

WESTHAVEN COMMUNITY SERVICE DISTRICT

WESTHAVEN WELL AND PIPELINE REPLACEMENT PROJECT

SCHEDULE A
 FUNDING AGREEMENT BETWEEN
 THE STATE OF CALIFORNIA (DEPARTMENT OF WATER RESOURCES) AND
 WESTHAVEN COMMUNITY SERVICES DISTRICT
 4600014508
 SMALL COMMUNITY DROUGHT RELIEF PROGRAM

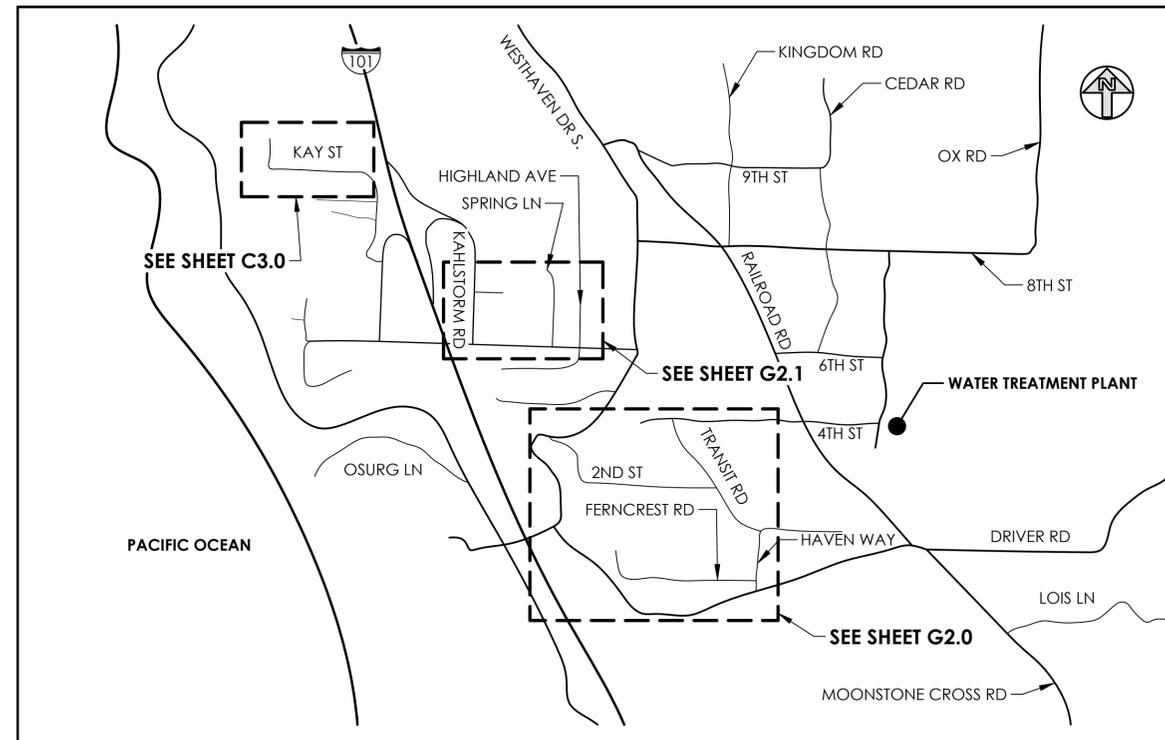
Received 4/11/2023 HCP&B

WESTHAVEN COMMUNITY SERVICES DISTRICT BOARD

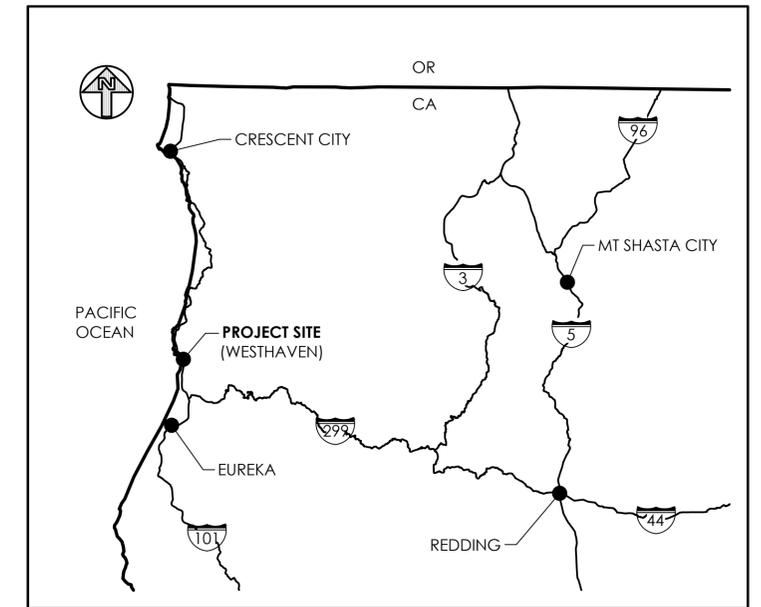
BILL VERICK	PRESIDENT
BARBARA CLINE	VICE PRESIDENT
DAVID HANKIN	FINANCE
RICHARD SWISHER	SAFETY OFFICER
ANTONIO LLANOS	MEMBER

WESTHAVEN COMMUNITY SERVICES DISTRICT STAFF

PAUL M. ROSENBLATT	GENERAL MANAGER / CHIEF PLANT OPERATOR T2-34384/D2-42549
KATRINA MARTIN	LEAD OPERATOR T2-44809/D1-55736
ROXANNE LEVANG	SECRETARY / BOOKKEEPER
MADISON HEWITT	OPERATOR-IN-TRAINING / EIT



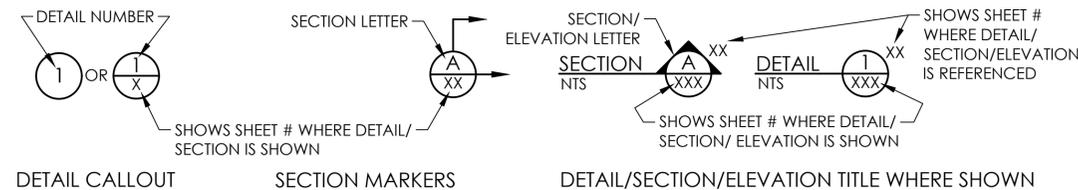
VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

SHEET INDEX		
NO	DESCRIPTION	SHEET NAME
1	G1.0	TITLE
2	G1.1	LEGEND AND NOTES
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4	G2.1	SHEET INDEX MAP
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GENERAL INFORMATION



90% DRAFT



SHEET
G1.0
 PG 1 OF 18

ABBREVIATIONS - WATER/MECHANICAL

@	AT	FLEX	FLEXIBLE	ROW or R/W	RIGHT OF WAY
∅	DIAMETER	FLG	FLANGE	RPP	REDUCED PRESSURE PRINCIPLE
⊕ or PL	PLATE OR PROPERTY LINE	FMJA	FLANGE x MJ ADAPTER	S	SLOPE
AB	ANCHOR BOLT, AGGREGATE BASE	FND	FOUNDATION	SCH or SCHED	SCHEDULE
AC	ASBESTOS CEMENT PIPE or ASPHALT CONCRETE	FRP	FIBER REINFORCED POLYETHYLENE	SD	STORM DRAIN
ADDN'L	ADDITIONAL	FTG	FOOTING or FITTING	SECT	SECTION
ADH AB	ADHESIVE ANCHOR BOLT	FTGS	FITTINGS	SGL	SINGLE
AFF	ABOVE FINISH FLOOR	GA	GAGE	SH or SHT	SHEET
AGG or AGGR	AGGREGATE	GAL	GALLON	SHTG	SHEATHING, SHEETING
AGS	ABOVE GROUND SURFACE	GALV	GALVANIZED	SIM	SIMILAR
APPROX	APPROXIMATELY	GC	GROOVED COUPLING	SMS	SHEET METAL SCREW
ARV	AIR RELEASE VALVE	GSP	GALVANIZED STEEL PIPE	SP	SPACE or SPACES
ASTM	AMERICAN SOCIETY FOR TESTING OF MATERIALS	GV	GATE VALVE	SPEC'S	SPECIFICATIONS
BGS	BELOW GROUND SURFACE	HC	HALF COUPLING	SQ	SQUARE
BKFL	BACKFILL	HD	HOLDOWN or HOT DIPPED	SS	SANITARY SEWER or STAINLESS STEEL
BLDG	BUILDING	HDPE	HIGH DENSITY POLYETHYLENE	STD	STANDARD
BLK	BLOCK	HMA	HOT MIX ASPHALT	STL	STEEL
BLKG	BLOCKING	HORIZ	HORIZONTAL	STRUCT	STRUCTURAL
BM	BENCH MARK OR BEAM	HP	HORSE POWER	SYM	SYMMETRICAL
BO	BLOW OFF or BLOCK-OUT	HT	HEIGHT	T	TELEPHONE CONDUIT or TOP
BOT or BOTT	BOTTOM	HVAC	HEATING, VENTILATION, AND AIR CONDITIONING	T&B	TOP AND BOTTOM
BUSH	BUSHING	I	INSTRUMENTATION	TBC	TOP BACK OF CURVE
BV	BALL VALVE	ID	INSIDE DIAMETER	TBM	TEMPORARY BENCH MARK
C or C/L or C	CENTERLINE	IN	INCHES	TC	TOP OF CONCRETE
C or COND	CONDUIT	INSUL	INSULATION	TELE	TELEPHONE
CAV	COMBINATION AIR RELEASE VALVE	INT	INTERIOR or INTERMEDIATE	THD	THREADED
CHEM	CHEMICAL	INV	INVERT	THK	THICK or THICKNESS
CI	CAST IRON PIPE	IRRIG	IRRIGATION	TL	TRAFFIC LID
CIP	CAST IN PLACE	JT	JOINT	TN	TOE NAIL
CISP	CAST IRON SOIL PIPE	L	STEEL ANGLE	TOW	TOP OF WALL
CJ	CONTROL JOINT or CEILING JOIST	LF	LINEAL FOOT	TUBE	TUBING
CL or CLR	CLEAR	LG	LIP OF GUTTER	TYP	TYPICAL
CLG	CEILING	M	MALE or MECHANICAL	UG	UNDER GROUND
CMP	CORRUGATED METAL PIPE	MECH	MECHANICAL	UNO	UNLESS NOTED OTHERWISE
CMU	CONCRETE MASONRY UNIT	MAX	MAXIMUM	V	VENT
COL	COLUMN	MFR	MANUFACTURER	VERT	VERTICAL
COMB	COMBINATION	MG	MILLION GALLONS	W	WATER
COMP	COMPACTED or COMPOSITION SHINGLES	MH	MANHOLE	W/	WITH
CONC	CONCRETE	MIN	MINIMUM	W/O	WITHOUT
CONST	CONSTRUCTION	MISC	MISCELLANEOUS	WM	WATER METER
CONT	CONTINUOUS	MJ	MECHANICAL JOINT	WS	WATER STOP or WATER SERVICE
CONTR	CONTRACTOR	MRS	MECHANICAL RUBBER SEAL	WTP	WATER TREATMENT PLANT
CORP	CORPORATION	MTL	METAL	WV	WATER VALVE
CP	CONTROL PANEL	(N)	NEW	WW	WELL WATER
CTR	CENTER	NB&G	NUTS, BOLTS, & GASKETS		
CU	COPPER	NF	NEAR FACE		
CV	CHECK VALVE	NIC	NOT IN CONTRACT		
CY	CUBIC YARD	No.	NUMBER		
D	DRAIN	NPT	NATIONAL PIPE THREAD		
DB	DIRECT BURIAL	NTS	NOT TO SCALE		
DBL	DOUBLE	O/	OVER		
DET	DETAIL	OC	ON CENTER		
DIP	DUCTILE IRON PIPE	OD	OUTSIDE DIAMETER		
DIA	DIAMETER	OF	OUTSIDE FACE		
DIM	DIMENSION	OG	ORIGINAL GROUND		
DN	DOWN	OH	OVERHEAD		
DWG	DRAWING	OPG or OPNG	OPENING		
D/W	DRIVEWAY	OPP	OPPOSITE or OPERATING		
E	ELECTRICAL CONDUIT	P&ID or PID	PROCESS INSTRUMENTATION DIAGRAM		
(E) or EXIST	EXISTING	PE	PLAIN END		
EA	EACH	PER	PERIMETER		
EG	EXISTING GRADE	PNL	PANEL		
EL or ELEV	ELEVATION	PNT	PAINT		
ELEC	ELECTRICAL	#	POUND		
ELB	ELBOW	PP	POWER POLE		
EMBED	EMBED or EMBEDMENT	PR	PAIR		
EN	EDGE NAILING	PREFAB	PREFABRICATED		
ENGR	ENGINEER	PROJ	PROJECT		
EP	EDGE OF PAVEMENT	PRV	PRESSURE RELIEF VALVE		
EQ	EQUAL	PS	PIPE SUPPORT		
ER	EDGE OF ROAD	PSI	POUNDS PER SQUARE INCH		
ESMT	EASEMENT	PVC	POLYVINYL CHLORIDE PIPE		
EW	EACH WAY	PW	POTABLE WATER		
EXP AB	EXPANSIVE ANCHOR BOLT	R	RADIUS		
EXP JT	EXPANSION JOINT(S)	RDW OR RDWD	REDWOOD		
F	FEMALE	RED	REDUCER		
FC	FLEXIBLE COUPLING	REINF	REINFORCEMENT STEEL, REBAR		
FCA	FLANGED COUPLING ADAPTOR	REQ'D	REQUIRED		
FD	FRENCH DRAIN OR FLOOR DRAIN	REST	RESTRAINED		
FEP	FLUORINATED ETHYLENE-PROPYLENE	RFCA	RESTRAINED FLANGED COUPLING ADAPTER		
FF	FINISHED FLOOR or FAR FACE	RFMJA	RESTRAINED FLANGED MECHANICAL JOINT ADAPTER		
FG	FINISH GRADE	RFG	ROOFING		
FH	FIRE HYDRANT	RMJ	RESTRAINED MECHANICAL JOINT		
FIN	FINISH	RO	ROUGH OPENING		

