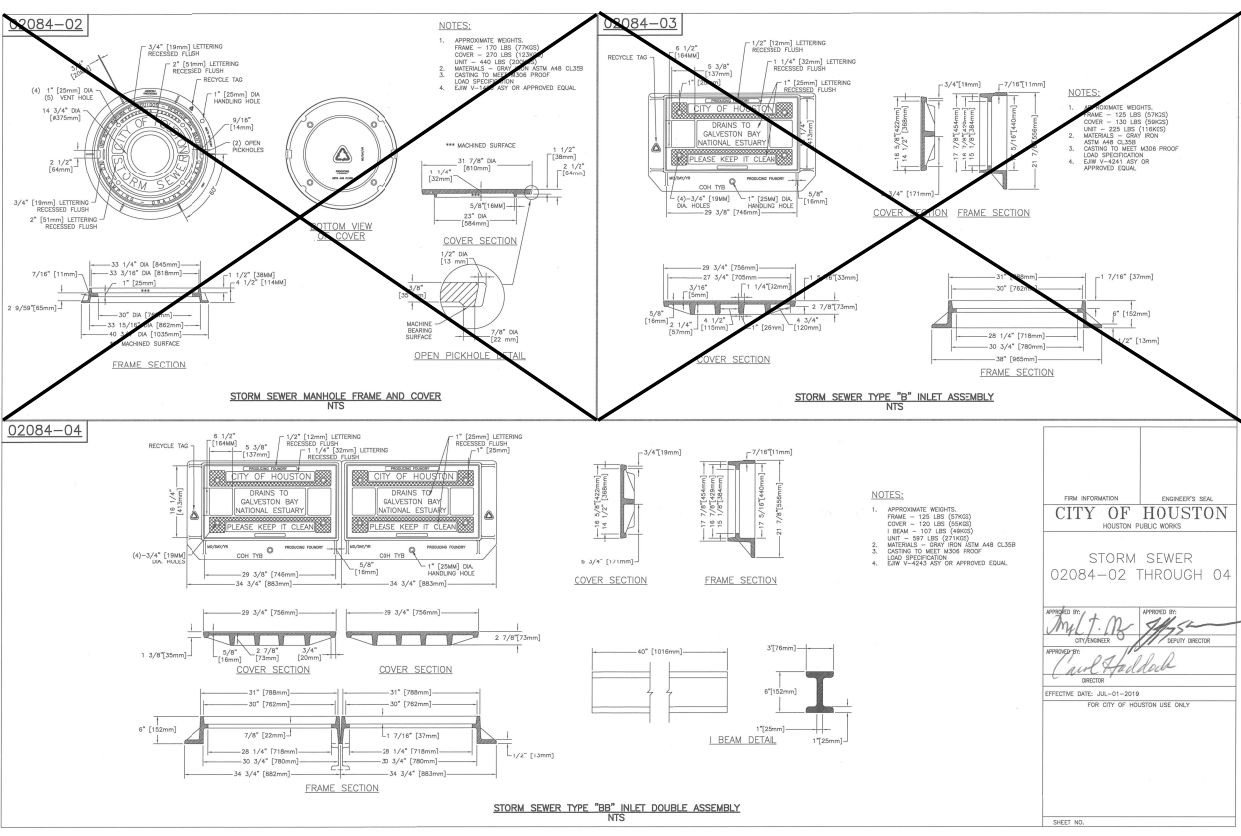
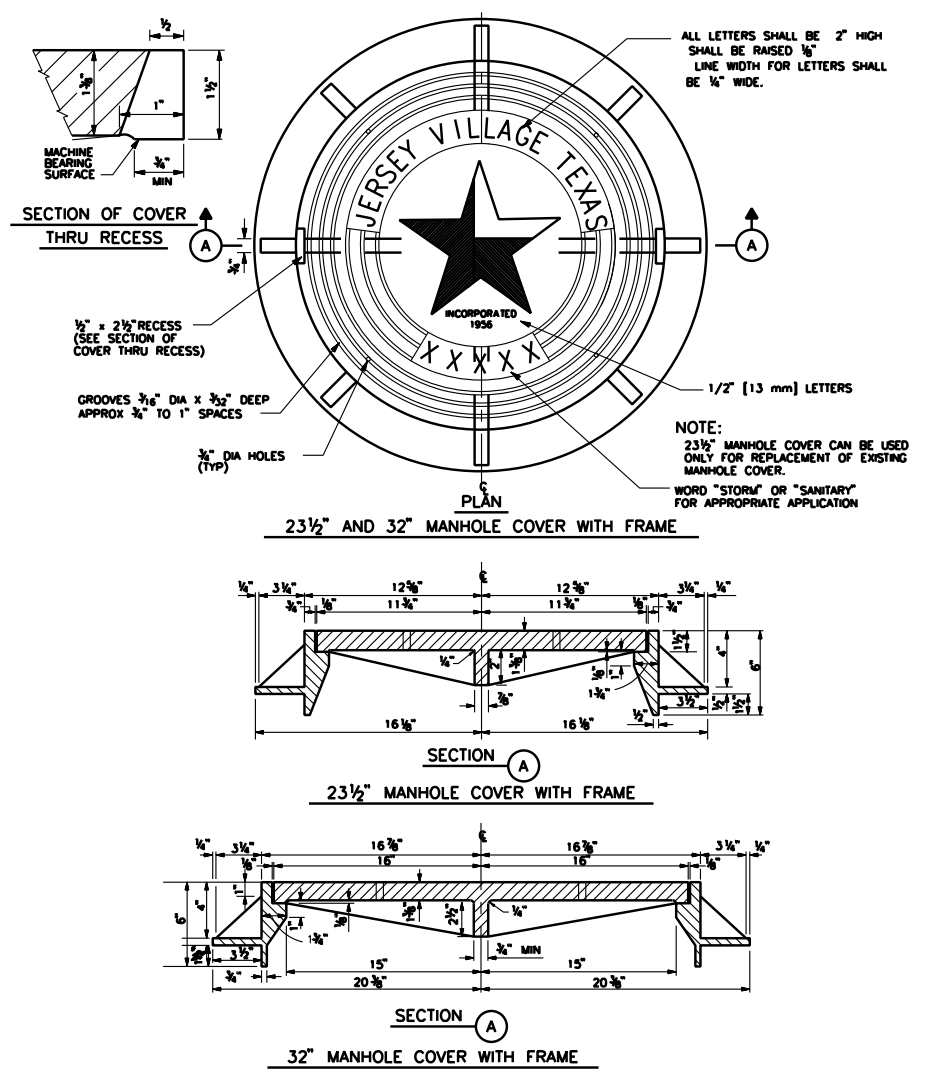


CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER TYPE 'C' PRECAST ROUND MANHOLE
(NOT TO SCALE)

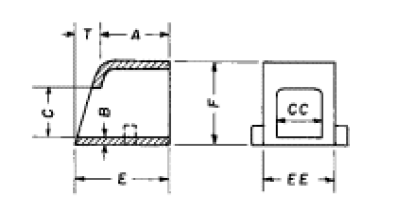
APPROVED BY: *Sabaib Kanawaj* CITY ENGINEER
APPROVED BY: *Carl Spalding* DIRECTOR OF HOUSTON PUBLIC WORKS

DATE: JUL-01-2021 DWG NO.: 02082-12



R-3262 Series Storm Water Curb Openings

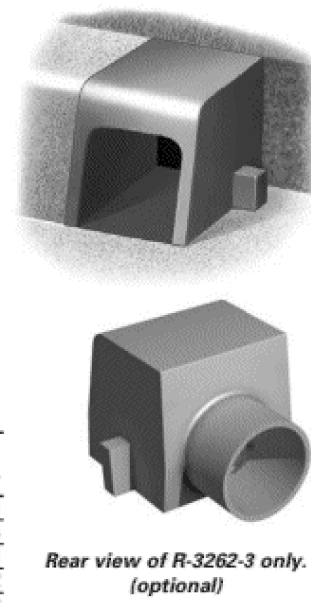
Heavy Duty



Curb opening castings are used as shown, where it is advantageous to transmit stormwater from downspout in shallow drains and discharge it through the curb to the street gutter.

Catalog No.	Dimensions in inches							
	A	B	C	C-C	E	E-E	F	T
R-3262-1	5	1/2	4	4	6	5	7	1
R-3262-2	6	1/2	4	4	8 1/4	5	6	2 1/4
R-3262-3*	5	1/2	4	5 1/2	6	6 1/2	6 1/2	1
R-3262-4	5	1/2	4	16	7	17	6 3/8	2
R-3262-6	6	1/2	6	6	8	7 1/4	9	2

*4" ID outlet is optional.



