

NOTIFICATION OF ADDENDUM

ADDENDUM NO. 1

DATED 11/20/2015

Control	1068-04-122, ETC.
Project	C 1068-4-122, ETC.
Highway	IH 30
County	DALLAS

Ladies/Gentlemen:

Attached please find an addendum on the above captioned project. Included in the attachment is an addendum notification which details the changes and the respective proposal pages which were added and/or changed.

Except for new bid insert pages, it is unnecessary to return any of the pages attached.

Bid insert pages must be returned with the bid proposal submitted to the Department, unless your firm is submitting a bid using a computer print out. The computer print out must be changed to reflect the new bid item information.

Contractors and material suppliers, etc. who have previously been furnished informational proposals are not being furnished a copy of the addendum. If you have a subcontractor on the above project, please advise them of this addendum. Acknowledgment of this addendum is not requested if your company has been issued a proposal stamped "This Proposal Issued for Informational Purposes."

You are required to acknowledge receipt of this addendum on the Addendum Acknowledgement form contained in your bid proposal by placing a mark in the box next to the respective addendum.

Failure to Acknowledge receipt of this addendum in your bid proposal will result in your bid not being read.

SUBJECT: PLANS AND PROPOSAL ADDENDUMS

PROJECT: C 1068-4-122

CONTROL: 1068-04-122

COUNTY: DALLAS

LETTING: 12/02/2015

REFERENCE NO: 1202

PROPOSAL ADDENDUMS

- _ PROPOSAL COVER
X BID INSERTS (SH. NO.: 2,3,8,9,19)
_ GENERAL NOTES (SH. NO.:)
X SPEC LIST (SH. NO.: 3-3)
_ SPECIAL PROVISIONS:
_ ADDED:

DELETED:

- X SPECIAL SPECIFICATIONS:
ADDED: 6005, 7068, 7069, 7070, 7071, 7072, 7073

DELETED:

- X OTHER: SEE CHANGES OUTLINED BELOW

DESCRIPTION OF ABOVE CHANGES
(INCLUDING PLANS SHEET CHANGES)

*****BID INSERTS*****

SHEET 2-19: ITEM 132-6025 REVISED QUANTITY

SHEET 3-19: ITEM 402-6001 REVISED QUANTITY

SHEET 8-19: ITEM 496-6003 REVISED QUANTITY

SHEET 9-19: ITEM 496-6083 ADDED

SHEET 19-19: ITEMS 7068-6001, 7069-6001, 7070-6001, 7071-6001, 7071-6002,
7072-6001, 7072-6002, 7073-6001 ADDED

SHEETS 9-19 THRU 19-19 INFORMATION MAY HAVE SHIFTED DUE TO CHANGES ABOVE

*****SPECIFICATION LIST*****

SHEET 3-3: ITEM 6014 ADDED REFERENCE ITEMS 400,476

ITEM 6032 ADDED REFERENCE ITEM 6005

ITEM 6075 ADDED REFERNECE ITEMS 445,446,449,6005

ITEM 6121 ADDED REFERENCE ITEMS 445,449,613,614,616,618,620

ITEMS 6005, 7068, 7069, 7070, 7071, 7072, 7073 ADDED

*****PLAN SHEETS*****

SHEET 2,18,18A,18B,18C,18D: REVISED

SHEET 302: REPLACED

SHEET 457-463: ADDED

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	100	6002		PREPARING ROW DOLLARS and CENTS	STA	115.350	1
	104	6001		REMOVING CONC (PAV) DOLLARS and CENTS	SY	550.000	2
	104	6009		REMOVING CONC (RIPRAP) DOLLARS and CENTS	SY	8,102.000	3
	104	6010		REMOVING CONC (RIPRAP) DOLLARS and CENTS	CY	17.920	4
	104	6011		REMOVING CONC (MEDIANS) DOLLARS and CENTS	SY	53.000	5
	104	6015		REMOVING CONC (SIDEWALKS) DOLLARS and CENTS	SY	70.000	6
	104	6021		REMOVING CONC (CURB) DOLLARS and CENTS	LF	52.000	7
	104	6024		REMOVING CONC (RETAINING WALLS) DOLLARS and CENTS	SY	226.000	8
	104	6032		REMOVING CONC (WHEELCHAIR RAMP) DOLLARS and CENTS	SY	8.000	9
	104	6046		REMOV STR (SCREEN WALL) DOLLARS and CENTS	LF	1,217.000	10
	105	6020		REMOVING STAB BASE & ASPH PAV (12") DOLLARS and CENTS	SY	33.000	11
	110	6001		EXCAVATION (ROADWAY) DOLLARS and CENTS	CY	39,955.000	12

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	ITEM NO	DESC CODE	S.P. NO.				
	110	6002		EXCAVATION (CHANNEL) DOLLARS and CENTS	CY	43,650.000	13
	132	6025		EMBANKMENT (FINAL) (DENS CONT) (TY C1) DOLLARS and CENTS	CY	132,657.000	14
	132	6026		EMBANKMENT (FINAL) (DENS CONT) (TY C2) DOLLARS and CENTS	CY	37,054.000	15
	161	6017		COMPOST MANUF TOPSOIL (4") DOLLARS and CENTS	SY	89,436.000	16
	162	6002		BLOCK SODDING DOLLARS and CENTS	SY	89,436.000	17
	164	6027		CELL FBR MLCH SEED(PERM)(URBAN)(CLAY) DOLLARS and CENTS	SY	20,000.000	18
	164	6041		DRILL SEEDING (TEMP) (WARM) DOLLARS and CENTS	SY	26,831.000	19
	164	6043		DRILL SEEDING (TEMP) (COOL) DOLLARS and CENTS	SY	26,831.000	20
	168	6001		VEGETATIVE WATERING DOLLARS and CENTS	MG	5,144.900	21
	247	6312		FL BS (CMP IN PLC)(TY D GR1-2)(8") DOLLARS and CENTS	SY	53,356.000	22
	310	6027		PRIME COAT(MC-30 OR AE-P) DOLLARS and CENTS	GAL	10,671.000	23

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	340	6011		D-GR HMA(SQ) TY-B PG64-22 DOLLARS and CENTS	TON	22.000	24
	341	6008		D-GR HMA TY-B PG64-22 DOLLARS and CENTS	TON	11,738.000	25
	360	6004		CONC PVMT (CONT REINF - CRCP) (10") DOLLARS and CENTS	SY	48,538.000	26
	360	6051		CONC PVMT (CONT REINF-CRCP)(HES)(10") DOLLARS and CENTS	SY	35.000	27
	401	6001		FLOWABLE BACKFILL DOLLARS and CENTS	CY	3,017.000	28
	402	6001		TRENCH EXCAVATION PROTECTION DOLLARS and CENTS	LF	3,280.000	29
	403	6001		TEMPORARY SPL SHORING DOLLARS and CENTS	SF	29,367.000	30
	410	6001		SOIL NAIL ANCHORS DOLLARS and CENTS	LF	2,331.000	31
	416	6002		DRILL SHAFT (24 IN) DOLLARS and CENTS	LF	2,688.000	32
	416	6003		DRILL SHAFT (30 IN) DOLLARS and CENTS	LF	2,701.000	33
	416	6004		DRILL SHAFT (36 IN) DOLLARS and CENTS	LF	8,750.000	34
	416	6005		DRILL SHAFT (42 IN) DOLLARS and CENTS	LF	3,266.000	35

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	416	6006		DRILL SHAFT (48 IN) DOLLARS and CENTS	LF	1,598.000	36
	416	6007		DRILL SHAFT (54 IN) DOLLARS and CENTS	LF	574.000	37
	416	6026		DRILL SHAFT (HIGH MAST POLE) (60 IN) DOLLARS and CENTS	LF	174.000	38
	416	6031		DRILL SHAFT (TRF SIG POLE) (30 IN) DOLLARS and CENTS	LF	11.000	39
	416	6032		DRILL SHAFT (TRF SIG POLE) (36 IN) DOLLARS and CENTS	LF	13.000	40
	420	6011		CL B CONC (FLUME) DOLLARS and CENTS	CY	81.800	41
	420	6037		CL C CONC (COLUMN) DOLLARS and CENTS	CY	1,518.000	42
	420	6039		CL C CONC (COLUMN)(MASS) DOLLARS and CENTS	CY	166.000	43
	420	6066		CL C CONC (RAIL FOUNDATION) DOLLARS and CENTS	CY	81.000	44
	423	6001		RETAINING WALL (MSE) DOLLARS and CENTS	SF	7,118.000	45
	423	6005		RETAINING WALL (SPREAD FOOTING) DOLLARS and CENTS	SF	35,553.000	46
	423	6007		RETAINING WALL (DRILL SHAFT) (FACIA) DOLLARS and CENTS	SF	37,467.000	47