SYMBOL LEGEND

	AREA DRAIN
	BOLLARD
	CENTERLINE
	CONTROL POINT
	CULVERT
	DRAINAGE DIRECTION ARROW
	ELECTRICAL PANEL / BOX
	FOUND MONUMENT AS NOTED
	(E) FIRE HYDRANT
	(N) FIRE HYDRANT
	GUY ANCHOR
	GRID TICK
	HOSE BIB
	LIGHT POLE
	POLE- JOINT UTILITY
	POLE- POWER
	SIGN
	SANITARY SEWER MANHOLE
	SANITARY SEWER CLEANOUT / RODHOLE
	STORM DRAIN CATCH BASIN
	TREE/SHRUB
	WATER BLOWOFF OR AIR RELEASE VALVE
	WATER METER/BOX
	(E) WATER VALVE
	(N) WATER VALVE
	(E) WELL
	PROPOSED WELL
	MONITORING WELL / BORE LOCATION

LINE LEGEND

	(E) EP
	(N) EP
	(E) CONC
	(N) CONC
	PROPERTY LINE
	FLOWLINE
	(E) WATER MAIN
	(N) WATER MAIN
	(E) STORM DRAIN
	(N) STORM DRAIN
	(E) SANITARY SEWER
	(N) SANITARY SEWER
	(E) GAS LINE
	(N) GAS LINE

GENERAL NOTES

- UNLESS NOTED OTHERWISE (UNO), ALL CONSTRUCTION SHALL CONFORM TO THE PROJECT MANUAL, THE 2018 EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OR "GREEN BOOK", AND CALTRANS STANDARD PLANS AND SPECIFICATIONS 2018 EDITION.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT AT 811 AND ALL UTILITY COMPANIES ONE (1) WEEK BEFORE ANY TRENCHING TO DETERMINE THE LOCATION OF ALL UNDERGROUND FACILITIES WHETHER SHOWN OR NOT SHOWN ON THESE PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL EXISTING FACILITIES FROM DAMAGE DURING CONSTRUCTION. CONTRACTOR SHALL FIELD LOCATE (POTHOLE) ALL UTILITY CROSSINGS A MINIMUM OF THREE (3) DAYS PRIOR TO CONSTRUCTION.
- ALL PROPERTY LINES AND UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC IN NATURE.
- ALL UTILITY LOCATIONS INCLUDING WATER SERVICE LOCATIONS AND ALIGNMENTS AND DEPTHS, WHERE SHOWN, ARE APPROXIMATE. THE CONTRACTOR SHALL POTHOLE USING NON-DESTRUCTIVE MEANS AND SUBMIT WRITTEN FIELD OBSERVATION DRAWINGS OF THE PROPOSED AND EXISTING PIPE ALIGNMENTS AT LEAST FIVE (5) WORKING DAYS AHEAD OF THE PIPE INSTALLATION CREW. REFER TO THE PROJECT MANUAL.
- THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE UNDERSIGNED ENGINEER AND OWNER.
- THE CONTRACTOR AGREES THAT THEY SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUALLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
- THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL SURVEY MONUMENTS. ANY MONUMENTS DISCOVERED ARE TO BE REPORTED TO THE OWNER'S REPRESENTATIVE IMMEDIATELY. ANY SURVEY MONUMENTS DISTURBED OUTSIDE THE IMMEDIATE WORK AREA DURING CONSTRUCTION SHALL BE REPLACED BY THE OWNER'S REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
- ALL CONTRACTOR'S REPRESENTATIVES, INCLUDING SUBCONTRACTORS, SHALL HAVE WRITTEN PERMISSION TO ENTER ANY PORTION OF PRIVATE PROPERTY. ALL RESIDENCES SHALL BE GIVEN A MINIMUM OF 24 HOURS, BUT NO MORE THEN 72 HOURS NOTICE, PRIOR TO ENTRY/WORK ON PRIVATE PROPERTY.
- CONTRACTOR SHALL SUBMIT COMPLETE AND ACCURATE AS-BUILT DRAWINGS.
- SEPARATION OF WATER AND SEWER FACILITIES SHALL CONFORM TO THE RULES AND REGULATIONS OF THE UNIFORM PLUMBING CODE AND STATE OF CALIFORNIA STATE WATER RESOURCES CONTROL BOARD.
- ALL NEW WATER MAIN INSTALLATION SHALL BE OPEN CUT UNLESS ALTERNATIVE METHOD IS APPROVED BY ENGINEER, OR NOTED OTHERWISE.
- CONTRACTOR SHALL INSTALL A PROJECT SIGN AT LEAST FOUR FEET TALL BY EIGHT FEET WIDE MADE OF 3/4 INCH THICK EXTERIOR GRADE PLYWOOD OR OTHER APPROVED MATERIAL AND SHALL MAINTAIN THE SIGN IN GOOD CONDITION FOR THE DURATION OF THE CONSTRUCTION PERIOD, REFER TO PROJECT MANUAL.
- ALL TUNNELING UNDER (E) CONC CURB, GUTTER, OR SIDEWALK SHALL BE BACKFILLED WITH SLURRY BACKFILL OR CONC.
- PER THE REQUIREMENTS OF PUBLIC RESOURCES CODE SECTION 4442, INTERNAL COMBUSTION ENGINES SHALL BE EQUIPPED WITH AN OPERATIONAL SPARK ARRESTOR, OR THE ENGINE MUST BE EQUIPPED FOR THE PREVENTION OF FIRE.
- PIPES TO BE ABANDONED SHALL NOT TAKE PLACE UNTIL (N) WATER MAIN AND SERVICES HAVE BEEN FULLY TESTED, APPROVED FOR SERVICE AND CONNECTED.

90% DRAFT

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

REVISIONS		
NO	DATE	DESCRIPTION



DES	TJ	CKD	TW	JOB NO.
DRN	RT	DATE	12/28/2022	2973.02

SIGNED

WESTHAVEN COMMUNITY SERVICE DISTRICT
WESTHAVEN WELL AND PIPELINE REPLACEMENT PROJECT
SCHEDULE A

LEGEND AND NOTES

SHEET

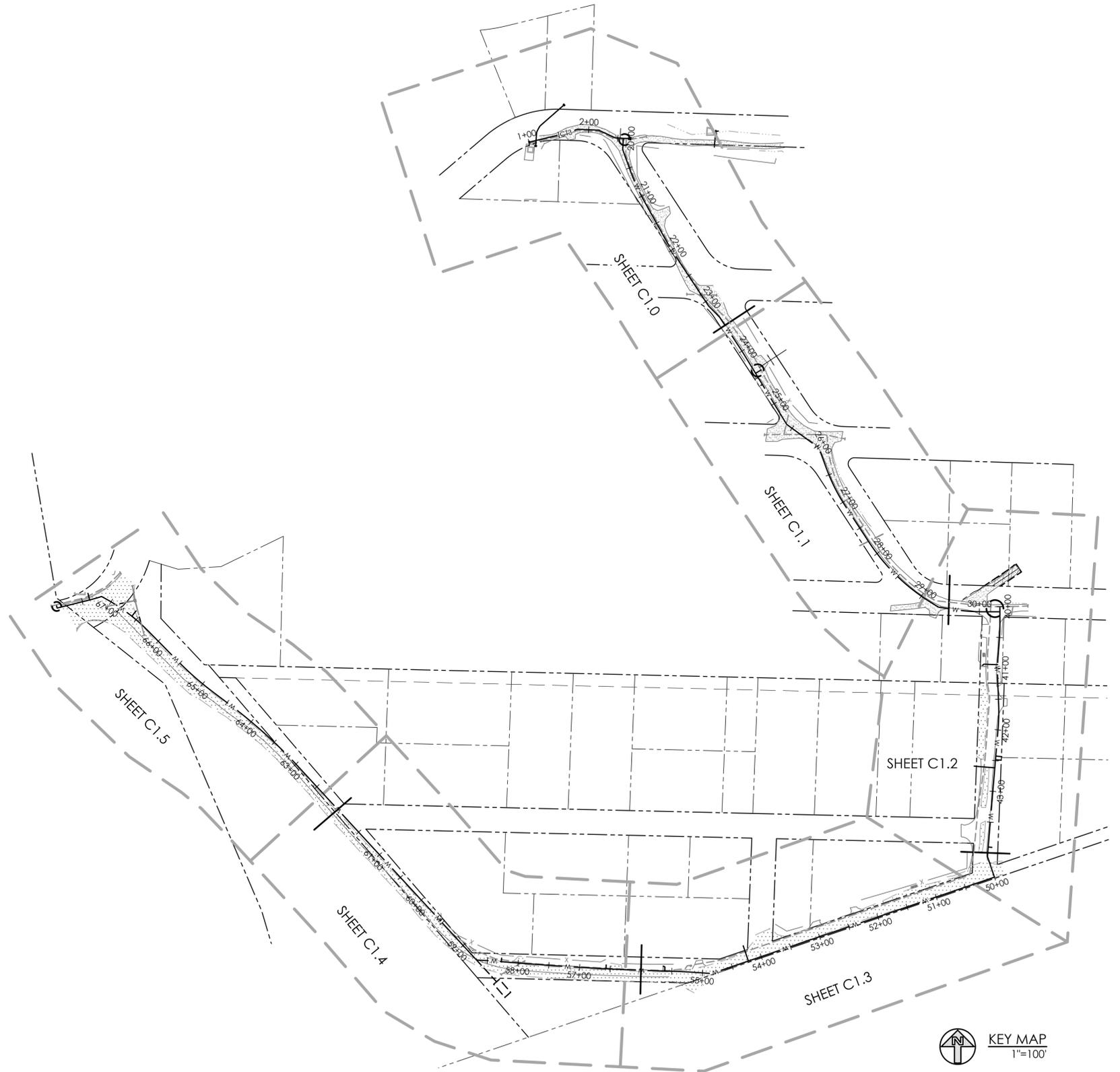
G1.1

PG 2 OF 18

NOTES

1. THIS SURVEY WAS CONDUCTED ON 9/28/2020 - 10/2/2020 AND 3/21/2022 - 3/23/2022.
2. HORIZONTAL PROJECTION: CCS83, ZONE 1, (2017.5 EPOCH).
3. VERTICAL DATUM: NAVD 88 (GEOID 18)
4. UNITS OF MEASUREMENT SHOWN HEREON ARE IN TERMS OF THE U.S. SURVEY FOOT.
5. CONTOUR INTERVAL: 1 FOOT
6. TREE DIMENSIONS SHOWN HEREON ARE DIAMETER AT BREAST HEIGHT. TREE CLASSIFICATION IS BASED UPON SURVEYOR'S BEST ESTIMATION; A CERTIFIED ARBORIST SHOULD BE CONSULTED TO VERIFY WHERE PERTINENT.
7. UTILITIES/FEATURES SHOWN HEREON ARE BASED UPON ABOVE-GROUND, OBSERVED EVIDENCE ONLY. NO OTHER SOURCE INFORMATION SUCH AS AS-BUILT PLANS OR UTILITY MARKINGS WERE AVAILABLE TO DEVELOP A COMPLETE VIEW OF THE UNDERGROUND UTILITIES. LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY, AND RELIABLY DEPICTED.
8. PROPERTY LINES DEPICTED HEREIN ARE APPROXIMATE AND ARE FOR GRAPHICAL PURPOSES ONLY.

