

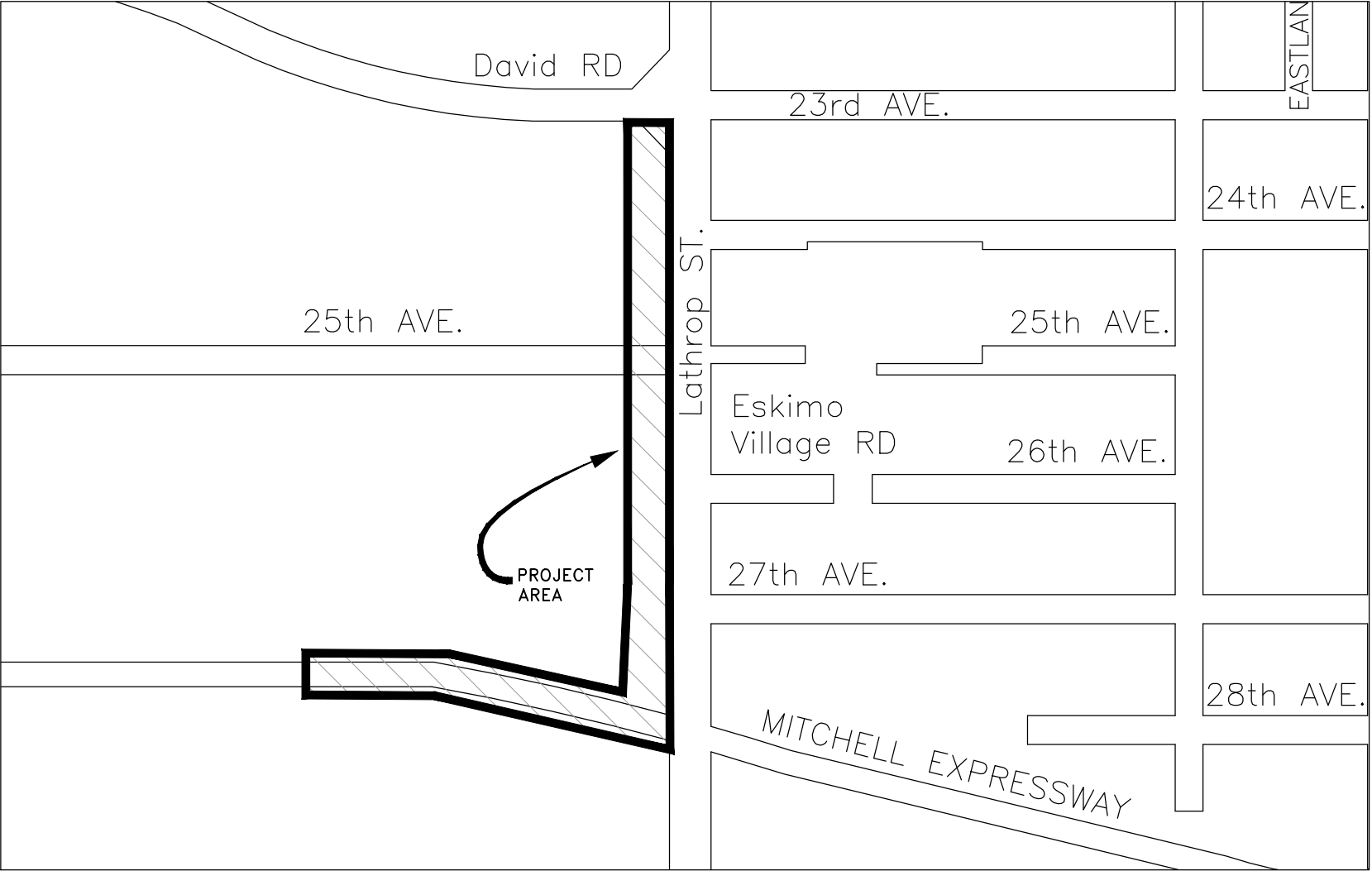
PROJECT  
LOCATION



CITY OF FAIRBANKS

PROPOSED STORM DRAIN PROJECT  
ITB-25-05  
LATHROP DITCH IMPROVEMENTS

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
A1	TITLE SHEET
A2	QUANTITIES AND GENERAL NOTES
B1	TYPICAL SECTION
U1 – U5	STORM DRAIN PLAN & PROFILE
SD1 – SD2	CITY OF FAIRBANKS STANDARD DETAILS – STORM DRAIN



VICINTY MAP

DATE	REVISION	BY

SCALE: NONE

DESIGNED: RHP/KLL  
DRAWN:  
CHECKED: RHP  
DATE: 01/24/2025

APPROVED  
\_\_\_\_\_  
CITY ENGINEER  
DATE



LATHROP DITCH IMPROVEMENTS

CITY OF FAIRBANKS, ALASKA  
Engineering Department  
Project ITB-25-05

A1  
OF 10  
SHEETS

P:\Lathrop Ditch\23rd - Lathrop Storm Drainage 2023\Civil3D Drawing Files\L3 Production\TITLE SHEET-Title Wed, Feb/19/25 01:21pm

P:\Lathrop Ditch\23rd - Lathrop Storm Drainage 2023\Civil3D Drawing Files\1.3 Production\QUANTITIES-NOTES-ABBREVIATIONS Wed, Feb/19/25 01:34pm

ESTIMATE OF QUANTITIES			
ITEM NO.	PAY ITEM	PAY UNIT	QUANTITY
202.0001.0000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP SUM	ALL REQUIRED
603.0020.0018	END SECTION FOR 18 INCH	EACH	2
603.0020.0048	END SECTION FOR 48 INCH	EACH	1
603.0021.0018	CORRUGATED POLYETHYLENE PIPE 18 INCH	LINEAR FOOT	50
603.0021.0048	CORRUGATED POLYETHYLENE PIPE 48 INCH	LINEAR FOOT	1195
604.0001.0000	STORM SEWER MANHOLE, 72 INCH	EACH	5
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQUIRED
642.0001.0000	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQUIRED
643.0002.0000	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQUIRED

SUBSIDIARY QUANTITY ESTIMATES		
ITEM DESCRIPTION	UNIT	QUANTITY
PIPE BEDDING	CUBIC YARD	1,505
BACKFILL	CUBIC YARD	1,310
SEEDING	SQUARE YARD	3,200
HMA, TYPE II; CLASS B	TON	11
ASPHALT BINDER, GRADE 52-28	TON	0.6