REFERENCE BENCHMARK:
RM050425 - BRASS DISK STAMPED "050425" LOCATED AT THE NORTHEAST CORNER OF THE BRIDGE ON RIO GRANDE OVER E127-00-00 ±60' SOUTH OF VILLAGE DRIVE IN KEY MAP 409L IN THE WHITE OAK BAYOU WATERSHED. ELEVATION = 104.75' (NAVD 88, 2001 ADJ.)

TEMPORARY BENCHMARKS:
TBM "A" - BOX CUT ON "BB" INLET LOCATED AT THE NORTHWEST CORNER OF SEATTLE STREET AND SENATE AVENUE. ELEVATION = 103.44'
TBM "B" - BOX CUT ON "BB" INLET LOCATED AT THE SOUTHWEST CORNER OF SEATTLE STREET AND CARLSBAD STREET. ELEVATION = 103.68'
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CITY OF JERSEY VILLAGE
TEXAS STAR COMMUNITY

16327 LAKEVIEW DR.
JERSEY VILLAGE, TX 77040

DANIEL P. SIMEONE
REGISTERED ENGINEER
58194

4/1/2022

AGUIRRE & FIELDS
ENGINEERING INNOVATORS
TYPE F FIRM REGISTRATION # 739

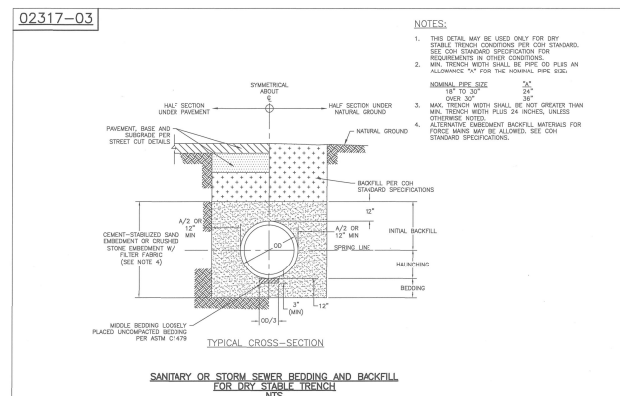
SEATTLE STREET RECONSTRUCTION PROJECT

STORM SEWER DETAILS

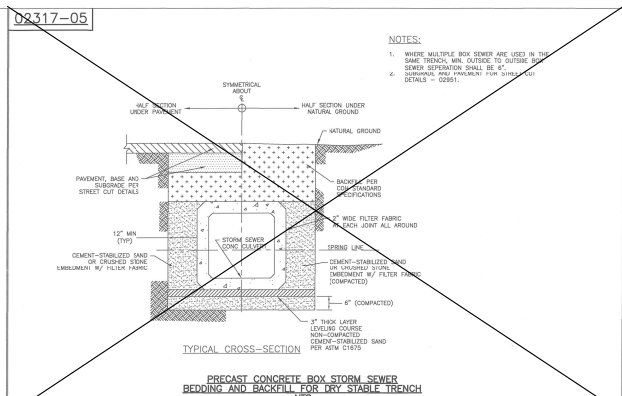
SHEET 1 OF 2

NO.	DATE	REVISIONS	BY

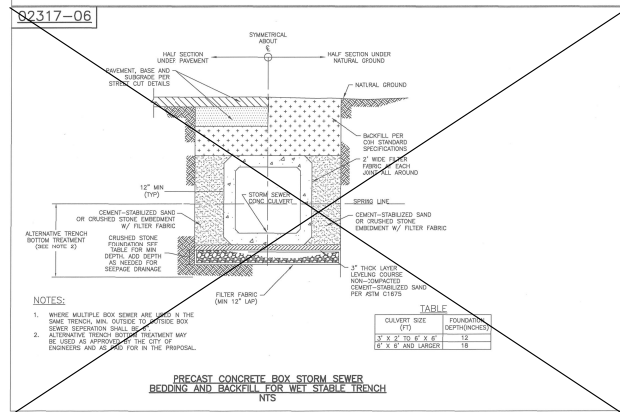
DRAWN BY: TJR APPROVED BY: CAH
DESIGNED: DPS DATE: 3/31/2022
SCALE: SHEET: 25 OF 53