CONTROL POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
29	2267100.90	5980824.88	321.63	8" MAG NAIL
30	2267116.89	5980591.64	318.97	8" MAG NAIL
31	2267137.03	5980508.28	317.73	8" MAG NAIL
32	2266940.49	5980666.94	327.11	8" MAG NAIL
33	2267097.28	5980426.67	311.11	8" MAG NAIL
34	2266810.30	5980781.21	330.71	8" MAG NAIL
35	2266652.70	5980868.39	331.08	CP_MAGNAIL
36	2266616.53	5980910.80	329.86	8" MAG NAIL
37	2266624.14	5980936.72	330.81	8" MAG NAIL
38	2266471.76	5980990.91	314.92	8" MAG NAIL
39	2266356.73	5981113.58	327.60	8" MAG NAIL
40	2266373.55	5981211.08	337.61	8" MAG NAIL
41	2266096.70	5981177.90	335.70	CP_MAGNAIL
51	2267178.20	5980498.59	312.04	8" MAG NAIL
52	2266359.19	5981204.65	337.24	CP_GIN
66	2265909.47	5981166.38	331.80	CP_MAGNAIL & WSHR
67	2265749.65	5980682.36	318.60	CP_MAGNAIL
68	2265784.52	5980336.64	299.91	#3B&PC
69	2265938.20	5980185.35	290.41	#3B&PC
70	2265783.32	5980347.29	300.42	CP_MAGNAIL & SHINER FND
71	2266187.64	5979938.26	234.24	#3B&PC
72	2266326.09	5979763.67	198.52	#3B&PC



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REVISIONS		
NO	DATE	DESCRIPTION

PACE ENGINEERING

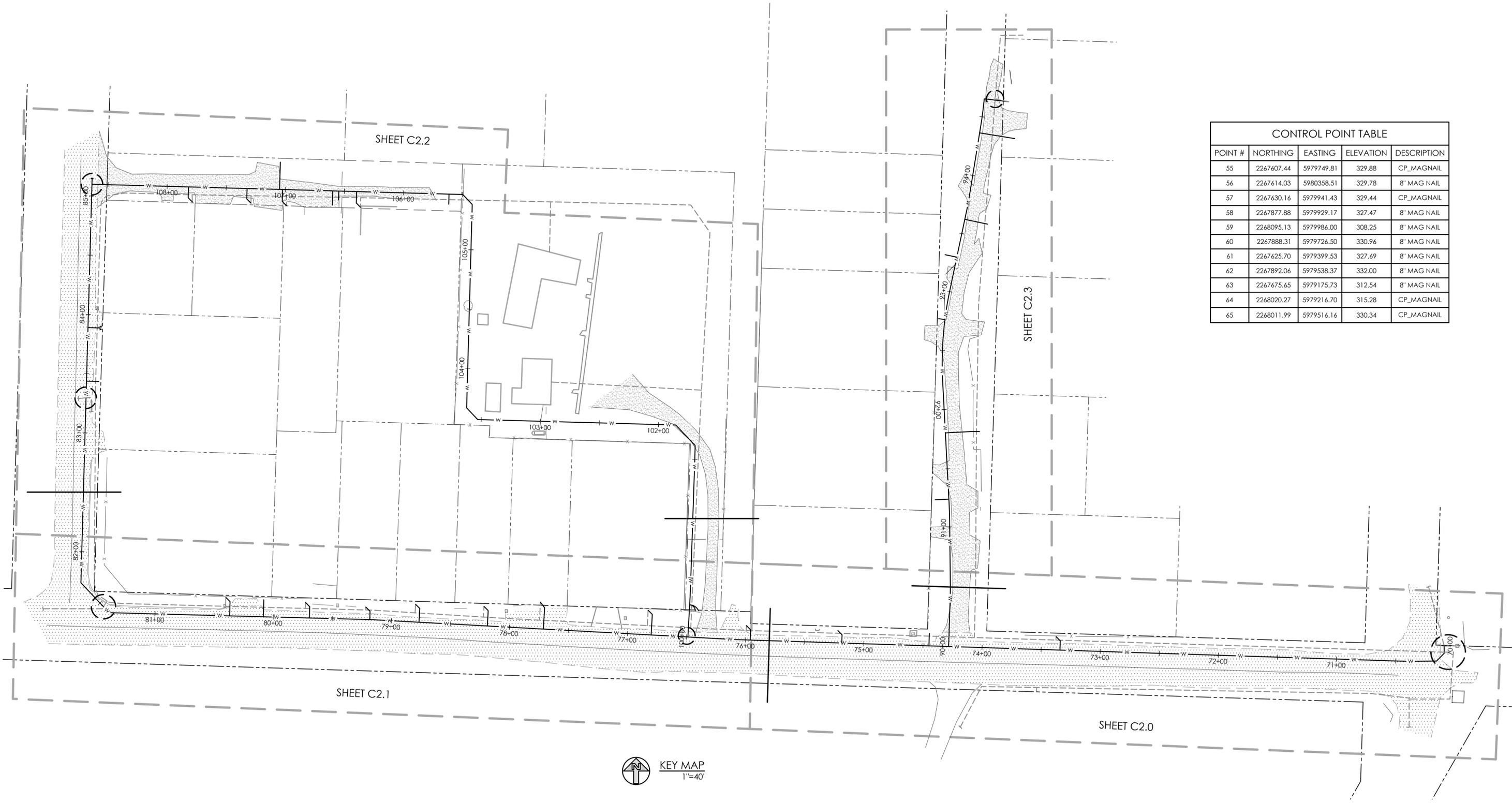
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DRN RT	DATE 12/28/2022	2973.02

SIGNED

WESTHAVEN COMMUNITY SERVICE DISTRICT
 WESTHAVEN WELL AND PIPELINE REPLACEMENT PROJECT
 SCHEDULE A
SHEET INDEX MAP

SHEET
G2.0
 PG 3 OF 18

Plot Date: December 28, 2022 - 9:58 am Login Name: rturner
 File Name: M:\Land Projects\2973.02 Westhaven_CSD - DWG\Civil Planwg_Layout_KEY_MAP-1



CONTROL POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
55	2267607.44	5979749.81	329.88	CP_MAGNAIL
56	2267614.03	5980358.51	329.78	8" MAG NAIL
57	2267630.16	5979941.43	329.44	CP_MAGNAIL
58	2267877.88	5979929.17	327.47	8" MAG NAIL
59	2268095.13	5979986.00	308.25	8" MAG NAIL
60	2267888.31	5979726.50	330.96	8" MAG NAIL
61	2267625.70	5979399.53	327.69	8" MAG NAIL
62	2267892.06	5979538.37	332.00	8" MAG NAIL
63	2267675.65	5979175.73	312.54	8" MAG NAIL
64	2268020.27	5979216.70	315.28	CP_MAGNAIL
65	2268011.99	5979516.16	330.34	CP_MAGNAIL



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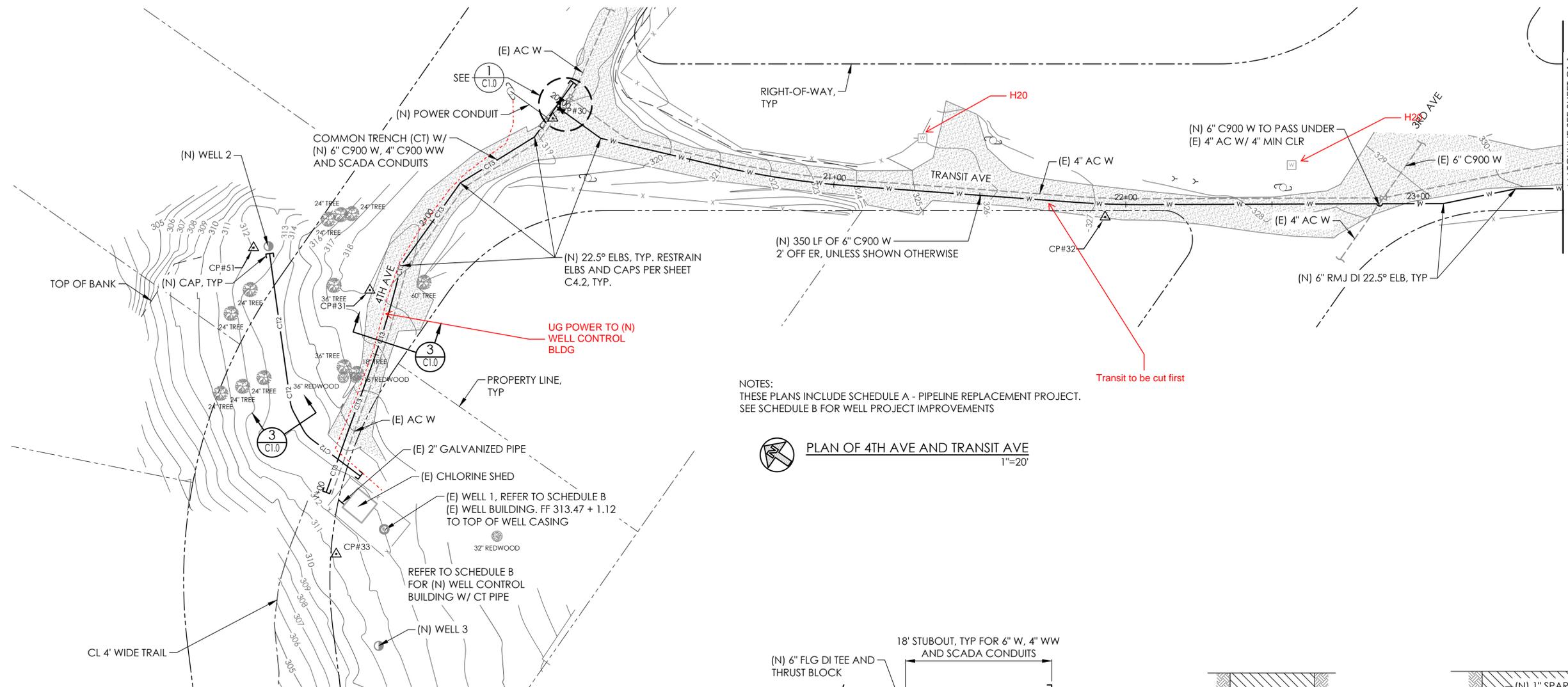
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 DRN RT DATE 12/28/2022 2973.02

