

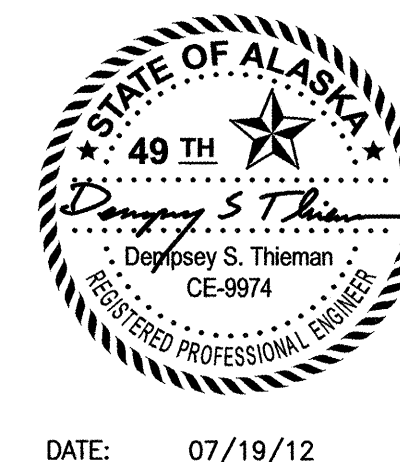
NOTE:
THIS SHEET INCLUDED FOR CONTRACTOR'S REFERENCE. ACCESS ROADS AND PAD ARE NOT PART OF CONTRACTOR'S WORK SCOPE.



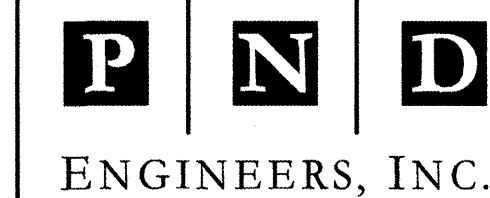
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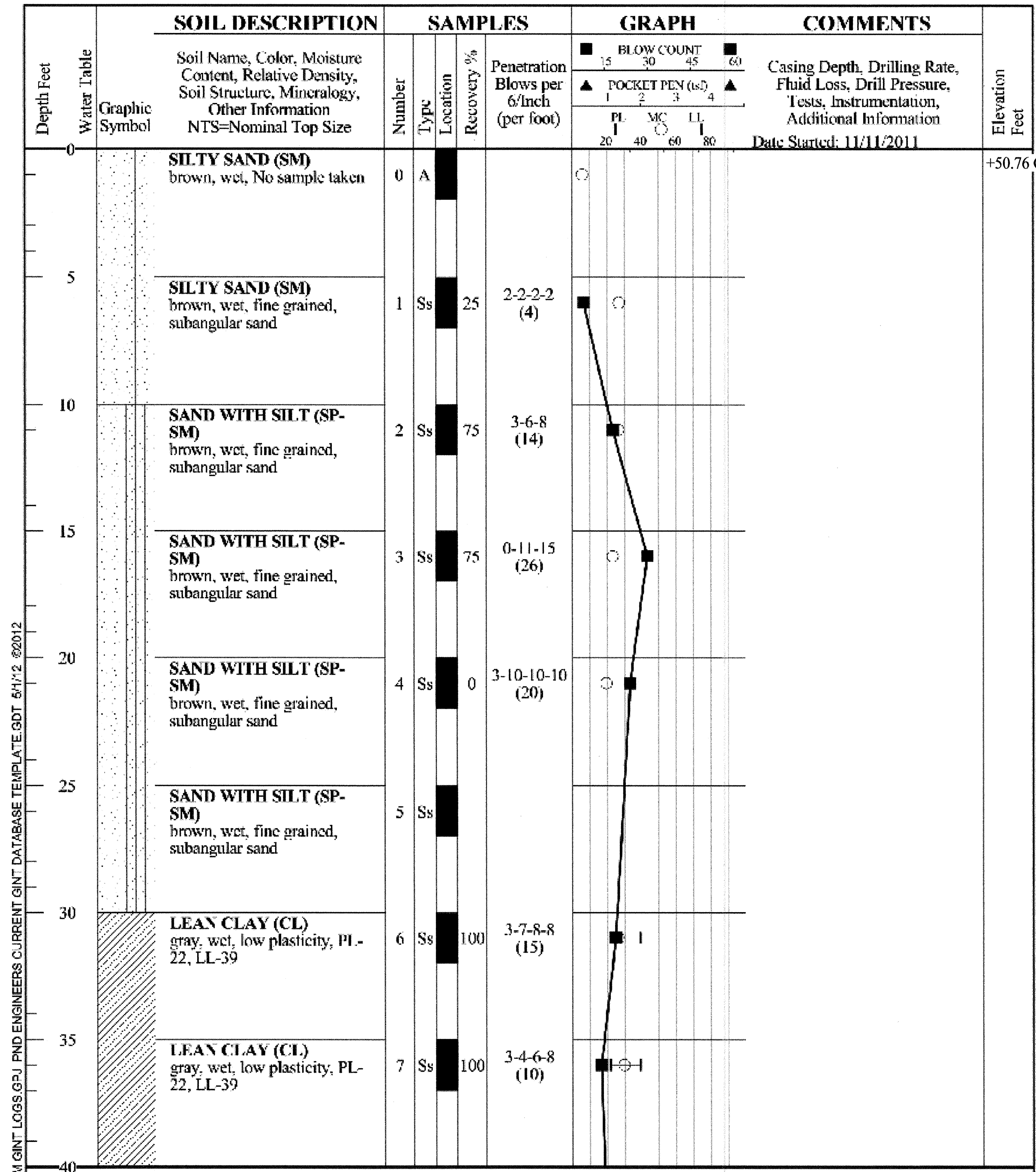
| REV | DATE | DESCRIPTION |
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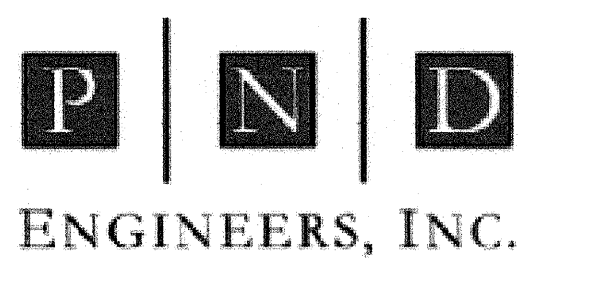
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| | |
|--|-----------------------|
| PROJECT: CITY OF DILLINGHAM SEWER FORCE MAIN RELOCATION | |
| TITLE: ACCESS ROAD & PAD DETAILS | |
| DESIGNED BY: DDH | DATE: 07/19/12 |
| CHECKED BY: DST | PROJECT NO: 111062.08 |
| SHEET NO: 10 OF 15 | |



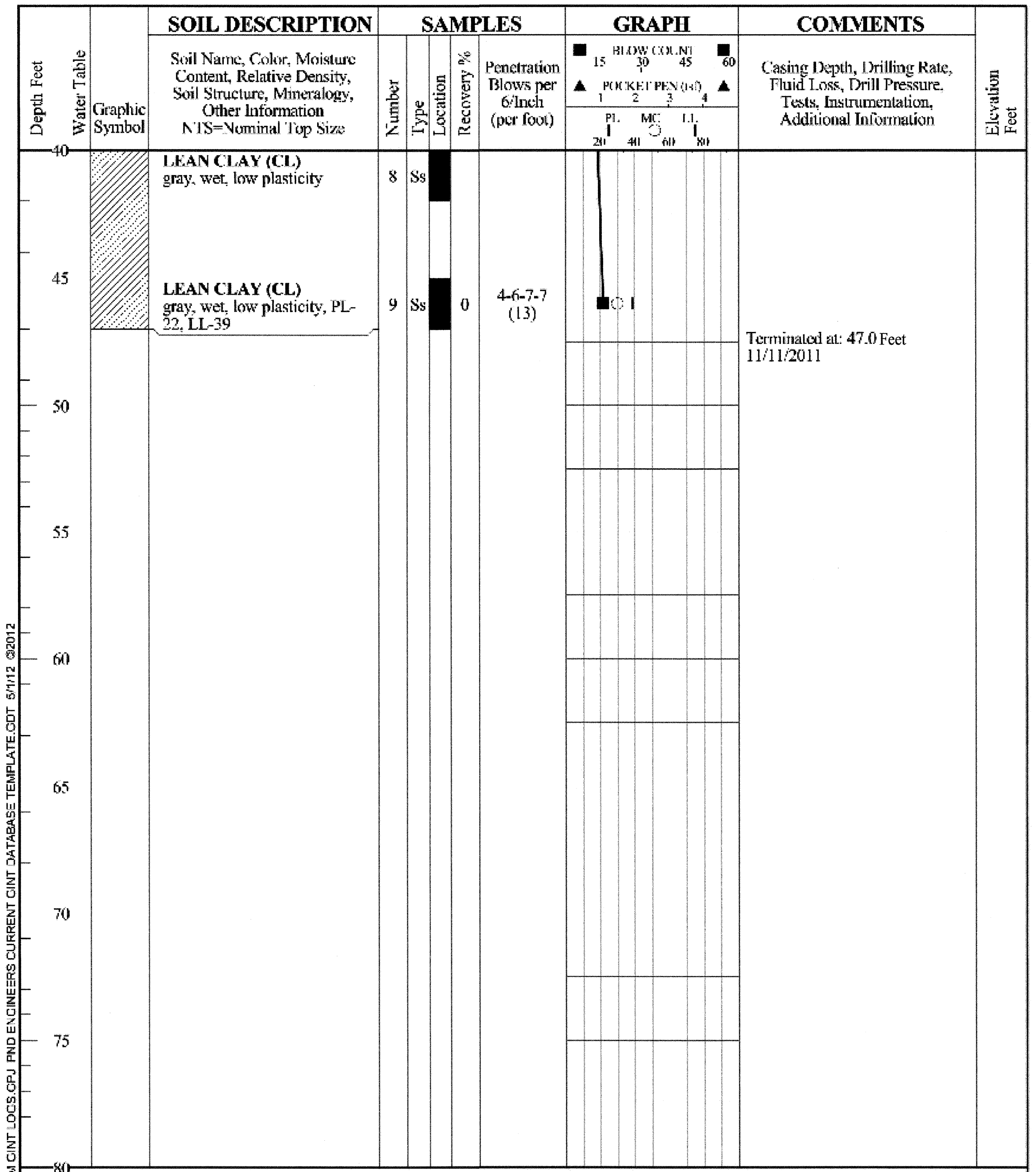
Northing: 1840897.83 Easting: 1553420.64 Method: 8" Hollow Stem Auger, SPT & Auto Hammer



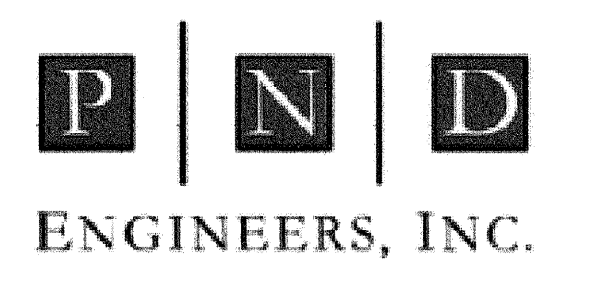
Logged By: TM
Data Entry: KMJ
Checked: TM
Project No.: 111062
Date: Nov 2011

DILLINGHAM SNAG POINT EROSION
Force Main
Anchorage, Alaska

BOREHOLE BH-1 Page 1 of 2



Northing: 1840897.83 Easting: 1553420.64 Method: 8" Hollow Stem Auger, SPT & Auto Hammer



Logged By: TM
Data Entry: KMJ
Checked: TM
Project No.: 111062
Date: Nov 2011

DILLINGHAM SNAG POINT EROSION
Force Main
Anchorage, Alaska

BOREHOLE BH-1 Page 2 of 2



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| | | |

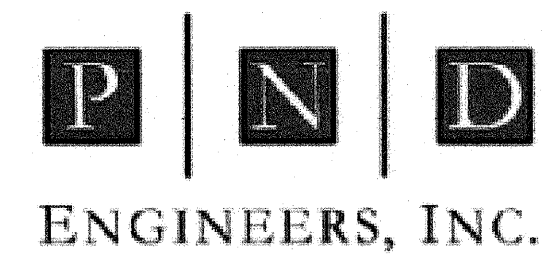
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Phone: 907.561.1011
Fax: 907.563.4220
www.pndengineers.com



PROJECT: CITY OF DILLINGHAM
SEWER FORCE MAIN RELOCATION
TITLE: GEOTECHNICAL BOREHOLES LOGS
BH-1
DESIGNED BY: DDH DATE: 07/19/12
CHECKED BY: DST PROJECT NO: 111062.08 SHEET NO: 12 OF 15

| Depth Feet | Water Table | GRAPHIC SYMBOL | SOIL DESCRIPTION Soil Name, Color, Moisture Content, Relative Density, Soil Structure, Mineralogy, Other Information NTS=Nominal Top Size | SAMPLES | | | GRAPH ■ BLOW COUNT (15, 30, 45, 60) ▲ POCKET PEN (s0) PL MC LL 20 40 60 80 | COMMENTS Casing Depth, Drilling Rate, Fluid Loss, Drill Pressure, Tests, Instrumentation, Additional Information Date Started: 11/10/2011 | Elevation Feet |
|------------|-------------|----------------|---|---------|------|----------|--|---|----------------|
| | | | | Number | Type | Location | | | |
| 0 | | | SAND WITH SILT (SP-SM) brown, moist, topsoil mixed with gravel to 2" | 0 | A | | | +82.51 Ground | |
| 5 | | | SAND WITH SILT (SP-SM) brown, moist, fine grained, subangular sand | 1 | Ss | 75 | 4-5-6 (11) | | |
| 10 | | | SAND WITH SILT (SP-SM) brown, moist, fine grained, subangular sand | 2 | Ss | 100 | 6-9-9-10 (18) | Course Fraction, R#4 = 0, P#4 - R#200 = 100, P#200 = 15 | |
| 15 | | | SILT (ML) yellow, wet, low plasticity | 3 | Ss | 100 | 7-8-8-9 (16) | water table @ 14'-15'. Rock flower & iron staining | |
| 20 | | | LEAN CLAY (CL) gray, moist, medium plasticity | 4 | Ss | 100 | 2-7-9-10 (16) | | |
| 25 | | | LEAN CLAY (CL) gray, moist, medium plasticity | 5 | Ss | 100 | 3-6-8-17 (14) | Sampler may have been over filled 27'-29' Cobbles, gravel by driller description. Iron staining | |
| 30 | | | LEAN CLAY (CL) gray, moist, low plasticity | 6 | Ss | 38 | 10-50-25 (73) | >> 31'-31.5' pushing cobble, 34'-35' soil very stiff, drilling very slow due to stiffness not gravel. Iron staining | |
| 35 | | | GRAVEL WITH SILTY CLAY (GC) brown, moist, subrounded gravel | 7 | Ss | 75 | 15-36-31-30 (67) | >> Hard gravel P3/4-R#4, indication of large gravel broken pieces with mildly plastic fines in spoon. 38'-40' cobbly by drill reaction | |

Northing: 1841282.37 Easting: 1553758.56 Method: 8" Hollow Stem Auger, SPT & Auto Hammer



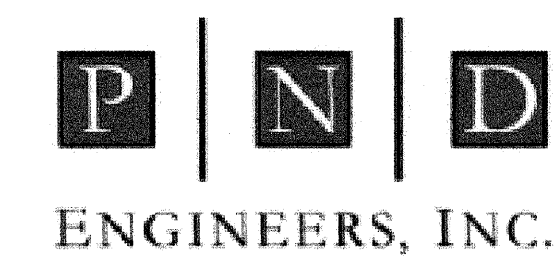
Logged By: TM
Data Entry: KMJ
Checked: TM
Project No.: 111062
Date: Nov 2011

DILLINGHAM SNAG POINT EROSION
Force Main
Anchorage, Alaska

BOREHOLE BH-2 Page 1 of 2

| Depth Feet | Water Table | GRAPHIC SYMBOL | SOIL DESCRIPTION Soil Name, Color, Moisture Content, Relative Density, Soil Structure, Mineralogy, Other Information NTS=Nominal Top Size | SAMPLES | | | GRAPH ■ BLOW COUNT (15, 30, 45, 60) ▲ POCKET PEN (s0) PL MC LL 20 40 60 80 | COMMENTS Casing Depth, Drilling Rate, Fluid Loss, Drill Pressure, Tests, Instrumentation, Additional Information | Elevation Feet |
|------------|-------------|----------------|---|---------|------|----------|--|---|----------------|
| | | | | Number | Type | Location | | | |
| 40 | | | GRAVEL WITH SILTY CLAY (GC) brown, moist, subrounded gravel, P1 in - R#4 | 8 | Ss | 88 | 10-21-20-11 (41) | Clayey gravel mixed with rock fragments. Augers hung up on edge of rock, high dry strength of fine fraction. Terminated at: 42.0 Feet 11/10/2011 | |

Northing: 1841282.37 Easting: 1553758.56 Method: 8" Hollow Stem Auger, SPT & Auto Hammer



Logged By: TM
Data Entry: KMJ
Checked: TM
Project No.: 111062
Date: Nov 2011

DILLINGHAM SNAG POINT EROSION
Force Main
Anchorage, Alaska

BOREHOLE BH-2 Page 2 of 2

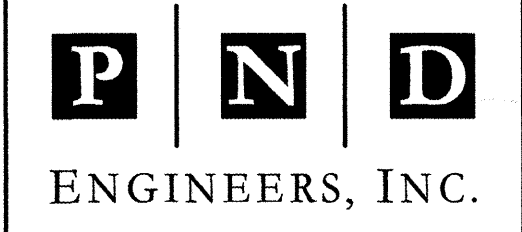


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NOTE: CONTACT THE CITY OF DILLINGHAM PRIOR TO ANY EXCAVATING

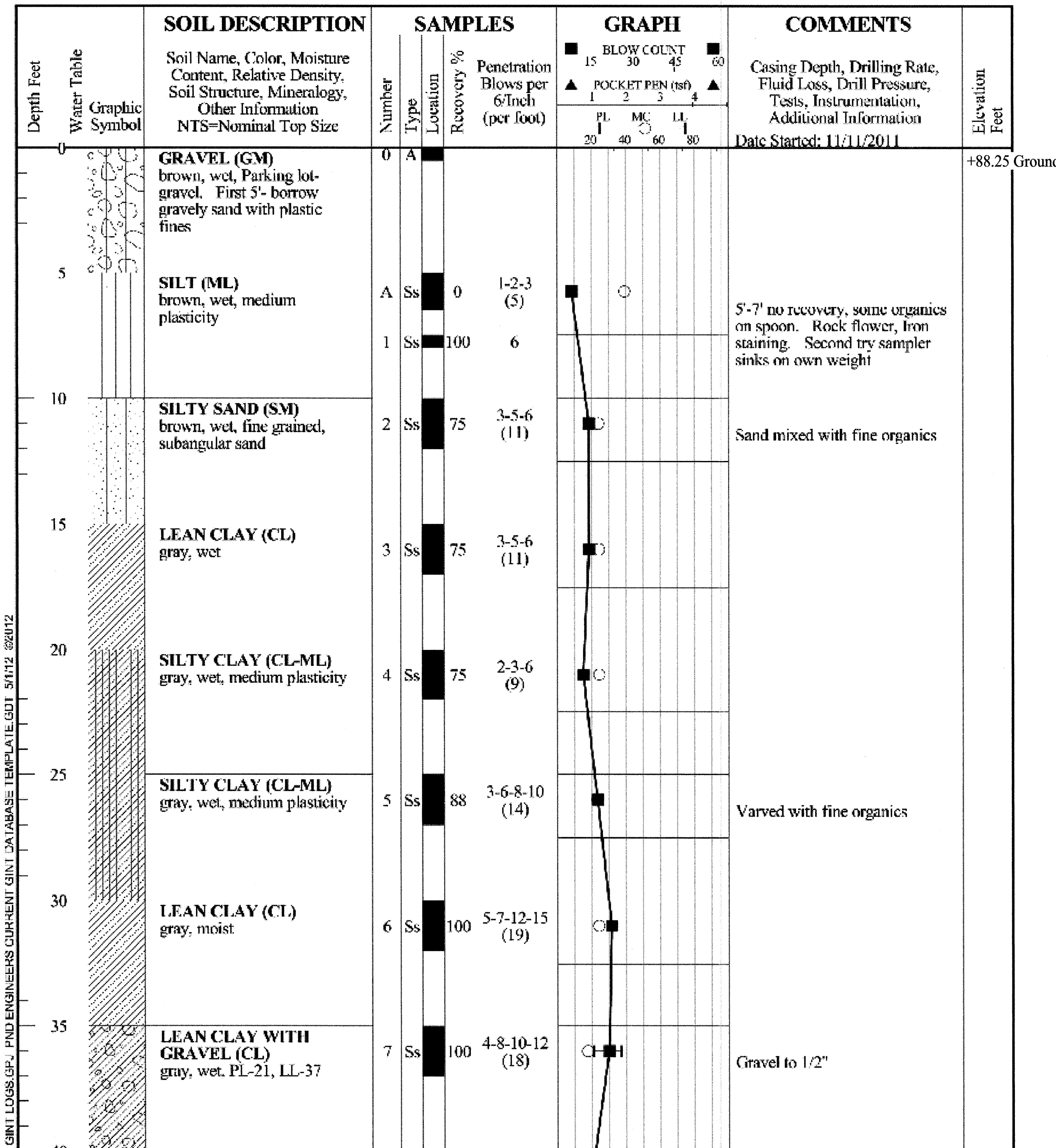
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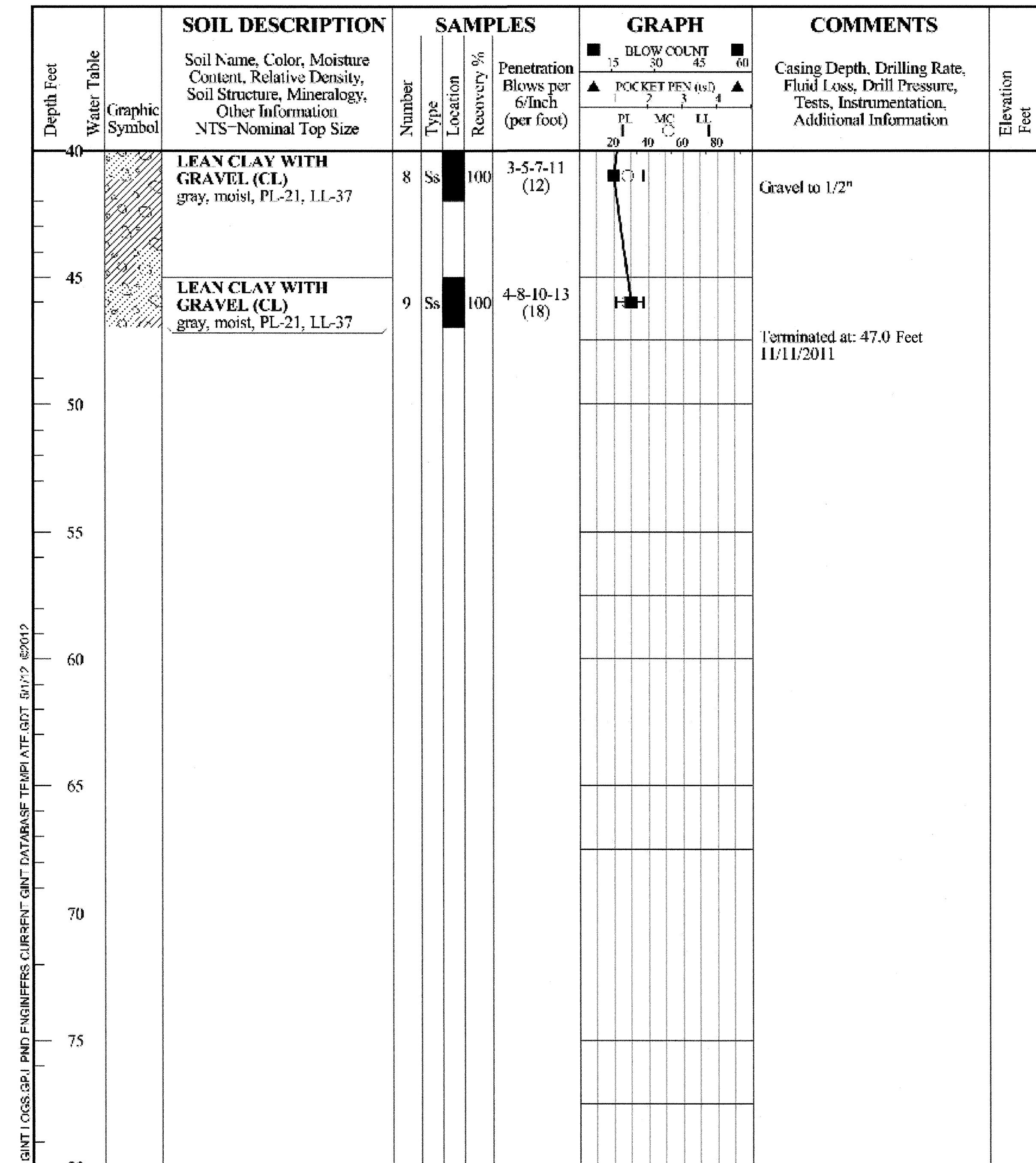
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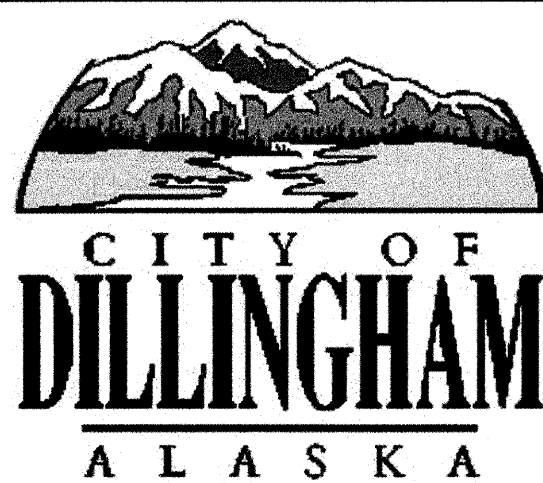
PROJECT: CITY OF DILLINGHAM
SEWER FORCE MAIN RELOCATION
TITLE: GEOTECHNICAL BOREHOLES LOGS
BH-2
DESIGNED BY: DDH DATE: 07/19/12
CHECKED BY: DST PROJECT NO: 111062.08 SHEET NO: 13 OF 15