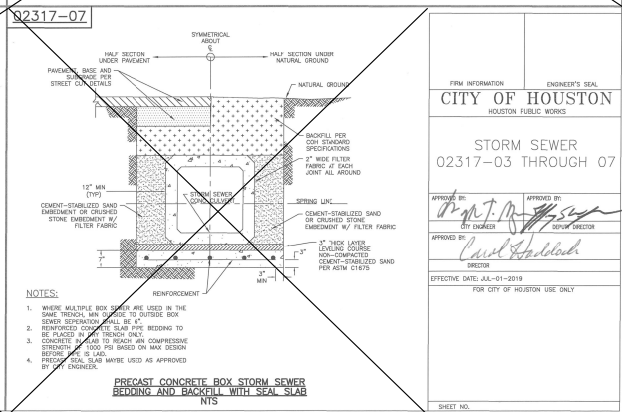
- NOTES:
- THIS DETAIL MAY BE USED ONLY FOR DRY STABLE TRENCH CONDITIONS PER CITY STANDARDS. SEE CITY STANDARD SPECIFICATION FOR REINFORCEMENT IN CONCRETE.
 - MIN. TRENCH WIDTH SHALL BE 18\"/>



- NOTES:
- WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN. OUTSIDE TO OUTSIDE SEWER SEPARATION SHALL BE 4\"/>

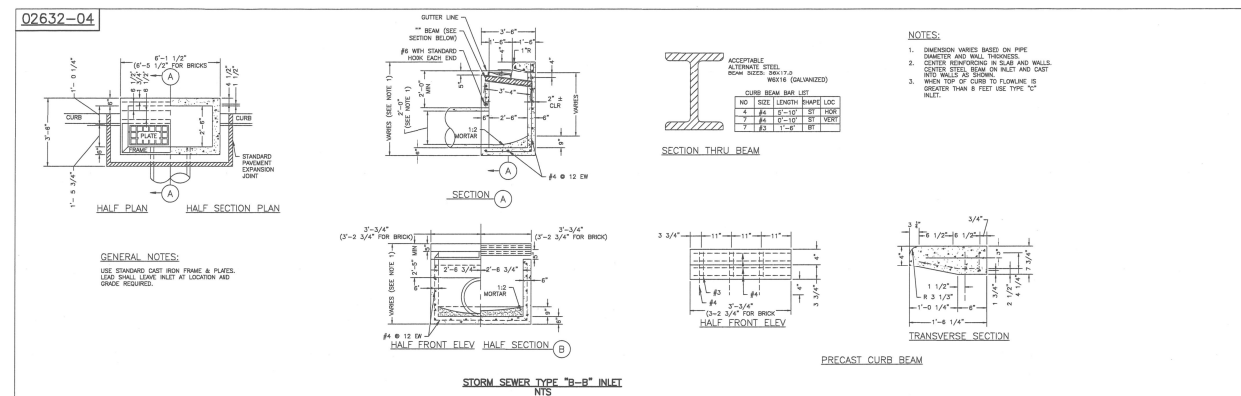


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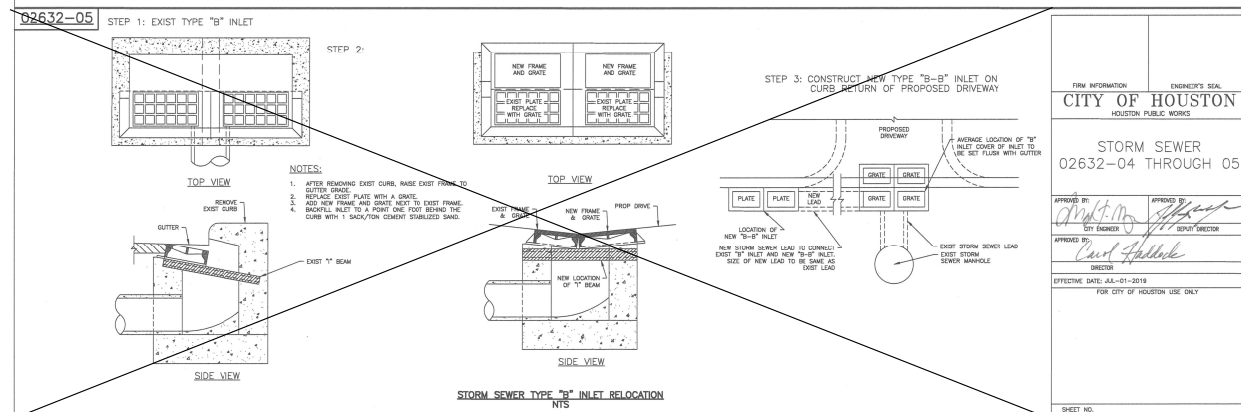
FIRM INFORMATION: CITY OF HOUSTON HOUSTON PUBLIC WORKS
 ENGINEER'S SEAL: [Signature]
 PROJECT: STORM SEWER 02317-03 THROUGH 07
 APPROVED BY: [Signature]
 EFFECTIVE DATE: JUL-01-2018 FOR CITY OF HOUSTON USE ONLY