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	423	6008		RETAINING WALL (CAST - IN - PLACE) DOLLARS and CENTS	SF	3,589.000	48
	423	6017		RET WALL (SOIL NAILED)(FASCIA)(HOR SCH) DOLLARS and CENTS	SF	1,580.000	49
	432	6001		RIPRAP (CONC)(4 IN) DOLLARS and CENTS	CY	1,239.420	50
	432	6027		RIPRAP (STONE COMMON)(DRY)(24 IN) DOLLARS and CENTS	CY	548.000	51
	432	6045		RIPRAP (MOW STRIP)(4 IN) DOLLARS and CENTS	CY	239.100	52
	450	6014		RAIL (TY T551) DOLLARS and CENTS	LF	475.000	53
	450	6016		RAIL (TY T552) DOLLARS and CENTS	LF	450.000	54
	450	6030		RAIL (TY C221) DOLLARS and CENTS	LF	4,787.180	55
	450	6042		RAIL (TY PR1) DOLLARS and CENTS	LF	798.000	56
	450	6052		RAIL (HANDRAIL)(TY F) DOLLARS and CENTS	LF	42.000	57
	462	6004		CONC BOX CULV (4 FT X 3 FT) DOLLARS and CENTS	LF	389.000	58
	462	6051		CONC BOX CULV (5 FT X 3 FT)(EXTEND) DOLLARS and CENTS	LF	387.000	59

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	464	6003		RC PIPE (CL III)(18 IN) DOLLARS and CENTS	LF	710.400	60
	464	6005		RC PIPE (CL III)(24 IN) DOLLARS and CENTS	LF	7,743.600	61
	464	6007		RC PIPE (CL III)(30 IN) DOLLARS and CENTS	LF	1,344.800	62
	464	6008		RC PIPE (CL III)(36 IN) DOLLARS and CENTS	LF	1,522.500	63
	464	6009		RC PIPE (CL III)(42 IN) DOLLARS and CENTS	LF	497.700	64
	464	6010		RC PIPE (CL III)(48 IN) DOLLARS and CENTS	LF	409.000	65
	464	6011		RC PIPE (CL III)(54 IN) DOLLARS and CENTS	LF	1,339.400	66
	464	6012		RC PIPE (CL III)(60 IN) DOLLARS and CENTS	LF	306.000	67
	465	6011		JCTBOX(COMPL)(PJB)(6FTX6FT) DOLLARS and CENTS	EA	1.000	68
	465	6014		INLET (COMPL)(PCO)(3FT)(LEFT) DOLLARS and CENTS	EA	10.000	69
	465	6015		INLET (COMPL)(PCO)(3FT)(RIGHT) DOLLARS and CENTS	EA	4.000	70
	465	6016		INLET (COMPL)(PCO)(3FT)(BOTH) DOLLARS and CENTS	EA	8.000	71

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	465	6018		INLET (COMPL)(PCO)(4FT)(LEFT) DOLLARS and CENTS	EA	11.000	72
	465	6019		INLET (COMPL)(PCO)(4FT)(RIGHT) DOLLARS and CENTS	EA	2.000	73
	465	6020		INLET (COMPL)(PCO)(4FT)(BOTH) DOLLARS and CENTS	EA	1.000	74
	465	6022		INLET (COMPL)(PCO)(5FT)(LEFT) DOLLARS and CENTS	EA	3.000	75
	465	6029		INLET (COMPL)(PCU)(3FT)(NONE) DOLLARS and CENTS	EA	12.000	76
	465	6030		INLET (COMPL)(PCU)(3FT)(LEFT) DOLLARS and CENTS	EA	8.000	77
	465	6032		INLET (COMPL)(PCU)(3FT)(BOTH) DOLLARS and CENTS	EA	3.000	78
	465	6126		INLET (COMPL)(PSL)(FG)(3FTX3FT-3FTX- 3FT) DOLLARS and CENTS	EA	6.000	79
	465	6129		INLET (COMPL)(PSL)(FG)(3FTX5FT-3FTX- 3FT) DOLLARS and CENTS	EA	13.000	80
	466	6010		HEADWALL (CH - FW - 0) (DIA= 42 IN) DOLLARS and CENTS	EA	1.000	81
	466	6104		HEADWALL (CH - PW - 0) (DIA= 54 IN) DOLLARS and CENTS	EA	2.000	82
	466	6137		HEADWALL (CH - PW - S) (DIA= 54 IN) DOLLARS and CENTS	EA	2.000	83

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	466	6138		HEADWALL (CH - PW - S) (DIA= 60 IN) DOLLARS and CENTS	EA	1.000	84
	466	6184		WINGWALL (PW - 1) (HW=9 FT) DOLLARS and CENTS	EA	1.000	85
	467	6390		SET (TY II) (24 IN) (RCP) (4: 1) (C) DOLLARS and CENTS	EA	1.000	86
	467	6418		SET (TY II) (30 IN) (RCP) (3: 1) (P) DOLLARS and CENTS	EA	1.000	87
	467	6420		SET (TY II) (30 IN) (RCP) (4: 1) (P) DOLLARS and CENTS	EA	1.000	88
	479	6004		ADJUSTING MANHOLES (SANITARY) DOLLARS and CENTS	EA	2.000	89
	479	6006		ADJUSTING INLET (CAP) DOLLARS and CENTS	EA	2.000	90
	480	6001		CLEAN EXIST CULVERTS DOLLARS and CENTS	EA	7.000	91
	496	6003		REMOV STR (MANHOLE) DOLLARS and CENTS	EA	16.000	92
	496	6004		REMOV STR (SET) DOLLARS and CENTS	EA	3.000	93
	496	6006		REMOV STR (HEADWALL) DOLLARS and CENTS	EA	6.000	94
	496	6007		REMOV STR (PIPE) DOLLARS and CENTS	LF	607.850	95

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	496	6040		REMOV STR (RET WALL) DOLLARS and CENTS	LF	684.560	96
	496	6042		REMOV STR (SMALL) DOLLARS and CENTS	EA	1.000	97
	496	6043		REMOV STR (SMALL FENCE) DOLLARS and CENTS	LF	2,234.000	98
	496	6083		REMOV STR (PIPE) F DOLLARS and CENTS	LF	54.000	99
	500	6001		MOBILIZATION DOLLARS and CENTS	LS	1.000	100
	502	6001		BARRICADES, SIGNS AND TRAFFIC HAN- DLING DOLLARS and CENTS	MO	26.000	101
	506	6002	001	ROCK FILTER DAMS (INSTALL) (TY 2) DOLLARS and CENTS	LF	500.000	102
	506	6011	001	ROCK FILTER DAMS (REMOVE) DOLLARS and CENTS	LF	500.000	103
	506	6020	001	CONSTRUCTION EXITS (INSTALL) (TY 1) DOLLARS and CENTS	SY	220.000	104
	506	6024	001	CONSTRUCTION EXITS (REMOVE) DOLLARS and CENTS	SY	220.000	105
	506	6038	001	TEMP SEDMT CONT FENCE (INSTALL) DOLLARS and CENTS	LF	14,479.000	106
	506	6039	001	TEMP SEDMT CONT FENCE (REMOVE) DOLLARS and CENTS	LF	14,479.000	107

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	506	6041	001	BIODEG EROSN CONT LOGS (INSTL) (12") DOLLARS and CENTS	LF	1,280.000	108
	506	6043	001	BIODEG EROSN CONT LOGS (REMOVE) DOLLARS and CENTS	LF	1,280.000	109
	512	6005		PORT CTB (FUR & INST)(F-SHAPE)(TY 1) DOLLARS and CENTS	LF	5,490.000	110
	512	6053		PORT CTB (REMOVE)(F-SHAPE)(TY 1) DOLLARS and CENTS	LF	5,490.000	111
	529	6002		CONC CURB (TY II) DOLLARS and CENTS	LF	14.000	112
	529	6005		CONC CURB (MONO) (TY II) DOLLARS and CENTS	LF	21,202.000	113
	531	6002		CONC SIDEWALKS (5") DOLLARS and CENTS	SY	21.000	114
	531	6005		CURB RAMPS (TY 2) DOLLARS and CENTS	EA	1.000	115
	531	6016		CURB RAMPS (TY 21) DOLLARS and CENTS	EA	3.000	116
	536	6004		CONC DIRECTIONAL ISLAND DOLLARS and CENTS	SY	22.000	117
	540	6001		MTL W-BEAM GD FEN (TIM POST) DOLLARS and CENTS	LF	2,927.000	118
	540	6006		MTL BEAM GD FEN TRANS (THRIE-BEAM) DOLLARS and CENTS	EA	2.000	119

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	540	6016		DOWNSTREAM ANCHOR TERMINAL SECTION DOLLARS and CENTS	EA	6.000	120
	542	6001		REMOVE METAL BEAM GUARD FENCE DOLLARS and CENTS	LF	1,205.000	121
	542	6002		REMOVE TERMINAL ANCHOR SECTION DOLLARS and CENTS	EA	3.000	122
	544	6001		GUARDRAIL END TREATMENT (INSTALL) DOLLARS and CENTS	EA	7.000	123
	544	6003		GUARDRAIL END TREATMENT (REMOVE) DOLLARS and CENTS	EA	1.000	124
	545	6005		CRASH CUSH ATTEN (REMOVE) DOLLARS and CENTS	EA	5.000	125
	545	6019		CRASH CUSH ATTEN (INSTL)(S)(N)(TL3) DOLLARS and CENTS	EA	6.000	126
	550	6001		CHAIN LINK FENCE (INSTALL) (6') DOLLARS and CENTS	LF	1,241.000	127
	618	6023		CONDT (PVC) (SCH 40) (2") DOLLARS and CENTS	LF	4,710.000	128
	618	6024		CONDT (PVC) (SCH 40) (2") (BORE) DOLLARS and CENTS	LF	473.000	129
	618	6029		CONDT (PVC) (SCH 40) (3") DOLLARS and CENTS	LF	60.000	130
	618	6030		CONDT (PVC) (SCH 40) (3") (BORE) DOLLARS and CENTS	LF	2,049.000	131