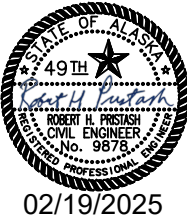
GENERAL NOTES


1. GRADES, ALIGNMENTS, APPROACH LOCATIONS, LENGTHS AND LOCATIONS OF CONDUIT RUNS SHOWN ON THESE PLANS ARE SUBJECT TO MINOR REVISIONS BY THE ENGINEER. ALL DISTANCES SHOWN IN THE PLANS ARE HORIZONTAL MEASUREMENTS.
2. SAWCUT ALL MATCH LINES WHERE NEW CONSTRUCTION OF PAVEMENT, SIDEWALK OR CURBING ABUTS EXISTING. SAWCUTS SUBSIDIARY TO RESPECTIVE PAY ITEMS.
3. APPLY WATER FOR DUST CONTROL DAILY OR AS DIRECTED BY THE ENGINEER. PAY SUBSIDIARY TO PAY ITEM 643.0002.0000 TRAFFIC MAINTENANCE.
4. PAYMENT FOR PAY ITEM 202.0001.0000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL BE A LUMP SUM PAYMENT FOR REMOVING ALL ITEMS IN CONFLICT WITH THE IMPROVEMENTS. THESE ITEMS ARE NOT LISTED. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE NATURE OF THIS WORK BEFORE BIDDING.
5. ALL PAYMENTS REQUESTED BY THE CONTRACTOR SHALL BE DEVELOPED BY THE CONTRACTOR IN A FORM ACCEPTABLE TO THE ENGINEER. PAY ESTIMATES SHALL BE SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
6. CONTRACTOR IS RESPONSIBLE FOR PROVIDING THEIR OWN STAGING AREA.
7. NUMEROUS UNDERGROUND UTILITIES EXIST WITHIN THE PROJECT CORRIDOR. THE CONTRACTOR SHALL CONTACT UTILITY OWNERS AND GET LOCATES PRIOR TO EXCAVATION.

ABBREVIATIONS

- ABD – ABANDONED  
AC – ASPHALT CONCRETE  
AP – ANGLE POINT  
ABC – AGGREGATE  
  
BASE COURSE  
BK SDWK – BACK OF SIDEWALK  
BLDG – BUILDING  
BL – BASELINE  
BOP – BEGINNING OF PROJECT  
BV – BUTTERFLY VALVE  
  
C – CONDENSATE CB – CATCH BASIN  
CC – CURB CUT  
CI – CAST IRON  
CL – CENTER LINE  
CONC – CONCRETE  
CS – CONDENSATE SERVICE  
CSP – CORRUGATED STEEL PIPE  
  
D – DUCT BANK  
DIP – DUCTILE IRON PIPE  
DL – DITCH LINE  
DG – DOWN GUY  
DW – DRIVEWAY  
  
E – EAST  
e – SUPERELEVATION  
EA – EACH  
ELEV – ELEVATION  
EOP – END OF PROJECT  
EP – EDGE OF PAVEMENT  
ES – END SECTION  
EXIST – EXISTING  
  
FG – FINISH GRADE  
FH – FIRE HYDRANT  
FL – FLOW LINE  
FLG – FLANGE  
FOC – FACE OF CURB  
FRM – FRAME  
FW – FLUSHWELL  
  
G – GUTTER  
GP – GRADE POINT  
GRP– GUARD POST  
GR – GRADE  
GRT – GRATE  
GV – GATE VALVE  
  
HB – HORIZONTAL BEND  
HDPE – HIGH DENSITY POLYETHYLENE  
HPS – HIGH PRESSURE SODIUM LUMINAIRE  
HWR – HOT WATER RETURN  
HWS – HOT WATER SUPPLY  
HWSS – HOT WATER SERVICE SUPPLY  
  
ID – INSIDE DIAMETER  
IE – INVERT ELEVATION  
INS – INSULATION  
  
L – LENGTH OF CURVE  
LTDL – LEFT DITCH LINE  
LT – LEFT  
LF – LINEAL FEET  
  
MAX – MAXIMUM  
MB – MAILBOX  
MH – MANHOLE  
MIN – MINIMUM  
MON – MONUMENT  
MV – MERCURY VAPOR LUMINAIRE
- NC – NORMALLY CLOSED  
NE – NORTHEAST  
NW – NORTHWEST  
N – NORTH  
N.I.C. – NOT IN CONTRACT  
  
OD – OUTSIDE DIAMETER  
OG – ORIGINAL GROUND  
  
PC – POINT OF CURVATURE  
PCC – POINT OF COMPOUND CURVE  
PI – POINT OF INTERSECTION  
PIV – POST INDICATOR VALVE  
PL – PROPERTY LINE  
POT – POINT ON TANGENT  
PRC – PROPERTY CORNER  
PP – POWER POLE  
PT – POINT OF TANGENCY  
PLVC – POLYVINYL CHLORIDE  
PUE – PERMANENT UTILITY EASEMENT  
PVC – POINT OF VERTICAL CURVATURE  
PVI – POINT OF VERTICAL INTERSECTION  
PVMT – PAVEMENT  
PVT – POINT OF VERTICAL TANGENCY  
  
R – RADIUS  
RTDL – RIGHT DITCH LINE  
RMC – RIGID METAL CONDUIT  
ROW – RIGHT OF WAY  
R&R – REMOVE AND REPLACE  
RT – RIGHT  
RPM – REINFORCED PLASTIC MORTAR  
  
SMTA – SELECTED MATERIAL TYPE A  
s – SLOPE  
S – SOUTH  
SE – SOUTHEAST  
SM – SEWER MAIN  
SMH – SEWER MANHOLE  
SMHS– SEWER MANHOLES  
SCH – SCHEDULE  
SD – STORM DRAIN  
SI – STREET INTERSECTION  
SL – STREET LIGHT  
SP – STEEL PIPE  
SS – SEWER SERVICE  
ST – STEAM  
STA – STATION  
STS – STEAM SERVICE  
SW – SOUTHWEST  
  
T – TELEPHONE  
TC –TOP OF CURB  
TCP– TEMP. CONSTRUCTION PERMIT  
TOC – TOP OF CONDUIT  
TOP – TOP OF PIPE  
TYP– TYPICAL  
  