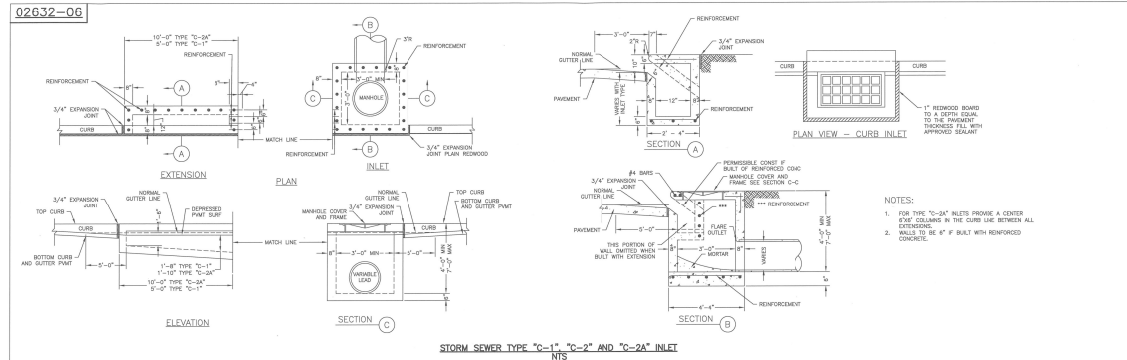
- GENERAL NOTES:
- USE STANDARD CAST IRON FRAMES & PLATES. LOAD SHALL LEAVE INLET AT LOCATION AND ORICE REQUIRED.

- NOTES:
- INFORMATION BASED ON PIPE DIAMETER AND WALL THICKNESS.
 - CURB ELEVATION TO BE DETERMINED BY CENTER SETLINE BEAM ON PALET AND CAST IRON TOP OF CURB TO FINISH OF GREATER THAN 8 FEET USE TYPE 'C' PALET.

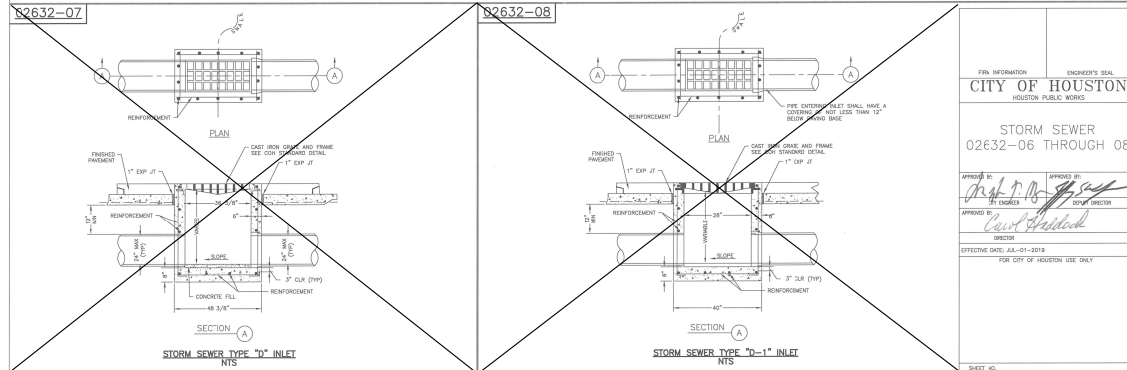
FIRM INFORMATION: CITY OF HOUSTON HOUSTON PUBLIC WORKS
 ENGINEER'S SEAL: [Signature]
 PROJECT: STORM SEWER 02632-04 THROUGH 05
 APPROVED BY: [Signature]
 EFFECTIVE DATE: JUL-01-2018 FOR CITY OF HOUSTON USE ONLY