SIGNED

WESTHAVEN COMMUNITY SERVICE DISTRICT
 WESTHAVEN WELL AND PIPELINE REPLACEMENT PROJECT
 SCHEDULE A
 SHEET INDEX MAP

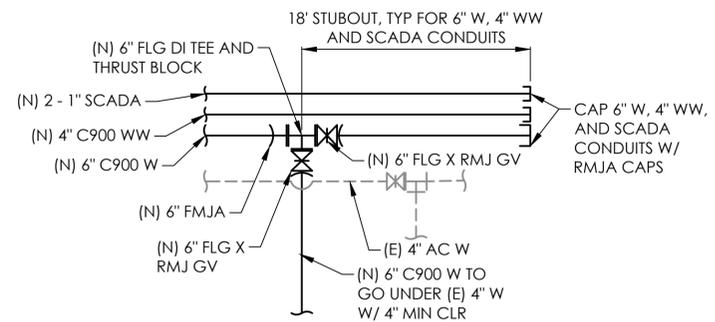
SHEET
G2.1
 PG 4 OF 18

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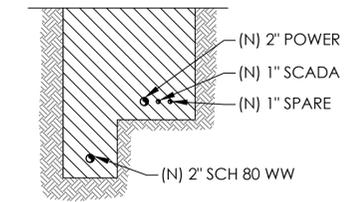
NOTES:
 THESE PLANS INCLUDE SCHEDULE A - PIPELINE REPLACEMENT PROJECT.
 SEE SCHEDULE B FOR WELL PROJECT IMPROVEMENTS

PLAN OF 4TH AVE AND TRANSIT AVE
 1"=20'

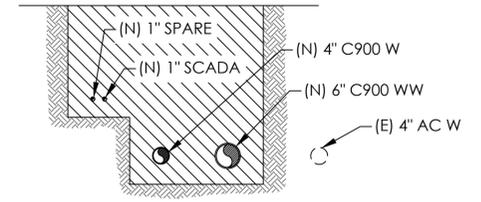


NOTE:
 1. CONTRACTOR SHALL RESTRAIN PIPE PER TABLES 3 & 4 AS SHOWN ON SHEET C4.2.

CONNECTION DETAIL
 NTS (1) C1.0



COMMON TRENCH DETAIL
 NTS (2) C1.0



NOTE:
 1. REFER TO (5) FOR GENERAL CLEARANCE DIMENSIONS, TYP.

COMMON TRENCH DETAIL
 NTS (3) C1.0

90% DRAFT

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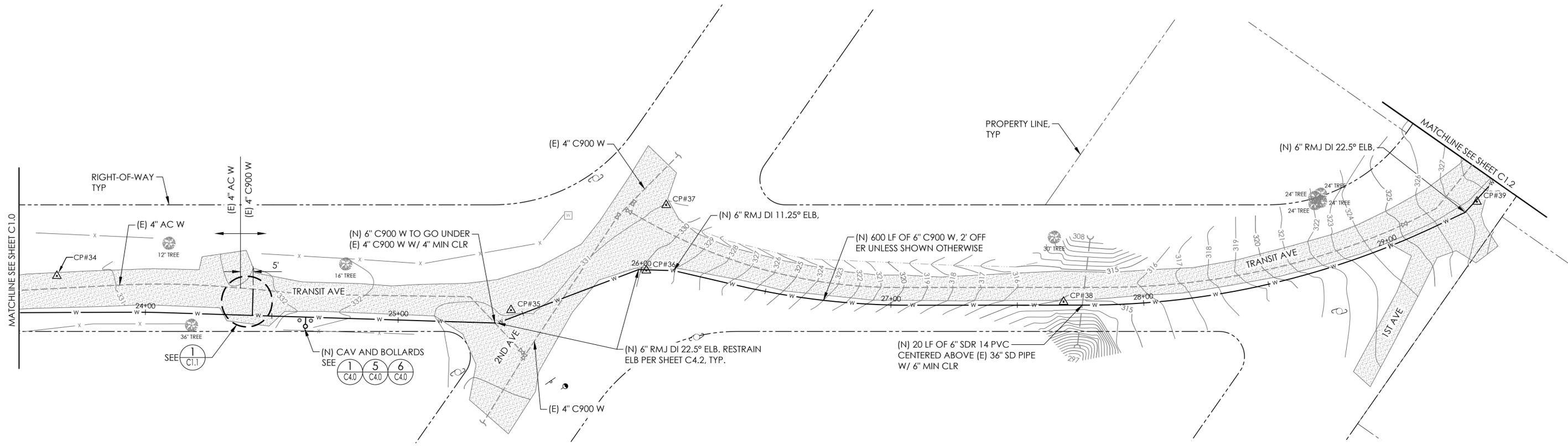


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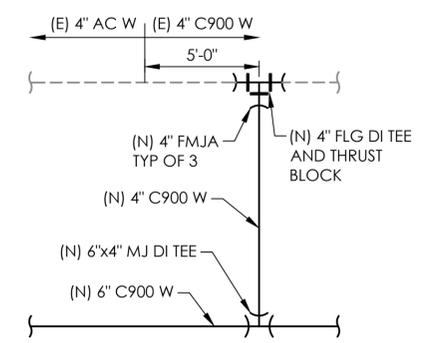
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WESTHAVEN COMMUNITY SERVICE DISTRICT
 WESTHAVEN WELL AND PIPELINE REPLACEMENT PROJECT
 SCHEDULE A
 4TH AVE STA 1+00-2+64
 TRANSIT AVE STA 20+00-23+50

SHEET
C1.0
 PG 5 OF 18



PLAN OF TRANSIT AVE AND 1ST AVE
1"=20'



NOTE:
1. CONTRACTOR SHALL RESTRAIN PIPE PER TABLES 3 & 4 AS SHOWN ON SHEET C4.2.

CONNECTION DETAIL
NTS 1/CI.1

90% DRAFT

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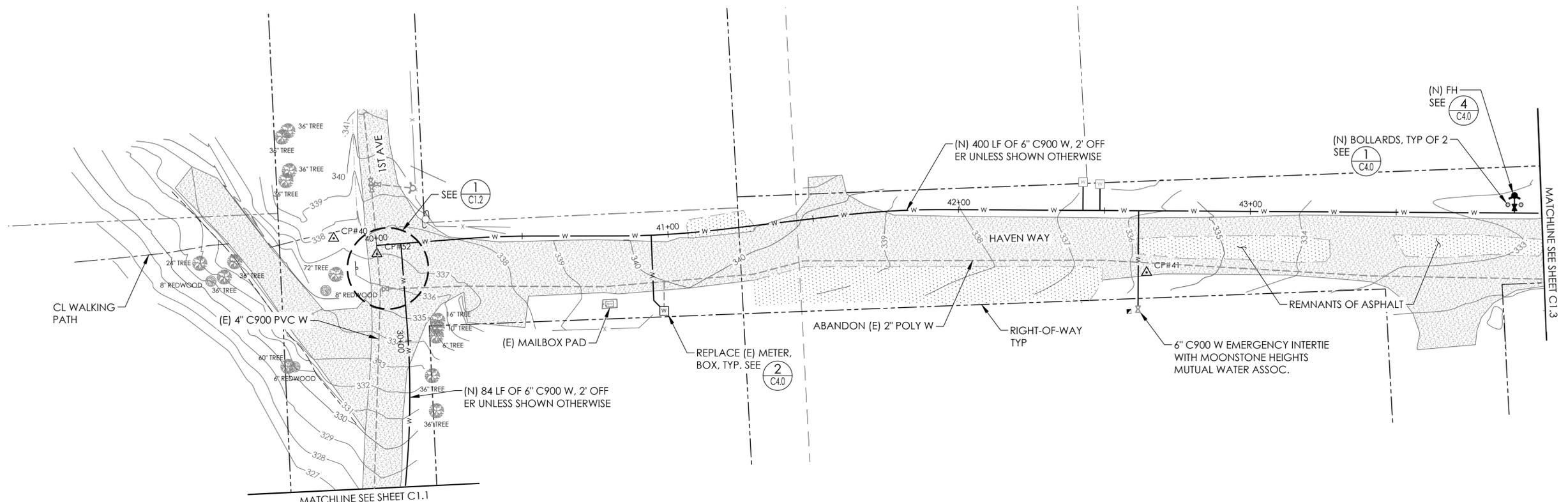
PACE ENGINEERING

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DRN RT	DATE 12/28/2022	2973.02

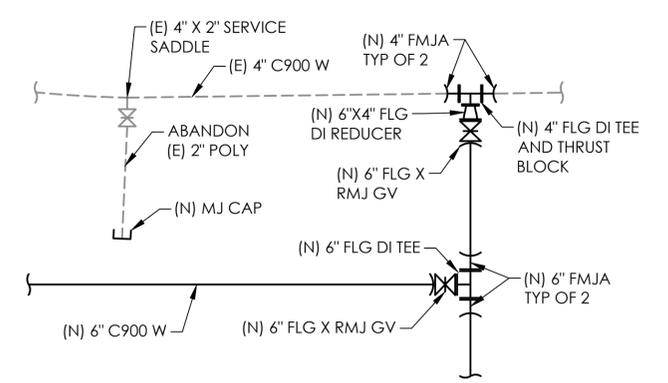
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WESTHAVEN COMMUNITY SERVICE DISTRICT
WESTHAVEN WELL AND PIPELINE REPLACEMENT PROJECT
SCHEDULE A
TRANSIT AVE AND 1ST AVE STA 23+50-29+50

SHEET
C1.1
PG 6 OF 18



PLAN OF 1ST AVE AND HAVEN WAY
1"=20'



NOTE:
1. CONTRACTOR SHALL RESTRAIN PIPE PER TABLES 3 & 4 AS SHOWN ON SHEET C4.2.

CONNECTION DETAIL
NTS

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NO	DATE	DESCRIPTION

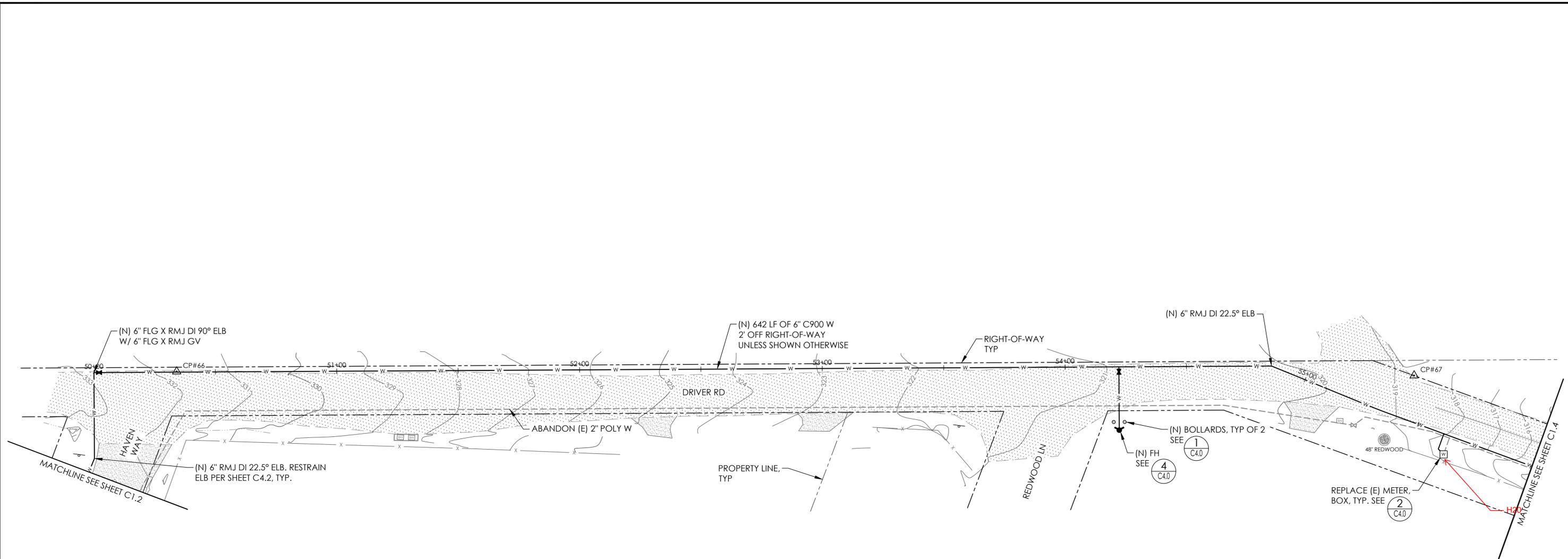
PACE ENGINEERING

DES: TJ	CKD: TW	JOB NO.
DRN: RT	DATE: 12/28/2022	2973.02

SIGNED

WESTHAVEN COMMUNITY SERVICE DISTRICT
WESTHAVEN WELL AND PIPELINE REPLACEMENT PROJECT
SCHEDULE A
1ST AVE STA 29+50-30+34
HAVEN WAY STA 40+00-44+00