UG – UNDERGROUND  
  
VB – VALVE BOX  
  
W – WEST  
WM – WATER MAIN  
WS – WATER SERVICE  
WSP – WOOD STAVE PIPE

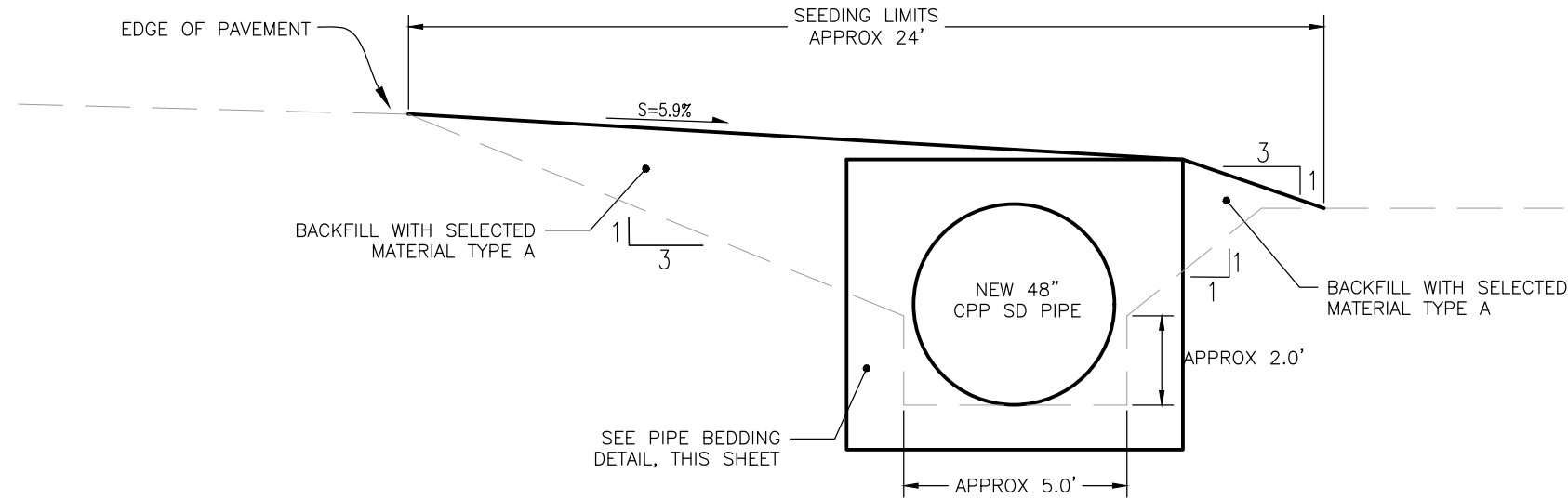
GENERAL NOTES, ABBREVIATIONS,  
AND ESTIMATE OF QUANTITIES



			SCALE: NONE	DESIGNED: RHP/KLL	APPROVED  CITY ENGINEER		CITY OF FAIRBANKS, ALASKA Engineering Department Project ITB-25-05	A2  OF 10 SHEETS
				DRAWN:				
				CHECKED: RHP				
DATE	REVISION	BY		DATE: 01/24/2025	DATE			

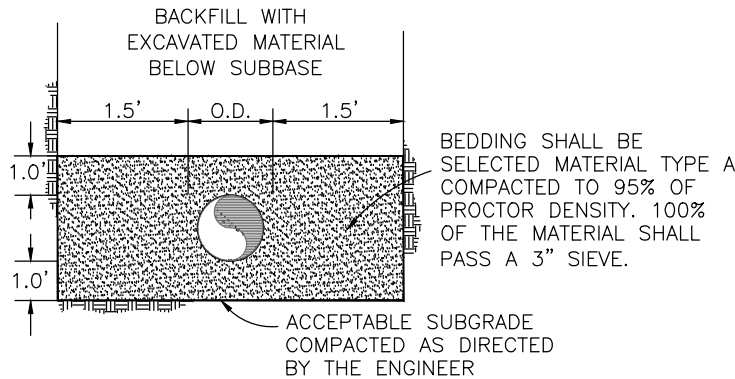
LATHROP DITCH IMPROVEMENTS

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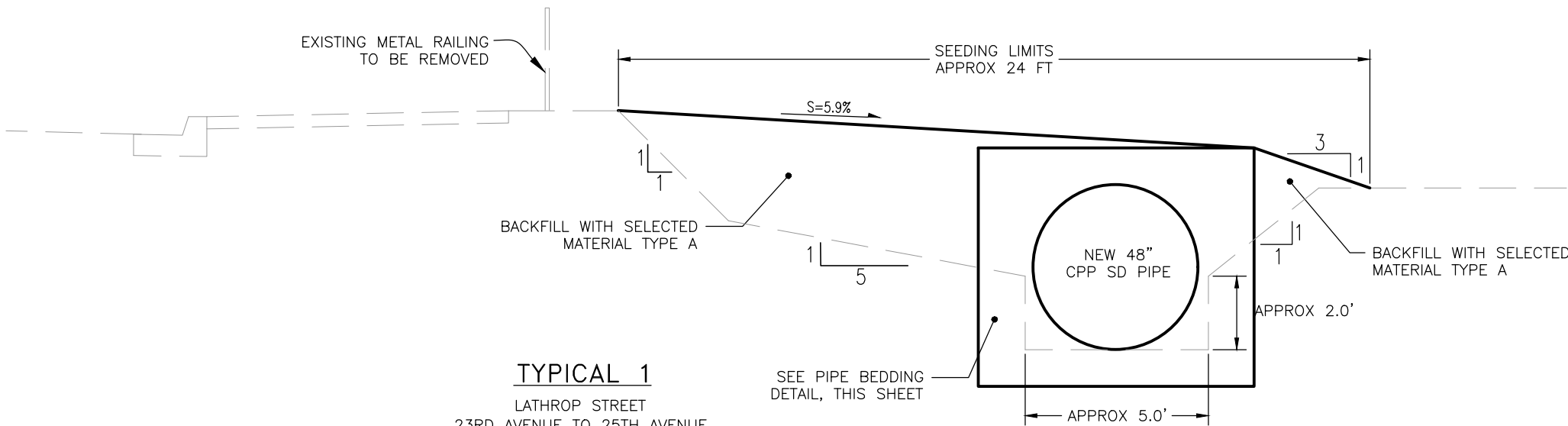


**TYPICAL 2**  
LATHROP STREET  
23RD AVENUE TO 25TH AVENUE

- TYPICAL SECTION NOTE:**
1. INSTALL NEW CPP PIPE IN EXISTING DITCH FLOWLINE OR AS DIRECTED BY THE ENGINEER.
  2. NOTE, THE PIPE BEDDING DETAIL AS SHOWN ON THIS SHEET MODIFIES THE STANDARD PIPE BEDDING DETAIL SHOWN ON SHEET SD1.