Northing: 1841510.48 Easting: 1554315.9 Method: 8" Hollow Stem Auger, SPT & Auto Hammer
P | N | D
 ENGINEERS, INC.
 Logged By: TM
 Data Entry: KMJ
 Checked: TM
 Project No.: 111062
 Date: Nov 2011
DILLINGHAM SNAG POINT EROSION
Force Main
Anchorage, Alaska
BOREHOLE BH-3 Page 1 of 2



Northing: 1841510.48 Easting: 1554315.9 Method: 8" Hollow Stem Auger, SPT & Auto Hammer
P | N | D
 ENGINEERS, INC.
 Logged By: TM
 Data Entry: KMJ
 Checked: TM
 Project No.: 111062
 Date: Nov 2011
DILLINGHAM SNAG POINT EROSION
Force Main
Anchorage, Alaska
BOREHOLE BH-3 Page 2 of 2



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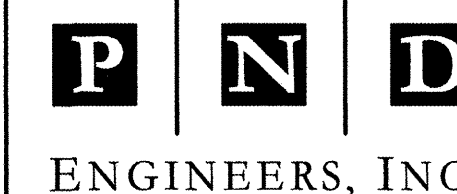
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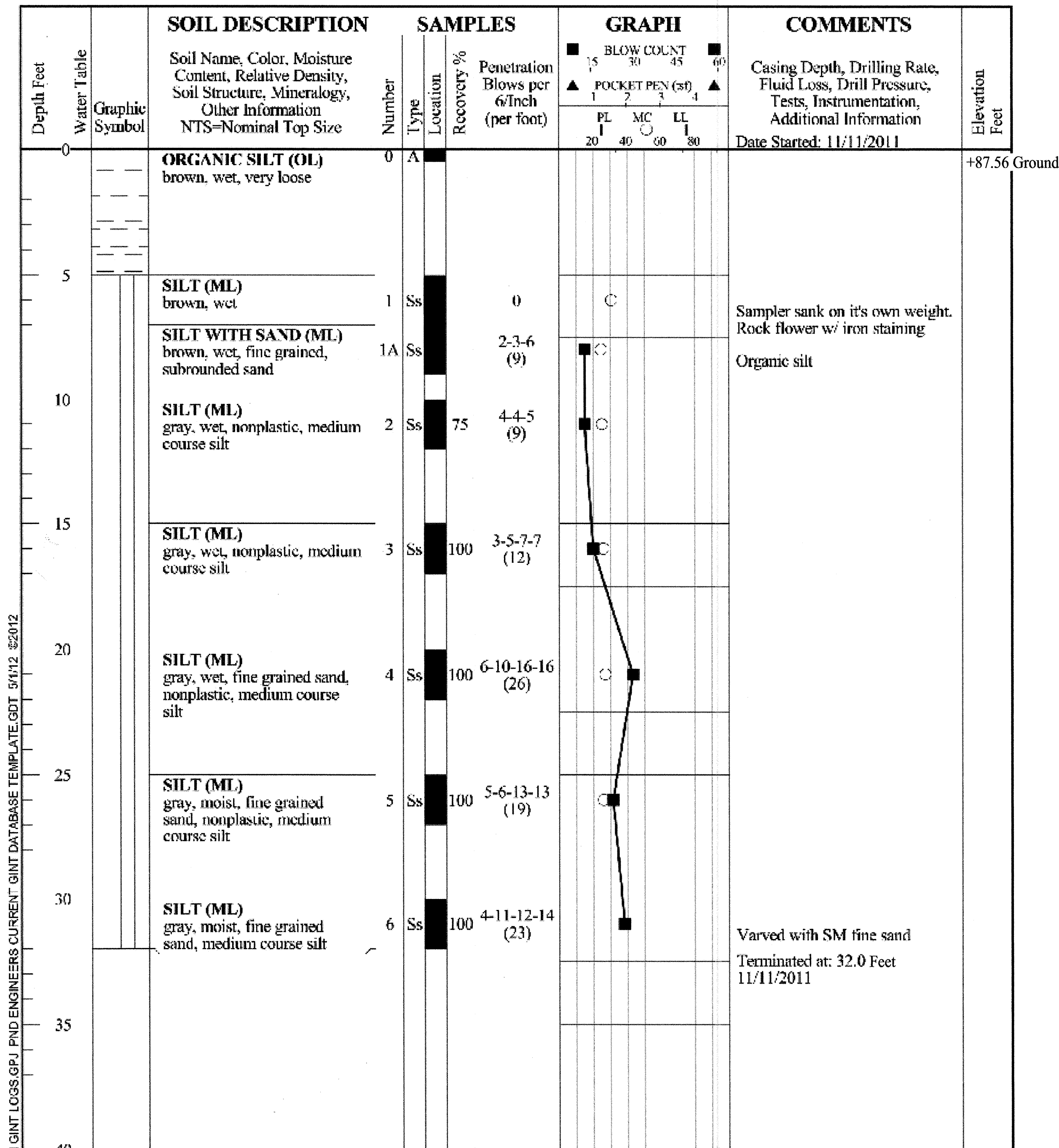
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DATE: _____

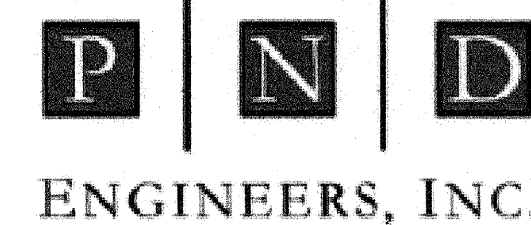
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CITY OF DILLINGHAM
SEWER FORCE MAIN RELOCATION
GEOTECHNICAL BOREHOLES LOGS
BH-3
 SHEET NO: **14** OF 15
 DESIGNED BY: DDH DATE: 07/19/12
 CHECKED BY: DST PROJECT NO: 111062.08



Northing: 1841319.93 Easting: 1554765.18 Method: 8" Hollow Stem Auger SPT & Auto Hammer

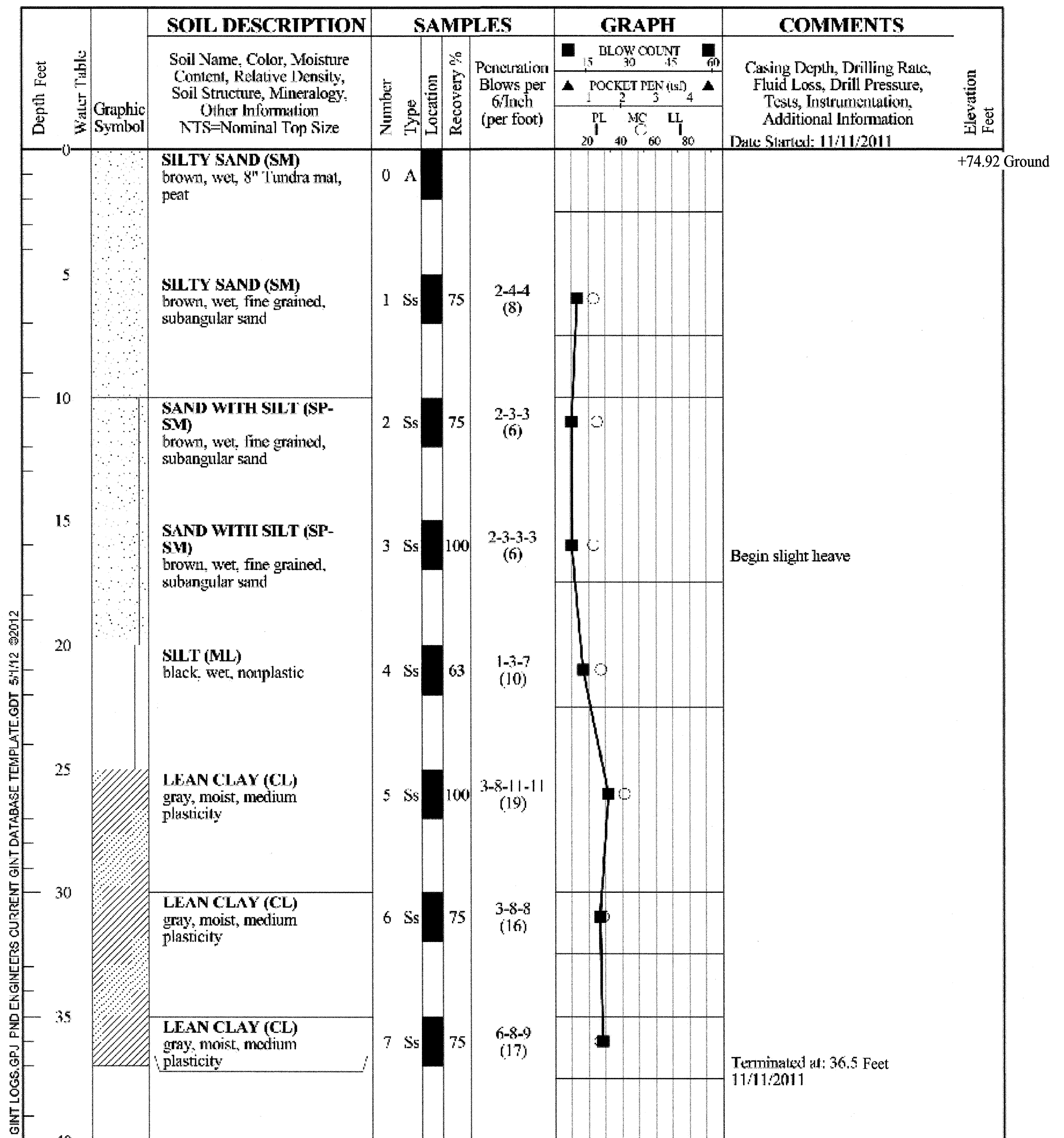


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Checked: TM
Project No.: 111062
Date: Nov 2011

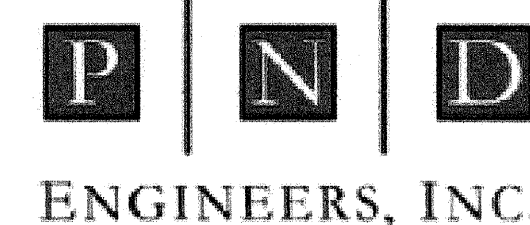
DILLINGHAM SNAG POINT EROSION
Force Main
Anchorage, Alaska

BOREHOLE BH-4

Page 1 of 1



Northing: 1841997.26 Easting: 1554975.64 Method: 8" Hollow Stem Auger, SPT & Auto Hammer



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Data Entry: KMJ
Checked: TM
Project No.: 111062
Date: Nov 2011

DILLINGHAM SNAG POINT EROSION
Force Main
Anchorage, Alaska

BOREHOLE BH-5

Page 1 of 1



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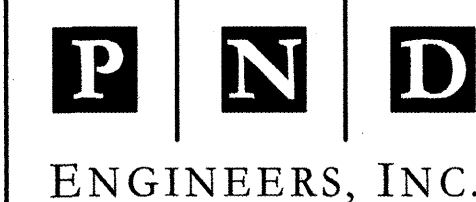
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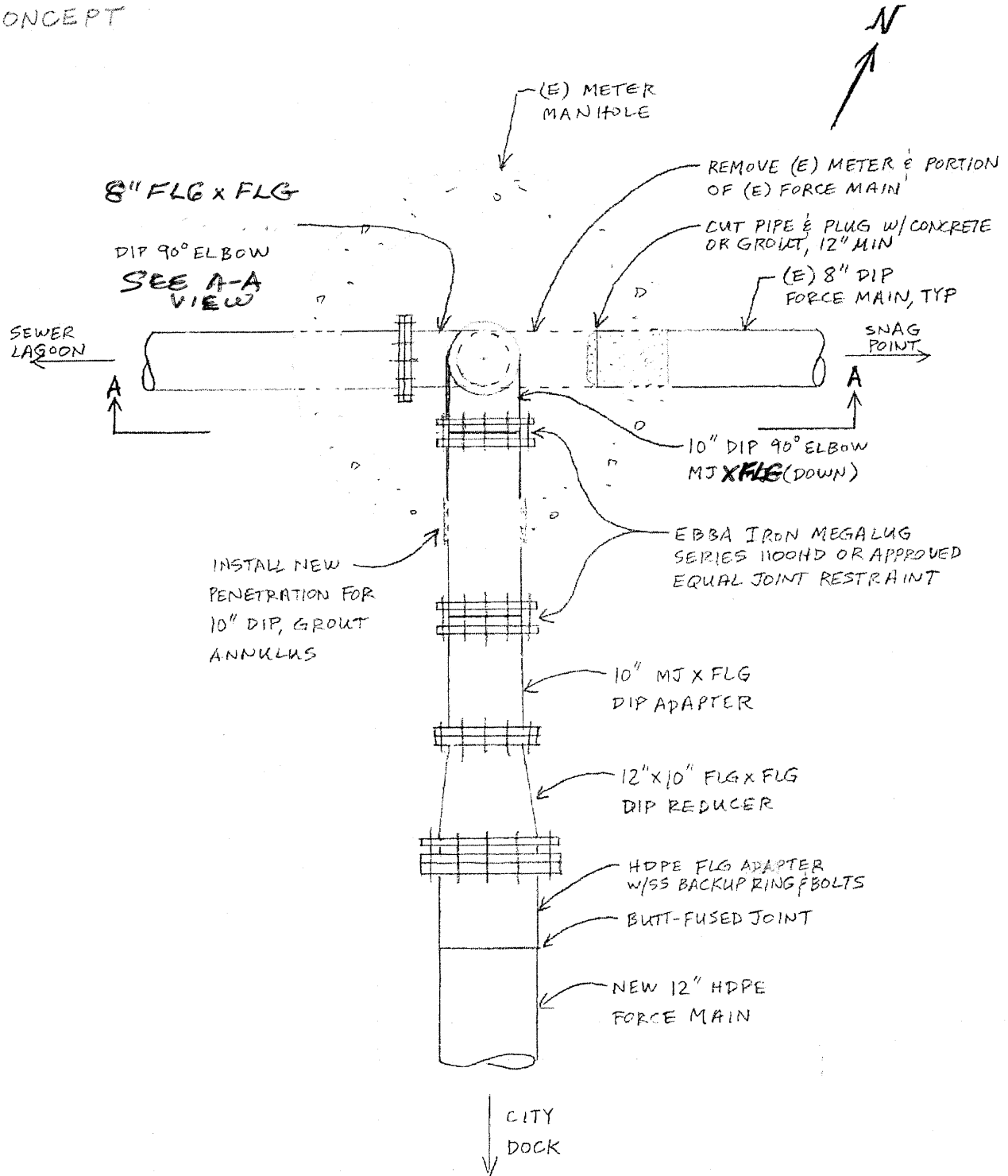
CITY OF DILLINGHAM
SEWER FORCE MAIN RELOCATION