- NOTES:
- AFTER REMOVING EXIST CURB, RASE EXIST FRAME TO GUTTER EDGE.
 - REPLACE EXIST PLATE WITH A GRATE.
 - ADD NEW FRAME AND GRATE TO EXIST FRAME. BRICKS SHALL BE PLACED TO BEHIND THE CURB WITH 1\"/>



- NOTES:
- FOR TYPE 'C-2A' INLETS PROVIDE A CENTER CURB COLLAR IN THE CURB USE BETWEEN THE CURBS.
 - WALLS TO BE 4\"/>



FIRM INFORMATION: CITY OF HOUSTON HOUSTON PUBLIC WORKS
 ENGINEER'S SEAL: [Signature]
 PROJECT: STORM SEWER 02632-06 THROUGH 08
 APPROVED BY: [Signature]
 EFFECTIVE DATE: JUL-01-2018 FOR CITY OF HOUSTON USE ONLY

REFERENCE BENCHMARK:
 RM050425 - BRASS DISK STAMPED "050425" LOCATED AT THE NORTHEAST CORNER OF THE BRIDGE ON RIO GRANDE OVER E127-00-00 ±60' SOUTH OF VILLAGE DRIVE IN KEY MAP 409L IN THE WHITE OAK BAYOU WATERSHED. ELEVATION = 104.75' (NAVD 88, 2001 ADJ.)