**PIPE BEDDING DETAIL**  
NOT TO SCALE



**TYPICAL 1**  
LATHROP STREET  
23RD AVENUE TO 25TH AVENUE

**TYPICAL SECTION**



DATE	REVISION	BY

SCALE:

DESIGNED: RHP/KLL  
DRAWN:  
CHECKED: RHP  
DATE: 01/24/2025

APPROVED  
CITY ENGINEER  
DATE



**LATHROP DITCH IMPROVEMENTS**

**CITY OF FAIRBANKS, ALASKA**  
**Engineering Department**  
**Project ITB-25-05**

**B1**  
OF 10  
SHEETS



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MATCH SHEET U2 LINE

STORM DRAIN NOTES:

- 1. CONTRACTOR TO VERIFY EXISTING DITCH ELEVATION AND EXISTING 48" CSP INVERT AND REPORT TO ENGINEER AS SHOWN ON SHEETS U1 AND U5 BEFORE INSTALLATION OF NEW 48-INCH CPP STORM DRAIN PIPE.
- 2. NO NEW STORM DRAIN PIPE TO BE INSTALLED ON THIS SHEET.

STORM DRAIN



			SCALE:	DESIGNED: RHP/KLL	APPROVED  CITY ENGINEER  DATE	 LATHROP DITCH IMPROVEMENTS	CITY OF FAIRBANKS, ALASKA Engineering Department Project ITB-25-05	U1 OF 10 SHEETS
			1"=20' HORIZ., 1"=2' VERT. (FULL SIZE)	DRAWN:				
			1"=40' HORIZ., 1"=4' VERT. (HALF SIZE)	CHECKED: RHP DATE: 01/24/2025				
DATE	REVISION	BY						



STORM DRAIN NOTES:

1. NO NEW STORM DRAIN PIPE TO BE INSTALLED ON THIS SHEET.



MATCH SHEET U1 LINE


MATCH SHEET U3 LINE



STORM DRAIN



02/19/2025

			SCALE:	DESIGNED: RHP/KLL	APPROVED		CITY OF FAIRBANKS, ALASKA Engineering Department  Project ITB-25-05	U2
			1"=20' HORIZ., 1"=2' VERT. (FULL SIZE)	DRAWN:				
			1"=40' HORIZ., 1"=4' VERT. (HALF SIZE)	CHECKED: RHP	CITY ENGINEER			
DATE	REVISION	BY		DATE: 01/24/2025	DATE			OF 10 SHEETS





MATCH SHEET U2 LINE




LINE  
SHEET U4  
MATCH

STORM DRAIN NOTES:

1. INSTALL NEW 48" CPP STORM DRAIN PIPE IN EXISTING DITCH.
2. ENGINEER WILL PROVIDE TMBs AND STAKE ROW FOR OFFSET TO PIPE AND MANHOLES.
3. CONTRACTOR TO USE LOW PROFILE STORM DRAIN MANHOLE FRAMES (BASIS OF DESIGN: D&L PART # A-2107

STORM DRAIN

02/19/2025

			SCALE:  1"=20' HORIZ., 1"=2' VERT. (FULL SIZE)  1"=40' HORIZ., 1"=4' VERT. (HALF SIZE)	DESIGNED: RHP/KLL	APPROVED  CITY ENGINEER  DATE	 LATHROP DITCH IMPROVEMENTS	CITY OF FAIRBANKS, ALASKA Engineering Department  Project ITB-25-05	U3		
				DRAWN:						
				CHECKED: RHP						
				DATE: 01/24/2025						
DATE	REVISION	BY						OF 10 SHEETS		

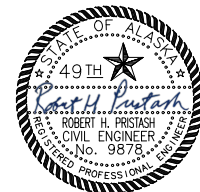




STORM DRAIN NOTES:

1. INSTALL NEW 48" CPP STORM DRAIN PIPE IN EXISTING DITCH.
2. ENGINEER WILL PROVIDE TMBs AND STAKE ROW FOR OFFSET TO PIPE AND MANHOLES.
3. CONTRACTOR TO USE LOW PROFILE STORM DRAIN MANHOLE FRAMES (BASIS OF DESIGN: D&L PART # A-2107)

STORM DRAIN



02/19/2025

CITY OF FAIRBANKS, ALASKA  
Engineering Department  
Project ITB-25-05

U4  
OF 10  
SHEETS

SCALE:

1"=20' HORIZ.,  
1"=2' VERT.  
(FULL SIZE)  
1"=40' HORIZ.,  
1"=4' VERT.  
(HALF SIZE)

DESIGNED: RHP/KLL  
DRAWN:  
CHECKED: RHP  
DATE: 01/24/2025

APPROVED  
\_\_\_\_\_  
CITY ENGINEER  
DATE



LATHROP DITCH IMPROVEMENTS






- STORM DRAIN NOTES:
1. CONTRACTOR TO VERIFY EXISTING DITCH ELEVATION AS SHOWN ON SHEET U1 AND EXISTING 48" CSP INVERT AS SHOWN ON SHEET U5 AND REPORT TO ENGINEER BEFORE INSTALLATION OF NEW 48-INCH CPP STORM DRAIN PIPE.
  2. INSTALL NEW 48" CPP STORM DRAIN PIPE IN EXISTING DITCH.
  3. ENGINEER WILL PROVIDE TMBs AND STAKE ROW FOR OFFSET TO PIPE AND MANHOLES.
  4. CONTRACTOR TO USE LOW PROFILE STORM DRAIN MANHOLE FRAMES (BASIS OF DESIGN: D&L PART #A-2107).
  5. CONTRACTOR TO PROVIDE STORMWATER BYPASS DURING STORM DRAIN INSTALLATION. ESTIMATED FLOW 561 GPM (MEASURED ON 2/14/2025) AND 552 GPM (MEASURED ON 2/18/2025). THIS WORK IS SUBSIDIARY TO PAY ITEM 603.0021.0048.