SHEET
C1.2
PG 7 OF 18



PLAN OF HAVEN WAY AND DRIVER RD
1"=20'

90% DRAFT

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REVISIONS		
NO	DATE	DESCRIPTION

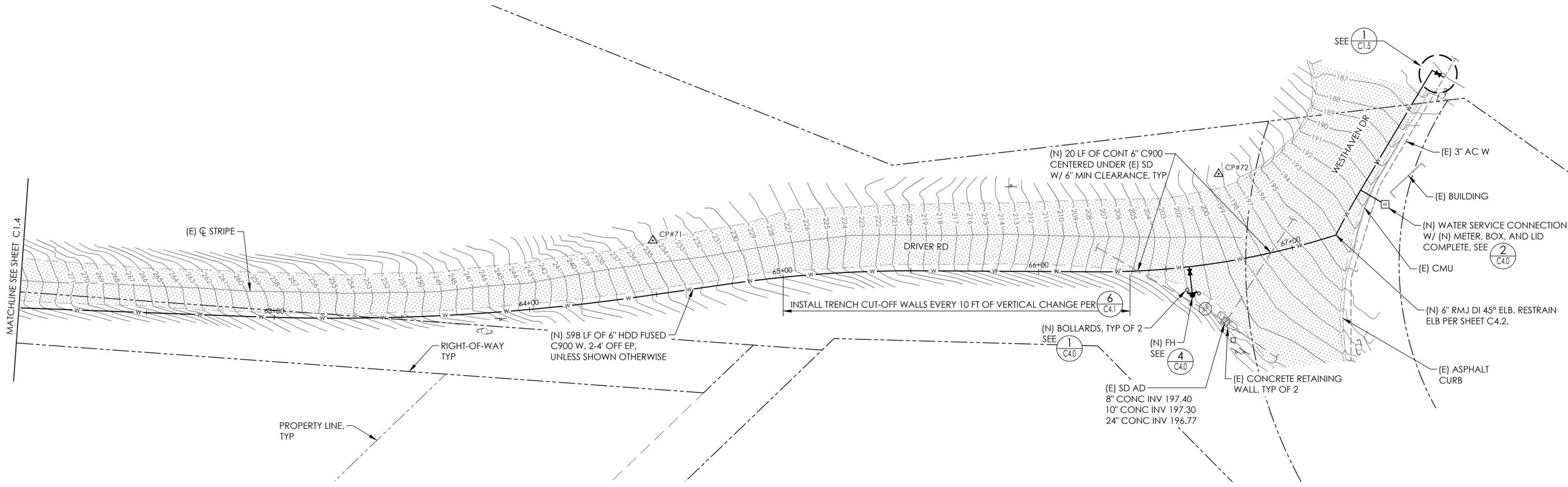
PACE ENGINEERING

DES: TJ	CKD: TW	JOB NO.
DRN: RT	DATE: 12/28/2022	2973.02

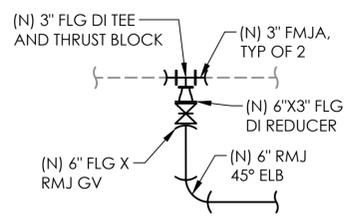
SIGNED

WESTHAVEN COMMUNITY SERVICE DISTRICT
WESTHAVEN WELL AND PIPELINE REPLACEMENT PROJECT
SCHEDULE A
HAVEN WAY STA 44+00-44+42
DRIVER RD 50+00-56+00

SHEET
C1.3
PG 8 OF 18



PLAN OF DRIVER RD AND WESTHAVEN DR
1"=20'



- NOTE:
- CONTRACTOR SHALL RESTRAIN PIPE PER TABLES 3 & 4 AS SHOWN ON SHEET C4.2
 - CONTRACTOR IS CAUTIONED REGARDING THE REQUIREMENT TO SUBMIT AN APPROPRIATE TRAFFIC CONTROL PLAN ALONG WITH AN ENCROACHMENT PERMIT.

CONNECTION DETAIL
NTS

90% DRAFT

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

REVISIONS		
NO	DATE	DESCRIPTION

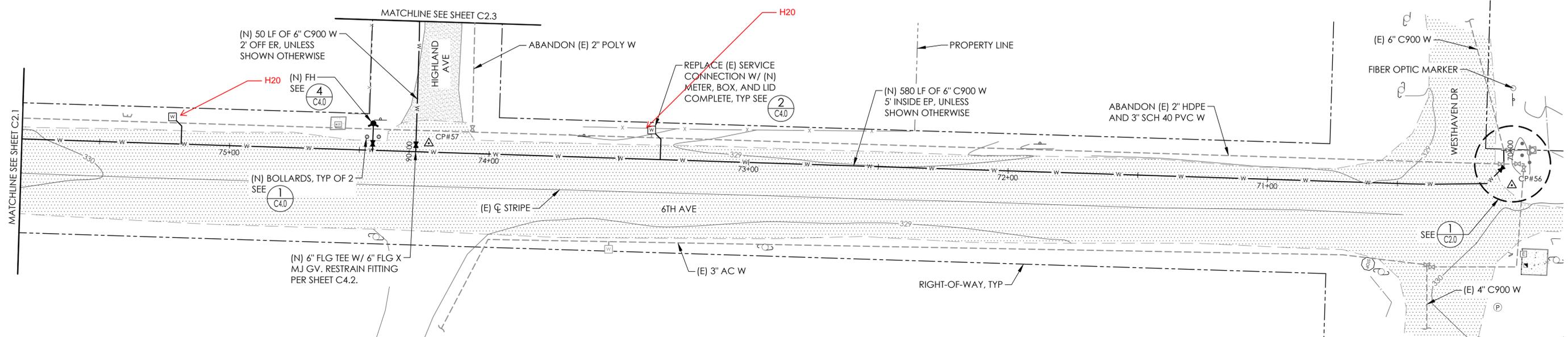
PACE ENGINEERING

DES: TJ CKD: TW JOB NO. 2973.02
DRN: RT DATE 12/28/2022

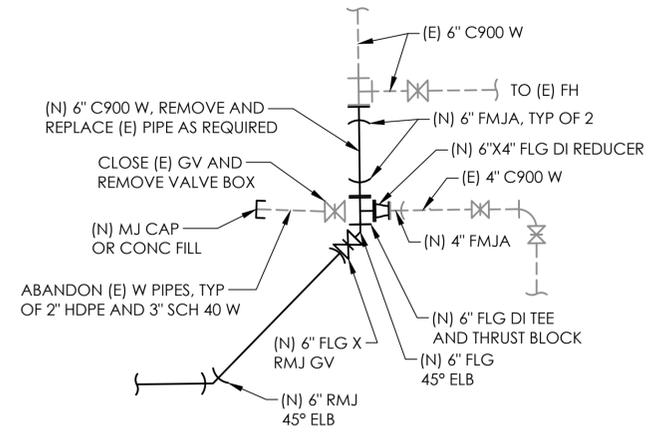
SIGNED

WESTHAVEN COMMUNITY SERVICE DISTRICT
WESTHAVEN WELL AND PIPELINE REPLACEMENT PROJECT
SCHEDULE A
DRIVER RD AND WESTHAVEN DR STA 62+00-67+98

SHEET
C1.5
PG 10 OF 18



PLAN OF 6TH AVE AND HIGHLAND AVE
1"=20'



NOTE:
1. CONTRACTOR SHALL RESTRAIN PIPE PER TABLES 3 & 4 AS SHOWN ON SHEET C4.2.

CONNECTION DETAIL
NTS

90% DRAFT

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

REVISIONS		
NO	DATE	DESCRIPTION

PACE ENGINEERING

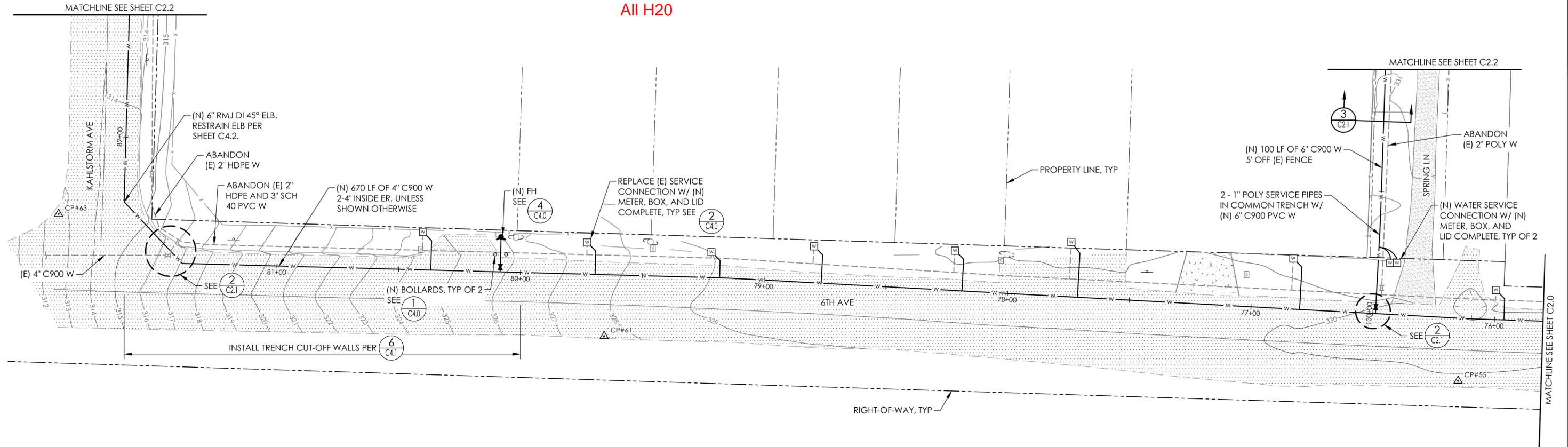
DES: TJ	CKD: TW	JOB NO.
DRN: RT	DATE: 12/28/2022	2973.02

SIGNED

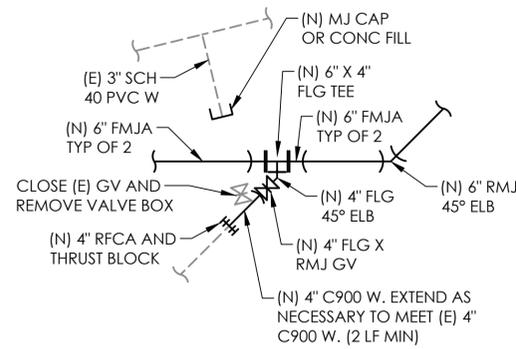
WESTHAVEN COMMUNITY SERVICE DISTRICT
WESTHAVEN WELL AND PIPELINE REPLACEMENT PROJECT
SCHEDULE A
6TH AVE STA 70+00-75+80
HIGHLAND AVE STA 90+00-90+50

SHEET
C2.0
PG 11 OF 18

All H2O

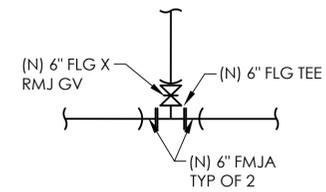


PLAN OF 6TH AVE, SPRING LN, AND KAHLSTORM AVE
1"=20'

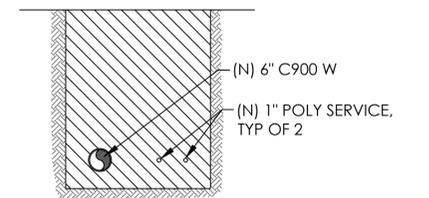


NOTE:
1. CONTRACTOR SHALL RESTRAIN PIPE PER TABLES 3 & 4 AS SHOWN ON SHEET C4.2, TYP.