GEOTECHNICAL BOREHOLES LOGS
BH-4 & BH-5

DESIGNED BY: DDH DATE: 07/19/12
CHECKED BY: DST PROJECT NO: 111062.08

SHEET NO: 15 OF 15

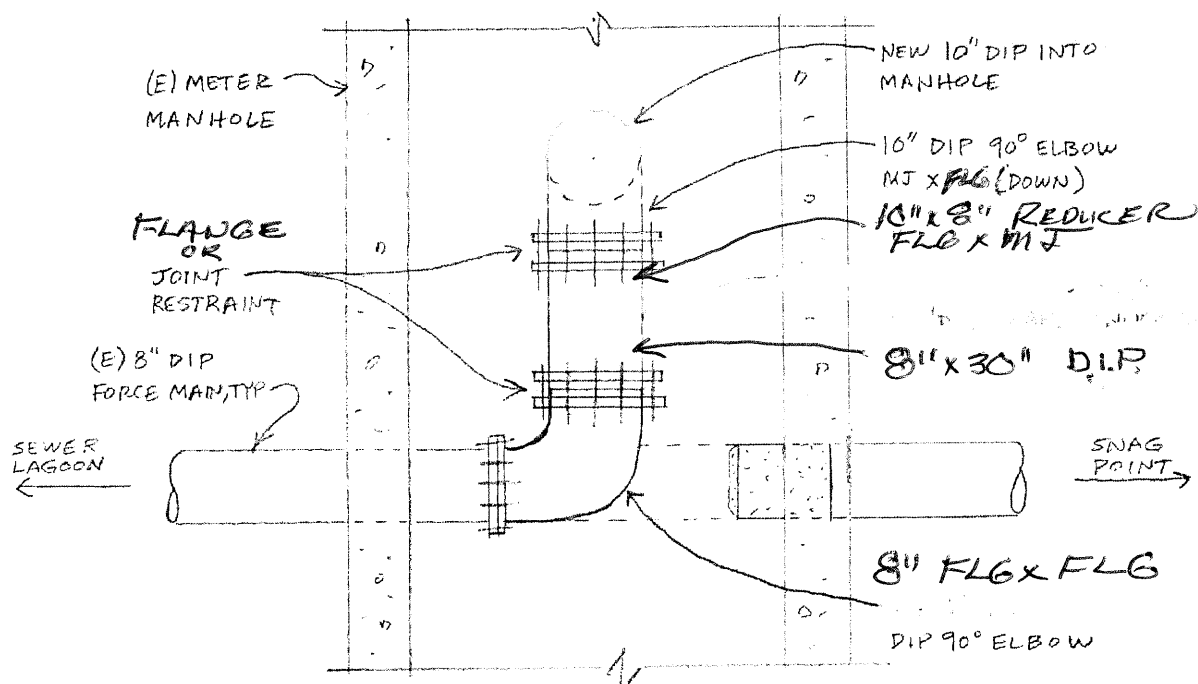
CONCEPT



REVISED
NORTH TIE-IN PLAN

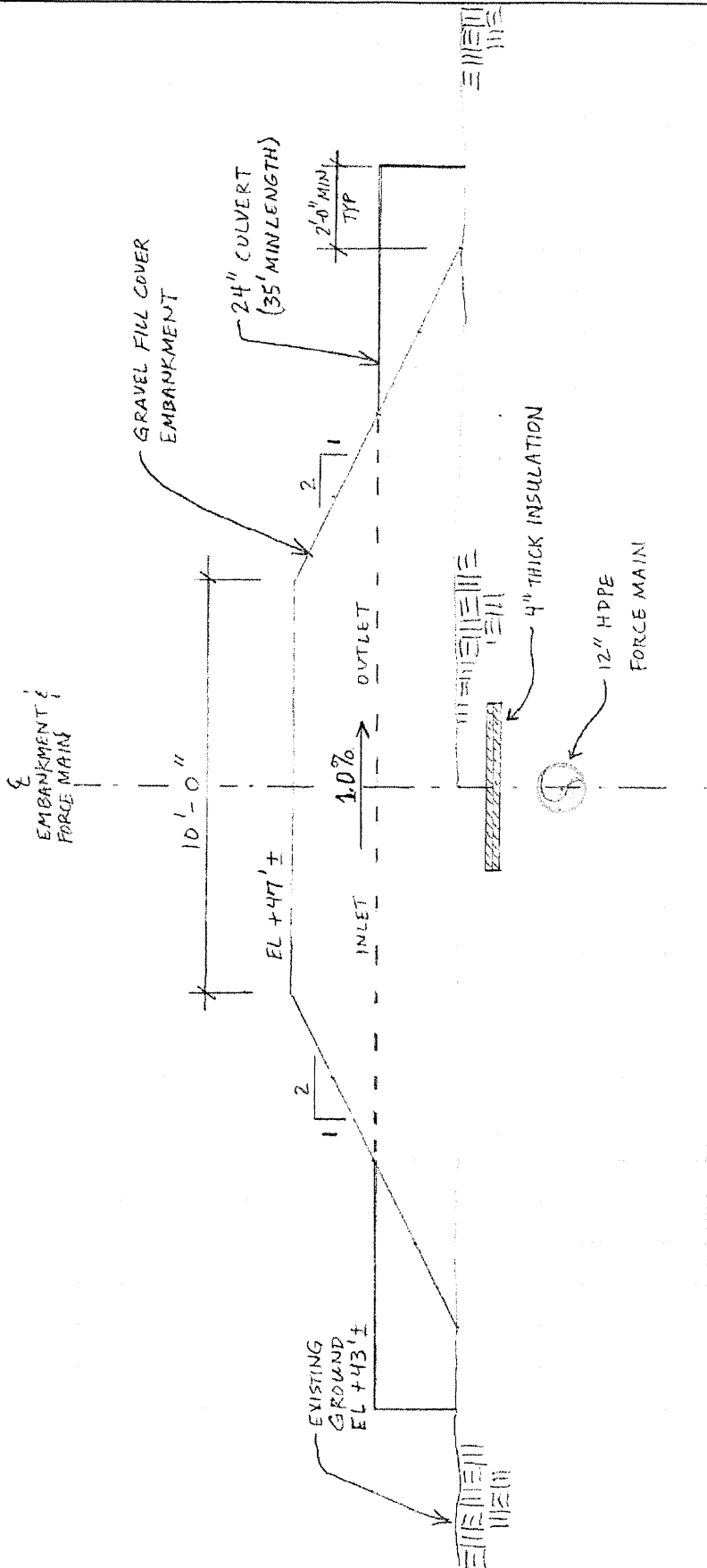
NTS

CONCEPT



VIEW A-A
NTS

CONCEPT



CULVERT LONGITUDINAL SECTION

NTS



4103 - 241st Street NE ** Arlington, WA 98223 ** (360) 474-0123

Job Number TBD Project Name: City of Dillingham Sewer Force Main Re-location

Description Proposed Hole Bore Plan 12" HDPE SDR 9

Date TBD

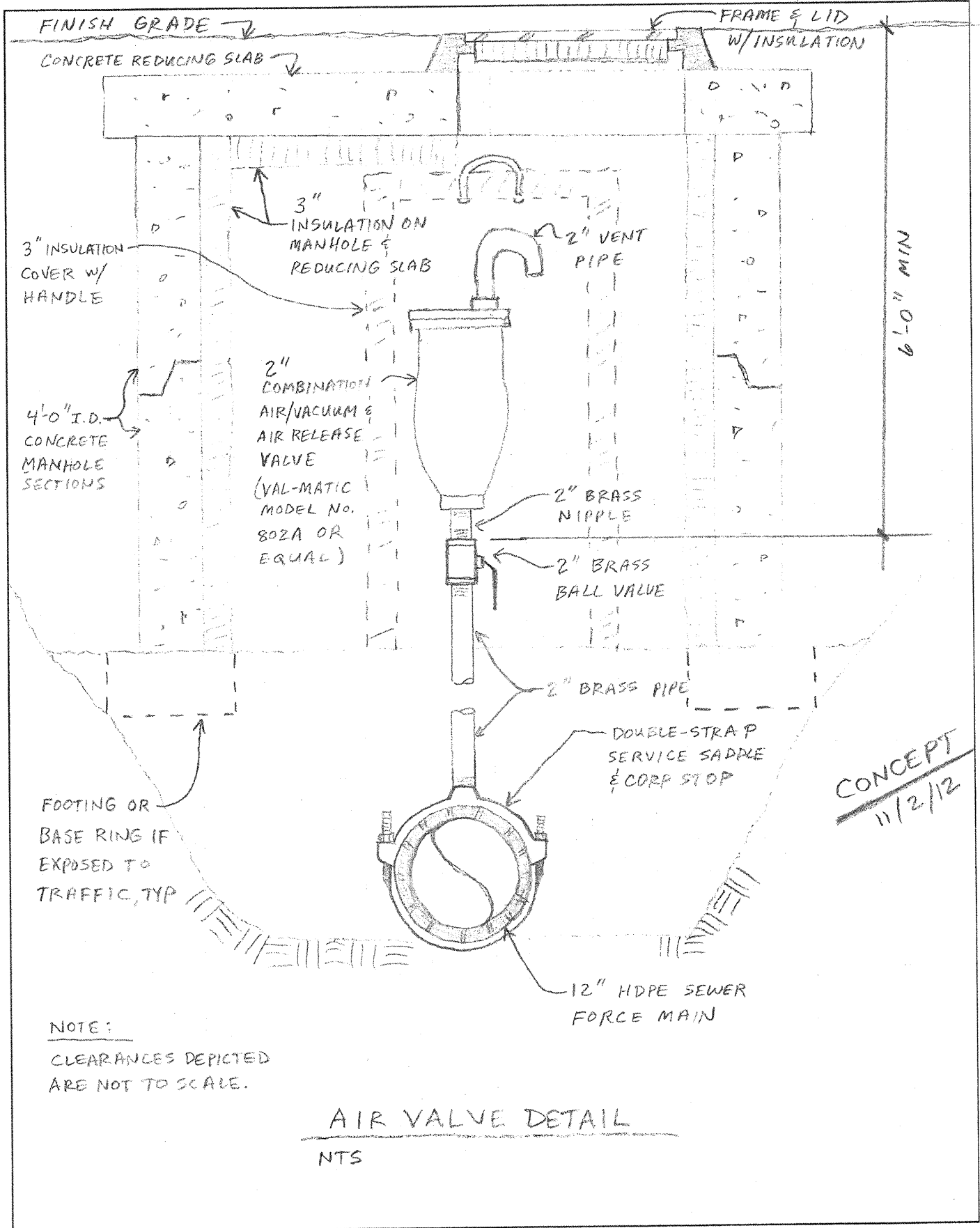
| Station | Pitch | Hub Elevation | C/L Elevation | Cut to C/L | | New OS C/L Alignment |
|---------|-------|---------------|---------------|----------------|------------|-------------------------|
| | | | | Elevation (FT) | C/L (FEET) | |
| 16+20 | -3.00 | 61.88 | 52.08 | 9.80 | 9' 0" | 6' R |
| 16+35 | -3.00 | 62.83 | 51.63 | 11.20 | 10' 0" | 7' R |
| 16+50 | -3.00 | 63.86 | 51.18 | 12.68 | 11' 0" | 8' R |
| 16+68 | -3.00 | 65.05 | 50.82 | 14.23 | 13' 6" | 7' R |
| 16+80 | -3.00 | 65.75 | 50.46 | 15.29 | 14' 6" | 6' R |
| 16+95 | -3.00 | 66.62 | 50.01 | 16.61 | 15' 11" | 6' R |
| 17+10 | -3.00 | 67.57 | 49.56 | 18.01 | 17' 8" | 3' R |
| 17+25 | -3.00 | 68.36 | 49.11 | 19.25 | 19' 3" | 2' R |
| 17+40 | -3.00 | 69.14 | 48.66 | 20.48 | 20' 5" | ON |
| 17+55 | -3.00 | 69.98 | 48.21 | 21.77 | 21' 10" | ON |
| 17+70 | -3.00 | 70.82 | 47.76 | 23.06 | 24' 3" | 1' L |
| 17+85 | -3.00 | 71.56 | 47.31 | 24.25 | 24' 5" | 3' L |
| 18+00 | -3.00 | 72.35 | 46.86 | 25.49 | 25' 0" | 6' L |
| 18+15 | -3.00 | 73.02 | 46.41 | 26.61 | 26' 0" | 6' L |
| 18+48 | 0.00 | 75.15 | 43.50 | 31.65 | 28' 0" | 8' L |
| 19+45 | 2.00 | 84.63 | 43.50 | 41.13 | 43' 0" | 21' L |
| 19+60 | 2.00 | 84.78 | 43.80 | 40.98 | 42' 0" | 22' L |
| 19+75 | 2.00 | 83.02 | 44.10 | 38.92 | 40' 0" | 23' L |
| 19+94 | 2.00 | 81.52 | 44.48 | 37.04 | 38' 0" | 22' L |
| 20+17.5 | 2.00 | 82.16 | 44.95 | 37.21 | 38' 0" | 21' L |
| 20+37 | 2.00 | 83.23 | 45.34 | 37.89 | 38' 0" | 18' L |
| 20+52.5 | 2.00 | 83.58 | 45.65 | 37.93 | 37' 0" | 18' L |
| 20+70 | 2.00 | 83.61 | 46.00 | 37.61 | 37' 0" | 19' L |
| 20+85 | 2.00 | 83.85 | 46.30 | 37.55 | 37' 0" | 19' L |
| 21+00 | 2.00 | 83.63 | 46.60 | 37.03 | 36' 0" | 18' L |
| 21+15 | 2.00 | 83.56 | 46.90 | 36.66 | 35' 0" | 18' L |
| 21+30 | 2.00 | 83.55 | 47.20 | 36.35 | 34' 0" | 17' L |
| 21+46 | 2.00 | 83.70 | 47.52 | 36.18 | 34' 0" | 17' L |
| 21+60 | 2.00 | 84.06 | 47.80 | 36.26 | 34' 0" | 17' L |
| 21+75 | 2.00 | 84.16 | 48.10 | 36.06 | 34' 0" | 17' L |
| 21+90 | 2.00 | 84.40 | 48.40 | 36.00 | 33' 0" | 18' L |
| 22+05 | 2.00 | 84.98 | 48.70 | 36.28 | 33' 0" | 18' L |
| 22+24 | 2.00 | 85.12 | 49.08 | 36.04 | 33' 0" | 18' L |
| 22+37.5 | 2.00 | 85.79 | 49.35 | 36.44 | 33' 0" | 19' L |
| 22+97 | 2.00 | 87.53 | 50.54 | 36.99 | 34' 0" | 20' L |
| 23+15 | 2.00 | 87.41 | 50.84 | 36.57 | 35' 0" | 21' L |
| 23+30 | 2.00 | 87.32 | 51.14 | 36.18 | 36' 0" | 22' L |
| 23+45 | 2.00 | 87.68 | 51.44 | 36.24 | 36' 0" | 21' L |
| 23+60 | 2.00 | 86.78 | 51.74 | 35.04 | 35' 0" | 20' L |
| 23+75 | 2.00 | 86.82 | 52.04 | 34.78 | 35' 0" | 19' L |
| 23+91 | 2.00 | 86.26 | 52.36 | 33.90 | 35' 0" | 18' L |
| 24+05 | 2.00 | 86.07 | 52.64 | 33.43 | 35' 0" | 18' L |
| 24+20 | 2.00 | 85.98 | 52.94 | 33.04 | 35' 0" | 17' L |
| 24+35 | 2.00 | 85.88 | 53.24 | 32.64 | 35' 0" | 16' L |
| 24+50 | 2.00 | 85.54 | 53.54 | 32.00 | 34' 0" | 17' L |
| 24+63.5 | 2.00 | 85.44 | 53.81 | 31.63 | 34' 0" | 18' L |
| 24+80 | 2.00 | 85.16 | 54.14 | 31.02 | 33' 0" | 19' L |
| 24+95 | 2.00 | 85.01 | 54.44 | 30.57 | 33' 0" | 20' L |
| 25+10 | 0.00 | 84.85 | 54.74 | 30.11 | 33' 0" | 20' L |
| 25+25 | 0.00 | 85.00 | 54.74 | 30.26 | 33' 0" | 21' L |
| 25+50 | 0.00 | 85.46 | 54.74 | 30.72 | 33' 0" | 22' L |
| 25+70 | 0.00 | 84.11 | 54.74 | 29.37 | 33' 0" | 23' L |

Note:



1506 West 36th Avenue
 Anchorage, Alaska 99503
 phone 907.561.1011
 fax 907.563.4220

Project: 111062 DLG HDD FM
 Sheet Number: _____ Of: _____
 Calculated by: DDH Date: 11/2/12
 Checked by: DST Date: _____



NOTE:
 CLEARANCES DEPICTED
 ARE NOT TO SCALE.

AIR VALVE DETAIL
 NTS



4103 - 241st Street NE ** Arlington, WA 98223 ** (360) 474-0123

Job Number TBD Project Name: City of Dillingham Sewer Force Main Re-location

Description Proposed Hole Bore Plan 12" HDPE SDR 9

Date TBD

| Station | Pitch | Hub Elevation | C/L Elevation | Cut to C/L | Actual Cut to | New OS |
|---------|-------|---------------|---------------|----------------|---------------|---------------|
| | | | | Elevation (FT) | C/L (FEET) | C/L Alignment |
| 25+70 | -2.00 | 84.11 | 54.74 | 29.37 | 33' 0" | 23' L |
| 25+85 | -2.00 | 84.42 | 54.44 | 29.98 | 33' 0" | 24' L |
| 26+00 | -2.00 | 84.64 | 54.14 | 30.50 | 33' 0" | 25' L |
| 26+15 | -2.00 | 84.81 | 53.84 | 30.97 | 32' 0" | 24' L |
| 26+30 | -2.00 | 84.72 | 53.54 | 31.18 | 31' 0" | 23' L |
| 26+48 | -2.00 | 85.68 | 53.18 | 32.50 | 32' 0" | 22' L |
| 26+60 | -2.00 | 85.86 | 52.94 | 32.92 | 32' 0" | 20' L |
| 26+75 | -2.00 | 84.97 | 52.64 | 32.33 | 32' 0" | 18' L |
| 26+90 | -2.00 | 84.87 | 52.34 | 32.53 | 32' 0" | 16' L |
| 27+05 | -2.00 | 84.50 | 52.04 | 32.46 | 32' 0" | 14' L |
| 27+15 | -2.00 | 84.10 | 51.84 | 32.26 | 31' 0" | 12' L |
| 27+30 | -2.00 | 83.71 | 51.54 | 32.17 | 30' 0" | 10' L |
| 27+46 | -2.00 | 82.56 | 51.22 | 31.34 | 30' 0" | 8' L |
| 27+61 | -2.00 | 81.66 | 50.92 | 30.74 | 29' 0" | 7' L |
| 27+78 | -2.00 | 81.09 | 50.58 | 30.51 | 29' 0" | 6' L |
| 27+95 | -2.00 | 80.49 | 50.24 | 30.25 | 28' 0" | 5' L |
| 28+08 | -2.00 | 80.02 | 49.98 | 30.04 | 28' 0" | 4' L |
| 28+25 | -2.00 | 79.32 | 49.64 | 29.68 | 27' 0" | 3' L |
| 28+40 | -2.00 | 80.02 | 49.34 | 30.68 | 28' 0" | 2' L |
| 28+55 | -2.00 | 80.97 | 49.04 | 31.93 | 30' 0" | 1' L |
| 28+74 | -2.00 | 82.77 | 48.66 | 34.11 | 32' 0" | 1' L |
| 28+85 | -2.00 | 82.77 | 48.44 | 34.33 | 32' 0" | 1' L |
| 29+00 | -2.00 | 82.65 | 48.14 | 34.51 | 33' 0" | 1' L |
| 29+30 | -2.00 | 78.77 | 47.54 | 31.23 | 30' 0" | 1' L |
| 29+45 | -2.00 | 75.15 | 47.24 | 27.91 | 27' 0" | 1' L |
| 29+63 | -2.00 | 74.53 | 46.88 | 27.65 | 27' 0" | 1' L |
| 29+74.5 | -2.00 | 74.49 | 46.65 | 27.84 | 28' 0" | 1' L |
| 29+90 | -2.00 | 74.65 | 46.34 | 28.31 | 28' 0" | 1' L |
| 30+05 | -2.00 | 74.51 | 46.04 | 28.47 | 28' 0" | 1' L |
| 30+20 | -2.00 | 74.12 | 45.74 | 28.38 | 28' 0" | 1' L |
| 30+35 | -2.00 | 73.58 | 45.44 | 28.14 | 28' 0" | 2' L |
| 30+49 | -1.00 | 73.26 | 45.16 | 28.10 | 28' 0" | 2' L |
| 30+65 | -1.00 | 73.22 | 45.00 | 28.22 | 27' 0" | 2' L |
| 30+80 | -1.00 | 72.42 | 44.85 | 27.57 | 28' 0" | 2' L |
| 30+99 | 1.00 | 72.49 | 44.66 | 27.83 | 28' 0" | 2' L |
| 31+14 | 2.00 | 72.30 | 44.81 | 27.49 | 27' 0" | 2' L |
| 31+30 | 2.00 | 72.34 | 45.13 | 27.21 | 27' 0" | 2' L |
| 31+46.5 | 5.00 | 72.64 | 45.46 | 27.18 | 27' 0" | 2' L |
| 32+30 | 12.00 | 73.29 | 49.64 | 23.66 | 26' 0" | 3' L |
| 32+65 | 20.00 | 73.28 | 53.84 | 19.45 | 21' 0" | 4' L |
| 32+80 | 27.00 | 72.78 | 56.84 | 15.95 | 15' 0" | 3' L |
| 32+95 | 27.00 | 72.60 | 60.89 | 11.72 | 10' 0" | 3' L |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Note: Soft (16+20 to 18+15), Gravel (18+15 to 19+75), Firm (19+75 to 20+37)
 Hard, Gravel, Rocks (20+37 to 21+15), Firm (21+15 to 23+75), Soft (23+75 to 32+95)