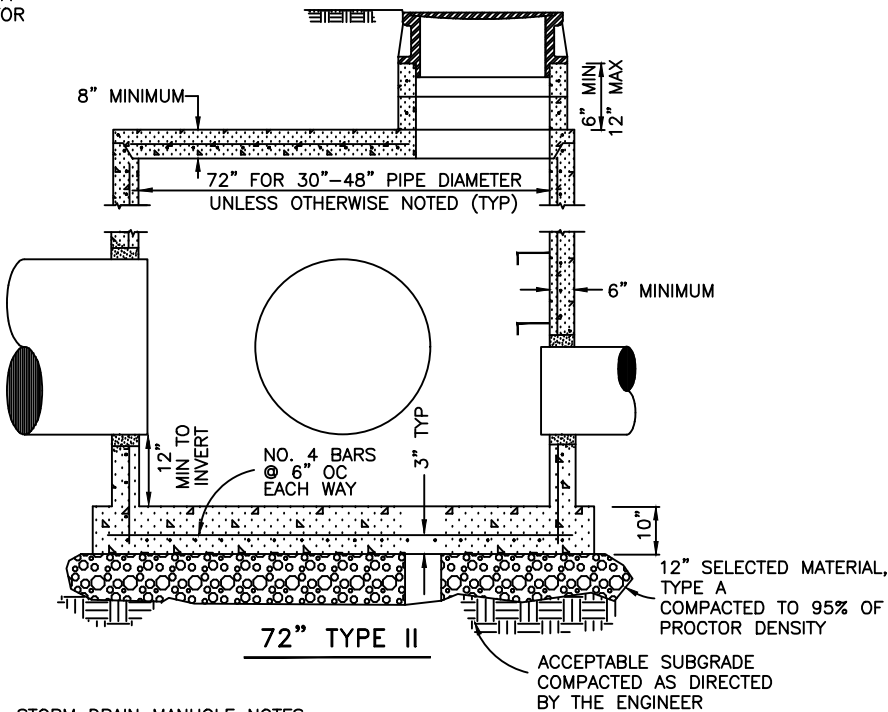
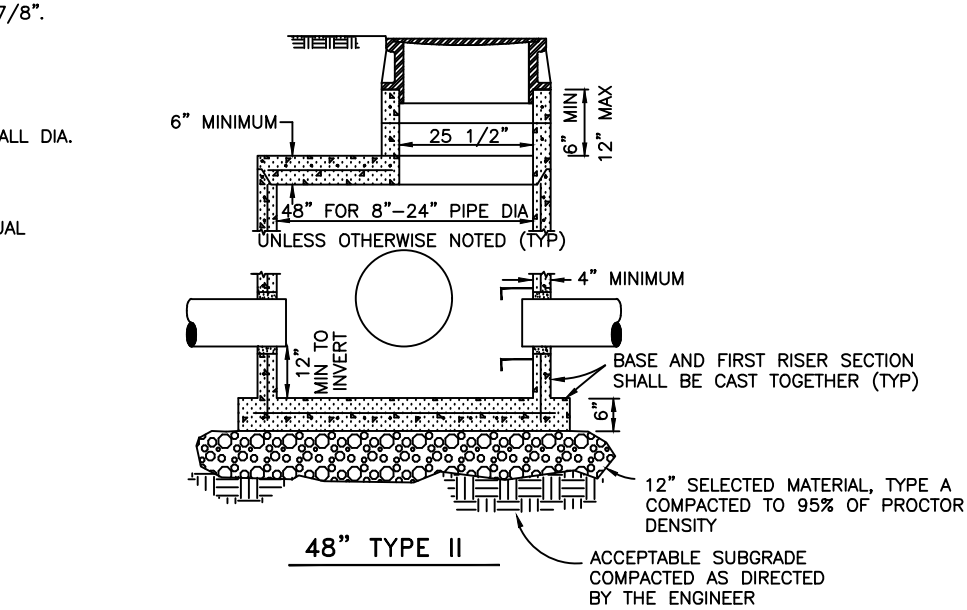
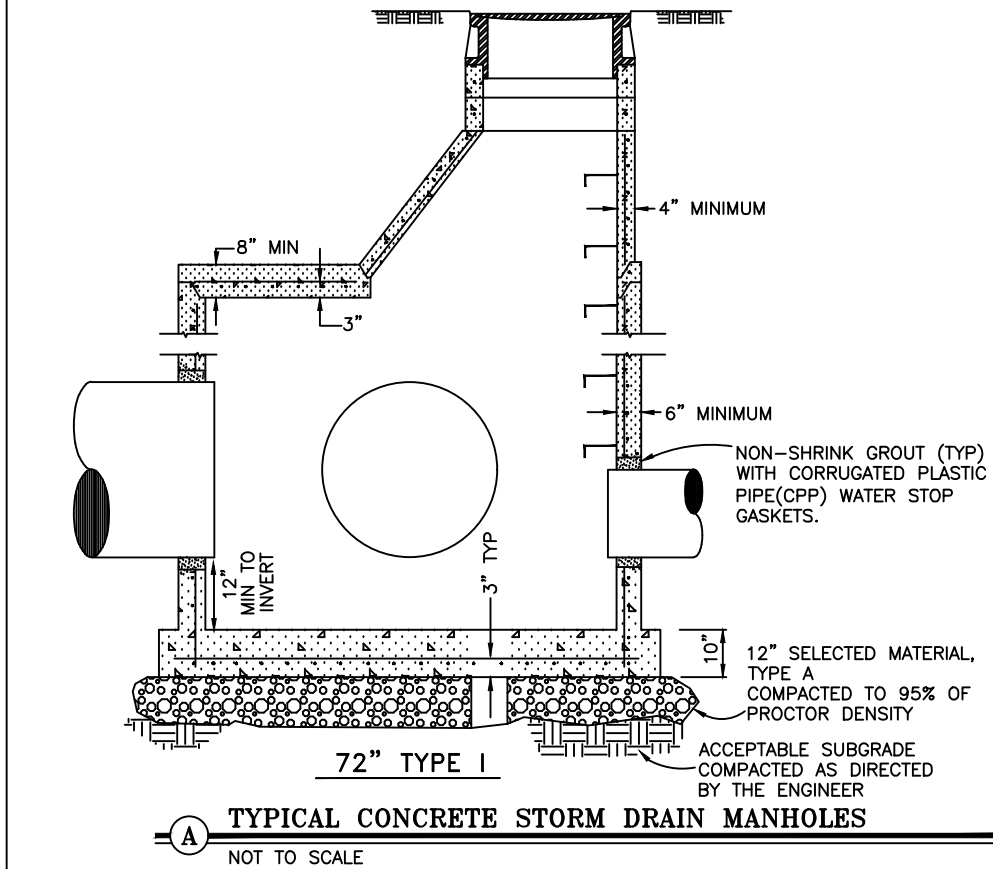
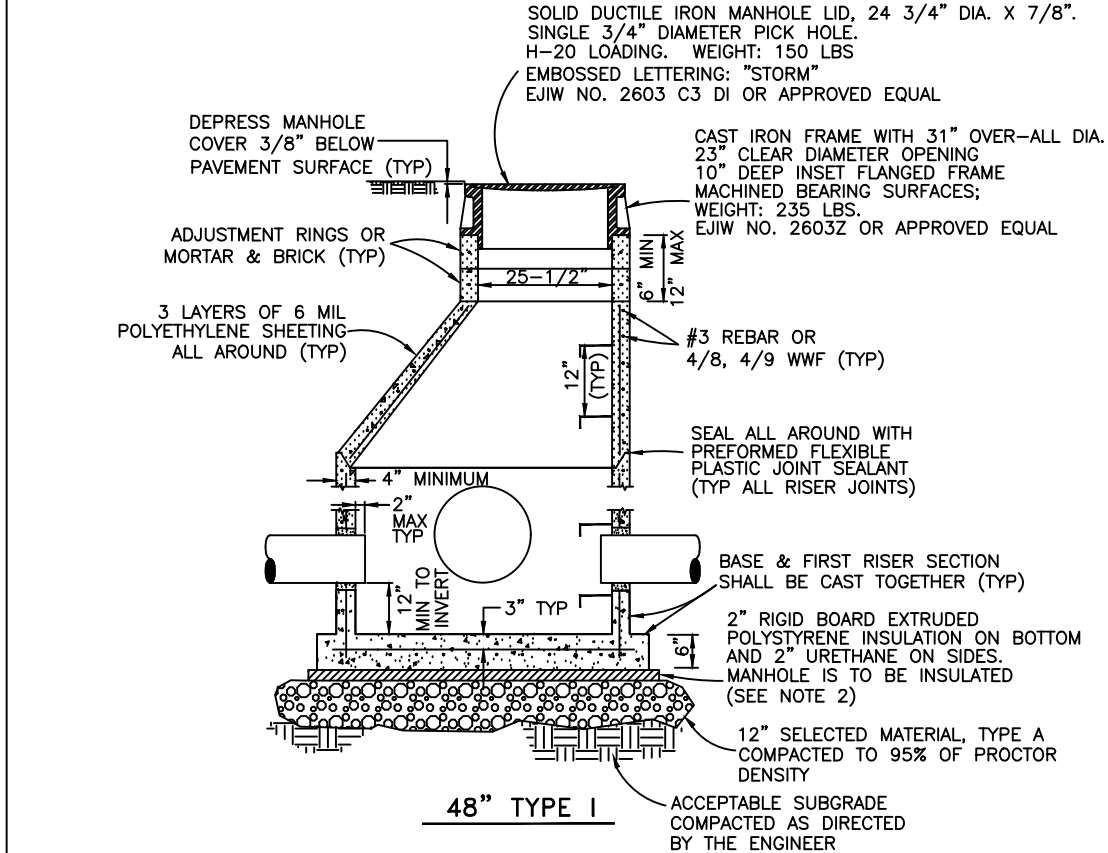
STORM DRAIN