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	618	6031		CONDT (PVC) (SCH 40) (3") (CONC ENCSE) DOLLARS and CENTS	LF	12,276.000	132
	618	6034		CONDT (PVC) (SCH 40) (4") (BORE) DOLLARS and CENTS	LF	218.000	133
	618	6046		CONDT (PVC) (SCH 80) (2") DOLLARS and CENTS	LF	246.000	134
	620	6004		ELEC CONDR (NO.12) INSULATED DOLLARS and CENTS	LF	90.000	135
	620	6007		ELEC CONDR (NO.8) BARE DOLLARS and CENTS	LF	367.000	136
	620	6008		ELEC CONDR (NO.8) INSULATED DOLLARS and CENTS	LF	10,792.000	137
	620	6009		ELEC CONDR (NO.6) BARE DOLLARS and CENTS	LF	611.000	138
	620	6010		ELEC CONDR (NO.6) INSULATED DOLLARS and CENTS	LF	2,326.000	139
	620	6011		ELEC CONDR (NO.4) BARE DOLLARS and CENTS	LF	1,046.000	140
	620	6012		ELEC CONDR (NO.4) INSULATED DOLLARS and CENTS	LF	2,092.000	141
	620	6015		ELEC CONDR (NO.2) BARE DOLLARS and CENTS	LF	4,038.000	142
	620	6016		ELEC CONDR (NO.2) INSULATED DOLLARS and CENTS	LF	8,236.000	143

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	624	6001		GROUND BOX TY A (122311) DOLLARS and CENTS	EA	6.000	144
	624	6002		GROUND BOX TY A (122311)W/APRON DOLLARS and CENTS	EA	5.000	145
	624	6003		GROUND BOX TY B (122322) DOLLARS and CENTS	EA	1.000	146
	624	6008		GROUND BOX TY C (162911)W/APRON DOLLARS and CENTS	EA	4.000	147
	624	6023		GROUND BOX TY 2 (484860)W/APRON DOLLARS and CENTS	EA	8.000	148
	624	6028		REMOVE GROUND BOX DOLLARS and CENTS	EA	27.000	149
	628	6001		RELOCATE ELECTRICAL SERVICES DOLLARS and CENTS	EA	2.000	150
	628	6002		REMOVE ELECTRICAL SERVICES DOLLARS and CENTS	EA	2.000	151
	628	6151		ELC SRV TY D 120/240 060(NS)SS(N)PS(U) DOLLARS and CENTS	EA	2.000	152
	636	6007		REPLACE EXISTING ALUMINUM SIGNS(TY A) DOLLARS and CENTS	SF	23.750	153
	644	6001		IN SM RD SN SUP&AM TY10BWG(1)SA(P) DOLLARS and CENTS	EA	13.000	154
	644	6004		IN SM RD SN SUP&AM TY10BWG(1)SA(T) DOLLARS and CENTS	EA	16.000	155

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	644	6076		REMOVE SM RD SN SUP&AM DOLLARS and CENTS	EA	7.000	156
	644	6078		REMOVE SM RD SN SUP&AM (SIGN ONLY) DOLLARS and CENTS	EA	1.000	157
	647	6003		REMOVE LRSA DOLLARS and CENTS	EA	1.000	158
	658	6048		INSTL OM ASSM (OM-2Z)(FLX)GND DOLLARS and CENTS	EA	6.000	159
	662	6063		WK ZN PAV MRK REMOV (W)4"(SLD) DOLLARS and CENTS	LF	135.000	160
	666	6036		REFL PAV MRK TY I (W)8"(SLD)(100MIL) DOLLARS and CENTS	LF	3,089.000	161
	666	6048		REFL PAV MRK TY I (W)24"(SLD)(100MIL) DOLLARS and CENTS	LF	184.000	162
	666	6138		REFL PAV MRK TY I (Y)8"(SLD)(100MIL) DOLLARS and CENTS	LF	1,833.000	163
	666	6141		REFL PAV MRK TY I (Y)12"(SLD)(100MIL) DOLLARS and CENTS	LF	99.000	164
	666	6147		REFL PAV MRK TY I (Y)24"(SLD)(100MIL) DOLLARS and CENTS	LF	225.000	165
	666	6224		PAVEMENT SEALER 4" DOLLARS and CENTS	LF	33,026.000	166
	666	6226		PAVEMENT SEALER 8" DOLLARS and CENTS	LF	4,922.000	167

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	666	6228		PAVEMENT SEALER 12" DOLLARS and CENTS	LF	636.000	168
	666	6230		PAVEMENT SEALER 24" DOLLARS and CENTS	LF	594.000	169
	666	6231		PAVEMENT SEALER (ARROW) DOLLARS and CENTS	EA	4.000	170
	666	6243		PAVEMENT SEALER (YLD TRI) DOLLARS and CENTS	EA	13.000	171
	666	6300		RE PM W/RET REQ TY I (W)4"(BRK)(100MIL) DOLLARS and CENTS	LF	6,090.000	172
	666	6303		RE PM W/RET REQ TY I (W)4"(SLD)(100MIL) DOLLARS and CENTS	LF	14,337.000	173
	666	6315		RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) DOLLARS and CENTS	LF	12,599.000	174
	668	6074		PREFAB PAV MRK TY C (W) (12") (SLD) DOLLARS and CENTS	LF	537.000	175
	668	6076		PREFAB PAV MRK TY C (W) (24") (SLD) DOLLARS and CENTS	LF	185.000	176
	668	6077		PREFAB PAV MRK TY C (W) (ARROW) DOLLARS and CENTS	EA	8.000	177
	668	6085		PREFAB PAV MRK TY C (W) (WORD) DOLLARS and CENTS	EA	4.000	178
	668	6092		PREFAB PAV MRK TY C (W) (36")(YLD TRI) DOLLARS and CENTS	EA	13.000	179

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	672	6009		REFL PAV MRKR TY II-A-A DOLLARS and CENTS	EA	21.000	180
	672	6010		REFL PAV MRKR TY II-C-R DOLLARS and CENTS	EA	446.000	181
	677	6001		ELIM EXT PAV MRK & MRKS (4") DOLLARS and CENTS	LF	2,774.000	182
	677	6002		ELIM EXT PAV MRK & MRKS (6") DOLLARS and CENTS	LF	25.000	183
	677	6003		ELIM EXT PAV MRK & MRKS (8") DOLLARS and CENTS	LF	1,760.000	184
	677	6005		ELIM EXT PAV MRK & MRKS (12") DOLLARS and CENTS	LF	563.000	185
	677	6007		ELIM EXT PAV MRK & MRKS (24") DOLLARS and CENTS	LF	811.000	186
	677	6008		ELIM EXT PAV MRK & MRKS (ARROW) DOLLARS and CENTS	EA	4.000	187
	678	6001		PAV SURF PREP FOR MRK (4") DOLLARS and CENTS	LF	33,026.000	188
	678	6004		PAV SURF PREP FOR MRK (8") DOLLARS and CENTS	LF	4,922.000	189
	678	6006		PAV SURF PREP FOR MRK (12") DOLLARS and CENTS	LF	636.000	190
	678	6008		PAV SURF PREP FOR MRK (24") DOLLARS and CENTS	LF	594.000	191

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	678	6009		PAV SURF PREP FOR MRK (ARROW) DOLLARS and CENTS	EA	8.000	192
	678	6016		PAV SURF PREP FOR MRK (WORD) DOLLARS and CENTS	EA	4.000	193
	678	6023		PAV SURF PREP FOR MRK (36")(YLD TRI) DOLLARS and CENTS	EA	13.000	194
	678	6033		PAV SURF PREP FOR MRK (RPM) DOLLARS and CENTS	EA	33.000	195
	680	6004		REMOVING TRAFFIC SIGNALS DOLLARS and CENTS	EA	1.000	196
	682	6001		VEH SIG SEC (12")LED(GRN) DOLLARS and CENTS	EA	6.000	197
	682	6002		VEH SIG SEC (12")LED(GRN ARW) DOLLARS and CENTS	EA	1.000	198
	682	6003		VEH SIG SEC (12")LED(YEL) DOLLARS and CENTS	EA	6.000	199
	682	6004		VEH SIG SEC (12")LED(YEL ARW) DOLLARS and CENTS	EA	1.000	200
	682	6005		VEH SIG SEC (12")LED(RED) DOLLARS and CENTS	EA	6.000	201
	682	6018		PED SIG SEC (LED)(COUNTDOWN) DOLLARS and CENTS	EA	12.000	202
	682	6023		BACK PLATE (12")(3 SEC) DOLLARS and CENTS	EA	5.000	203