4103 - 241st Street NE ** Arlington, WA 98223 ** (360) 474-0123

Job Number TBD Project Name: City of Dillingham Sewer Force Main Re-location

Description Proposed Hole Bore Plan 12" HDPE SDR 9

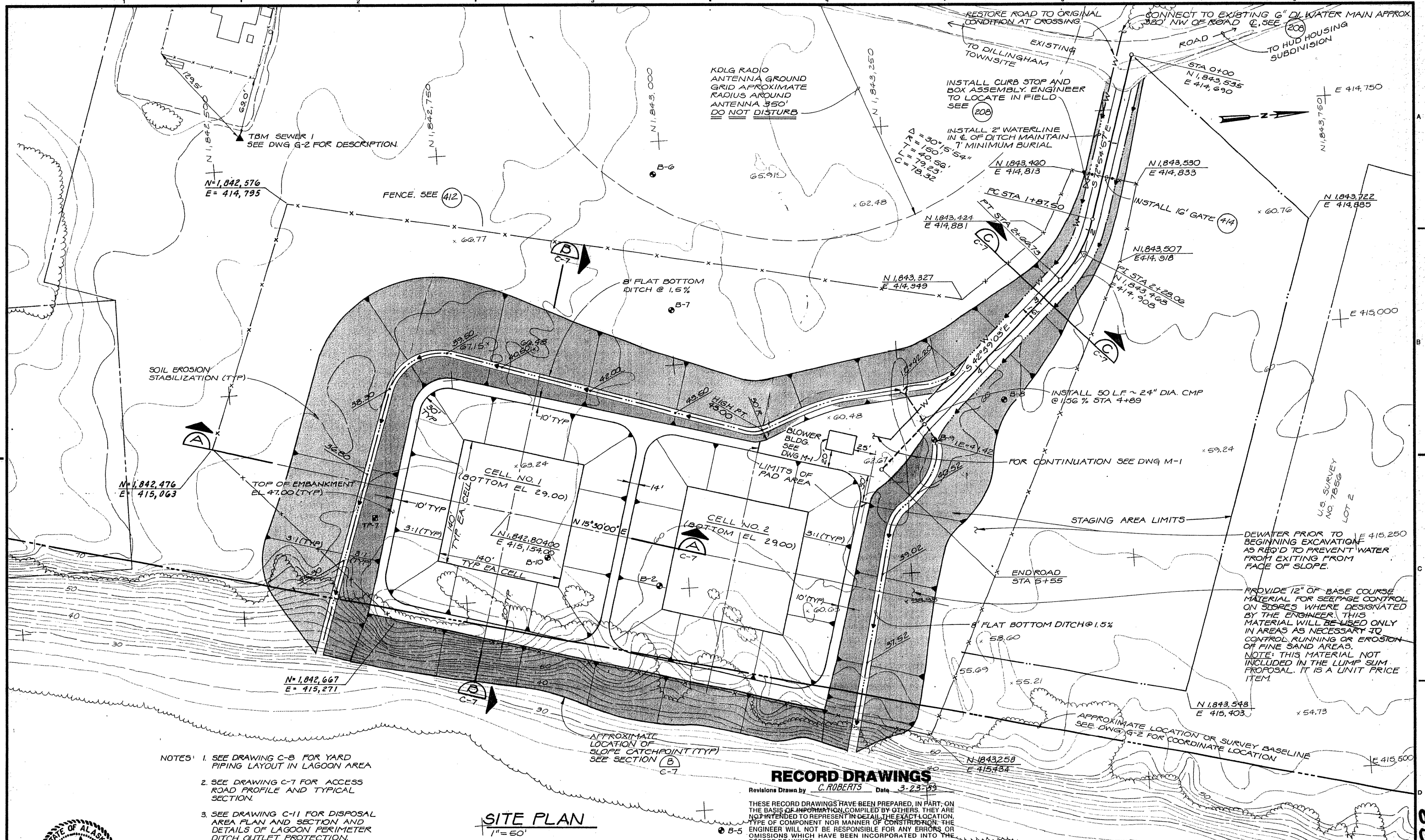
Date TBD

| Station | Pitch | Hub Elevation | C/L Elevation | Cut to C/L Elevation (FT) | Actual Cut to C/L (FEET) | Actual C/L Alignment |
|---------|-------|---------------|---------------|------------------------------|-----------------------------|-------------------------|
| 16+20 | -6.50 | 61.88 | 52.08 | 9.80 | 10.00 | 7' L |
| 16+05 | -6.50 | 60.87 | 51.11 | 9.77 | 11.00 | 8' L |
| 15+90 | -6.50 | 59.94 | 50.13 | 9.81 | 11.00 | 8' L |
| 15+75 | -6.50 | 59.08 | 49.16 | 9.93 | 11.50 | 8' L |
| 15+60 | -6.50 | 58.28 | 48.18 | 10.10 | 11.50 | 8' 4" L |
| 15+45 | -6.50 | 57.47 | 47.21 | 10.27 | 11.66 | 8' 5" L |
| 15+30 | -6.50 | 56.70 | 46.23 | 10.47 | 12.00 | 8' 6" L |
| 15+00 | -6.50 | 55.47 | 45.26 | 10.22 | 12.60 | 8' 6" L |
| 14+85 | -6.50 | 54.79 | 44.28 | 10.51 | 12.70 | 8' 4" L |
| 14+70 | -6.50 | 54.25 | 43.31 | 10.95 | 12.90 | 8' 4" L |
| 14+55 | -6.50 | 53.73 | 42.33 | 11.40 | 13.00 | 8' L |
| 14+40 | -6.50 | 53.09 | 41.36 | 11.74 | 13.25 | 8' 3" L |
| 14+25 | -6.50 | 52.43 | 40.38 | 12.05 | 13.50 | 8' 6" L |
| 14+10 | -6.50 | 51.78 | 39.41 | 12.38 | 14.20 | 9' 6" L |
| 13+95 | -6.50 | 51.21 | 38.43 | 12.78 | 14.60 | 11' L |
| 13+80 | -6.50 | 50.69 | 37.46 | 13.24 | 14.80 | 11' 6" L |
| 13+65 | -6.50 | 50.24 | 36.48 | 13.76 | 15.25 | 13' L |
| 13+50 | -6.50 | 49.75 | 35.51 | 14.25 | 16.00 | 13' L |
| 13+40 | -6.50 | 49.54 | 34.86 | 14.69 | 16.75 | 12' 6" L |
| 13+23 | -6.50 | 49.00 | 33.75 | 15.25 | 17.67 | 13' 6" L |
| 13+05 | -6.50 | 48.57 | 32.58 | 15.99 | 18.33 | 14' L |
| 12+90 | -8.00 | 48.14 | 31.61 | 16.54 | 19.00 | 14' L |
| 12+75 | -8.00 | 47.78 | 30.41 | 17.38 | 19.00 | 13' 6" L |
| 12+67 | -8.00 | 47.59 | 29.77 | 17.83 | 19.20 | 11' L |
| 12+45 | -8.00 | 47.03 | 28.01 | 19.03 | 19.75 | 10' 6" L |
| 12+30 | -8.00 | 46.67 | 26.81 | 19.87 | 20.20 | 10' L |
| 12+15 | -8.00 | 46.29 | 25.61 | 20.69 | 20.80 | 9' L |
| 12+00 | -8.00 | 45.91 | 24.41 | 21.51 | 21.80 | 7' L |
| 11+85 | -8.00 | 45.53 | 23.21 | 22.33 | 23.00 | 7' 6" L |
| 11+70 | -8.00 | 44.94 | 22.01 | 22.94 | 25.00 | 7' L |
| 11+55 | -8.00 | 43.98 | 20.81 | 23.18 | 25.10 | 6' 6" L |
| 11+40 | -8.00 | 42.88 | 19.61 | 23.28 | 25.00 | 6' 3" L |
| 11+25 | -8.00 | 41.69 | 18.41 | 23.29 | 25.00 | 6' 6" L |
| 11+05 | -4.00 | 39.91 | 17.21 | 22.71 | 24.00 | 6' L |
| 10+95 | -4.00 | 38.64 | 16.81 | 21.84 | 21.67 | 6' L |
| 10+80 | -4.00 | 37.36 | 16.21 | 21.16 | 21.60 | 6' L |
| 10+65 | -2.00 | 36.56 | 15.61 | 20.96 | 21.00 | 9' L |
| 10+50 | -2.00 | 31.00 | 15.31 | 15.70 | 15.00 | 12' L |
| 10+35 | -2.00 | 29.00 | 15.01 | 14.00 | 13.00 | 15' L |
| 10+20 | 0.00 | 25.00 | 14.71 | 10.30 | 9.00 | 18' L |
| 10+05 | 0.00 | 22.05 | 14.71 | 7.35 | 6.00 | 23' L |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Note:

DESIGNED BY
DRAWN BY
CHECKED BY

PRINTED TO
FILM KE
DC
R/LTP-1 R/L-1
S



- NOTES:
- SEE DRAWING C-8 FOR YARD PIPING LAYOUT IN LAGOON AREA
 - SEE DRAWING C-7 FOR ACCESS ROAD PROFILE AND TYPICAL SECTION.
 - SEE DRAWING C-11 FOR DISPOSAL AREA PLAN AND SECTION AND DETAILS OF LAGOON PERIMETER DITCH OUTLET PROTECTION.

SITE PLAN
1" = 50'

RECORD DRAWINGS

Revisions Drawn by C. ROBERTS Date 3-23-83
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| | | | | | |
|------|---------------|---------|---|----------|-----------|
| DSGN | K. B. HEPPE | | | | |
| DR | C. O. FILER | | | | |
| CHK | M. A. Schmitz | | | | |
| APVD | | 3-23-83 | RECORD DRAWING - INFORMATION PROVIDED BY CONTRACTOR | CR | MAS |
| | | NO. | DATE | REVISION | BY |
| | | | | | APVD |
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CITY OF DILLINGHAM
DILLINGHAM, ALASKA

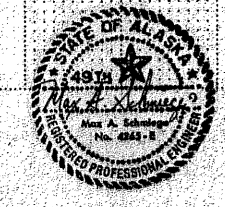
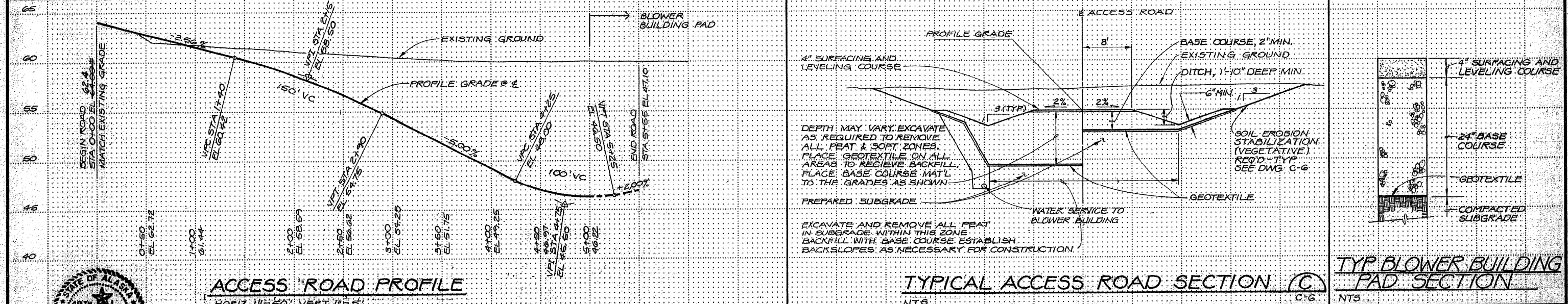
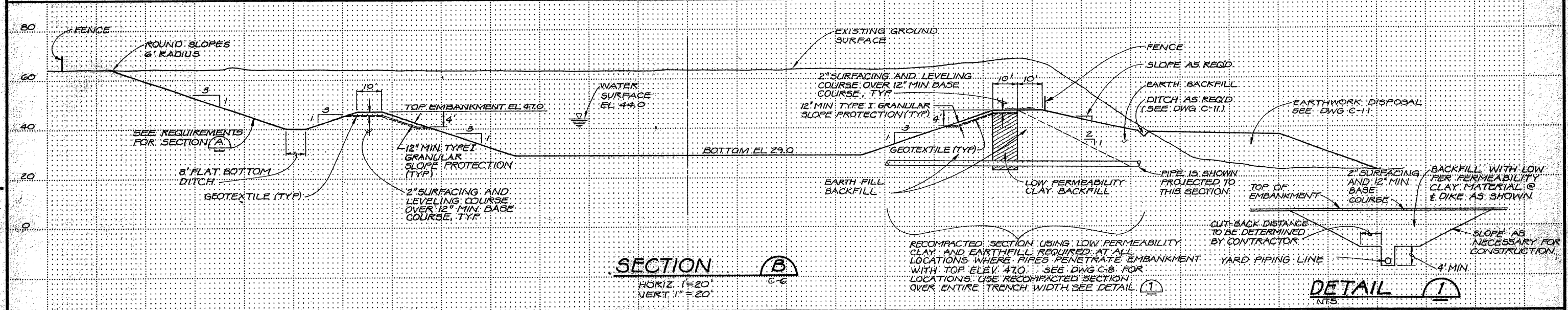
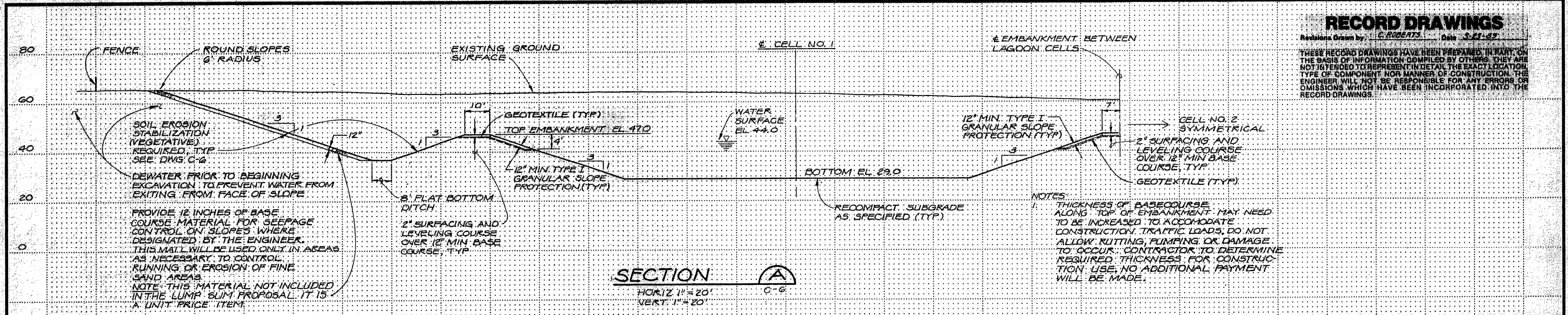
SEWERAGE SYSTEM IMPROVEMENTS
LAGOON AND ACCESS ROAD SITE PLAN

| | |
|----------|------------|
| SHEET | 9 |
| DWG NO. | C-6 |
| DATE | JUNE 1988 |
| PROJ NO. | K20297.A.1 |

69

RECORD DRAWINGS

Revisions Drawn by: E. ROBERTS Date: 5-21-87
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| | | | | |
|------|---------------|---|----------|------|
| DSGN | K. SHARP | RECORD DRAWING INFORMATION PROVIDED BY CONTRACTOR | CR | MAS |
| DR | C.D. FILER | | BY | APVD |
| CHK | M.A. Schmiege | | NO. | DATE |
| APVD | | | REVISION | |

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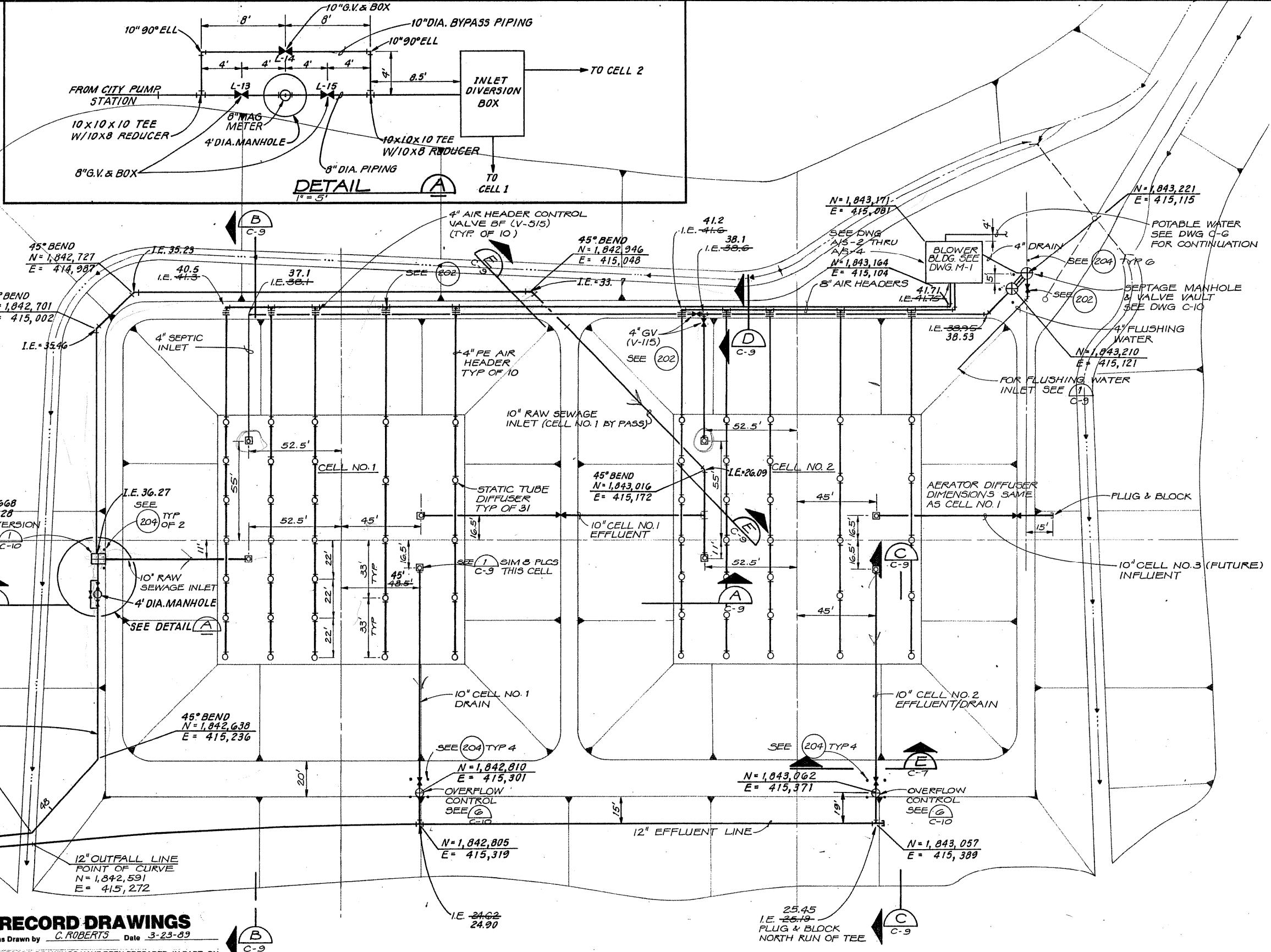
CITY OF DILLINGHAM
 DILLINGHAM, ALASKA

SEWERAGE SYSTEM IMPROVEMENTS
LAGOON AND ACCESS ROAD SECTIONS
 ACCESS ROAD PROFILE

| | |
|-----------|-----------|
| SHEET | 10 |
| DWG. NO. | C-7 |
| DATE | JUNE 1986 |
| PROJ. NO. | K20297.A1 |

G10

CHECKED BY: _____
 DRAWN BY: _____
 PRINTED: _____
 FILED: _____
 DATE: _____
 PROJECT: _____
 SHEET: _____
 CONTRACT: _____
 IDENTIFICATION: _____
 COMPOSITE: _____
 OVERLAY: _____
 SCREEN: _____



RECORD DRAWINGS
 Revisions Drawn by C. ROBERTS Date 3-23-89

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LAGOON YARD PIPING PLAN
 1"=30'

PROVIDE A MINIMUM OF 7'-0" OF COVER OVER ALL PIPES CARRYING LIQUIDS EXCEPT WHERE OTHERWISE SHOWN OR UNDER CELL BOTTOM.



| | |
|----------|----------------|
| DSGN | D. WRIGHT |
| DR | G. GRIEVE |
| CHK | M. A. Schmiege |
| APVD | |
| NO. | DATE |
| REVISION | BY |
| | APVD |

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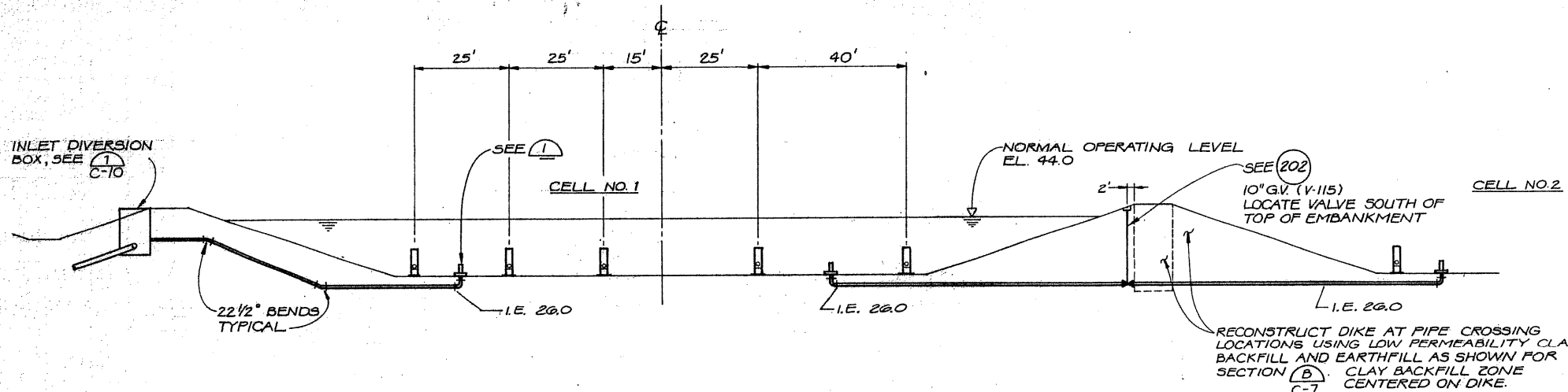
VERIFY SCALES
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CITY OF DILLINGHAM
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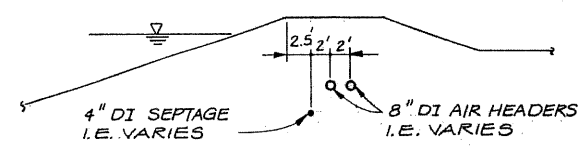
SEWERAGE SYSTEM IMPROVEMENTS
LAGOON YARD PIPING PLAN

| | |
|----------|-----------|
| SHEET | 11 |
| DWG NO. | C-8 |
| DATE | JUNE 1986 |
| PROJ NO. | K20297.A1 |

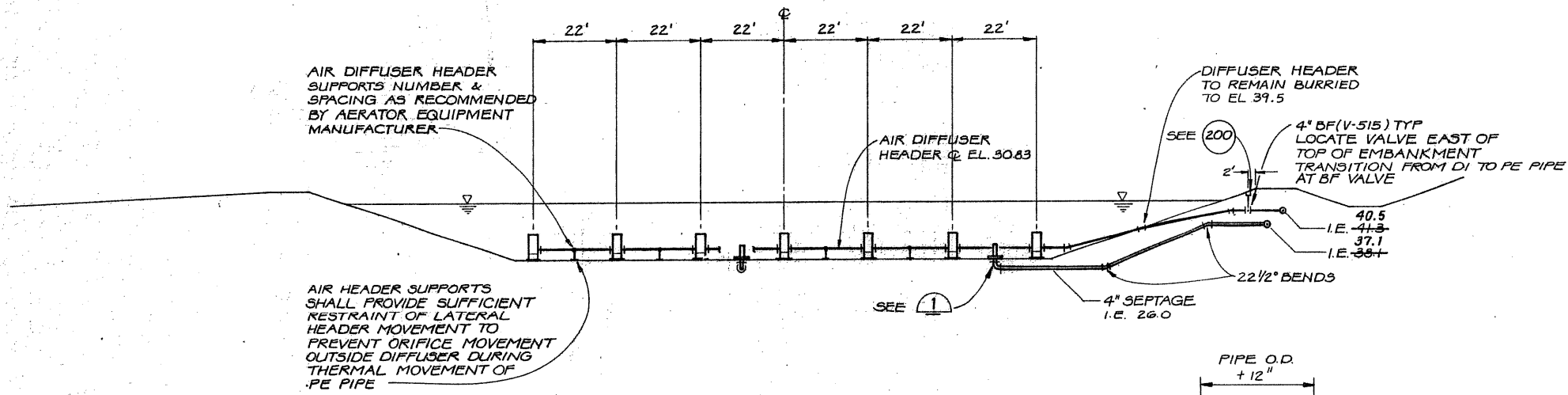
G11



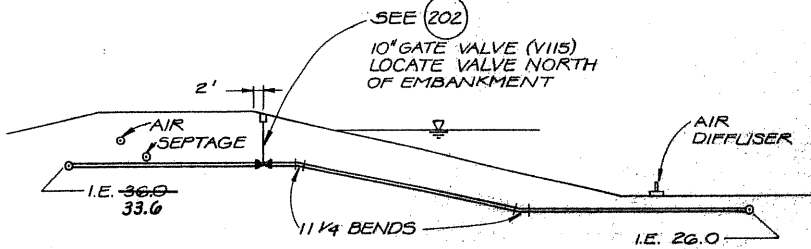
SECTION A
 C-8
 HORIZ 1" = 20'
 VERT 1" = 20'