02/19/2025

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DATE	REVISION	BY						

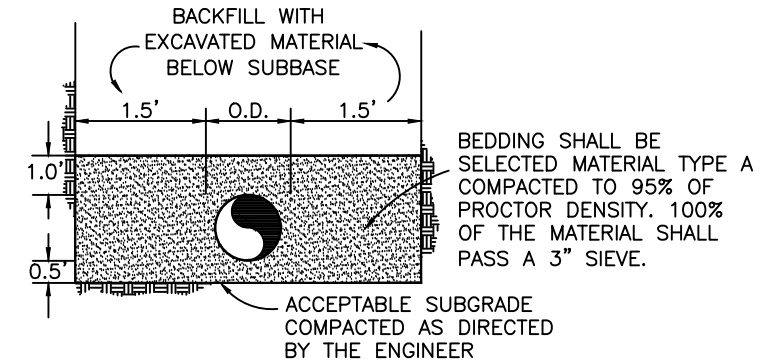
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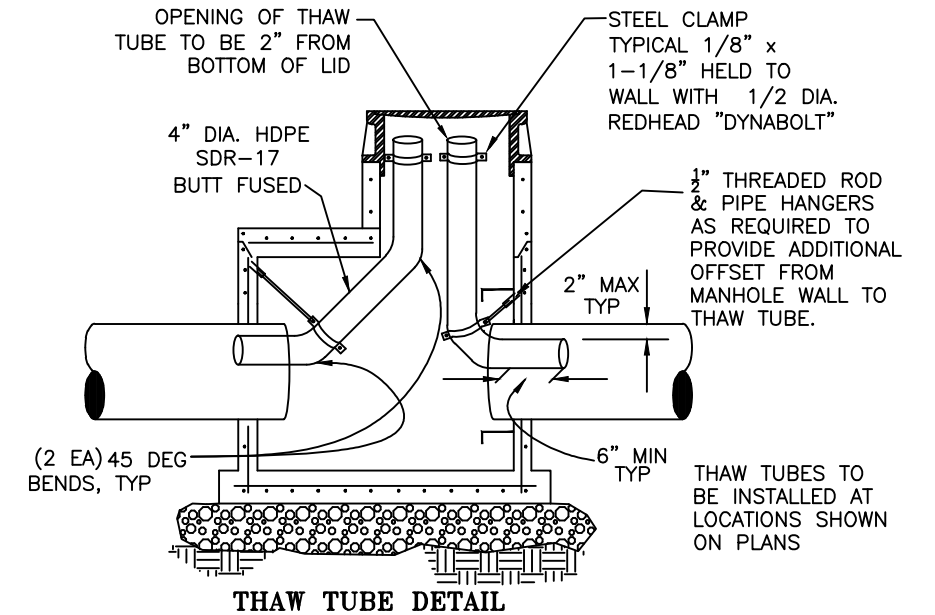
#### STORM DRAIN MANHOLE NOTES:

1. OPENINGS IN MANHOLE TO RECEIVE PIPE SHALL BE 1" TO 2" LARGER THEN THE OD AND PIPE. LARGER OPENINGS SHALL BE FILLED AS DIRECTED BY THE ENGINEER. INSIDE GROUT SURFACE SHALL BE SMOOTH. PROVIDE CPP WATER STOP GASKETS.
2. TYPICALLY, STORM DRAIN MANHOLES DO NOT REQUIRE INSULATION. HOWEVER, SPECIAL CASES REQUIRE INSULATION OF ALL OUTSIDE SURFACES. SEE PLANS.
3. SEAL RISER JOINTS WITH FLEXIBLE PLASTIC JOINT SEALERS.
4. MANHOLE STEPS SHALL BE APPROVED GALVANIZED STEEL OR PLASTIC AND MEET CURRENT OSHA STANDARDS.
5. ALL GROUT SHALL BE NON-SHRINK. PROTECT GROUT DURING CURE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED METHOD.
6. REINFORCEMENT IN BASE, RISER, CONE, FLAT LID, AND ADJUSTING RINGS SHALL COMPLY WITH AASHTO SPECIFICATION M199/ASTM478.



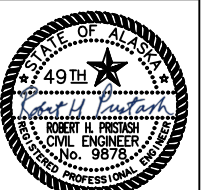
**PIPE BEDDING DETAIL**

NOT TO SCALE



MANHOLE REINFORCEMENT SCHEDULE			
SECTION	MANHOLE SIZE		(SHALL COMPLY WITH AASHTO M 199 /ASTM 478)
	48"	72"	
FLAT BASE	0.39 SQ IN/FT EACH WAY	0.39 SQ IN/FT EACH WAY	*CIRCUMFERENTIAL REINFORCING ALL AREAS ARE MINIMUM CROSS-SECTIONAL AREA OF REINFORCEMENT PER FOOT OF SECTION.
RISER SECTION*	0.12 SQ IN/FT	0.18 SQ IN/FT	
CONE SECTION*	0.12 SQ IN/FT	0.18 SQ IN/FT	
FLAT LID**	0.12 SQ IN/FT EACH WAY	0.12 SQ IN/FT EACH WAY	
ADJUSTING RING	0.024 SQ IN	0.024 SQ IN	

\*\*OPENINGS IN FLAT LIDS SHALL BE ADDITIONALLY REINFORCED WITH A MINIMUM OF THE EQUIVALENT OF 0.2 SQ IN OF STEEL AT 90'.