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	682	6025		BACK PLATE (12")(5 SEC) DOLLARS and CENTS	EA	1.000	204
	684	6031		TRF SIG CBL (TY A)(14 AWG)(5 CONDR) DOLLARS and CENTS	LF	1,508.000	205
	684	6033		TRF SIG CBL (TY A)(14 AWG)(7 CONDR) DOLLARS and CENTS	LF	537.000	206
	684	6035		TRF SIG CBL (TY A)(14 AWG)(9 CONDR) DOLLARS and CENTS	LF	956.000	207
	684	6079		TRF SIG CBL (TY C)(12 AWG)(2 CONDR) DOLLARS and CENTS	LF	4,866.000	208
	686	6033		INS TRF SIG PL AM(S)1 ARM(32') DOLLARS and CENTS	EA	1.000	209
	686	6051		INS TRF SIG PL AM(S)1 ARM(48')LUM DOLLARS and CENTS	EA	1.000	210
	687	6001		PED POLE ASSEMBLY DOLLARS and CENTS	EA	5.000	211
	688	6001		PED DETECT PUSH BUTTON (APS) DOLLARS and CENTS	EA	12.000	212
	688	6003		PED DETECTOR CONTROLLER UNIT DOLLARS and CENTS	EA	1.000	213
	740	6005		ANTI - GRAFFITI COATNG(PERMNENT-TY III) DOLLARS and CENTS	SF	10,998.000	214
	4041	6001		NOISE WALL DOLLARS and CENTS	SF	22,280.000	215

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	6001	6002		PORTABLE CHANGEABLE MESSAGE SIGN DOLLARS and CENTS	EA	2.000	216
	6014	6001		MULTIDUCT COND SYS (PVC)(SCHD 40) DOLLARS and CENTS	LF	6,138.000	217
	6014	6002		MULTIDCT COND SYS(PVC)(SCHD 40)4"(BORE) DOLLARS and CENTS	LF	706.000	218
	6025	6001		RADAR PRESENCE DETECTOR DOLLARS and CENTS	EA	6.000	219
	6025	6002		RADAR PRESENCE DETECTOR COMM CABLE DOLLARS and CENTS	LF	1,867.000	220
	6027	6003		CONDUIT (PREPARE) DOLLARS and CENTS	LF	718.000	221
	6027	6008		GROUND BOX (PREPARE) DOLLARS and CENTS	EA	10.000	222
	6032	6001		SYSTEM INTEGRATION DOLLARS and CENTS	LS	1.000	223
	6075	6001		REMOVE AND RELOCATE CAMERA POLE STRCTRE DOLLARS and CENTS	EA	1.000	224
	6076	6002		RELOCATE EXISTING COMMUNICATION CABINET DOLLARS and CENTS	EA	1.000	225
	6076	6003		COMMUNICATION CABINET FOUNDATION DOLLARS and CENTS	EA	1.000	226

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	6121	6001		RELOCATE HIGH MAST LIGHTING DOLLARS and CENTS	EA	5.000	227
	7068	6001		ADJUST METER STATION & EQUIPMENT RACK DOLLARS and CENTS	EA	1.000	228
	7069	6001		CONNECTION TO EXISTING SANITARY SEWER DOLLARS and CENTS	EA	2.000	229
	7070	6001		ECCENTRIC SANITARY SWR MNHOLE (5' DIAM) DOLLARS and CENTS	EA	2.000	230
	7071	6001		PRE-CONSTRUCTION TELEVISION INSPEC- TION DOLLARS and CENTS	LF	54.000	231
	7071	6002		POST CONSTRUCTION TELEVISION INSPEC- TION DOLLARS and CENTS	LF	62.000	232
	7072	6001		SANITARY SEWER MAIN (OPEN CUT)(18 IN) DOLLARS and CENTS	LF	56.000	233
	7072	6002		SANITARY SEWER MAIN (IN CASING)(18 IN) DOLLARS and CENTS	LF	6.000	234
	7073	6001		WELDED STEEL CASING PIPE (30 IN) DOLLARS and CENTS	LF	6.000	235

CONTROL : 1068-04-122, ETC
PROJECT : C 1068-4-122, ETC
HIGHWAY : IH 30
COUNTY : DALLAS

TEXAS DEPARTMENT OF TRANSPORTATION

GOVERNING SPECIFICATIONS AND SPECIAL PROVISIONS

ALL SPECIFICATIONS AND SPECIAL PROVISIONS APPLICABLE TO THIS PROJECT ARE IDENTIFIED AS FOLLOWS:

STANDARD SPECIFICATIONS: ADOPTED BY THE TEXAS DEPARTMENT OF
----- TRANSPORTATION NOVEMBER 1, 2014.
STANDARD SPECIFICATIONS ARE INCORPORATED
INTO THE CONTRACT BY REFERENCE.

ITEMS 1 TO 9 INCL., GENERAL REQUIREMENTS AND COVENANTS
ITEM 100 PREPARING RIGHT OF WAY
ITEM 104 REMOVING CONCRETE
ITEM 105 REMOVING TREATED AND UNTREATED BASE AND ASPHALT PAVEMENT
ITEM 110 EXCAVATION (132)
ITEM 132 EMBANKMENT (100) (160) (204) (210) (216) (400)
ITEM 161 COMPOST (160)
ITEM 162 SODDING FOR EROSION CONTROL (166) (168)
ITEM 164 SEEDING FOR EROSION CONTROL (162) (166) (168)
ITEM 168 VEGETATIVE WATERING
ITEM 247 FLEXIBLE BASE (105) (204) (210) (216) (520)
ITEM 310 PRIME COAT (300) (316)
ITEM 340 DENSE-GRADED HOT-MIX ASPHALT (SMALL QUANTITY) (300) (301)
(320) (520) (585)
ITEM 341 DENSE-GRADED HOT-MIX ASPHALT (300) (301) (320) (520) (585)
ITEM 360 CONCRETE PAVEMENT (421) (422) (438) (440) (529) (585)
ITEM 401 FLOWABLE BACKFILL (421)
ITEM 402 TRENCH EXCAVATION PROTECTION
ITEM 403 TEMPORARY SPECIAL SHORING (410) (411) (423)
ITEM 410 SOIL NAIL ANCHORS (421) (431) (440)
ITEM 416 DRILLED SHAFT FOUNDATIONS (405) (420) (421) (423) (440) (448)
ITEM 420 CONCRETE SUBSTRUCTURES (400) (421) (426) (427) (440) (441)
(448)
ITEM 423 RETAINING WALLS (110) (132) (216) (400) (416) (420) (421) (424)
(440) (445)
ITEM 432 RIPRAP (420) (421) (431) (440)
ITEM 450 RAILING (420) (421) (422) (424) (440) (441) (442) (445) (446)
(448)
ITEM 462 CONCRETE BOX CULVERTS AND DRAINS (400) (402) (403) (420)
(421) (422) (424) (440) (464)

ITEM 464 REINFORCED CONCRETE PIPE (400)(402)(403)(467)
 ITEM 465 JUNCTION BOXES, MANHOLES, AND INLETS (400)(420)(421)(424)
 (440)
 ITEM 466 HEADWALLS AND WINGWALLS (400)(420)(421)(432)(440)(464)
 ITEM 467 SAFETY END TREATMENT (400)(420)(421)(432)(440)(442)(445)
 (464)
 ITEM 479 ADJUSTING MANHOLES AND INLETS (400)(421)(465)(471)
 ITEM 480 CLEANING EXISTING CULVERTS
 ITEM 496 REMOVING STRUCTURES
 ITEM 500 MOBILIZATION
 ITEM 502 BARRICADES, SIGNS, AND TRAFFIC HANDLING
 ITEM 504 FIELD OFFICE AND LABORATORY
 ITEM 506 TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL
 CONTROLS (161)(432)(556)
 ITEM 512 PORTABLE CONCRETE TRAFFIC BARRIER (420)(421)(424)(440)
 (442)
 ITEM 529 CONCRETE CURB, GUTTER, AND COMBINED CURB AND GUTTER (360)
 (420)(421)(440)
 ITEM 531 SIDEWALKS (104)(360)(420)(421)(440)
 ITEM 536 CONCRETE MEDIANS AND DIRECTIONIONAL ISLANDS (420)(421)
 (427)(440)(529)
 ITEM 540 METAL BEAM GUARD FENCE (421)(441)(445)(529)
 ITEM 542 REMOVING METAL BEAM GUARD FENCE
 ITEM 544 GUARDRAIL END TREATMENTS
 ITEM 545 CRASH CUSHION ATTENUATORS (421)
 ITEM 550 CHAIN LINK FENCE (421)(445)
 ITEM 618 CONDUIT (400)(476)
 ITEM 620 ELECTRICAL CONDUCTORS (610)(628)
 ITEM 624 GROUND BOXES (420)(421)(432)(440)(618)(620)
 ITEM 628 ELECTRICAL SERVICES (441)(445)(449)(618)(620)(627)(656)
 ITEM 636 SIGNS (643)
 ITEM 644 SMALL ROADSIDE SIGN ASSEMBLIES (421)(440)(441)(442)(445)
 (636)(643)(656)
 ITEM 647 LARGE ROADSIDE SIGN SUPPORTS AND ASSEMBLIES (416)(421)
 (440)(441)(442)(445)(636)
 ITEM 658 DELINEATOR AND OBJECT MARKER ASSEMBLIES (445)
 ITEM 662 WORK ZONE PAVEMENT MARKINGS (666)(668)(672)(677)
 ITEM 666 RETROREFLECTORIZED PAVEMENT MARKINGS
 ITEM 668 PREFABRICATED PAVEMENT MARKINGS (678)
 ITEM 672 RAISED PAVEMENT MARKERS (677)(678)
 ITEM 677 ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS (300)
 (302)(316)
 ITEM 678 PAVEMENT SURFACE PREPARATION FOR MARKINGS
 ITEM 680 HIGHWAY TRAFFIC SIGNALS (416)(610)(618)(624)(625)(627)
 (628)(636)(656)(682)(684)(686)(688)
 ITEM 682 VEHICLE AND PEDESTRIAN SIGNAL HEADS
 ITEM 684 TRAFFIC SIGNAL CABLES
 ITEM 686 TRAFFIC SIGNAL POLE ASSEMBLIES (STEEL)
 ITEM 687 PEDESTAL POLE ASSEMBLIES (445)(449)(656)(682)
 ITEM 688 PEDESTRIAN DETECTORS AND VEHICLE LOOP DETECTORS
 ITEM 740 GRAFFITI REMOVAL AND ANTI-GRAFFITI COATING