CONNECTION DETAIL 1 C2.1
NTS



CONNECTION DETAIL 2 C2.1
NTS



NOTE:
1. REFER TO 5 C4.1 FOR GENERAL CLEARANCE DIMENSIONS, TYP.

COMMON TRENCH DETAIL 3 C2.1
NTS

90% DRAFT

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

REVISIONS		
NO	DATE	DESCRIPTION

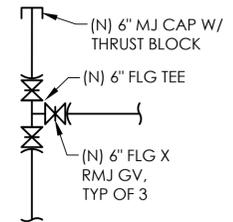
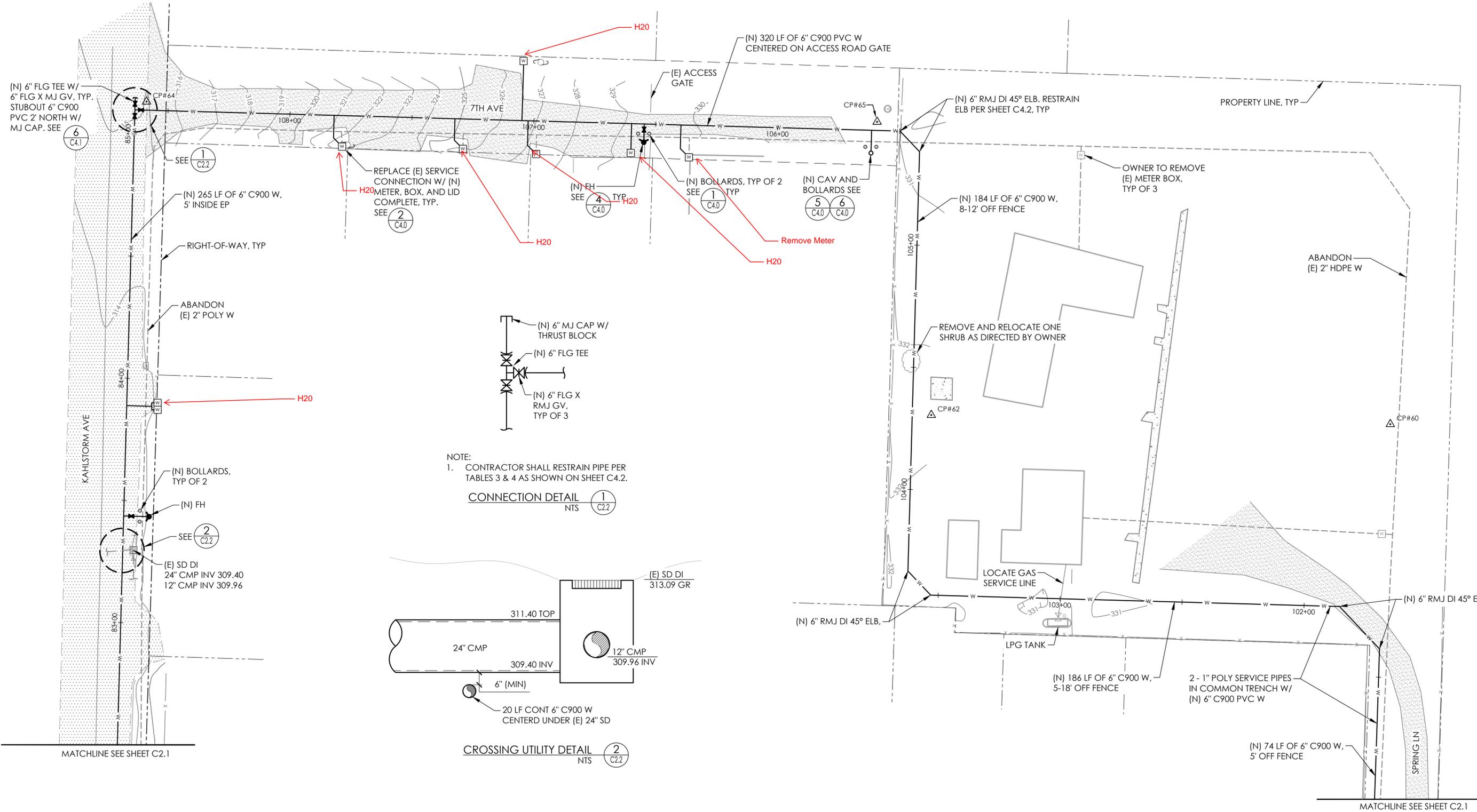


DES TJ CKD TW JOB NO. 2973.02
DRN RT DATE 12/28/2022

SIGNED

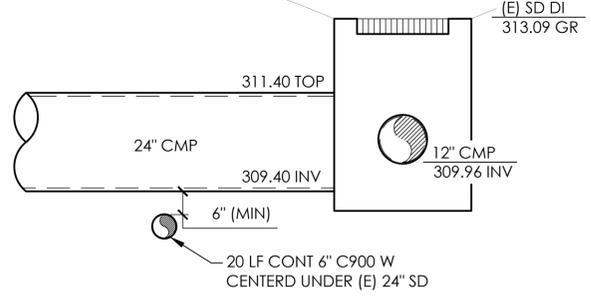
WESTHAVEN COMMUNITY SERVICE DISTRICT
WESTHAVEN WELL AND PIPELINE REPLACEMENT PROJECT
SCHEDULE A
6TH AVE AND KAHLSTORM AVE STA 75+80-82+50
SPRING LN STA 100+00-101+00

SHEET
C2.1
PG 12 OF 18



NOTE:
1. CONTRACTOR SHALL RESTRAIN PIPE PER TABLES 3 & 4 AS SHOWN ON SHEET C4.2.

CONNECTION DETAIL
NTS



CROSSING UTILITY DETAIL
NTS

PLAN OF KAHLSTORM AVE, 7TH AVE, AND SPRING LN
1"=20'

90% DRAFT

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

REVISIONS		
NO	DATE	DESCRIPTION

PACE ENGINEERING

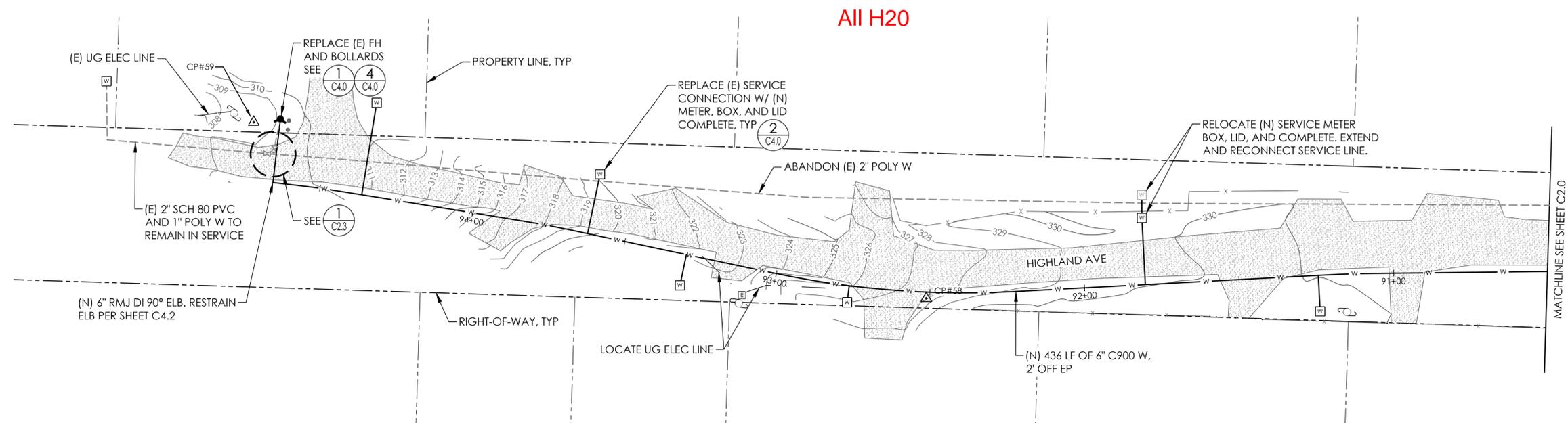
DES: TJ CKD: TW JOB NO.:
DRN: RT DATE: 12/28/2022 2973.02

SIGNED

WESTHAVEN COMMUNITY SERVICE DISTRICT
WESTHAVEN WELL AND PIPELINE REPLACEMENT PROJECT
SCHEDULE A
KAHLSTORM AVE STA 82+50-85+15
SPRING LN AND 7TH AVE STA 101+00-108+64

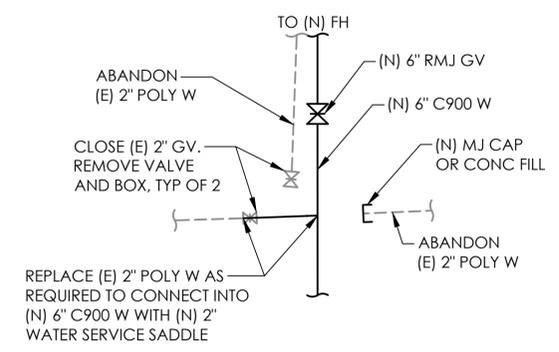
SHEET
C2.2
PG 13 OF 18

Plot Date: December 28, 2022 - 9:59 am Login Name: rturner
File Name: M:\Land Projects\297302 Westhaven CSD - DWG\Civil Planwg Layout_WM-9



All H20

PLAN OF HIGHLAND AVE
1"=20'



CONNECTION DETAIL
NTS 1 C2.3

90% DRAFT

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

REVISIONS		
NO	DATE	DESCRIPTION



DES: TJ CKD: TW JOB NO.:
DRN: RT DATE: 12/28/2022 2973.02

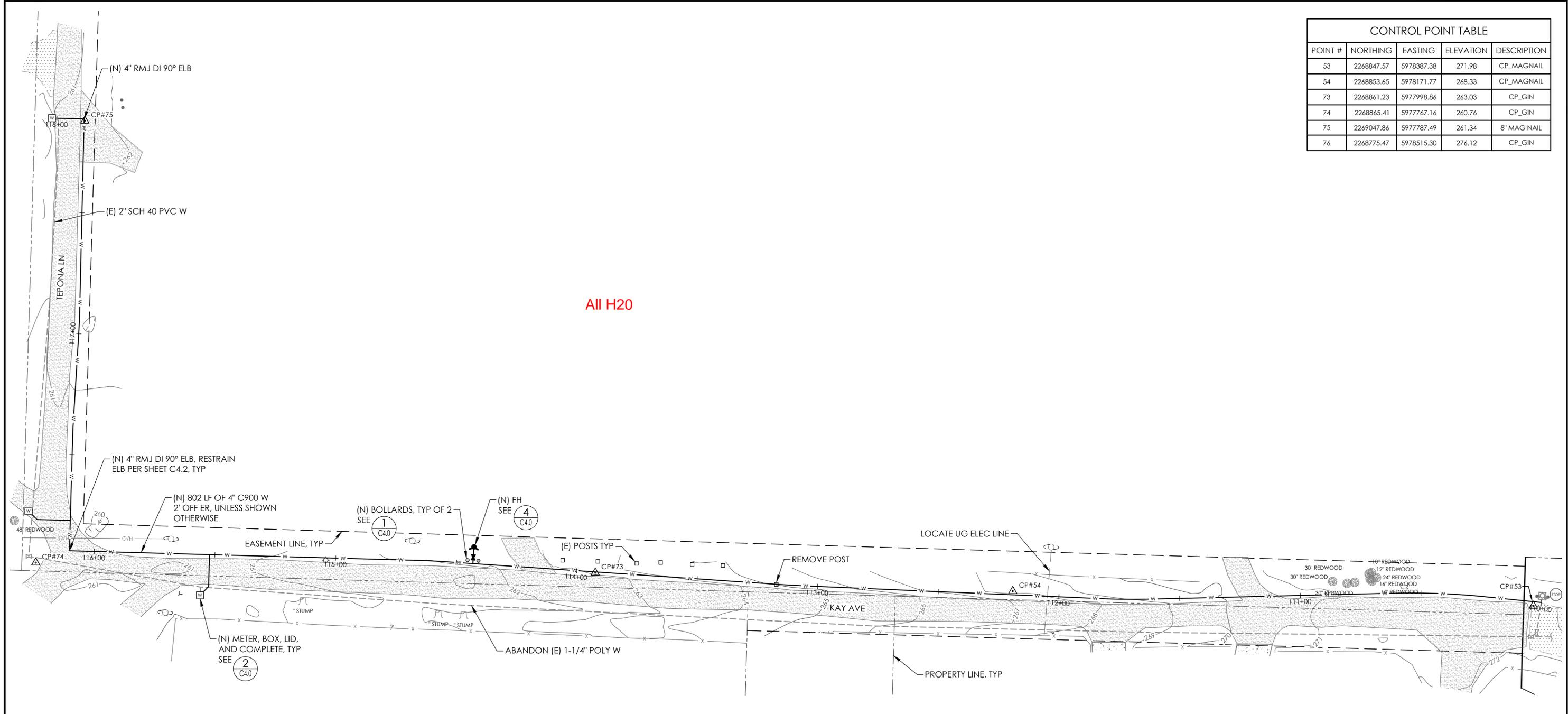
SIGNED

WESTHAVEN COMMUNITY SERVICE DISTRICT
WESTHAVEN WELL AND PIPELINE REPLACEMENT PROJECT
SCHEDULE A
HIGHLAND AVE STA 90+50-94+86