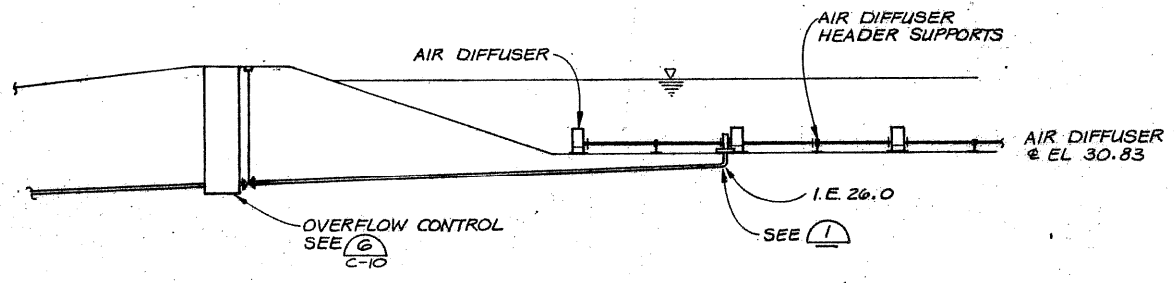
SECTION D
 C-8
 HORIZ 1" = 10'
 VERT 1" = 10'



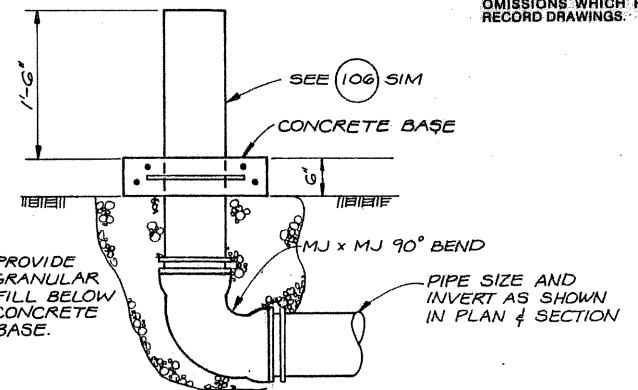
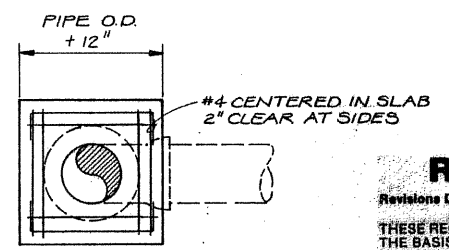
SECTION B
 C-8
 HORIZ 1" = 20'
 VERT 1" = 20'



SECTION E
 C-8
 HORIZ 1" = 20'
 VERT 1" = 20'



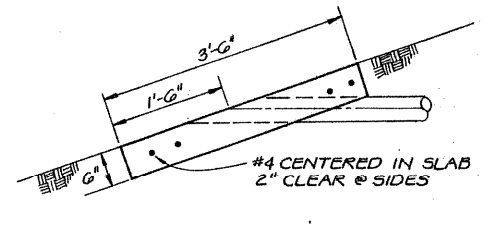
SECTION C
 C-8
 HORIZ 1" = 20'
 VERT 1" = 20'



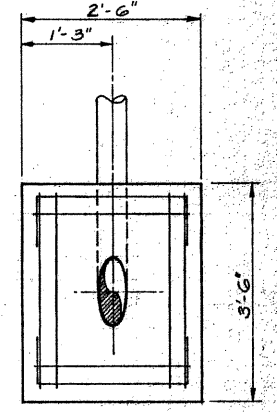
DETAIL 1
 C-8
 NTS

RECORD DRAWINGS

Revisions Drawn by C. ROBERTS Date 3-23-69
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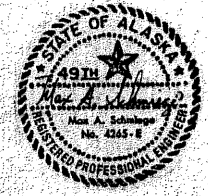


SECTION



PLAN

FLUSHING WATER INLET DETAIL
 C-8
 NTS



| | | | | | | | |
|------|---------------|---|----|------|----|------|-----------|
| DSGN | D. WRIGHT | 325-69 RECORD DRAWING - INFORMATION PROVIDED BY CONTRACTOR. | CR | MAS | BY | APVD | CH2M HILL |
| DR | V. N. DAVID | | | | | | |
| CHK | M. A. Schmitz | | | | | | |
| APVD | | | | | | | |
| NO. | DATE | REVISION | BY | APVD | | | |

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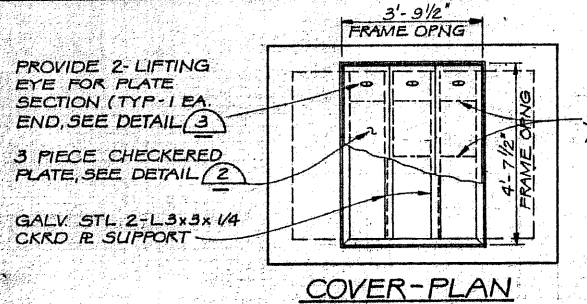
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CITY OF DILLINGHAM,
 DILLINGHAM, ALASKA

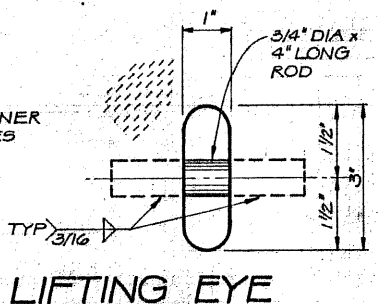
SEWERAGE SYSTEM IMPROVEMENTS
 LAGOON YARD PIPING SECTIONS
 AND DETAILS

| | |
|----------|------------|
| SHEET | 12 |
| DWG NO. | C-9 |
| DATE | JUNE 1968 |
| PROJ NO. | K20297-A11 |

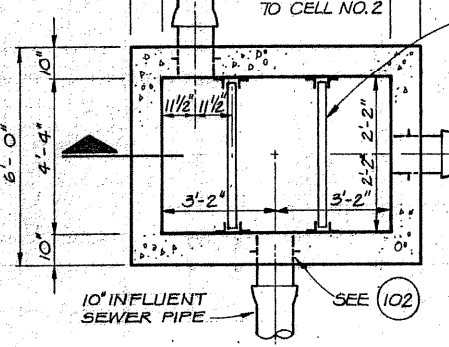
G12



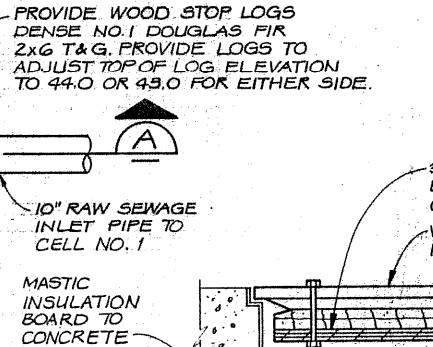
COVER-PLAN
 3'-9 1/2" x 3'-9 1/2"
 PROVIDE 2-LIFTING EYE FOR PLATE SECTION (TYP-1 EA. END, SEE DETAIL 3)
 3 PIECE CHECKERED PLATE, SEE DETAIL 2
 GALV. STL. 2-L. 3x3 x 1/4 CKRD. R. SUPPORT



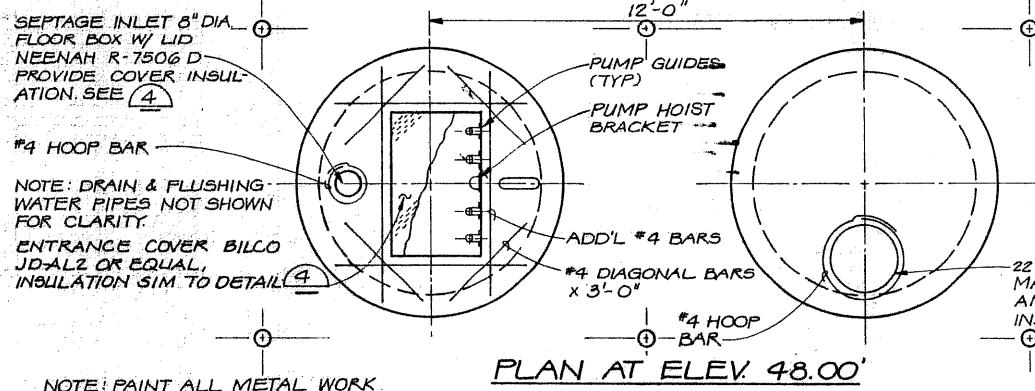
LIFTING EYE DETAIL 3
 3/4" DIA x 4" LONG ROD
 STIFFENER ANGLES
 TYP 3/16"



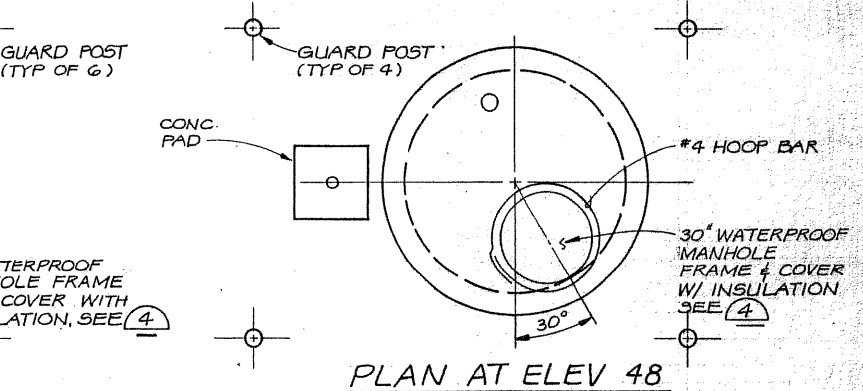
PLAN @ ELEV 45.0
 10" INFLUENT SEWER PIPE
 10" BYPASS TO CELL NO. 2
 10" RAW SEWAGE INLET PIPE TO CELL NO. 1
 MASTIC INSULATION BOARD TO CONCRETE
 2" RIGID FOUNDATION INSULATION BOARD
 3/4" CDX PLYWOOD BOLTED THROUGH COVER
 WATERPROOF MANHOLE COVER
 4" DI DRAIN FROM BLOWER BUILDING IE 38.5



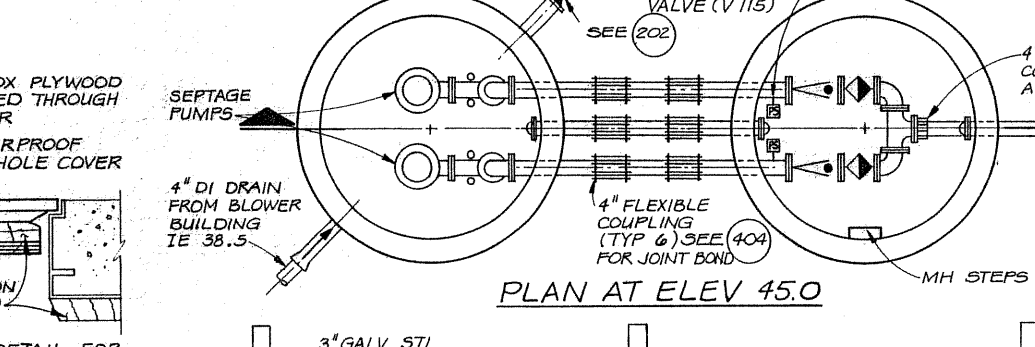
MANHOLE LID/COVER INSULATION DETAIL 4
 USE SIMILAR DETAIL FOR CHECKER PLATE COVERS AND ACCESS DOORS
 2" CLEAR (TYP)
 4" FOAMED-IN-PLACE INSULATION, TYP 4 SIDES
 2" RIGID FOUNDATION INSULATION BOARD
 GRANULAR FILL



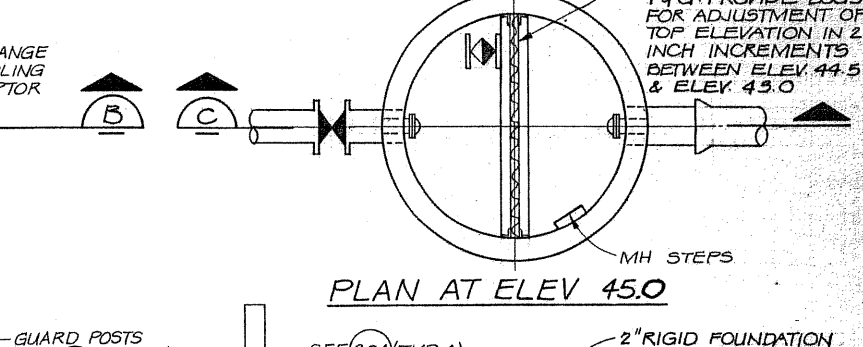
PLAN AT ELEV 48.00
 SEPTAGE INLET 8" DIA. FLOOR BOX W/ LID. NEENAH R-7506 D. PROVIDE COVER INSULATION. SEE 4
 #4 HOOP BAR
 NOTE: DRAIN & FLUSHING WATER PIPES NOT SHOWN FOR CLARITY.
 ENTRANCE COVER BILCO JD-AL2 OR EQUAL, INSULATION SIM TO DETAIL 4
 PUMP GUIDES (TYP)
 PUMP HOIST BRACKET
 ADD'L #4 BARS
 #4 DIAGONAL BARS x 3'-0"
 #4 HOOP BAR
 22" WATERPROOF MANHOLE FRAME AND COVER WITH INSULATION, SEE 4
 GUARD POST (TYP OF 6)
 GUARD POST (TYP OF 4)
 CONC. PAD
 #4 HOOP BAR
 30" WATERPROOF MANHOLE FRAME & COVER W/ INSULATION, SEE 4



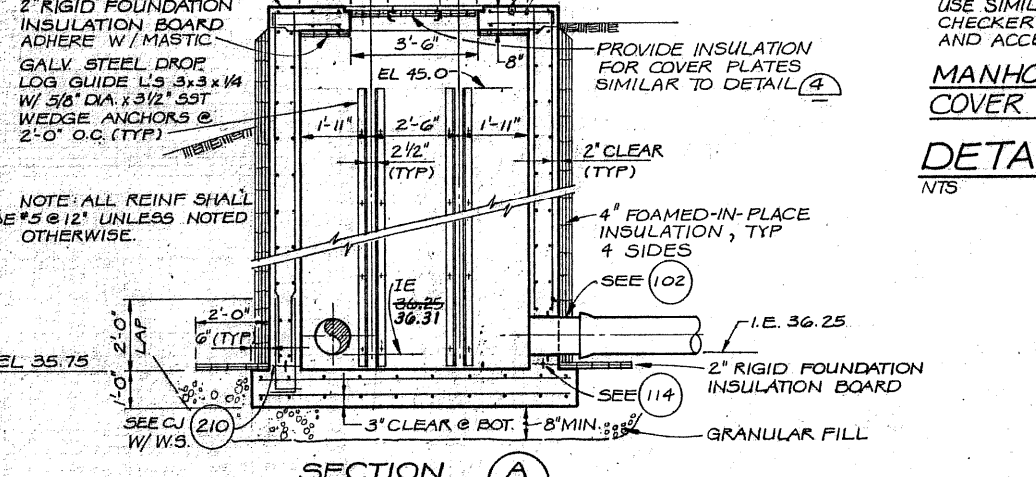
PLAN AT ELEV 48
 30" WATERPROOF MANHOLE FRAME & COVER W/ INSULATION, SEE 4
 #4 HOOP BAR
 30" WATERPROOF MANHOLE FRAME & COVER W/ INSULATION, SEE 4



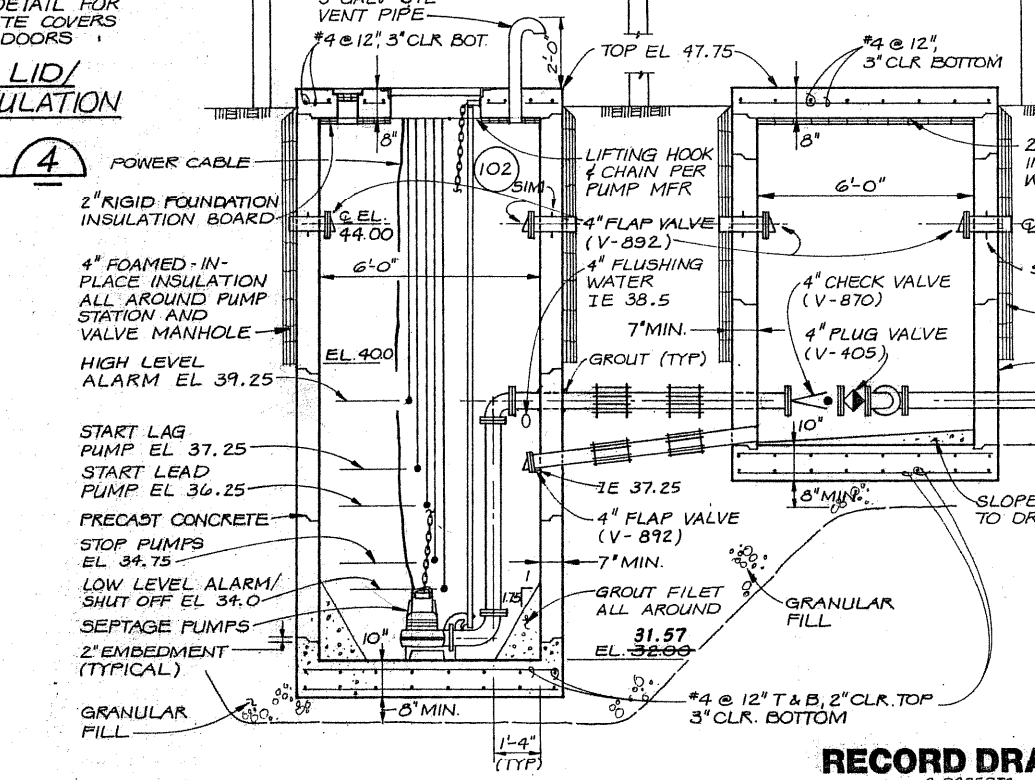
PLAN AT ELEV 45.0
 SEPTAGE PUMPS
 4" DI FLUSHING WATER
 4" MJ GATE VALVE (V 115)
 SEE (202)
 4" DI DRAIN FROM BLOWER BUILDING IE 38.5
 4" FLEXIBLE COUPLING (TYP 6) SEE (404) FOR JOINT BOND
 4" FLANGE COUPLING ADAPTOR
 MH STEPS
 MH STEPS



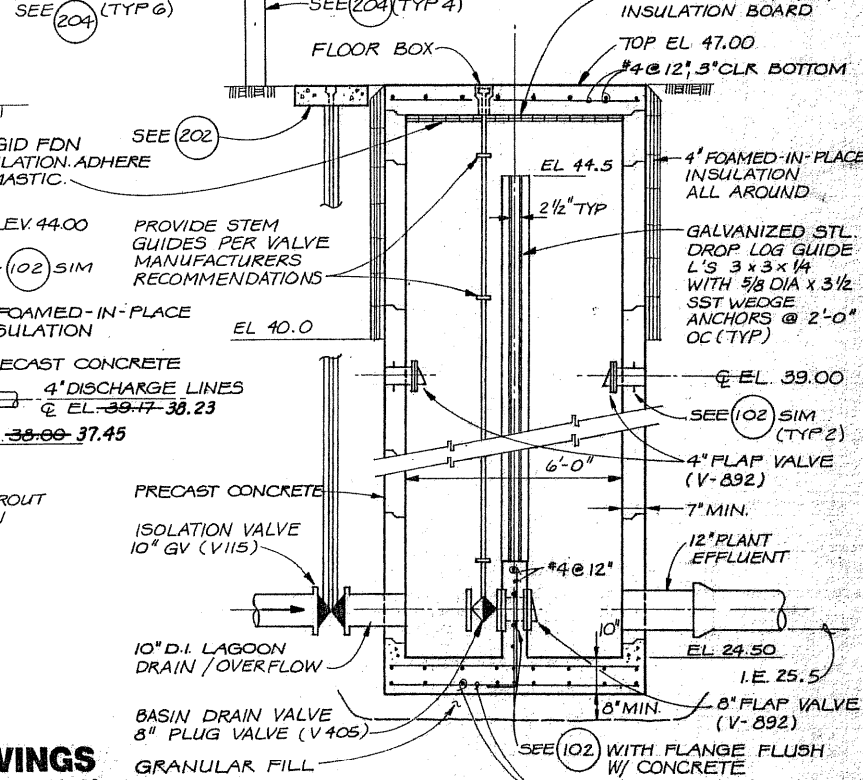
PLAN AT ELEV 45.0
 PROVIDE WOOD STOP LOGS, DENSE NO. 1 DOUGLAS FIR 4x6 T&G. PROVIDE LOGS FOR ADJUSTMENT OF TOP ELEVATION IN 2 INCH INCREMENTS BETWEEN ELEV. 44.5 & ELEV. 43.0
 2" RIGID FOUNDATION INSULATION BOARD
 TOP EL 47.00
 #4 @ 12", 3" CLR. BOTTOM
 4" FOAMED-IN-PLACE INSULATION ALL AROUND
 GALVANIZED STL. DROP LOG GUIDE L'S 3 x 3 x 1/4 WITH 5/8 DIA x 3/16 SST WEDGE ANCHORS @ 2'-0" OC (TYP)
 4" FLAP VALVE (V-892)
 7" MIN.
 12" PLANT EFFLUENT
 PRECAST CONCRETE
 ISOLATION VALVE 10" GV (V115)
 10" D.I. LAGOON DRAIN / OVERFLOW
 BASIN DRAIN VALVE 8" PLUG VALVE (V 405)
 GRANULAR FILL
 SEE (102) WITH FLANGE FLUSH W/ CONCRETE
 #4 @ 12" T&B, 2" CLR. TOP 3" CLR. BOTTOM



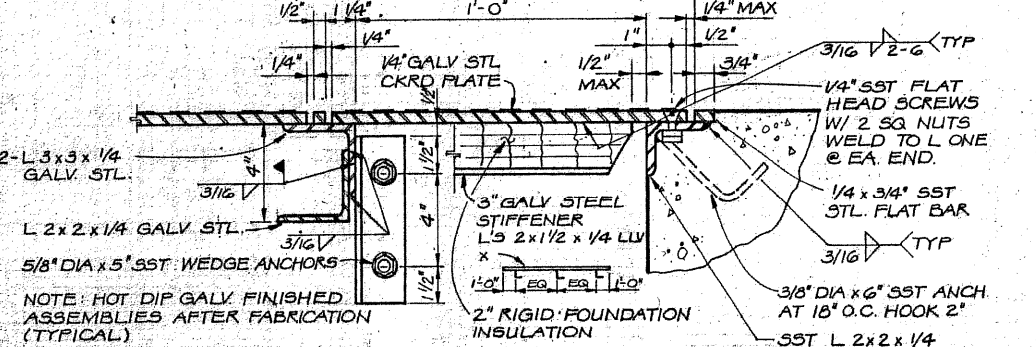
SECTION A
 INLET DIVERSION BOX DETAILS 1
 3/8" = 1'-0"
 TOP EL 47.25
 2" RIGID FOUNDATION INSULATION BOARD ADHERE W/ MASTIC
 GALV. STEEL DROP LOG GUIDE L'S 3 x 3 x 1/4 W/ 5/8 DIA x 3/16 SST WEDGE ANCHORS @ 2'-0" O.C. (TYP)
 NOTE: ALL REINF SHALL BE #5 @ 12" UNLESS NOTED OTHERWISE.
 2" CLEAR (TYP)
 4" FOAMED-IN-PLACE INSULATION, TYP 4 SIDES
 2" RIGID FOUNDATION INSULATION BOARD
 GRANULAR FILL
 I.E. 36.25
 3" CLEAR @ BOT.
 8" MIN. @ BOT.