SPECIAL PROVISIONS: SPECIAL PROVISIONS WILL GOVERN AND TAKE

----- PRECEDENCE OVER THE SPECIFICATIONS ENUMERATED
HEREON WHEREVER IN CONFLICT THEREWITH.

SPECIAL LABOR PROVISIONS FOR STATE PROJECTS (000---008)
WAGE RATES
SPECIAL PROVISION "SCHEDULE OF LIQUIDATED DAMAGES" (000---001)
SPECIAL PROVISION "NONDISCRIMINATION" (000---002)
SPECIAL PROVISION "SMALL BUSINESS ENTERPRISE IN STATE FUNDED
PROJECTS" (000---009)
SPECIAL PROVISION "IMPORTANT NOTICE TO CONTRACTORS" (000---010)
SPECIAL PROVISION "IMPORTANT NOTICE TO CONTRACTORS" (000---193)
SPECIAL PROVISION "IMPORTANT NOTICE TO CONTRACTORS" (000---196)
SPECIAL PROVISION TO ITEM 2 (002---004)
SPECIAL PROVISION TO ITEM 6 (006---001)
SPECIAL PROVISIONS TO ITEM 7 (007---001) (007---003)
SPECIAL PROVISION TO ITEM 8 (008---004)
SPECIAL PROVISION TO ITEM 300 (300---009)
SPECIAL PROVISION TO ITEM 506 (506---001)

SPECIAL SPECIFICATIONS:

ITEM 4041 NOISE WALLS
ITEM 6001 PORTABLE CHANGEABLE MESSAGE SIGN
ITEM 6005 TESTING, TRAINING, DOCUMENTATION, FINAL ACCEPTANCE, AND
WARRANTY
ITEM 6014 MULTI-DUCT CONDUIT SYSTEM (400) (476)
ITEM 6025 RADAR PRESENCE DETECTION DEVICE
ITEM 6027 PREPARATION OF EXISTING CONDUITS, GROUND BOXES, OR
MANHOLES (465) (618) (624)
ITEM 6032 ITS SYSTEM INTEGRATION (6005)
ITEM 6075 REMOVE AND RELOCATE CAMERA POLE STRUCTURE (445) (446) (449)
(6005)
ITEM 6076 REMOVE AND RELOCATE COMMUNICATION CABINET
ITEM 6121 HIGH MAST LIGHTING (445) (449) (613) (614) (616) (618) (620)
ITEM 7068 ADJUST METER STATION & EQUIPMENT RACK
ITEM 7069 CONNECTION TO EXISTING SANITARY SEWER
ITEM 7070 ECCENTRIC SANITARY SEWER MANHOLE
ITEM 7071 PRE & POST CONSTRUCTION TELEVISION INSPECTION
ITEM 7072 SANITARY SEWER MAIN
ITEM 7073 WELDED STEEL CASING PIPE (OPENCUT)

GENERAL: THE ABOVE-LISTED SPECIFICATION ITEMS ARE THOSE UNDER WHICH
----- PAYMENT IS TO BE MADE. THESE, TOGETHER WITH SUCH OTHER
PERTINENT ITEMS, IF ANY, AS MAY BE REFERRED TO IN THE ABOVE-
LISTED SPECIFICATION ITEMS, AND INCLUDING THE SPECIAL
PROVISIONS LISTED ABOVE, CONSTITUTE THE COMPLETE SPECIFI-
CATIONS FOR THIS PROJECT.

Special Specification 6005

Testing, Training, Documentation, Final Acceptance, and Warranty



1. DESCRIPTION

Perform or furnish testing, training, documentation, final acceptance, and warranty on the applicable equipment or systems.

2. TESTING

Unless otherwise shown on the plans, perform the following tests on the applicable equipment or systems.

- 2.1. **Test Procedures Documentation.** Provide 5 copies of the test procedures and blank data forms 60 days prior to testing for each test required on this project. Include the sequence of the tests in the procedures. The Engineer will approve test procedures prior to submission of equipment for tests. Conduct all tests in accordance with the approved test procedures.

Record test data on the data forms, as well as quantitative results. Ensure the data forms are signed by an authorized representative (company official) of the equipment manufacturer. Submit 1 copy of the completed and signed data forms for acceptance or rejection of the test or equipment.

- 2.2. **Design Approval Test.** Conduct a Design Approval Test on randomly selected units from the prototype design manufacturing run. If only 1 design prototype is manufactured, perform this test on that unit. If supplying multiple types of the equipment, provide and test a sample of each type.

Certification from an independent testing laboratory of a successfully completed Design Approval Test is acceptable. Ensure that the testing by this laboratory is performed in accordance with the requirements of this specification. Failure of independent tests to comply with the requirements of this specification will be grounds for rejection of any certification.

Notify the Engineer 10 working days before conducting this testing. The Department may witness all the tests. Perform the following tests:

- 2.2.1. **Power Service Transients.** The equipment must meet the performance requirements, specified in the parent specification, when subjected to the power service transients as specified in Section 2.2.7.2, "Transient Tests (Power Service)" of the NEMA TS 2 standard, latest edition.

- 2.2.2. **Temperature and Condensation.** The equipment must meet the performance requirements, specified in the parent specification, when subjected to the following conditions in the order specified below:

- Stabilize the equipment at -30°F and test as specified in Sections 2.2.7.3., "Low-Temperature Low-Voltage Tests" and 2.2.7.4., "Low-Temperature High-Voltage Tests" of the NEMA TS 2 standard, latest edition.
- Allow the equipment to warm up to room temperature in an atmosphere having relative humidity of at least 40%. Operate the equipment for 2 hr., while wet, without degradation or failure.
- Stabilize the equipment at 165°F and test as specified in Sections 2.2.7.5., "High-Temperature High Voltage Tests" and 2.2.7.6, "High-Temperature Low-Voltage Tests" of the NEMA TS 2 standard, latest edition.

- 2.2.3. **Relative Humidity.** The equipment must meet the performance requirements, specified in the parent specification, within 30 min. of being subjected to a temperature of 165°F and a relative humidity of 18% for 48 hr.
- 2.2.4. **Vibration.** The equipment must show no degradation of mechanical structure, soldered components, or plug-in components and must operate in accordance with the manufacturer's equipment specifications after being subjected to the vibration tests as described in Section 2.2.8, "Vibration Test," of the NEMA TS 2 standard, latest edition.
- 2.2.5. **Power Interruption.** The equipment must meet the performance requirements, specified in the parent specification, when subjected to nominal input voltage variations as specified in Section 2.2.10, "Power Interruption Test," of the NEMA TS 2 standard, latest edition.
- 2.3. **Demonstration Test.** Conduct a Demonstration Test on applicable equipment at an approved Contractor facility. Notify the Engineer 10 working days before conducting this testing. The Department may witness all the tests. Perform the following tests:
- 2.3.1. **Examination of Product.** Examine each unit carefully to verify that the materials, design, construction, markings and workmanship comply with the requirements of the parent specification.
- 2.3.2. **Continuity Tests.** Check the wiring to determine conformance with the requirements of the appropriate paragraphs in the parent specification.
- 2.3.3. **Operational Test.** Operate each unit for at least 15 min. to permit equipment temperature stabilization and an adequate number of performance characteristics to ensure compliance with the requirements of the parent specification.
- 2.4. **Stand-Alone Tests.** Conduct a Stand-Alone Test for each unit after installation. The test must exercise all stand-alone (non-network) functional operations. Notify the Engineer 5 working days before conducting this test. The Department may witness all the tests.
- 2.5. **System Integration Test.** Conduct a System Integration Test on the complete functional system. Demonstrate all control and monitor functions for each system component for 72 hr. Supply 2 copies of the System Operations manual before the System Integration Test. Notify the Engineer 10 working days before conducting this testing. The Department may witness all the tests.
- 2.6. **Final Acceptance Test.** Conduct a Final Acceptance Test on the complete functional system. Demonstrate all control, monitor, and communication requirements for 90 days. The Engineer will furnish a Letter of Approval stating the first day of the Final Acceptance Test. The completion of the Final Acceptance Test occurs when system downtime due to mechanical, electrical, or other malfunctions to equipment furnished or installed does not exceed 72 hr. and any individual points of failure identified during the test period have operated free of defects as required in Section 2.7.5., "Consequences of Final Acceptance Test Failure."
- 2.7. **Consequences of Test Failure.** If a unit fails a test, submit a report describing the nature of the failure and the actions taken to remedy the situation prior to modification or replacement of the unit. If a unit requires modification, correct the fault and then repeat the test until successfully completed. Correct minor discrepancies within 30 days of written notice to the Engineer. If a unit requires replacement, provide a new unit and then repeat the test until successfully completed. Major discrepancies that will substantially delay receipt and acceptance of the unit will be sufficient cause for rejection of the unit.
- If a failure pattern develops in similar units within the system, implement corrective measures, including modification or replacement of units, to all similar units within the system as directed. Perform the corrective measures without additional cost or extension of the contract period.
- 2.7.1. **Consequences of Design Approval Test Failure.** If the equipment fails the Design Approval Test, correct the fault and then repeat the Design Approval Test until successfully completed.