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CITY OF JERSEY VILLAGE TEXAS STAR COMMUNITY

16327 LAKEVIEW DR. JERSEY VILLAGE, TX 77040

STATE OF TEXAS REGISTERED PROFESSIONAL ENGINEER DANIEL P. SIMEONE 58194

AGUIRRE & FIELDS ENGINEERING INNOVATORS TYPE F FIRM REGISTRATION # 739

SEATTLE STREET RECONSTRUCTION PROJECT

STORM SEWER DETAILS

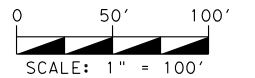
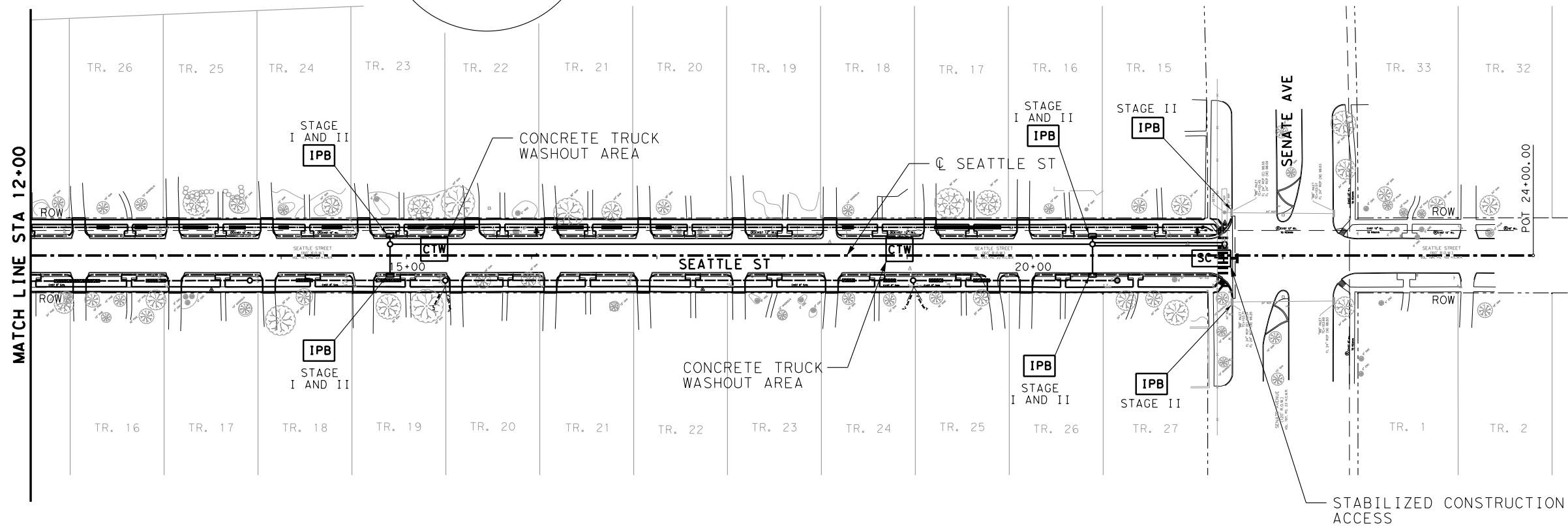
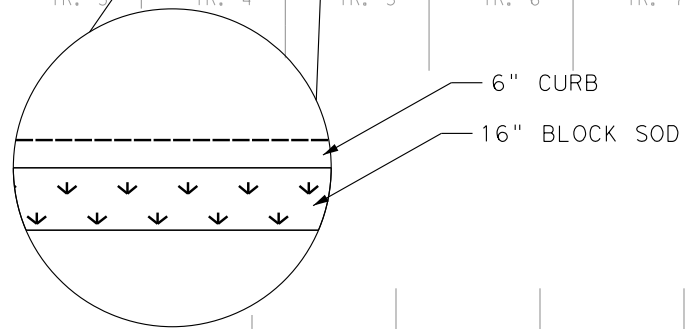
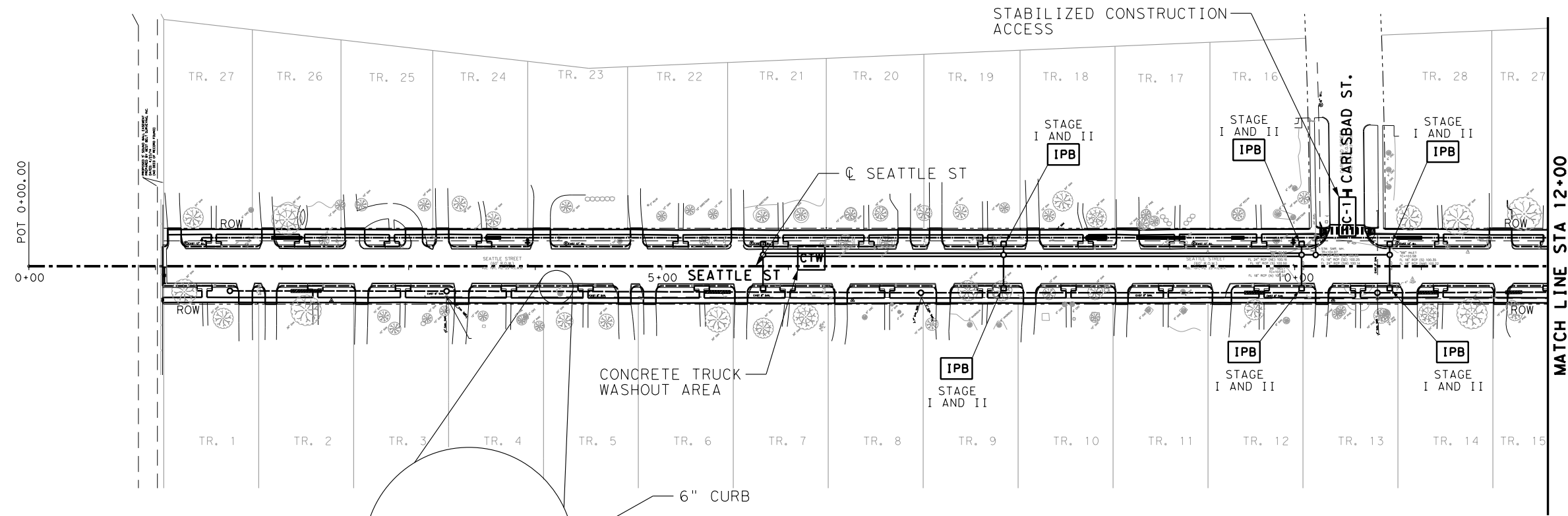
SHEET 2 OF 2