SECTION B
 SEPTAGE PUMP STATION DETAILS 5
 3/8" = 1'-0"
 3" GALV STL VENT PIPE #4 @ 12", 3" CLR. BOT.
 TOP EL 47.75
 #4 @ 12", 3" CLR. BOTTOM
 GUARD POSTS SEE (204) (TYP 6)
 2" RIGID FDN INSULATION ADHERE W/ MASTIC.
 SEE (202)
 4" FLAP VALVE (V-892)
 4" FLUSHING WATER IE 38.5
 7" MIN.
 4" CHECK VALVE (V-870)
 4" PLUG VALVE (V-405)
 4" FOAMED-IN-PLACE INSULATION
 PRECAST CONCRETE
 4" DISCHARGE LINES @ EL. 39.00-38.23
 EL. 39.00-37.45
 SLOPE GROUT TO DRAIN
 PRECAST CONCRETE
 ISOLATION VALVE 10" GV (V115)
 10" D.I. LAGOON DRAIN / OVERFLOW
 BASIN DRAIN VALVE 8" PLUG VALVE (V 405)
 GRANULAR FILL
 SEE (102) WITH FLANGE FLUSH W/ CONCRETE
 #4 @ 12" T&B, 2" CLR. TOP 3" CLR. BOTTOM



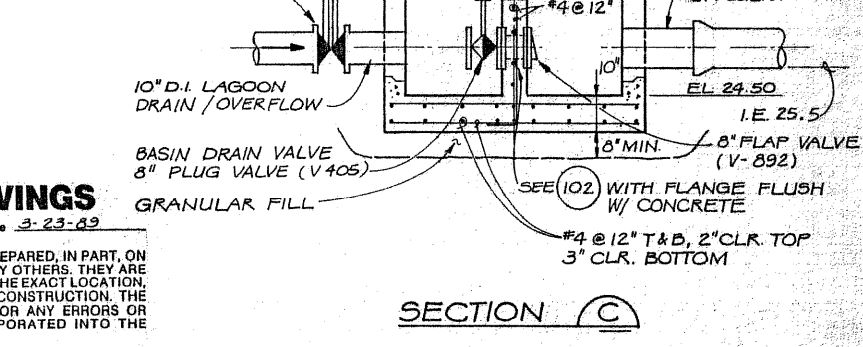
SECTION C
 OVERFLOW CONTROL DETAILS 6
 3/8" = 1'-0" (TYPICAL OF 2)
 2" RIGID FOUNDATION INSULATION BOARD
 TOP EL 47.00
 #4 @ 12", 3" CLR. BOTTOM
 4" FOAMED-IN-PLACE INSULATION ALL AROUND
 GALVANIZED STL. DROP LOG GUIDE L'S 3 x 3 x 1/4 WITH 5/8 DIA x 3/16 SST WEDGE ANCHORS @ 2'-0" OC (TYP)
 4" FLAP VALVE (V-892)
 7" MIN.
 12" PLANT EFFLUENT
 PRECAST CONCRETE
 ISOLATION VALVE 10" GV (V115)
 10" D.I. LAGOON DRAIN / OVERFLOW
 BASIN DRAIN VALVE 8" PLUG VALVE (V 405)
 GRANULAR FILL
 SEE (102) WITH FLANGE FLUSH W/ CONCRETE
 #4 @ 12" T&B, 2" CLR. TOP 3" CLR. BOTTOM



CHECKERED PLATE DETAIL 2
 3" = 1'-0" (TYPICAL ALL COVER PLATES)
 2-L. 3x3 x 1/4 GALV. STL.
 L 2x2 x 1/4 GALV. STL.
 5/8" DIA x 5" SST WEDGE ANCHORS
 NOTE: HOT DIP GALV FINISHED ASSEMBLIES AFTER FABRICATION (TYPICAL)
 3/16" V 2-G TYP
 1/4" MAX
 1/2"
 1/4" GALV STL CKRD PLATE
 1/2" MAX
 3/4"
 1/4" SST FLAT HEAD SCREWS W/ 2 SQ NUTS WELD TO L ONE @ EA. END.
 1/4 x 3/4" SST STL. FLAT BAR
 3/16" TYP
 3/8" DIA x 6" SST ANCH. AT 18" O.C. HOOK 2"
 355 L 2x2 x 1/4
 2" RIGID FOUNDATION INSULATION



RECORD DRAWINGS
 Revisions Drawn by C. ROBERTS Date 3-23-89
 THESE RECORD DRAWINGS HAVE BEEN PREPARED, IN PART, ON THE BASIS OF INFORMATION COMPILED BY OTHERS. THEY ARE NOT INTENDED TO REPRESENT IN DETAIL THE EXACT LOCATION, TYPE OF COMPONENT NOR MANNER OF CONSTRUCTION. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THE RECORD DRAWINGS.
 3" GALV STL VENT PIPE #4 @ 12", 3" CLR. BOT.
 TOP EL 47.75
 #4 @ 12", 3" CLR. BOTTOM
 GUARD POSTS SEE (204) (TYP 6)
 2" RIGID FDN INSULATION ADHERE W/ MASTIC.
 SEE (202)
 4" FLAP VALVE (V-892)
 4" FLUSHING WATER IE 38.5
 7" MIN.
 4" CHECK VALVE (V-870)
 4" PLUG VALVE (V-405)
 4" FOAMED-IN-PLACE INSULATION
 PRECAST CONCRETE
 4" DISCHARGE LINES @ EL. 39.00-38.23
 EL. 39.00-37.45
 SLOPE GROUT TO DRAIN
 PRECAST CONCRETE
 ISOLATION VALVE 10" GV (V115)
 10" D.I. LAGOON DRAIN / OVERFLOW
 BASIN DRAIN VALVE 8" PLUG VALVE (V 405)
 GRANULAR FILL
 SEE (102) WITH FLANGE FLUSH W/ CONCRETE
 #4 @ 12" T&B, 2" CLR. TOP 3" CLR. BOTTOM



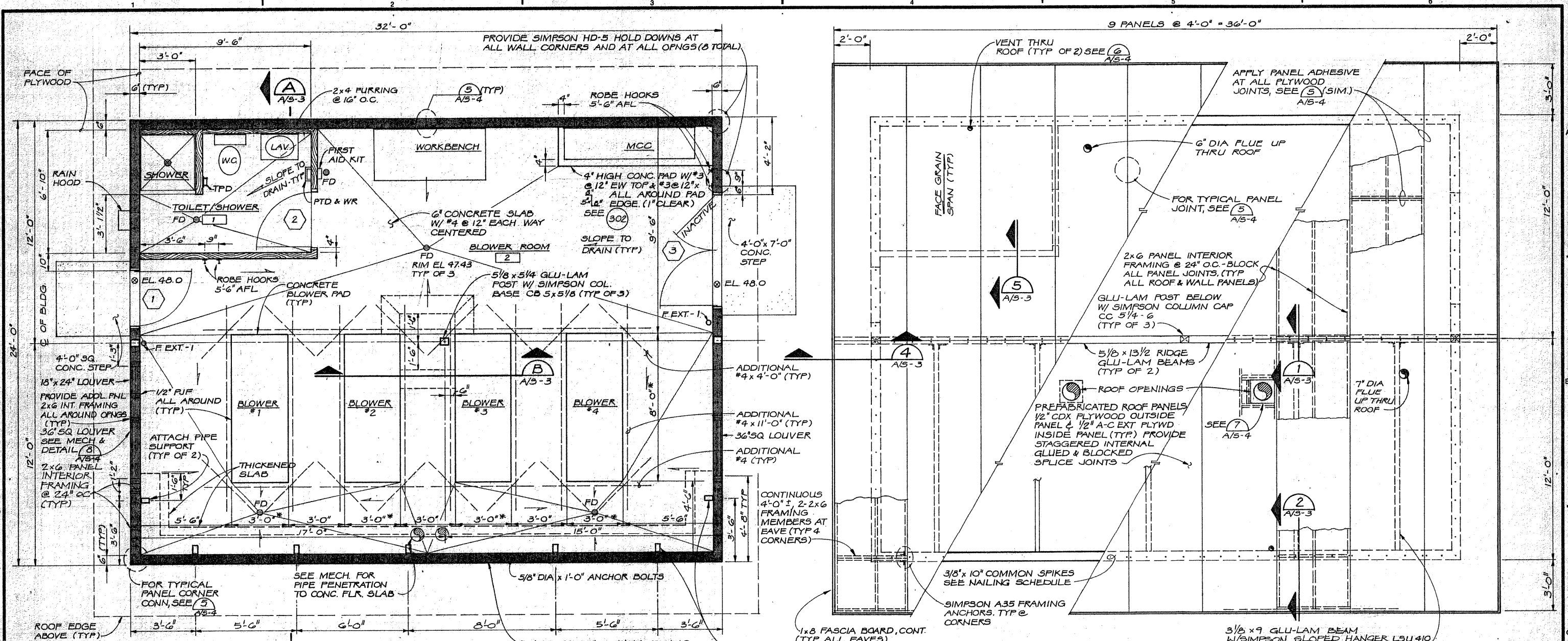
OVERFLOW CONTROL DETAILS 6
 3/8" = 1'-0" (TYPICAL OF 2)
 2" RIGID FOUNDATION INSULATION BOARD
 TOP EL 47.00
 #4 @ 12", 3" CLR. BOTTOM
 4" FOAMED-IN-PLACE INSULATION ALL AROUND
 GALVANIZED STL. DROP LOG GUIDE L'S 3 x 3 x 1/4 WITH 5/8 DIA x 3/16 SST WEDGE ANCHORS @ 2'-0" OC (TYP)
 4" FLAP VALVE (V-892)
 7" MIN.
 12" PLANT EFFLUENT
 PRECAST CONCRETE
 ISOLATION VALVE 10" GV (V115)
 10" D.I. LAGOON DRAIN / OVERFLOW
 BASIN DRAIN VALVE 8" PLUG VALVE (V 405)
 GRANULAR FILL
 SEE (102) WITH FLANGE FLUSH W/ CONCRETE
 #4 @ 12" T&B, 2" CLR. TOP 3" CLR. BOTTOM



| | | | |
|--------|---------------|----------|---------|
| DESIGN | DON WRIGHT | DATE | 3-23-89 |
| DR | V.N. DAVID | BY | APVD |
| CHK | M.A. Schmiege | REVISION | |
| APVD | | NO. | |

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 CITY OF DILLINGHAM
 DILLINGHAM, ALASKA
 SEWERAGE SYSTEM IMPROVEMENTS
 INLET DIVERSION BOX, SEPTAGE PUMP STATION AND OVERFLOW CONTROL DETAILS
 SHEET 19
 DWG NO. G-19
 DATE JUNE 1988
 PROJ. NO. K20287.A1

| | | | |
|--------|---------------|----------|---------|
| DESIGN | DON WRIGHT | DATE | 3-23-89 |
| DR | V.N. DAVID | BY | APVD |
| CHK | M.A. Schmiege | REVISION | |
| APVD | | NO. | |



FLOOR PLAN
3/8" = 1'-0"

ROOF FRAMING PLAN
3/8" = 1'-0"

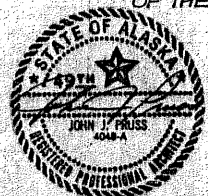
STRUCTURAL NOTES:

- LIVE LOADS:
WIND 40 PSF
ROOF 30 PSF
UBC SEISMIC ZONE 3
- NAILING SCHEDULE:
3/8" x 10" COMMON SPIKES - ROOF PANELS TO ALL EXTERIOR WALLS @ 12" O.C.
- ROOF PANELS TO GLU-LAM RIDGE BEAM @ 12" O.C.
10d GALV COMMON NAIL - ALL WALL & ROOF PLYWOOD PANELS TO 2x6 INTERNAL FRAMING @ 6" O.C. (INCLUDING (5))
20d GALV COMMON NAIL - WALL PANEL BASE TO 3x6 SILL PLATE @ 12" (BOTH SIDES)
- PROVIDE PANEL ADHESIVE FOR ALL PREFABRICATED WOOD PANEL JOINTS & SPLICES. SEE SPECIFICATIONS SECTION 06100
- ROOF PANELS SHALL BE FABRICATED W/ THE A-SURFACE OF THE INTERIOR SHEATHING EXPOSED TO VIEW.
- WALL PANELS SHALL BE FABRICATED W/ THE OVERLAY-SURFACE OF THE INTERIOR SHEATHING EXPOSED TO VIEW.

* SEE EQUIPMENT BASE NOTES, DWG NO.

GENERAL NOTES

- COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES.
- VERIFY GRADES SHOWN ON DRAWINGS.
- UNLESS OTHERWISE NOTED, PLAN DIMENSIONS ARE TO COLUMN GRID OR COLUMN CENTERLINES, FACE OF STUDS, AND FACE OF FINISHED OPENINGS.
- DO NOT SCALE DRAWINGS; USE WRITTEN DIMENSIONS.
- VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT PROVIDED IN THIS CONTRACT, OR BY OTHERS.
- VERIFY SIZE AND LOCATION OF, AND PROVIDE: ALL OPENINGS THROUGH FLOORS, WALLS, AND ROOF, ACCESS DOORS, FURRING, CURBS, ANCHORS, INSERTS, MACHINE BASES, AND ROUGH BUCKS AND BACKING FOR SURFACE-MOUNTED ITEMS.
- REPETITIVE FEATURES OFTEN ARE DRAWN ONLY ONCE AND SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
- WOOD PARTITIONS ARE 2 x 4 STUDS @ 16" o.c. WITH 5/8" WR GYPSUM WALLBOARD ON TOILET ROOM SIDE AND 1/2" MDO PLYWOOD ON BLOWER ROOM SIDE.
- EXTERIOR WALLS AND ROOF ARE CONSTRUCTED OF 2 x 6 STUD/JOIST AND PLYWOOD PREFABRICATED PANELS WITH 5-1/2 INCHES OF RIGID INSULATION IN ALL VOIDS. TYPE OF PLYWOOD EACH FACE IS SHOWN ON DRAWINGS.
- FLOOR LINE REFERS TO TOP OF CONCRETE SLAB.
- WHERE PIPES OR CONDUIT PASS THROUGH WALLS OR FLOORS, PACK OPENING TIGHT WITH MINERAL WOOL.
- REFER TO MECHANICAL, ELECTRICAL, AND OTHER CATEGORIES OF DRAWINGS FOR ADDITIONAL NOTES AND SYMBOLS.
- DOOR AND HARDWARE SCHEDULE IS SHOWN ON DWG NO. A/5-2
- ALL EXPOSED EXTERIOR AND INTERIOR BUILDING SURFACES, EXCEPT CONCRETE, ARE TO BE EITHER FACTORY FINISHED OR FIELD PAINTED. SEE PAINTING SPEC, SECTION 09902, FOR PAINT SYSTEMS AND WHERE EACH IS USED. COLORS SHALL BE AS SELECTED BY OWNER.



DESIGN: J.O.H. J.D.W.
OR: V.N.D.
CHECK: M.A. Schmiege
APPROVED:

| NO. | DATE | REVISION | BY | APVD |
|-----|------|----------|----|------|
| | | | | |

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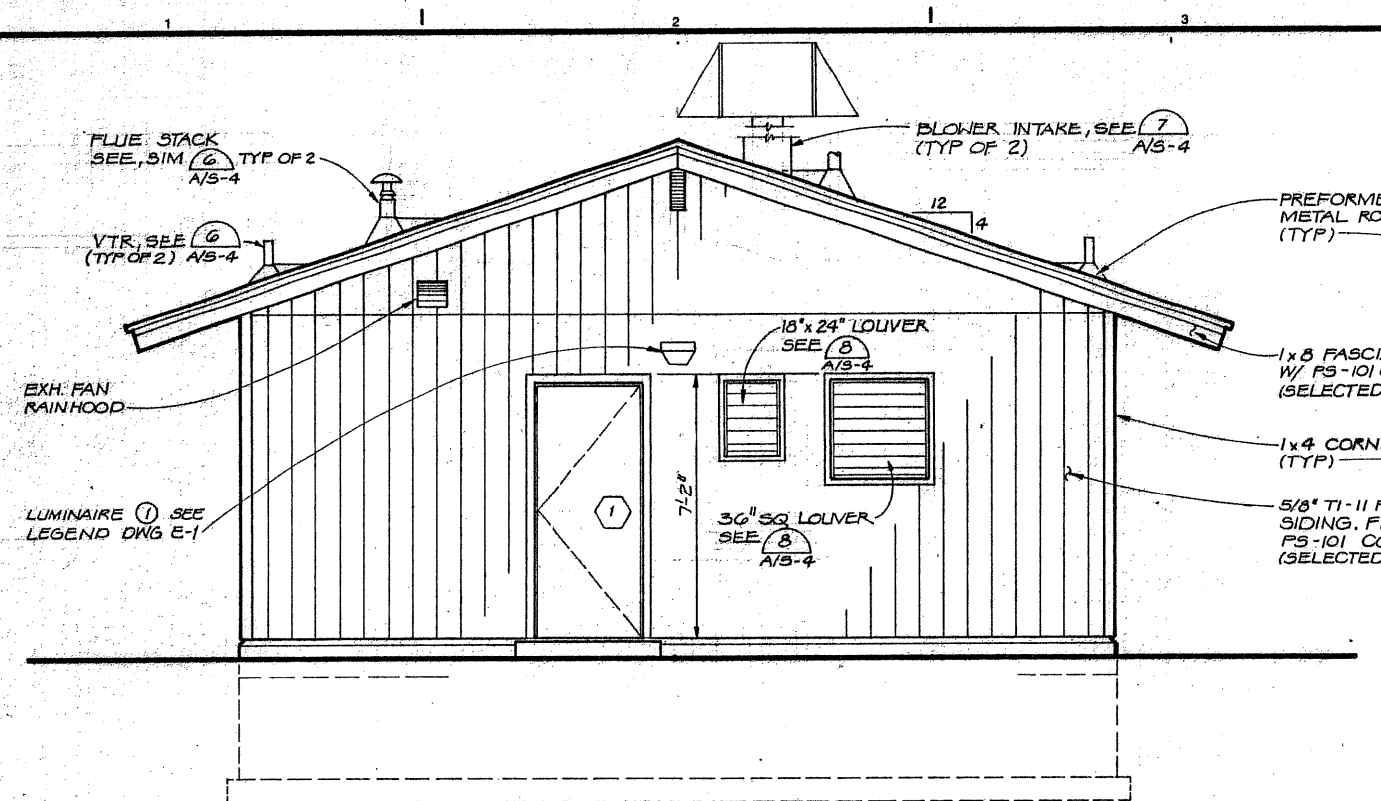
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CITY OF DILLINGHAM
DILLINGHAM, ALASKA