- 2.7.2. **Consequences of Demonstration Test Failure.** If the equipment fails the Demonstration Test, correct the fault and then repeat the Demonstration Test until successfully completed.
- 2.7.3. **Consequences of Stand-Alone Test Failure.** If the equipment fails the Stand-Alone Test, correct the fault and then repeat the Demonstration Test until successfully completed.
- 2.7.4. **Consequence of System Integration Test Failure.** If the equipment fails the System Integration Test, correct the fault and then repeat the Systems Integration Test until successfully completed.
- 2.7.5. **Consequences of Final Acceptance Test Failure.** If a defect within the system is detected during the Final Acceptance Test, document and correct the source of failure. Once corrective measures are taken, monitor the point of failure until a consecutive 30 day period free of defects is achieved.

If after completion of the initial test period, the system downtime exceeds 72 hr. or individual points of failure have not operated for 30 consecutive days free of defects, extend the test period by an amount of time equal to the greater of the downtime in excess of 72 hr. or the number of days required to complete the performance requirement of the individual point of failure.

3. TRAINING

When required on the plans, provide a minimum of 24 hr. of instruction to 10 designated personnel in the operation and maintenance procedures of equipment or systems installed. Provide the training during installation, testing, and integration. Provide the training through practical demonstrations, seminars, and other related technical procedures.

Furnish a training session agenda, a complete set of training material (manuals and schematics), and the names and qualifications of proposed instructors for approval 60 days before the training. Provide a training location. Provide 1 copy of the course material for each person. Provide training in the following areas of interest and as shown on the plans:

- The "Hands-on" operation for each type of equipment.
- Explanation of all system commands, their function and usage.
- Required preventative maintenance procedures.
- All equipment servicing procedures.
- System "troubleshooting"/problem identification procedures.

4. DOCUMENTATION

Provide "as-built" documentation for the entire system and all of its individual components. Supply one (1) 11 in. x 17 in. reproducible copy of the wiring diagrams. Supply three (3) copies of the following in a manual for each equipment component:

- Complete and accurate schematic diagrams.
- Complete and accurate cabinet, enclosure, and building wiring diagrams.
- Complete installation procedures.
- Complete performance specifications (functional, electrical, mechanical and environmental) on the unit.
- Complete parts list including names of vendors for parts not identified by universal part numbers such as JEDEC, RETMA, or EIA.
- Pictorial of component layout on circuit board.
- Complete maintenance and trouble-shooting procedures.
- Complete stage-by-stage explanation of circuit theory and operation.
- Complete and detailed system operations manuals.

Furnish additional information as shown on the plans.

5. FINAL ACCEPTANCE

Final acceptance is made when all work is complete, the system has successfully completed all test requirements, and the Engineer, in writing, accepts all work for the work locations in the Contract in accordance with Article 5.12., "Final Acceptance." Final acceptance relieves the Contractor from further Contract responsibilities.

6. WARRANTY

Guarantee equipment furnished and installed to perform according to the manufacturer's published specifications. Warrant equipment against defects or failure in design, materials, and workmanship in accordance with the manufacturer's standard warranty. Supply equipment with no less than 95% of the manufacturer's warranty remaining on the date that equipment invoices are submitted for final payment. Any equipment with less than 95% warranty remaining will be rejected.

The Contractor will warrant or guarantee all such electronic, electrical, and mechanical equipment, materials, technical data, and products furnished and installed for a period of 1 yr. after final acceptance of the project by the Department. The Contractor's warranty or guarantee must provide for the "on-site" repair or replacement, at the Contractor's option, within 2 working days and at no cost to the Department.

Once the Contractor's warranty or guarantee expires, assign to the Department any manufacturer's standard warranty or guarantee coverage still remaining on all such electronic, electrical, and mechanical equipment, materials, technical data, and products furnished for and installed on the project. Repair or replace defective equipment, at the manufacturer's option, at no cost to the Department.

7. MEASUREMENT AND PAYMENT

The work performed, materials furnished, equipment, labor, tools, and incidentals will not be measured or paid for directly but will be considered subsidiary to bid items of the Contract.

Special Specification 7068

Adjust Meter Station & Equipment Rack



1. DESCRIPTION

Complete the following work under this item.

Remove and salvage existing equipment rack. Coordinate with Trinity River Authority (TRA) at 972-263-2251 for the salvaging of equipment mounted on existing rack.

Remove existing concrete pad at meter station manhole. Removal of concrete must be in accordance with Item 496, "Removing Structures."

Remove existing fiberglass manhole to the top of the concrete Parshall Flume. Removal of manhole must be in accordance with Item 496, "Removing Structures."

Remove existing vent stacks. Removal of vent stacks must be in accordance with Item 496 "Removing Structures."

Install new fiberglass manhole of the meter station as described in the construction plans. The Contractor is responsible for any damage to the meter station. Manholes must meet all requirements of TCEQ §217.55, "Manholes and Related Structures." Fiberglass manholes must conform to all ASTM standards governing plastic laminations and ASTM D3753, with supplementary details or additions as set forth in the project Drawings and Specifications. Manhole gaskets must be used to ensure a watertight assembly. For a UV inhibitor, the resin on the exterior surface of the manhole must have a gray pigment added for a minimum thickness of 0.125 in. Testing: All tests included in ASTM D3753 will be required. The manufacturer must provide the Department a product certification if requested. This certification must confirm the fiberglass manhole provided is in compliance with the testing requirements outlined in the ASTM standard. Frames (rings) and covers must be as shown in the construction plans. Unless otherwise noted on the drawings, all frames and covers must be watertight ring and cover with gasket, 32-in. diameter. A minimum of four 316 stainless steel anchor bolts for anchoring the ring are required for each manhole frame and cover. The waterproof lid must be anchored with two locking cams (11/16-in.). The seal between frame and cover must be a neoprene tee gasket or equivalent. Fiberglass manholes must be fabricated by Associated Fiberglass Engineering, Haltom City, Texas, or approved equivalent. The barrel and cone must each be produced in a continuous manufacturing process that ensures continuous reinforcement and uniform strength and composition. The cone section, if produced separately, must be affixed to the barrel section at the factory with a reinforced glass resin joint resulting in a one-piece unit. Field-made joints will not be acceptable. Stub-outs may be installed at the manufacturing plant. The fiberglass portion of the manhole configuration must be delivered to the job site in one piece. All manholes must be designed by the manufacturer to withstand at minimum AASHTO HS-20 live loading, and all additional dead loads and external hydrostatic loads from ground water extending either to the finished ground surface or the 100-year floodplain elevation, whichever is greater. For installation all manholes must be designed by the manufacturer to withstand at minimum AASHTO HS-20 live loading, and all additional dead loads and external hydrostatic loads from ground water extending either to the finished ground surface or the 100-year floodplain elevation, whichever is greater. Fiberglass manholes must be installed in accordance with the manufacturer's recommendations and the details and instructions included in the Drawings. Each manhole must include an anti-floatation flange bolted to the base as shown on the Drawings. Any fiberglass manhole will be subject to rejection for failure to conform to any of the requirements of these specifications. Any manhole found to be defective or damaged resulting from improper handling or installation shall be removed and replaced at no additional cost to the Department. Patching will not be acceptable.

Install new vent stacks as described and detailed in the construction plans.

Construct concrete pad as described and detailed in the construction plans. The placement of concrete must be in accordance to Items 420 "Concrete Substructures" and 421 "Hydraulic Cement Concrete."