SHEET
C2.3
PG 14 OF 18

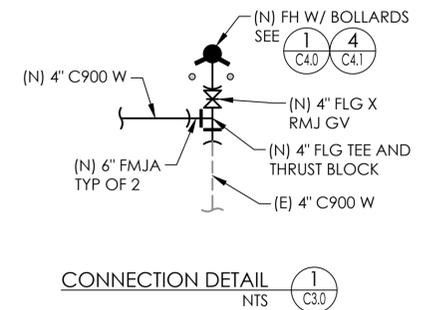
Plot Date: December 28, 2022 - 9:59 am. Login Name: rturner
File Name: M:\Land Projects\297302 Westhaven CSD - DWG\Civil Planwg Layout_WK-0

CONTROL POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
53	2268847.57	5978387.38	271.98	CP_MAGNAIL
54	2268853.65	5978171.77	268.33	CP_MAGNAIL
73	2268861.23	5977998.86	263.03	CP_GIN
74	2268865.41	5977767.16	260.76	CP_GIN
75	2269047.86	5977787.49	261.34	8" MAG NAIL
76	2268775.47	5978515.30	276.12	CP_GIN



All H20

PLAN OF KAY AVE AND TEPONA LN
1"=20'



90% DRAFT

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

REVISIONS		
NO	DATE	DESCRIPTION

PACE ENGINEERING

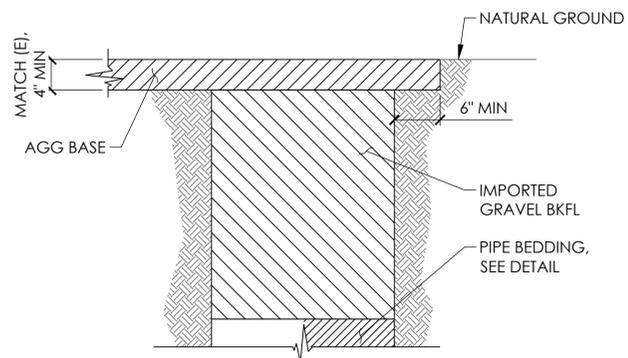
DES TJ	CKD TW	JOB NO.
DRN RT	DATE 12/28/2022	2973.02

SIGNED

WESTHAVEN COMMUNITY SERVICE DISTRICT
WESTHAVEN WELL AND PIPELINE REPLACEMENT PROJECT
SCHEDULE A
KAY AVE AND TEPONA LN STA 110+00-118+02

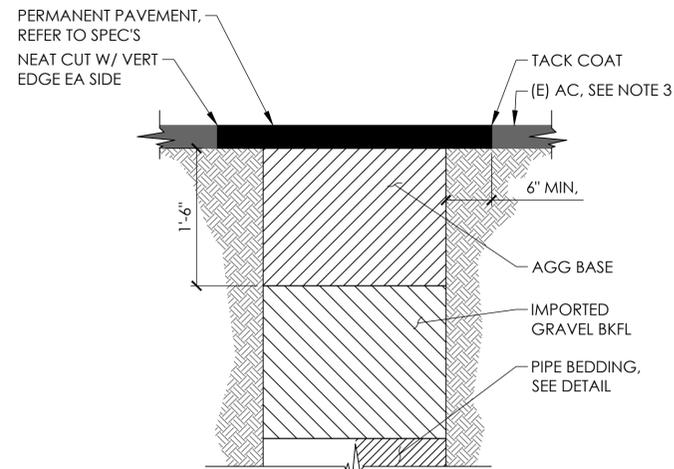
SHEET
C3.0
PG 15 OF 18

Plot Date: December 28, 2022 - 9:59 am Login Name: rturner
File Name: M:\Land Projects\297302 Westhaven_CSD - DWG\Civil Planwg Layout_WK-11



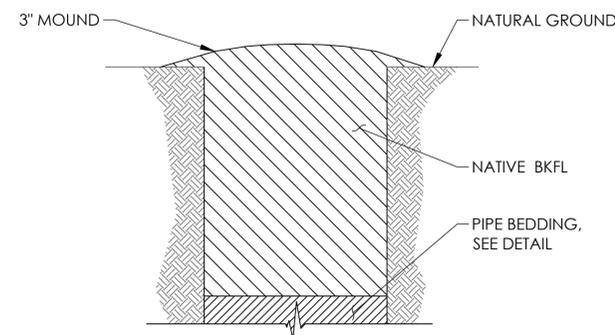
- NOTES:
1. CLASS "A1" SHALL BE USED IN GRAVELED SHOULDERS, ALLEYS, UNDER CONC, UNPAVED DRIVEWAYS, & AT OTHER LOCATIONS DESIGNATED BY THE ENGR.

CLASS "A1" BACKFILL DETAIL (1) NTS C4.1



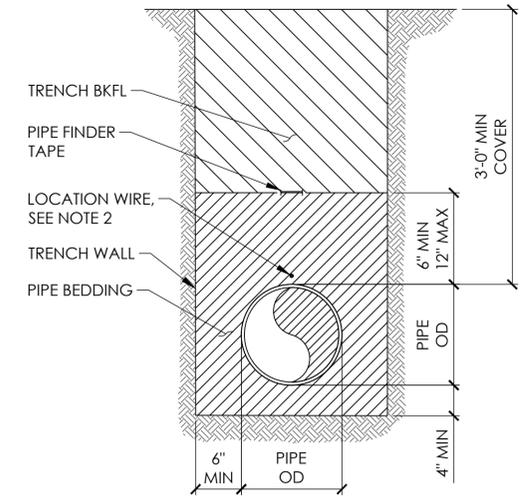
- NOTES:
1. WHERE REMAINING PAVING IS LESS THAN 2 FT WIDE AFTER TRENCHING, REMOVE & REPLACE PAVEMENT TO EDGE OF (E) PAVING AT FULL THICKNESS.
 2. CLASS "A3" BKFL SHALL BE USED IN ALL PAVED AREAS.
 3. FOR UNDERMINED OR DAMAGE TO ADJACENT PAVEMENT, REFER TO SPEC'S.

CLASS "A3" BACKFILL DETAIL (2) NTS C4.1



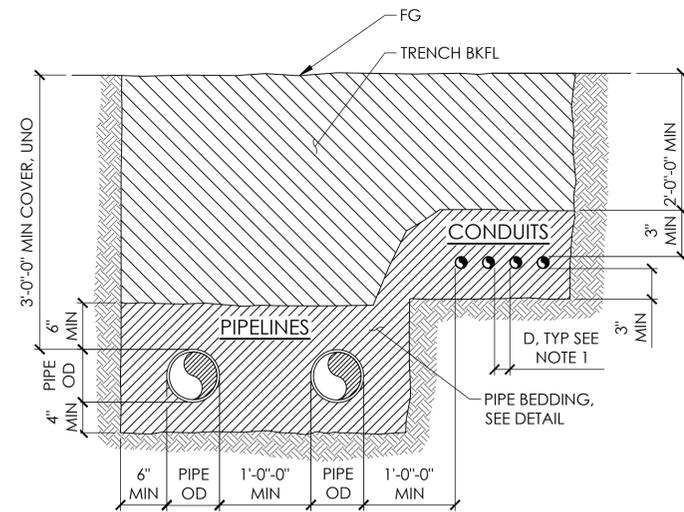
- NOTES:
1. WHEN IN CULTIVATED OR LANDSCAPED AREAS THE TOP 1' OF SOIL SHALL BE REPLACED W/ (E) OR IMPORTED TOPSOIL. THE SURFACE SHALL BE RE-LEVELED FOLLOWING INUNDATION & TRENCH SETTLEMENT. LAWNS OR OTHER LANDSCAPING SHALL THEN BE REPLACED.
 2. CLASS "C" BKFL SHALL BE USED IN AREAS WHERE VEHICLE TRAFFIC IS NOT EXPECTED & @ LOCATIONS DESIGNATED BY THE ENGR.

CLASS "C" BACKFILL DETAIL (3) NTS C4.1

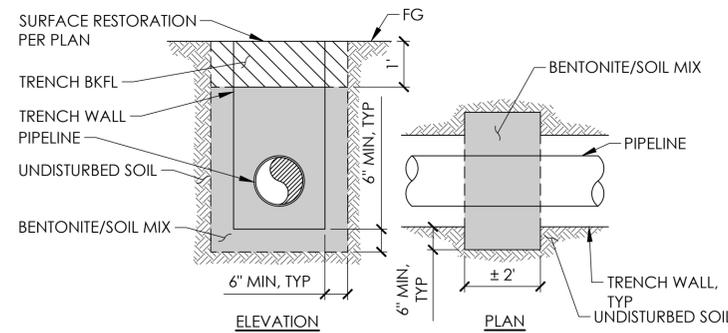


- NOTES:
1. FOR 2 PIPES IN COMMON TRENCH, MAINTAIN 12 IN CLEARANCE BETWEEN PIPES & 6 IN MIN BETWEEN PIPES & TRENCH WALL. REFER TO SPEC'S FOR LOCATION OF WIRE. WIRE REQ'D FOR WATER PIPING & PRESSURE SEWERS ONLY. ALL LOCATION WIRE SPLICES SHALL BE PERFORMED W/ WATER PROOF CONNECTORS, REFER TO SPEC'S.

PIPE BEDDING DETAIL (4) NTS C4.1

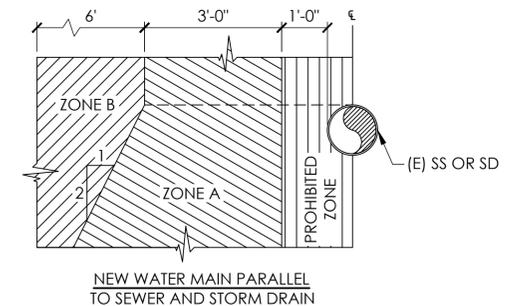
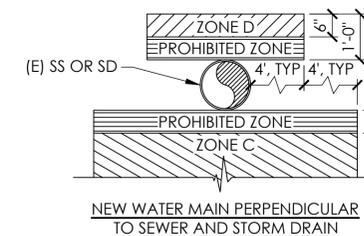


MULTIPLE PIPE TRENCH DETAIL (5) NTS C4.1



- NOTES:
1. INSTALL TRENCH CUTOFFS WHERE SLOPES EXCEED 3%.
 2. TRENCH CUTOFFS SHALL BE INSTALLED AT EVERY 4 FEET OF VERTICAL DROP IN ELEVATION ALONG THE SURFACE GRADE OF THE TRENCH, UNO.
 3. TRENCH CUTOFFS SHALL BE OF BENTONITE/SOIL MIXTURE. BENTONITE/SOIL MIXTURE SHALL CONSIST OF 8 PERCENT (BY WEIGHT) POWDERED BENTONITE MIXED WITH NATIVE SOIL PER THE BENTONITE MANUFACTURER'S RECOMMENDATIONS. BENTONITE/SOIL MIXTURE SHALL BE COMPACTED IN PLACE TO 90 PERCENT MINIMUM RELATIVE COMPACTION.