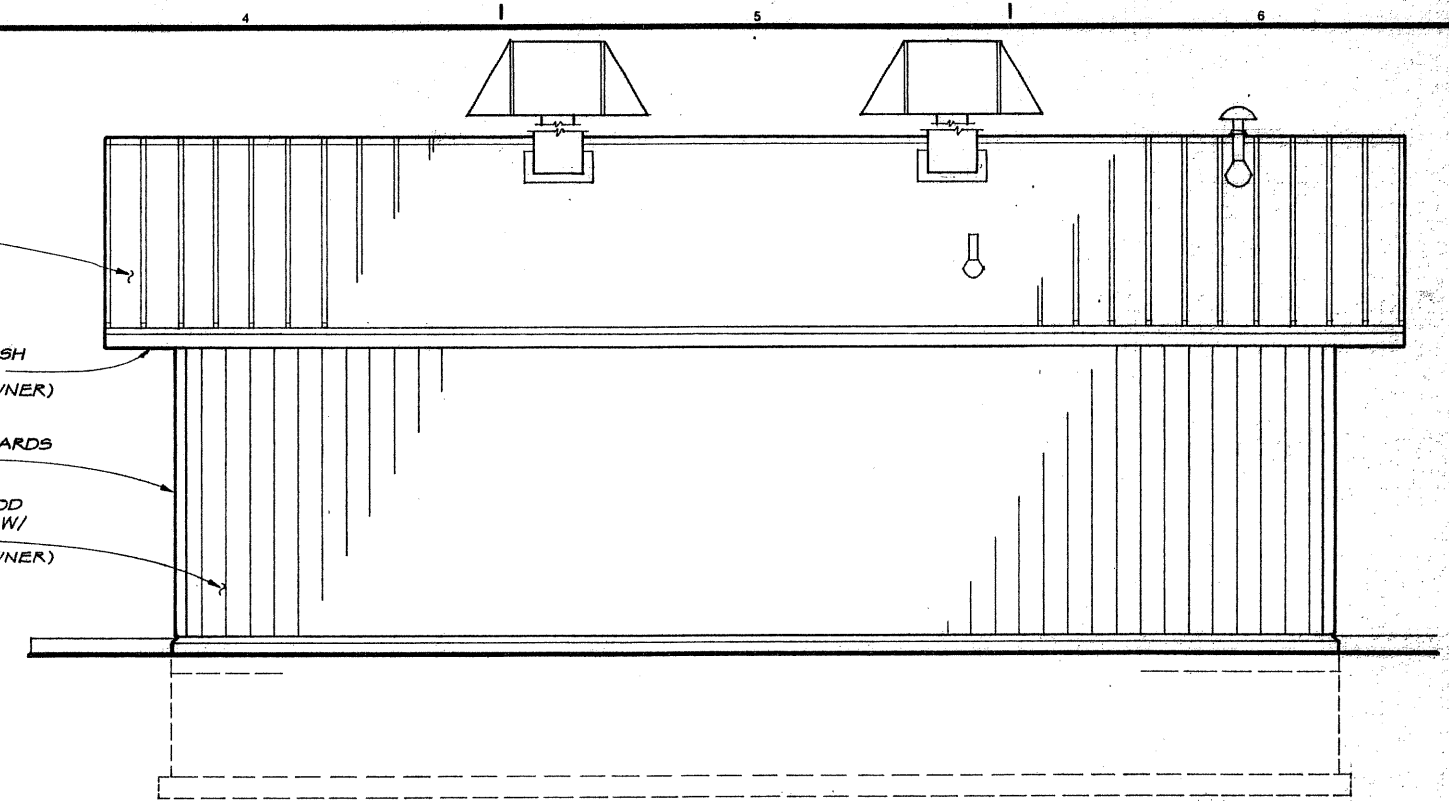
SEWERAGE SYSTEM IMPROVEMENTS
BLOWER BUILDING FLOOR AND ROOF FRAMING PLAN

SHEET 16
DWG NO. A/5-1
DATE JUNE 1986
PROJ. NO. K20287.A1

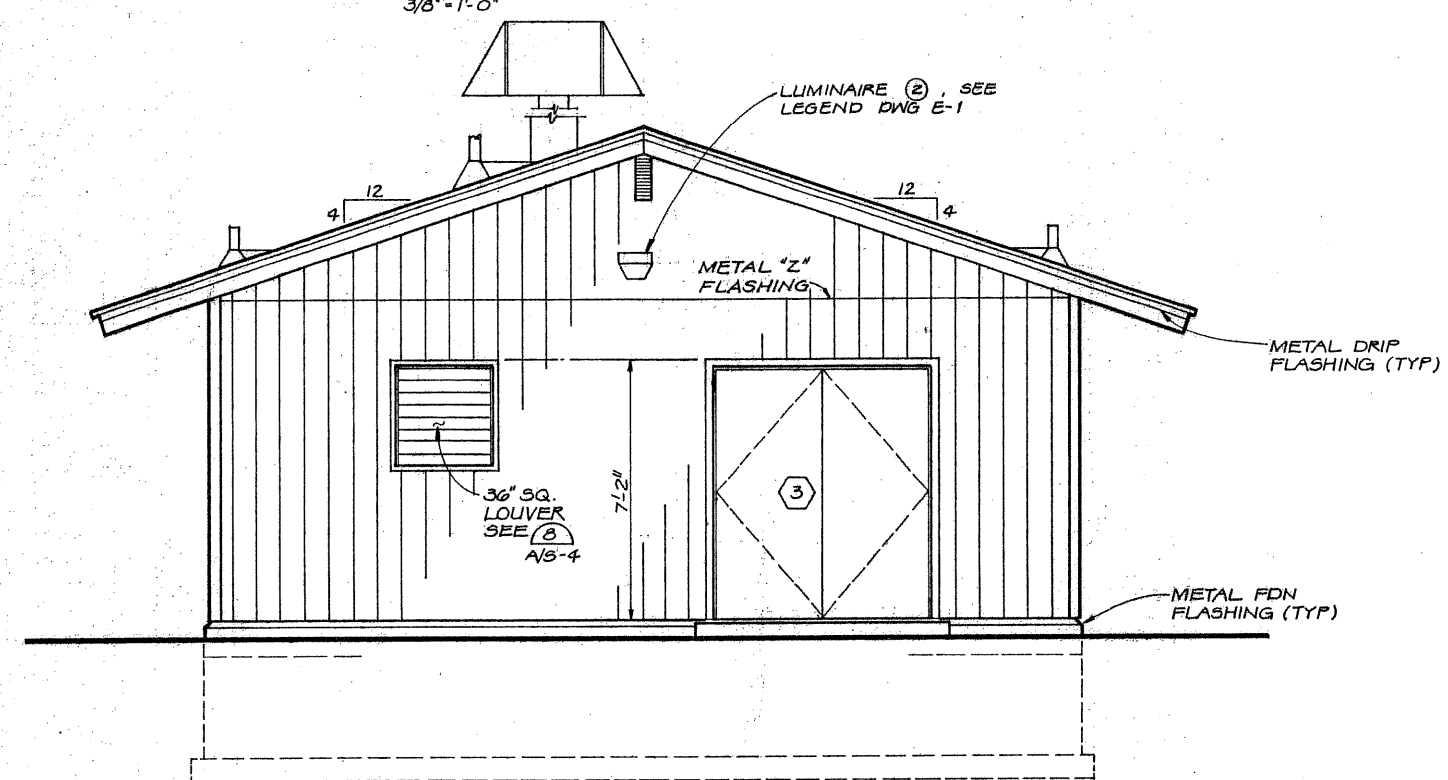
G16



SOUTH ELEVATION
3/8" = 1'-0"

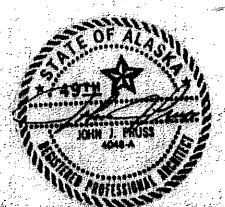


EAST ELEVATION (WEST SIMILAR)
3/8" = 1'-0"



NORTH ELEVATION
3/8" = 1'-0"

| DOOR SCHEDULE | | | | | | | | | |
|---------------|---------|-------|--------|-------|-------|-------|---------------|---------|--|
| NO. | OPENING | | DOOR | | | FRAME | | HDW SET | REMARKS |
| | W | H | THKNS | CONST | TYPE | CONST | DETAILS | | |
| 1 | 3'-0" | 7'-0" | 1 3/4" | HM | FLUSH | HM | 1&3-(A/S-4) | 1 | |
| 2 | 3'-0" | 7'-0" | 1 3/4" | SC WD | FLUSH | WOOD | 4-(A/S-4) | 2 | |
| 3 | 6'-0" | 7'-0" | 1 3/4" | HM | FLUSH | HM | 1,2,3-(A/S-4) | 3 | |
| 4 | 6'-0" | 7'-0" | 1 3/4" | HM | FLUSH | HM | 1,2,3-(A/S-4) | 3 | SEE PUMP STA. DWG. A/S-5, FOR LOCATION |



| | | | | | | | |
|------|----------------|-----|------|----------|----|------|-----------|
| DSGN | J.O.H. | | | | | | |
| DR | V.N.D. | | | | | | |
| CHK | M. A. Schmiege | | | | | | |
| APVD | | NO. | DATE | REVISION | BY | APVD | CH2M HILL |

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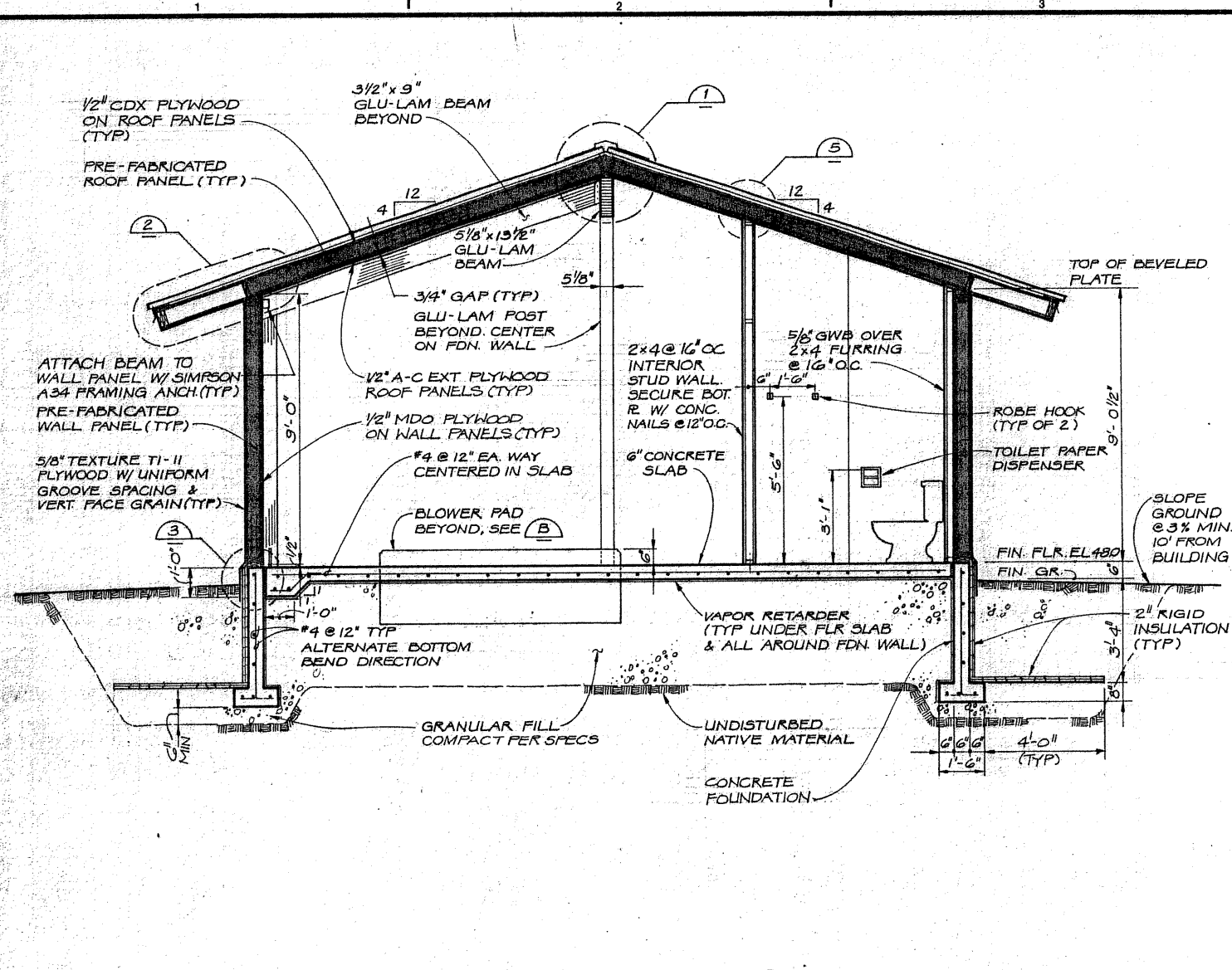
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CITY OF DILLINGHAM
DILLINGHAM, ALASKA

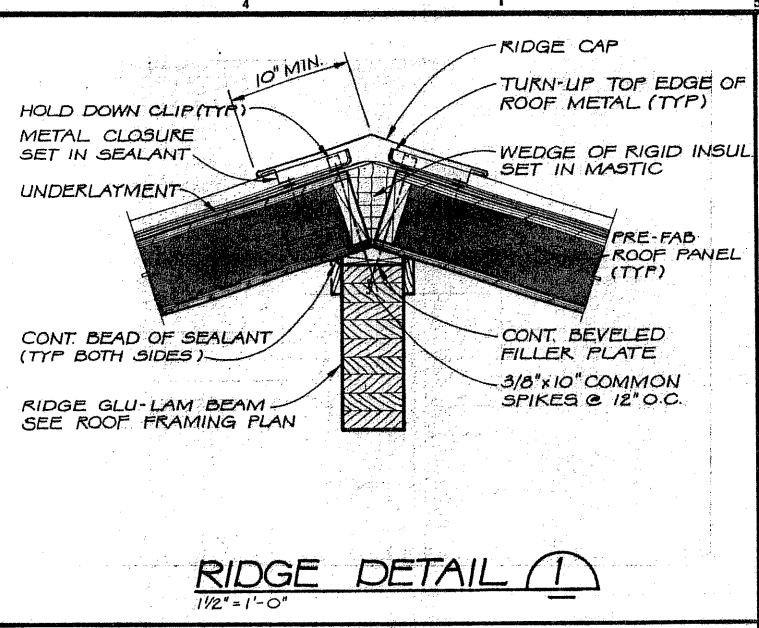
SEWERAGE SYSTEM IMPROVEMENTS
BLOWER BUILDING ELEVATIONS AND SCHEDULE

SHEET 17
DWG NO. A/S-2
DATE JUNE 1986
PROJ NO. K20297.A1

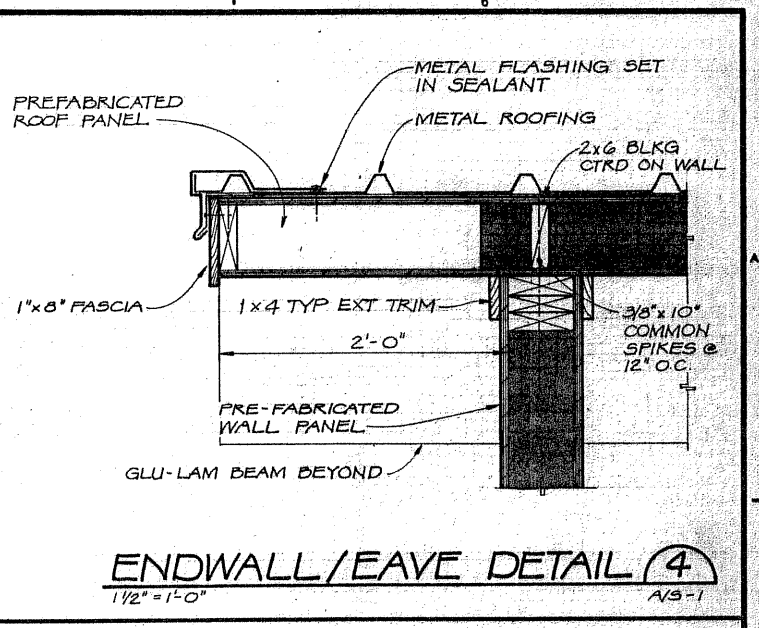
G17



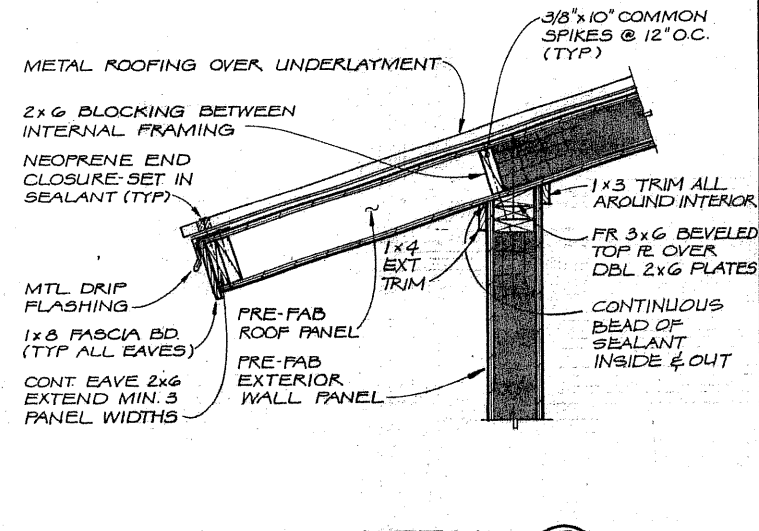
SECTION A
3/8" = 1'-0"
A/S-1



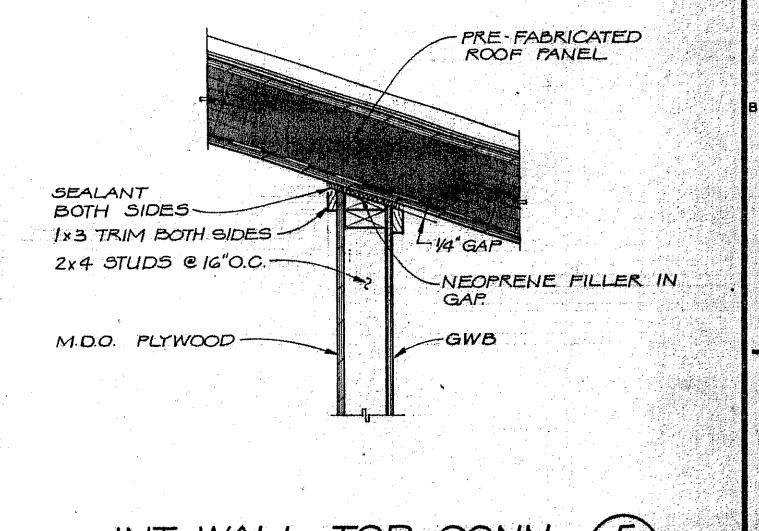
RIDGE DETAIL 1
1/2" = 1'-0"



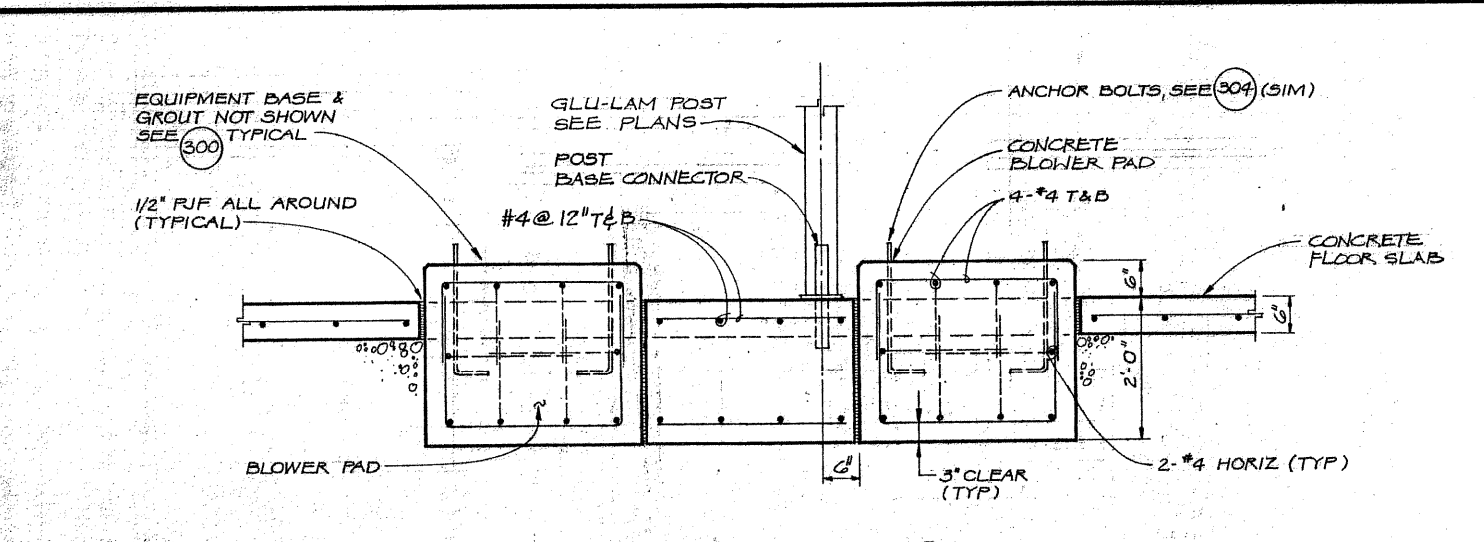
ENDWALL/EAVE DETAIL 4
1/2" = 1'-0"
A/S-1



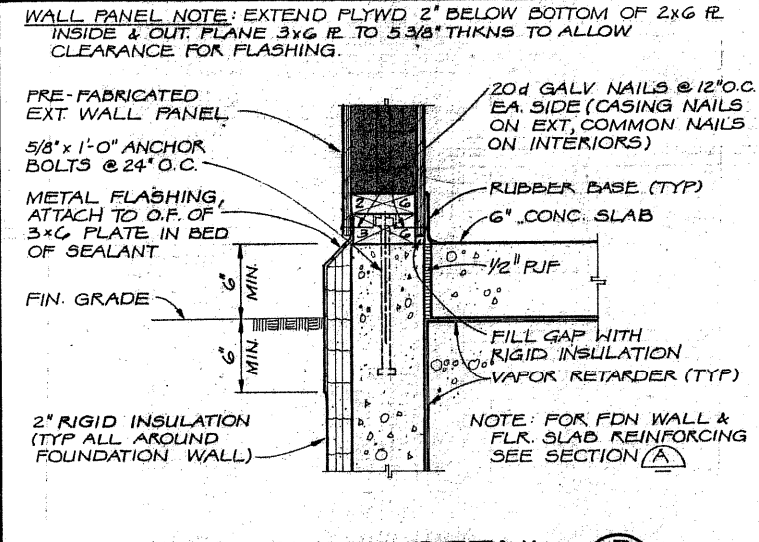
EAVE DETAIL 2
3/4" = 1'-0"



INT. WALL TOP CONN. 5
1/2" = 1'-0"



SECTION B
3/4" = 1'-0"
A/S-1



WALL CONN. DETAIL 3
1/2" = 1'-0"



| | | | | | |
|------|---------------|------|----------|----|------|
| DSGN | J.O.H.J.D.W. | | | | |
| DR | V.N.D. | | | | |
| CHK | M.A. Schmiege | | | | |
| APVD | | | | | |
| | NO. | DATE | REVISION | BY | APVD |