Install new equipment rack and new equipment in accordance with the construction plans and the panelboard schedule shown below:

PANELBOARD SCHEDULE: "A"															
DESIGNATION	FEEDER NO.	POLES & AMPS	LOAD, VA			C K	P H	C K	LOAD, VA			POLES & AMPS	FEEDER NO.	DESIGNATION	
			LTG.	RECP.	OTHER				LTG.	RECP.	OTHER				
GFCI RECEPTACLE	1	1/20		1500		1	A	2				1500	1/20	1	EQUIPMENT
UPS / SURGE PROTECTION	1	1/20		1500		3	C	4				1500	1/20	1	EQUIPMENT
SPARE		1/20				5	A	6					1/20		SPARE
SPARE		1/20				7	C	8					1/20		SPARE
SPACE						9	A	10							SPACE
SPACE						11	C	12							SPACE
SPACE						13	A	14							SPACE
SPACE						15	C	16							SPACE
SPACE						17	A	18							SPACE
			0	3000	0				0	0	3000				
CATEGORY		CONN. LOAD		DESIGN LOAD		MOUNTING:		SURFACE		REMARKS:					
		KVA	AMPS	DIV.	KVA	AMPS	VOLTS:	120/240	ENCLOSURE SHALL BE STAINLESS STEEL						
LIGHTING:		0.0	0.0	1.25	0.0	0.0	PHASE/WIRE:	1/3	NEMA 4						
RECEPTACLE:		3.0	12.5	1.00	3.0	12.5	MAINS SIZE:	100 AMP							
MOTORS:		3.0	12.5	1.00	3.0	12.5	MAINS TYPE:	MLO	FEEDER NO.:						
KITCHEN:		0.0	0.0	0.65	0.0	0.0	BUSS TYPE:	COPPER	1 = 2 #12, 1 #12G, IN 3/4" C.						
ELECTRIC HEATING:		0.0	0.0	1.00	0.0	0.0	BRKR TYPE:	BOLT-ON	2 = 3 #12, 1 #12G, IN 1/2" C.						
WATER HEATING:		0.0	0.0	1.00	0.0	0.0	A.I.C. (RMS):	22,000A	3 = 3 #8, 1 #8G, IN 1" C.						
							A Phase	3.0 Connected Kva							
							C Phase	3.0 Connected Kva							
TOTAL:		6.0	25.0		6.0	25.0									
A.I.C RATINGS ESTIMATED BASED ON EQUIPMENT LOCATION / CALCULATED LOAD / EQUIPMENT SIZE; COORDINATE AND VERIFY ACTUAL SHORT-CIRCUIT AV AVAILABLE THROUGH NEW SERVICE EQUIPMENT WITH ELECTRIC UTILITY CO.															

Coordinate the final power drop and meter location with Oncor.

If the meter is out of service for a period longer than 5 days either for bypass pumping or during the adjustment of the meter station manhole, notify TRA and TRA will install a temporary meter upstream.

Perform leak testing on the connections to the existing meter station (both for the manhole and sanitary sewer connected to the existing flume). The cost of testing the connections to the meter station are subsidiary to this item. Testing will be performed as described below:

PIPE TESTING:

Testing will include a low pressure air test and a deflection test, as described herein. Testing will not be performed on any section of pipe until at least 30 days after all backfilling and compaction are complete. All sections between manholes or between a manhole and a dead end must be tested separately.

Pipe or joints failing to meet the requirements of this test must be repaired to the satisfaction of the Department or the defective pipe must be replaced. Rejected pipe must be identified by the manufacturer in a manner that will ensure it will not be used on this project. The Department must agree to the method of identification of rejected pipe. Installation will be stopped until defective pipe or joints are repaired or replaced.

Low Pressure Air Testing:

The section of sanitary sewer main to be tested must be flushed and cleaned prior to conducting the test. Low pressure air testing should be performed as pipe installation proceeds. Isolate the section of sanitary sewer line to be tested by means of inflatable stoppers or other suitable test plugs. The ends of all branches, laterals, tees, wyes and stubs to be included in the test should be plugged to prevent air leakage. All plugs

should be securely braced to prevent possible blow out due to the internal air pressure. One of the plugs should have an inlet tap, or other provision for connecting a hose to a portable air control source.

Connect the air hose to the inlet tap and a portable air control source. The air equipment must consist of necessary valves and pressure gauges to control the rate at which air flows into the test section and to enable monitoring of the air pressure within the test section. The testing apparatus must be equipped with a pressure relief device to prevent the possibility of loading the test section with the full capacity of the compressor.

Add air slowly to the test section until the pressure inside the pipe is raised to 3.5 psi greater than the pressure exerted by groundwater above the pipe. After adequate pressure is obtained, regulate the air supply so that the pressure is maintained for a period of 2 minutes. This allows the air temperature to stabilize in equilibrium with the temperature of the pipe walls. The pressure will normally drop slightly until equilibrium is obtained. During this period all assessable plugs must be checked with soap solution to detect any plug leakage.

Once the pressure is stabilized, the minimum time allowable for the pressure to drop from 3.5 psig to 2.5 psig must be as indicated below under "Line Test Procedures" or "Individual Joint Test Procedures" as applicable. Upon completion of the test, the bleeder valve must be opened and all air allowed to escape. Plugs will not be removed until all air pressure in the test section has been released. No one will be allowed in the trench or manhole while the test is being conducted.

Line Test Procedures: The minimum time allowable for the pressure to drop from 3.5 psig to 2.5 psig must be computed with the following equation:

$$T = (0.0850 \times D \times K) \div Q$$

where T = time, seconds

K = 0.000419 x D x L, but not less than 1.0

D = average inside pipe diameter, inches

L = length of line of same pipe size being tested, feet

Q = rate of loss, 0.0015 ft³/minute/ft² internal surface must be used

Minimum holding times required according to pipe diameter must be as follows: The test may be stopped if no pressure loss has occurred during the first 25% of the calculated testing time. If any pressure loss or leakage has occurred during the first 25% of the testing period, the test will continue for the entire test duration, or until failure.

Pipe Diameter (inches)	Minimum Time (seconds)	Length for Minimum Time (feet)	X for Longer Length*
18	1020	133	7.693

* X is a factor used to find test duration time (t) for total length (L), where L must be greater than minimum length in the following equation: $t = X \times L$

Individual Joint Test Procedures: Testing must be performed at each joint connection only. The minimum time allowable for the pressure to drop from 3.5 psig to 2.5 psig is 10 seconds. A visual inspection of each joint must be performed immediately after testing.

MANHOLE TESTING AT METER STATION

Testing will include either a hydrostatic exfiltration test or a vacuum test, as described herein.

Manholes failing to meet the requirements of this test should be repaired to the satisfaction of the Department and retested until passing the test. Repaired materials must be suitable for the manhole material. The Contractor will not be allowed to use grout, coatings or other materials on the inside of manhole joints as a method of repair, unless approved by the Department in writing. Following completion of a

successful test, the manhole must be restored to its normal condition, all temporary plugs removed, and all braces, equipment and debris removed and disposed of appropriately.

Hydrostatic Exfiltration Testing:

After installation of plugs, the manhole must be filled with water and maintained for at least 1 hour. The rate of exfiltration must not exceed 0.025 gallons per foot diameter per foot of manhole depth per hour.

Vacuum Testing:

After installation of plugs, all lift holes and exterior joints must be plugged with a non-shrink grout. No grout must be placed in horizontal joints prior to testing. Stub-outs, manhole boots and pipe plugs must be secured to prevent movement while the vacuum is drawn. A minimum 60-in. per lb. torque wrench must be used to tighten the external clamps that secure the test cover to the top of the manhole. The test head must be placed at the inside of the top of the cone section, and the seal inflated in accordance with the manufacturer's recommendations.

A vacuum of 10 in. of mercury must be drawn, and the vacuum pump shut off. With all valves closed, the time for the vacuum to drop to 9 in. of mercury must not be less than the time indicated as follows:

Depth of Manhole (feet)	Minimum Time Required for a Vacuum Drop of 1 in. of Mercury (seconds)		
	48-in. Manhole	60-in. Manhole	72-in. Manhole
26	52	65	78
28	56	70	84

Manholes will be accepted with relation to vacuum test requirements if they meet the criteria above. If the manhole fails a test, necessary repairs must be made with a non-shrink grout while the vacuum is being drawn. The test will be repeated. If the vacuum test fails twice, the manhole must be repaired and a hydrostatic test performed as specified herein.

2. MEASUREMENT

Adjustment of the meter station and equipment rack will be measured by each complete meter station adjustment including the removal of the existing manhole, concrete pad, equipment rack and installation of new manhole, vent stacks, concrete pad and equipment rack.

3. PAYMENT

Payment for the adjustment of the meter station and equipment rack is for the complete adjustment constructed, installed and complete in place. This price is full compensation for furnishing all materials, labor, equipment, tools, inspection, testing necessary to remove the existing facilities and install new facilities as shown on the plans.

Special Specification 7069

Connection to Existing Sanitary Sewer



1. DESCRIPTION

Furnish labor, materials, and equipment necessary to connect to the existing sanitary sewer line, manhole or meter station in service. Connections must be made at the locations shown in the construction plans. The provisions of NCTCOG Item 502.11.3 all apply except as modified below:

For manholes and meter station flumes, connections must be installed in a neat and workmanlike manner and must be watertight. The manhole invert must be reshaped to accommodate the new pipe. Old pipe penetrations must be patched. In-line connections must be made with suitable adaptors.

The connection of the sanitary sewer main to the meter station must be made to match the existing flowline at the meter station and have a watertight seal. The connection point must be encased within 36" on all sides with 3,000 psi concrete and is included in this Item.

Should the existing sanitary sewer main be disrupted at any time during construction of the sanitary sewer improvements, the Contractor must use bypass sewage pumping to avoid disrupting sewer flow during construction of the new sewer main. Peak flows in the 18-inch pipe are approximated at 2.6 MGD (4.05 cfs).