02/19/2025

3/13/17	WATER STOP GASKETS	RHP
2/3/10	NEW SD1	GSC,RHP
3/23/07		RHP
DATE		BY

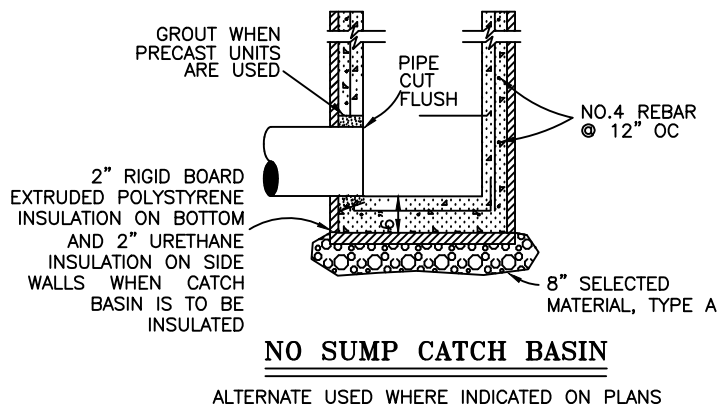
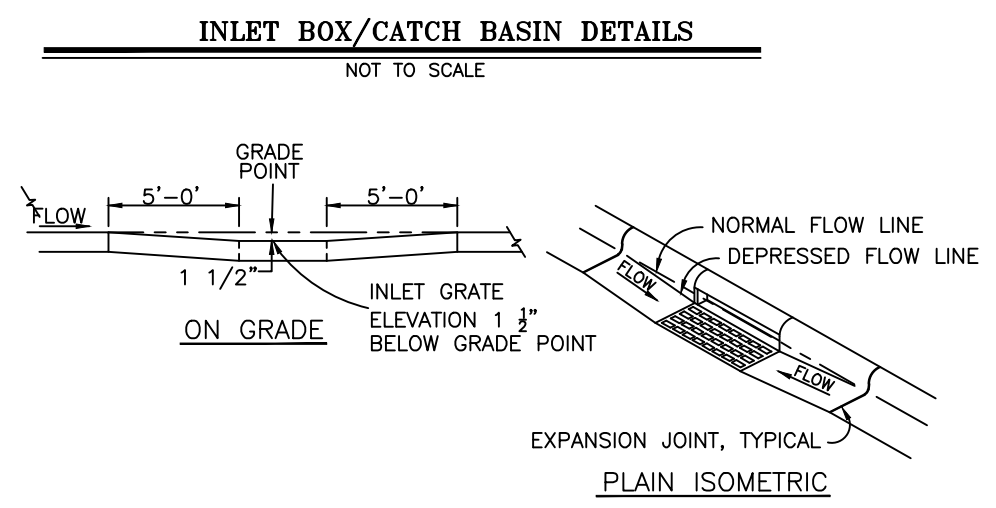
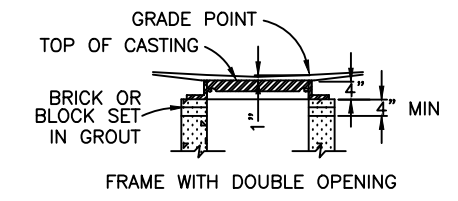
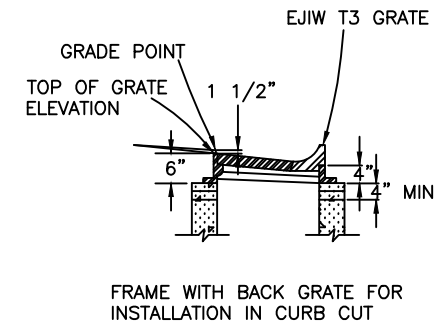
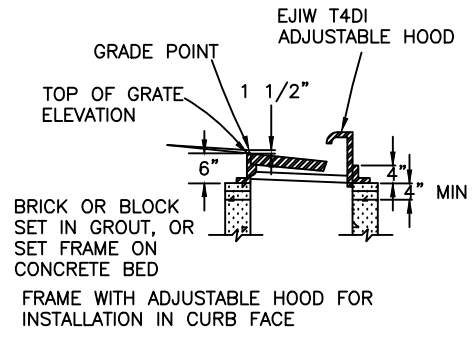
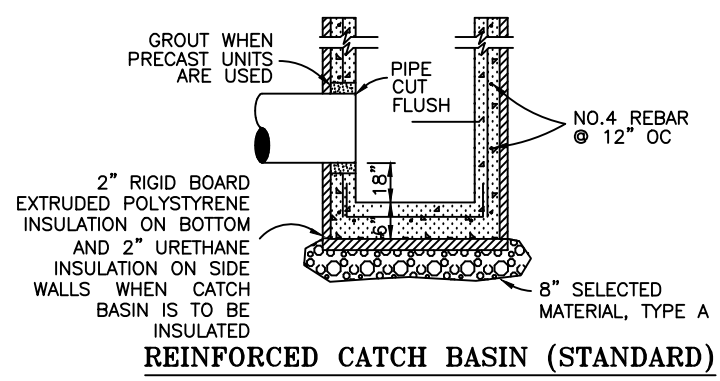
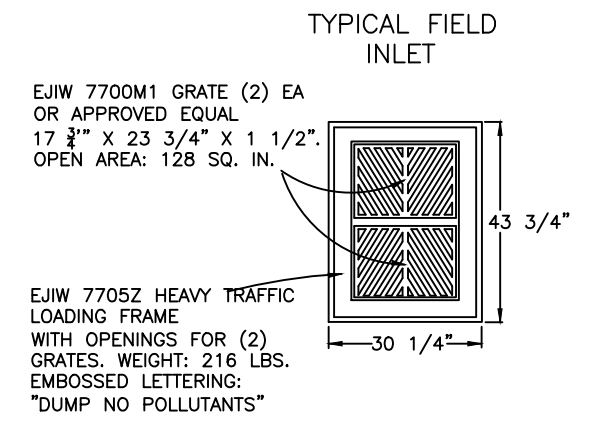
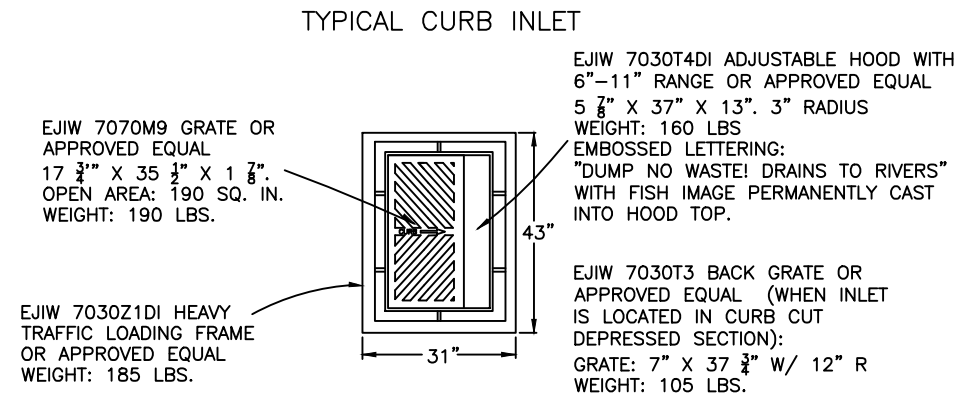
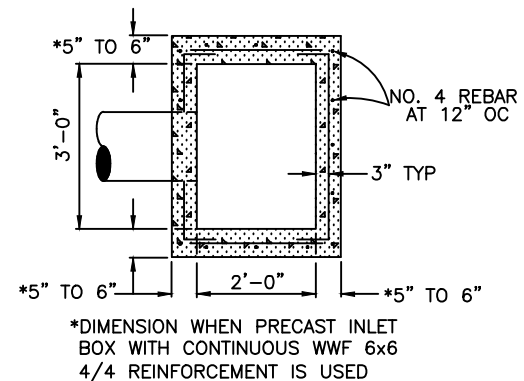
NOT TO SCALE

DESIGNED:	
DRAWN: STAFF	
CHECKED: RHP,GSC	
DATE: 3/23/07	

CITY OF FAIRBANKS, ALASKA  
ENGINEERING DIVISION

STANDARD DETAILS  
STORM DRAIN MANHOLES, THAW TUBES AND BEDDING

SD1



**CATCH BASIN NOTES:**

1. THE WORDS "INLET" AND "CATCH BASIN" SHALL BE INTERCHANGEABLE.
2. ALL GROUT SHALL BE NON-SHRINK. PROTECT GROUT DURING CURE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED METHOD.
4. TYPICALLY, CATCH BASINS ARE NOT INSULATED. HOWEVER, SPECIAL CASES REQUIRE INSULATION OF ALL OUTSIDE SURFACES. SEE PLAN NOTE TO INSULATE CB.
5. GROUT THE INSIDE FACE OF ALL JOINTS SMOOTH.

2/3/10	NEW SD2	GSC,RHP
3/23/07	REVISION	RHP
DATE	REVISION	BY

NOT TO SCALE

DESIGNED:	
DRAWN:	STAFF
CHECKED:	RHP,GSC
DATE:	3/23/07

**CITY OF FAIRBANKS, ALASKA**  
ENGINEERING DIVISION

**STANDARD DETAILS**  
STORM DRAIN CATCH BASIN