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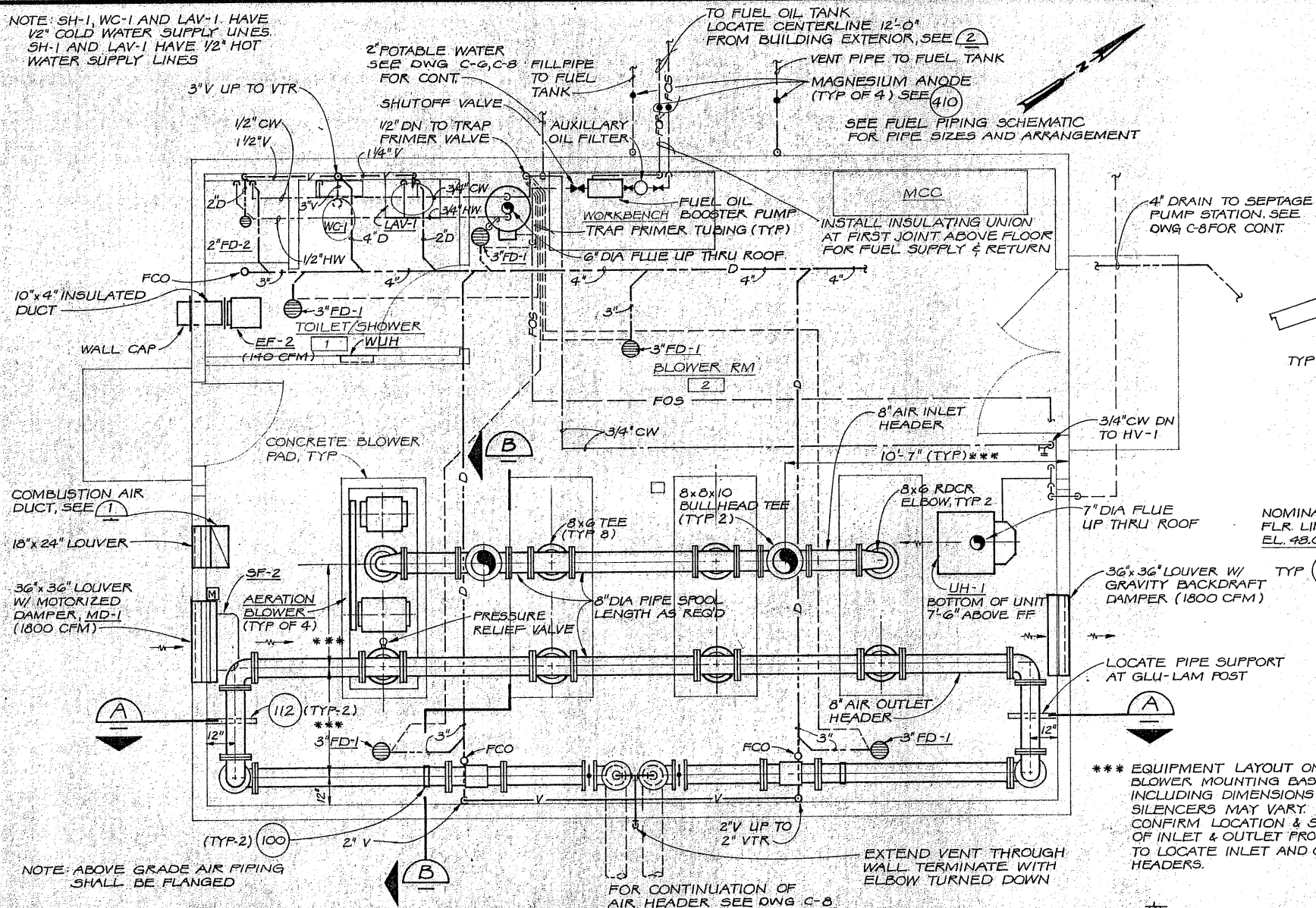
CITY OF DILLINGHAM
DILLINGHAM, ALASKA

SEWERAGE SYSTEM IMPROVEMENTS
BLOWER BUILDING SECTION AND DETAILS

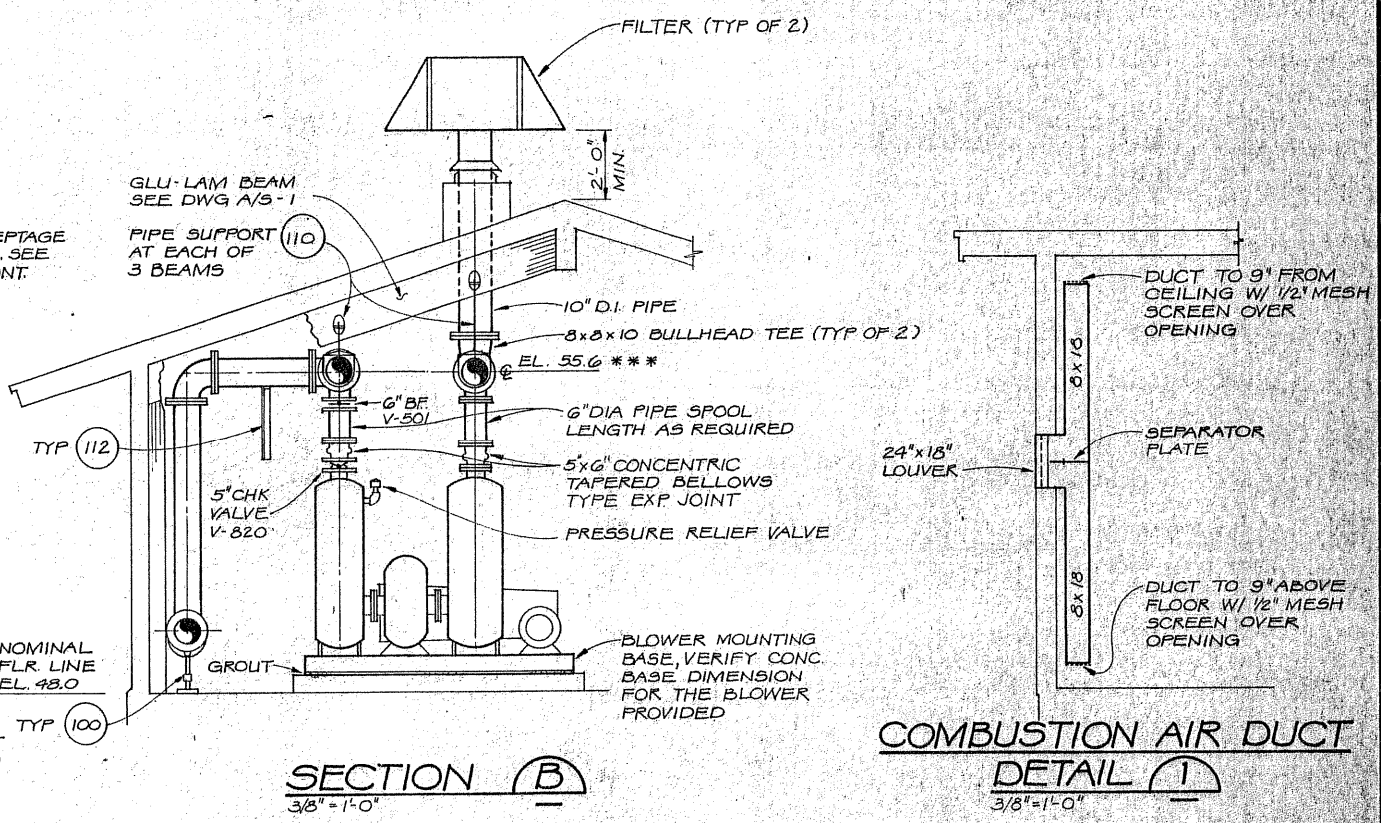
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| SHEET | 18 |
| DWG NO. | A/S-3 |
| DATE | JUNE 1986 |
| PROJ NO. | K20297.A1 |

G18

NOTE: SH-1, WC-1 AND LAV-1 HAVE 1/2" COLD WATER SUPPLY LINES. SH-1 AND LAV-1 HAVE 1/2" HOT WATER SUPPLY LINES

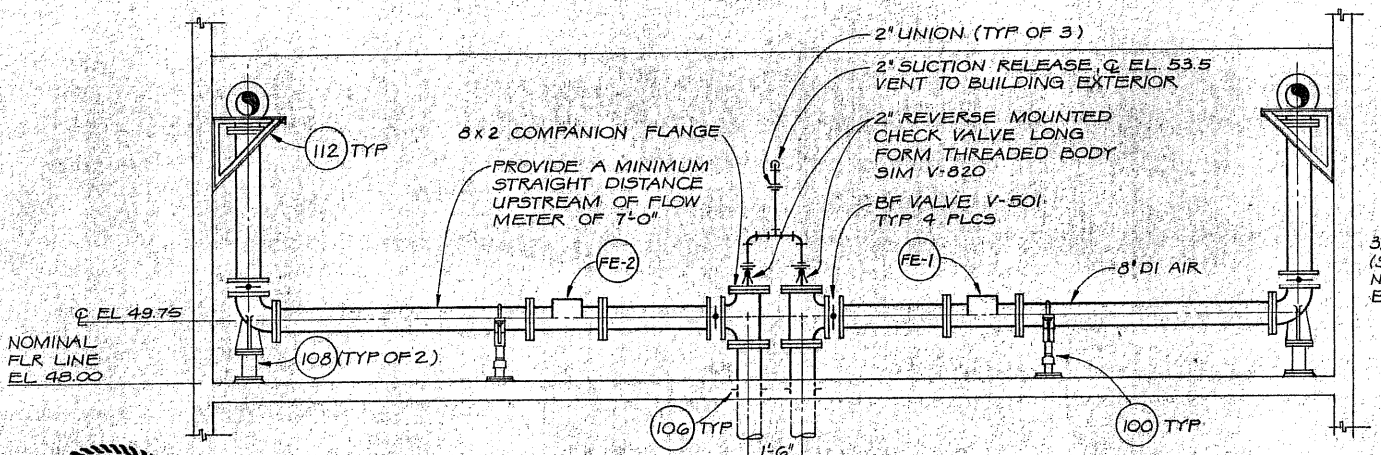


MECHANICAL - PLAN
3/8" = 1'-0"

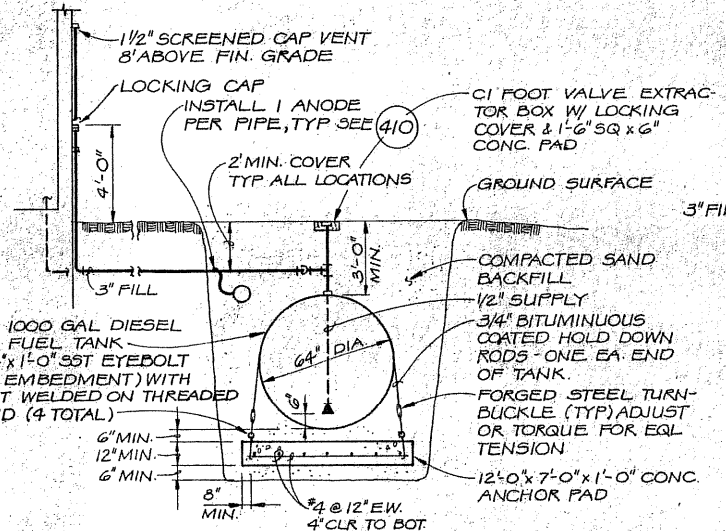


SECTION B
3/8" = 1'-0"

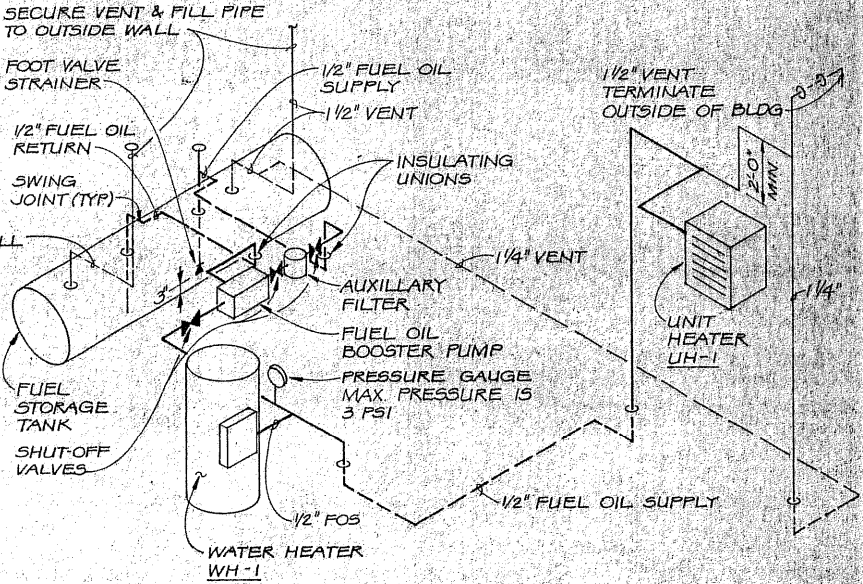
COMBUSTION AIR DUCT DETAIL 1
3/8" = 1'-0"



SECTION A
3/8" = 1'-0"

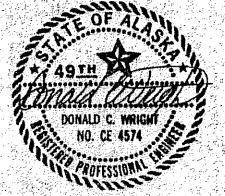


FUEL TANK DETAIL 2
NTS



FUEL PIPING SCHEMATIC
NTS

*** EQUIPMENT LAYOUT ON BLOWER MOUNTING BASE INCLUDING DIMENSIONS OF SILENCERS MAY VARY. CONFIRM LOCATION & SIZE OF INLET & OUTLET PROVIDED TO LOCATE INLET AND OUTLET HEADERS.



| | | | | | |
|------|----------------|----------|----|------|--|
| DSGN | D. WRIGHT | | | | |
| DR | V.N.D. | | | | |
| CHK | M. A. Schmiege | | | | |
| APVD | | | | | |
| NO. | DATE | REVISION | BY | APVD | |

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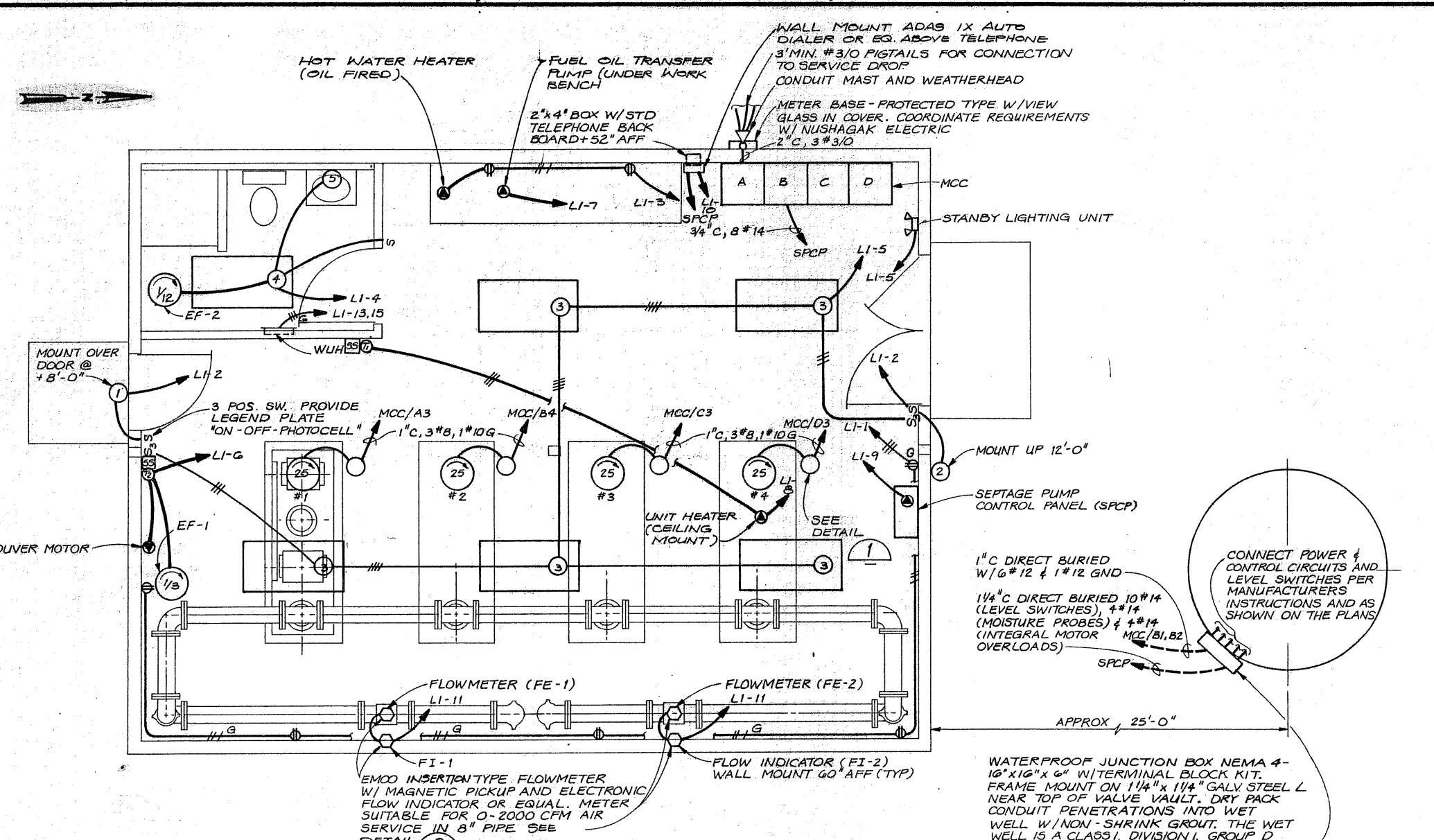
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

CITY OF DILLINGHAM
DILLINGHAM, ALASKA

SEWERAGE SYSTEM IMPROVEMENTS
BLOWER BLDG PIPING PLAN, SECTIONS & PIPING SCHEMATIC DIAGRAM

| | |
|----------|-----------|
| SHEET | 21 |
| DWG NO. | M-1 |
| DATE | JUNE 1986 |
| PROJ NO. | K20297.A1 |

DRAWN BY: []
 CHECKED BY: []
 PROJECT: []
 CONTRACT: []
 REVISIONS: []
 SCALE: []
 DATE: []

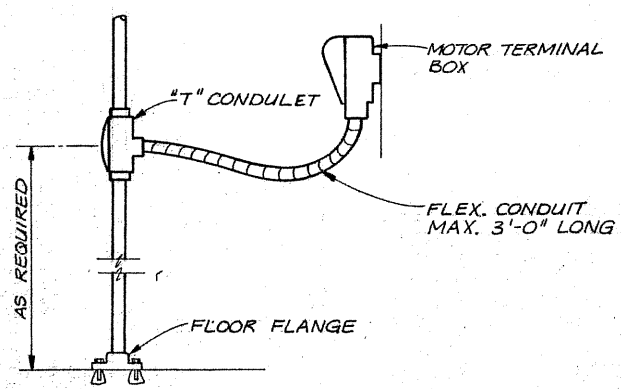


ELECTRICAL POWER AND LIGHTING PLAN

3/8" = 1'-0"

- LEGEND**
- S₃ WALL SWITCH, 3-3 WAY.
 - ⊕ DUPLEX CONV. OUTLET, 20 A.
 - HOMERUN—SOLID LINES INDICATE RACEWAY EXPOSED (UNMARKED RUNS ARE 1/2" C, 2*12). HASHMARKS INDICATE NUMBER OF #12 CONDUCTORS. G INDICATES GROUND CONDUCTOR. DASHED LINES INDICATE CONCEALED RACEWAY.
 - INDICATING LIGHT - G=GREEN, R=RED, W=WHITE.
 - ① HPS LUMINAIRE W/INTEGRAL PHOTOCELL & BALLAST RATED FOR -20°F. 70 WATT LAMP - STONCO VW 70NLXL - P150A OR EQUAL.
 - ② INCANDESCENT LUMINAIRE. 300 WATT LAMP - STONCO WPM 300 OR EQUAL.
 - ③ FLUORESCENT LUMINAIRE. 3-F40 CW LAMPS BENJAMIN VAPORTITE FV-1334-4 OR EQUAL.
 - ④ FLUORESCENT LUMINAIRE. 2-F40 CW LAMPS BENJAMIN VAPORTITE FV-1324-4 OR EQUAL.
 - ⑤ INCANDESCENT LUMINAIRE. 2-75 W/A19 LAMPS W/PULL SWITCH & GROUNDED CONV. OUTLET. LITHONIA WUP-PC-SI-CO OR EQUAL.
 - ⑥ INCANDESCENT LUMINAIRE. 150 WATT LAMP - BENJAMIN 6802 OR EQUAL.
 - ⊖ ELECTRICAL MOTOR - HORSEPOWER SHOWN ON PLANS.
 - ELECTRICAL CONNECTION POINT TO IDENTIFIED EQUIPMENT.
 - ⊖ CIRCUIT BREAKER - AMP INDICATED. MAGNETIC ONLY CIRCUIT BREAKER INDICATED BY LETTER M.
 - ⊖ THERMOSTAT - LINE VOLTAGE TYPE, CONTACTS CLOSE ON FALLING TEMP. TEMP RANGE 35-90°F. CONTACTS RATED 22A. SINGER 7164D OR EQ.
 - ⊖ THERMOSTAT - LINE VOLTAGE TYPE, CONTACTS CLOSE ON RISING TEMP. TEMP RANGE 35-90°F. CONTACTS RATED 22A. SINGER 7165B OR EQ.
 - SS SELECTOR SWITCH IN NEMA 1 ENCLOSURE. SEE CONTROL DIAGRAM FOR FUNCTION.
 - SW INSTRUMENT SWITCH
 - V VOLTMETER
 - A AMMETER
 - ETM ELAPSED TIME METER

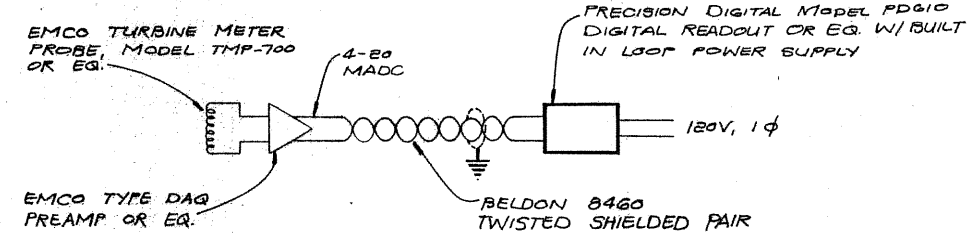
SEPTAGE PUMP STATION



TYPICAL OVERHEAD CONDUIT TO MOTOR INSTALLATION

DETAIL 1

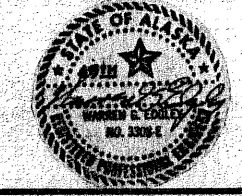
NTS



TYPICAL ELEMENTARY DIAG-AIR FLOW MEASUREMENT & READOUT LOOP

DETAIL 2

NTS



DESIGN: W.G. EDGLEY
 DRAWN: J. MYER/D. MILLER
 CHECKED: M.A. Schmiege
 APPROVED: [Signature]

| NO. | DATE | REVISION | BY | APVD |
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CITY OF DILLINGHAM
 DILLINGHAM, ALASKA

SEWERAGE SYSTEM IMPROVEMENTS
 BLOWER BUILDING ELECTRICAL
 POWER AND LIGHTING PLAN AND
 ELECTRICAL LEGEND

SHEET 22
 DWG NO. E-1
 DATE JUNE 1986
 PROJ NO. K20297-A1

FORMAT 2824 DC

G22