The cost of sewage pumping is covered under this Item. There will be no separate pay for sewage pumping.

Design and prepare a bypass pumping plan. The bypass pumping plan must be submitted to the Engineer at least 20 days prior to implementation. The bypass pumping plan must be reviewed and approved by both the City of Grand Prairie and TRA prior to implementation. The pumping plan must include the following:

- Locations of pumps and piping.
- Pumping curves and hydraulic calculations, to include the proposed system curve, addressing the pump operation in relation to the suction/discharge piping's alignment with respect to restriction and/or elevations.
- Pump cut sheets and/or specifications demonstrating that the pump meets the standards established in this specification and in the wastewater bypass plan, including information on sound attenuation.
- Pipe specifications, including material, diameter, Dimension Ratio and pressure rating. Also identify the types of joints and fittings.
- Names of individuals that will be monitoring the wastewater flow control bypassing pumps and piping system, including their training and qualifications.
- Methods for removing the bypass pump and pipe system in a manner that will not result in a release of wastewater to any point outside of the sanitary sewer system.

Have pumps on the job site capable of handling the flow. Have full-time (24-hr.), onsite qualified pump personnel including supervision for monitoring the entire bypass installation while it is in operation. The entire length of bypass piping must be walked and inspected hourly to monitor for leaks. High-level alarm notification to cell phones will not eliminate this requirement.

Conduct the wastewater flow control operations with extreme care at all times and prevent any amount of wastewater from leaving the wastewater system. Any time the bypass pipe is disconnected, launch a pig through the bypass pipe segment to ensure the bypass pipe is clean and empty. The bypass pipe must not be disconnected until it is clean and empty.

In the event of a wastewater spill or hazardous substances release, immediately notify the City of Grand Prairie Water Utilities Department at 972-237-8400.

Provide a primary bypass pump and piping system with a minimum capacity sufficient to transfer flow up to the design capacity of the interceptor. Provide, maintain and monitor a connected backup capacity with equal capacity as the primary pump or pumps. All bypass pumps and piping must be in good condition.

The Contractor is solely responsible for all damages to private and public property when installing, operating, and removing the bypass piping.

Surcharge in the existing line will be limited to 2' below the manhole rim elevation or approximately elevation 449'.

2. MEASUREMENT

This Item will be measured by each connection made to an existing sanitary sewer line, manhole, or meter station flume in service.

3. PAYMENT

Payment for connecting to an existing sanitary sewer line will be made on the contract unit price per each connection. This price is full compensation for furnishing all materials, labor, equipment, tools, cutting & capping the ends of the line and any incidentals necessary to complete the work.

Special Specification 7070

Eccentric Sanitary Sewer Manhole



1. DESCRIPTION

Construct and install sanitary sewer manholes based on the following:

All new manholes under this Item must have 6" crushed stone embedment.

Please refer to the Eccentric Sanitary Sewer Manhole detail and the City of Grand Prairie Wastewater detail for additional information.

All sewage pumping during manhole construction will be covered under this item.

Locate existing main prior to constructing new manholes.

Use 2,000 PSI Concrete when plugging sewer main at manholes or where required. The Contractor shall not obstruct flow inside existing manholes during or after plugging such manholes. The cost of cutting and plugging sewer main shall be subsidiary to the sanitary sewer manholes.

2. MATERIALS

Sanitary sewer manholes will be precast or poured in place concrete meeting the requirements shown in the construction plans.

3. MEASUREMENT

This Item will be measured by each sanitary sewer manhole installed or constructed.

4. PAYMENT

Payment for each sanitary sewer manhole will include all materials and labor for the complete installation.

Special Specification 7071

Pre & Post Construction Television Inspection



1. DESCRIPTION

Televis the existing and proposed wastewater mains before and after construction.

Digital Video Disks (DVD) of the existing main must be given to the City of Grand Prairie engineering inspector for review 14 days before starting construction. DVD's of the new main must be given to the City of Grand Prairie engineering inspector 14 days after completion of the work at that location.

The Contractor is responsible for cleaning main, bypass pumping, temporary repairs, determining low points locations, service locations, and general condition of the main.

2. MEASUREMENT

This item will be measured by the linear foot of sanitary sewer main televised.

3. PAYMENT

Payment for pre and post construction television inspection includes all work necessary to televise the sanitary sewer main and supply the DVD to the City of Grand Prairie engineering inspector.

Special Specification 7072

Sanitary Sewer Main



1. DESCRIPTION

Install PVC sanitary sewer main based on the following:

Refer to the City of Grand Prairie "Wastewater Standard Detail Sheet."

For open cut installations, all excavated ditch lines must be mechanically tamped to a minimum of 90% density and a maximum of 95% density of ASTM-D698 (Standard Proctor procedures) at a moisture content ranging from optimum minus one (-1) to plus three (3) percent, to be placed in 6"- 8" lifts (not to exceed 12") by the end of each day's work. Densities must be taken every one (1) lift at staggered hundred feet increments.

The existing top of ground grades shown on the plans are approximate and there will no compensation if the depth of pipe is proved to be otherwise.

Please refer to Item No. 6.7.2 of the COG Specifications.

Field verify the location and depth of all existing sewer mains prior to beginning construction.

Proposed sewer line must not rest on its bells.

All pipe installation must be performed as recommended by the manufacturer. The spigot end of the pipe is marked by the manufacturer to indicate the proper depth of insertion. Gasketed joints four inches and smaller can usually be assembled using only manual force. Larger joints, however, may require mechanical assistance to apply enough insertion force. The bar and block method is recommended as a workman is able to feel the amount of force being used and whether the joint goes together smoothly. Special jointing methods, such as the use of ratchets, jacks or backhoes, are available if desired. Care must be taken to insure that the spigot is not over-inserted and that previously assembled pipe joints are not disturbed. Manufacturer's recommendations will take precedence over these guidelines.

Pipe installation inside casing pipe must be according to the pipe manufacturer's recommendation.

Installation of sanitary sewer pipe in casing must meet plans requirements and NCTCOG, Item 503 (Trenchless Excavation).

Sewer line installed in casing must be anchored inside the casing pipe with Racii casing spacers (or equal) to avoid movement in any direction.

Should the existing sanitary sewer main be disrupted, the Contractor must use bypass sewage pumping to avoid disrupting sewer flow during construction of the new sewer main. Peak flows in the 18-inch pipe are approximated at 2.6 MGD (4.05 cfs).

The cost of sewage pumping will be covered under the bid item for "Connection to Existing Sanitary Sewer." Refer to the special specification for further details on bypass pumping. There will be no separate pay for sewage pumping.

2. MATERIALS

Sanitary sewer pipe installed by open cut must be of ASTM Designation F-679 Type 1A.

Sanitary sewer pipe installed in casing pipe must be of AWWA C900 PVC DR-18.

3. MEASUREMENT

This item will be measured by the linear foot of sanitary sewer main installed by open cut.

4. PAYMENT

Payment for sanitary sewer main will be per linear foot of installed pipe, regardless of depth and will include excavation, embankment, backfill, and all incidental labor and materials necessary for a complete installation.

Payment for sanitary sewer main in casing will include cost of the pipe and spacers only. The cost of the casing pipe and its installation will be included in other bid items.

Special Specification 7073

Welded Steel Casing Pipe (Open Cut)



1. DESCRIPTION

Install welded steel pipe based on the following:

The diameter of the pipe will be as shown on the construction drawings (minimum size requirements). Joints must be continuous circumferential weld in accordance with AWS D1.1.

Verify all existing utilities (location and depth) prior to commencing installation of pipe by other than open cut.

Prevent damage to streets, driveways, walkways, and other structures during and after pipe installation. Repair any such damage at no extra pay.

For open cut installations, all excavated ditch lines must be mechanically tamped to a minimum of 90% density and a maximum of 95% density of ASTM-D698 (Standard Proctor procedures) at a moisture content ranging from optimum minus one (-1) to plus three (3) percent, to be placed in 6" - 8" lifts (not to exceed 12") by the end of each day's work. Densities will be taken every one (1) lift at staggered hundred feet increments.

The existing top of ground grades shown on the plans are approximate and there will no compensation if the depth of pipe is proved to be otherwise.

Should the existing sanitary sewer main be disrupted, use bypass sewage pumping to avoid disrupting sewer flow during construction of the new sewer main. Have pumps on the job site capable of handling the flow. Refer to the "Sanitary Sewer Main" item for additional information.

Refer to the City of Grand Prairie "Wastewater Standard Detail Sheet."

Install "RACI" (or equal) plastic spacers (Skids) according to the manufacturer's specifications, with the cost incidental to this Item.

2. MATERIALS

Casing pipe must be new steel conforming to ANSI B36.10 and the following:

- Field Strength: 36,000 psi minimum.
- Wall thickness: 0.5 in. minimum.

The Contractor must meet the "Buy America" requirements in accordance with Department/FHWA guidance letter dated April 7, 2014.

3. MEASUREMENT

This item will be measured by the linear foot of steel casing pipe installed.

4. PAYMENT

Payment for steel casing pipe will include the cost of the casing pipe, grouting, excavation, embankment backfill, and all incidental labor and materials necessary for a complete installation in accordance with the construction plans.