TRENCH CUTOFF DETAIL (6) NTS C4.1



ZONE	REQUIREMENTS
PROHIBITED	(N) CONSTRUCTION IS PROHIBITED W/IN THIS AREA
A	(N) CONSTRUCTION W/IN THIS AREA SHALL HAVE PRIOR WRITTEN APPROVAL FROM BOTH DDW & THE ENGR
B	(N) CONSTRUCTION W/IN THIS AREA SHALL BE DIP W/ COMPRESSION JTS OR PVC W/ RUBBER RING JTS (ASTM D3034)
C	(N) CONSTRUCTION SHALL BE DIP, DR 14 PVC, OR HDPE (C906-99) & HAVE NO JTS W/IN 10 FT FROM EITHER SIDE OF SEWER MAIN
D	(N) CONSTRUCTION SHALL BE DIP, DR 14 PVC, OR HDPE (C906-99) & HAVE NO JTS W/IN 4 FT FROM EITHER SIDE OF SEWER MAIN

- NOTE:
- 1) CONTRACTOR SHALL REPORT AREAS NOT SHOWN ON PLANS THAT REQUIRE WATER PLACEMENT WITHIN ZONES A, B, C, OR D TO THE ENGINEER. THESE NEWLY IDENTIFIED AREAS REQUIRE STATE WATER RESOURCES CONTROL BOARD, DIVISION OF DRINKING WATER APPROVAL PRIOR TO INSTALLATION.

SEPARATION OF WATER MAIN FROM SEWER AND STORM DRAIN PIPELINES (7) NTS C4.1

90% DRAFT

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

REVISIONS		
NO	DATE	DESCRIPTION



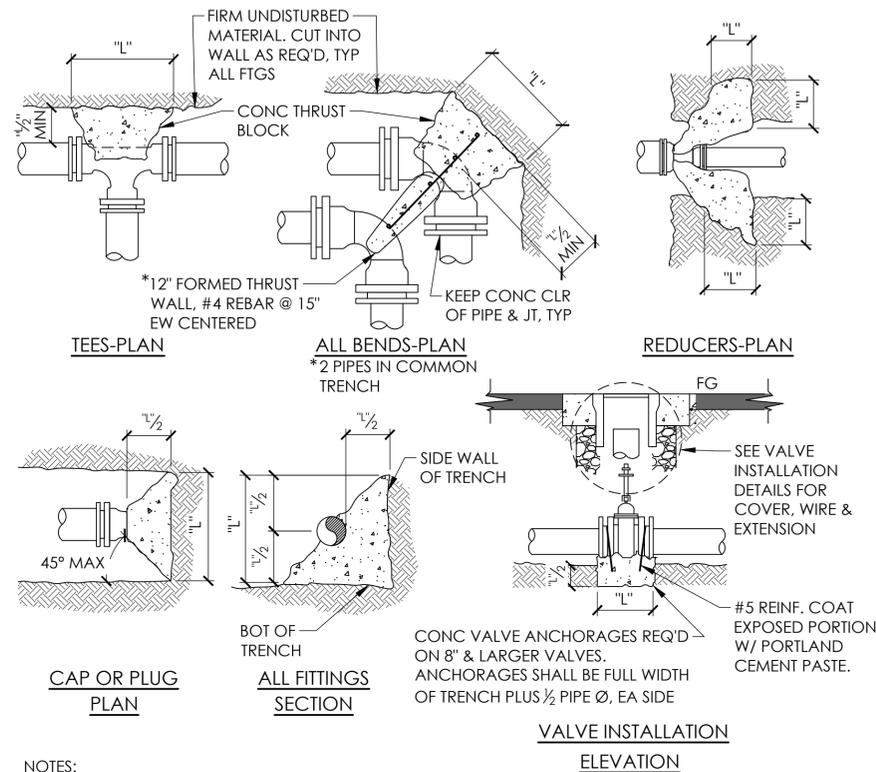
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DRN RT DATE 12/28/2022 2973.02

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WESTHAVEN COMMUNITY SERVICE DISTRICT
WESTHAVEN WELL AND PIPELINE REPLACEMENT PROJECT
SCHEDULE A

DETAILS

SHEET
C4.1
PG 17 OF 18



- NOTES:
- IN THE CASE WHERE THERE IS NOT 5 FT OF CLEARANCE TO UNDISTURBED EARTH OR (E) UTILITIES IN SERVICE, THE CONTRACTOR SHALL USE MECHANICAL RESTRAINT SYSTEMS ON (N) FITTINGS. EARTH IS DEEMED DISTURBED IF IT CONTAINS ANY (E) UTILITIES AND/OR IS RECOGNIZED AS A FILL AREA.
 - USE OF A MECHANICALLY RESTRAINED FTG IN LIEU OF A THRUST BLOCK TYPICALLY REQUIRES A NUMBER OF PIPE JTS TO BE RESTRAINED UP & DOWNSTREAM OF THE FTG. REFER TO TABLE 3. WHERE RESTRAINED FTGS ARE SHOWN ON THE PLANS, OR WHERE A CONTR PROPOSES TO USE A RESTRAINED FTG IN LIEU OF A THRUST BLOCK BECAUSE OF SITE CONDITIONS, THE CONTR SHALL DETERMINE THE NUMBER OF PIPE JTS TO BE RESTRAINED & SUBMIT THIS INFORMATION TO THE ENGR FOR REVIEW. PAYMENT FOR RESTRAINED JTS SHALL BE INCLUDED IN THE MOST APPLICABLE BID ITEM.
 - THRUST BLOCKS SHALL BE PROVIDED @ ALL BURIED PIPE FTGS OF 4 IN Ø OR LARGER. THRUST BLOCK SIZE IS BASED ON PIPE SIZE, 150 PSI TEST PRESSURE, & SOIL BEARING OF 1200 LB/FT². DIM "L" IS SHOWN IN TABLE 2 & IS BOTH A VERT & HORIZ DIM, UNO. IF PIPE COVER HAS BEEN APPROVED TO BE LESS THAN 30 IN, INCREASE HORIZ THRUST BLOCKS IN PROPORTION TO 30 IN DIVIDED BY THE ACTUAL COVER. IF TEST PRESSURE IS LESS THAN 150 PSI, THRUST BLOCK AREAS OR VOLUMES MAY BE PROPORTIONATELY SMALLER. KEEP CONC FREE OF ALL JTS, BOLTS & NUTS.

THRUST BLOCK DETAILS
NTS (6) C4.2

TABLE 1
STD THRUST BLOCK MIN DIM "L" IN INCHES

NOMINAL PIPE Ø INCHES	FTGS						
	TEE, WYE, OR PLUG	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	REDUCER (BASED ON LARGEST Ø)	VALVE
4"	18	22	16	15	15	--	--
6"	26	31	23	17	15	--	--
8"	34	40	30	21	15	17	12
10"	41	49	36	26	18	21	12
12"	49	59	44	31	22	25	16
14"	58	68	50	36	26	30	16
16"	66	77	57	41	28	33	18
18"	74	88	65	45	32	37	REQUIRES SPECIAL DESIGN
20"	81	97	71	50	36	41	
24"	97	115	85	61	43	49	

- NOTES:
- INCREASE ALL DIMS IN TABLE 1 BY 10% TO ALLOW FOR INCREASE IN PRESSURE TO 175 PSI.

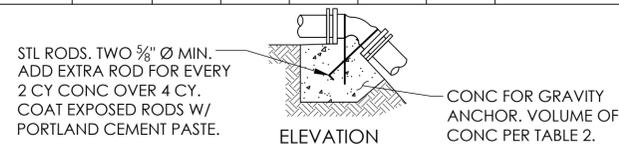
TABLE 2
VERT FTG THRUST BLOCKS

WHERE VERT BENDS ARE DIRECTED W/ THRUST TOWARD BOT OF THE TRENCH, BENDS SHALL HAVE THRUST BLOCKS PER HORIZ BENDS EXCEPT CONC SHALL BEAR AGAINST TRENCH BOT.

WHERE VERT BENDS ARE DIRECTED W/ THRUST TOWARD TOP OF TRENCH, BENDS SHALL BE INSTALLED PER THE FOLLOWING DETAIL. MIN ROD EMBED SHALL BE 30" FOR 12" & SMALLER PIPE & 36" FOR 14" & LARGER PIPE.

CY CONC FOR VERT FTGS (SEE DETAIL BELOW)

BEND ANGLE	PIPE Ø						REQUIRES SPECIAL DESIGN
	4"	6"	8"	10"	12"	14"	
11 1/4°	0	0.4	0.7	0.9	1.3	1.8	
22 1/2°	0.4	0.8	1.3	1.8	2.5	3.4	
45°	0.7	1.4	2.4	3.5	4.9	6.6	
90°	1.3	2.5	4.3	6.4	9.1	12.2	



THRUST BLOCK TABLES
NTS (6) C4.2

TABLE 3

SIZE	PIPE FITTING	MIN. RESTRAINED PIPE LENGTH (FT)
10"	TEE	6
10"	90° ELB	30
10"	45° ELB	13
10"	11.25° ELB	5
10"x6"	TEE	5
8"	TEE	5
8"	90° ELB	25
8"	45° ELB	11
8"	11.25° ELB	5
8"	CAP	80
8"x6"	TEE	5
8"x4"	TEE	5
6"	TEE	5
6"	90° ELB	19
6"	45° ELB	8
6"	11.25° ELB	5
6"	CAP	60
6"x4"	TEE	5
4"	TEE	5
4"	90° ELB	14
4"	45° ELB	6
4"	11.25° ELB	5
4"	CAP	45

- NOTE:
- TEST PRESSURE = 150 PSI.
 - DEPTH OF BURY = 3 FT.
 - TEE RESTRAINT LENGTH VALUES REFLECT THE LENGTH OF PIPE ALONG THE BRANCH WHERE ALL FITTINGS AND JOINTS SHALL BE RESTRAINED. THE RESTRAINT LENGTH ALONG THE BRANCH WAS CALCULATED ASSUMING 10 LF OF RESTRAINED JOINTS EACH WAY ALONG THE PIPE RUN, UNO. RESTRAINED PIPE LENGTH ALONG THE BRANCH WILL CHANGE AS RESTRAINED LENGTH ALONG THE PIPE RUN CHANGES. CONTRACTOR SHALL SUBMIT CALCULATIONS TO ENGINEER FOR APPROVAL IF RESTRAINED PIPE LENGTH ALONG THE RUN IS GREATER THAN OR LESS THAN 10 LF.

RESTRAINT LENGTH TABLES FOR PIPE JOINTS AND FITTINGS
NTS (1) C4.2

TABLE 4

SIZE	MINIMUM BEND RADIUS, R (FT)	MAXIMUM END OFFSET, Z (FT)
4"	150	1.3
6"	215	0.9
8"	285	0.6
10"	350	0.5

PVC ALLOWABLE BENDING RADIUS 20' LENGTHS
NTS (6) C4.2

90% DRAFT

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

REVISIONS		
NO	DATE	DESCRIPTION



DES: TJ CKD: TW JOB NO.:
DRN: RT DATE: 12/28/2022 2973.02

SIGNED

WESTHAVEN COMMUNITY SERVICE DISTRICT
WESTHAVEN WELL AND PIPELINE REPLACEMENT PROJECT
SCHEDULE A

DETAILS

SHEET

C4.2

PG 18 OF 18