NO.	DATE	REVISIONS	BY

DRAWN BY: TJR APPROVED BY: CAH
 DESIGNED: DPS DATE: 3/31/2022
 SCALE: SHEET: 26 OF 53


3/31/2022

... \PHASE 1 \AF_MDF_SW3P_P1_01.dgn






**16327 LAKEVIEW DR.
JERSEY VILLAGE, TX 77040**



4/1/2022



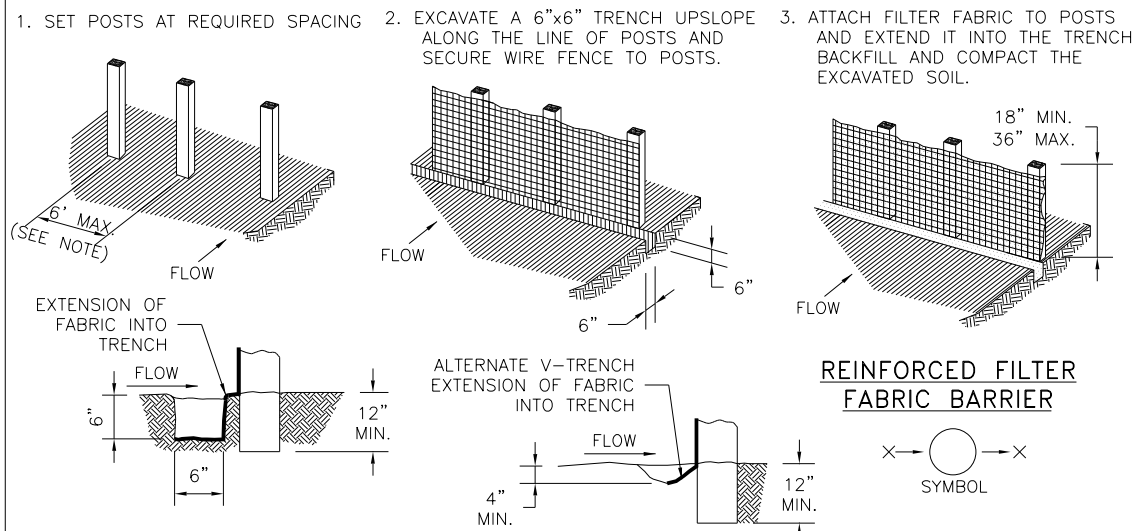
AGUIRRE & FIELDS
ENGINEERING INNOVATORS
T&E FIRM REGISTRATION # 739

**SEATTLE STREET
RECONSTRUCTION PROJECT**

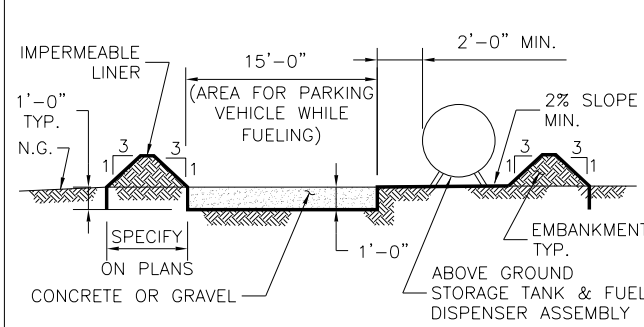
**STORM WATER POLLUTION
PREVENTION PLAN**

NO.	DATE	REVISIONS	BY

DRAWN BY: TJR	APPROVED BY: CAH
DESIGNED: DPS	DATE: 3/31/2022
SCALE:	SHEET: 27 OF 53

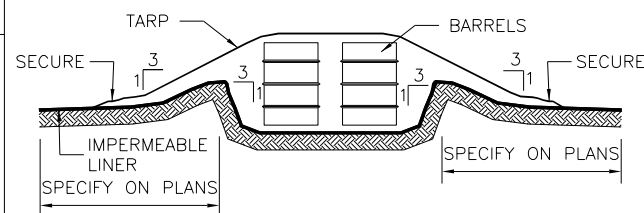


- GENERAL NOTES:**
1. SECURELY FASTEN MESH FENCING TO POSTS WITH STAPLES OR TIE WIRES.
 2. SECURELY FASTEN FILTER FABRIC TO MESH FENCING.
 3. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, OVERLAP 6 INCHES AT A POST, FOLD TOGETHER, AND ATTACH TO A POST.
 4. REMOVE SEDIMENT DEPOSITS WHEN SILT REACHES ONE-THIRD OF THE HEIGHT OF THE FENCE IN DEPTH.

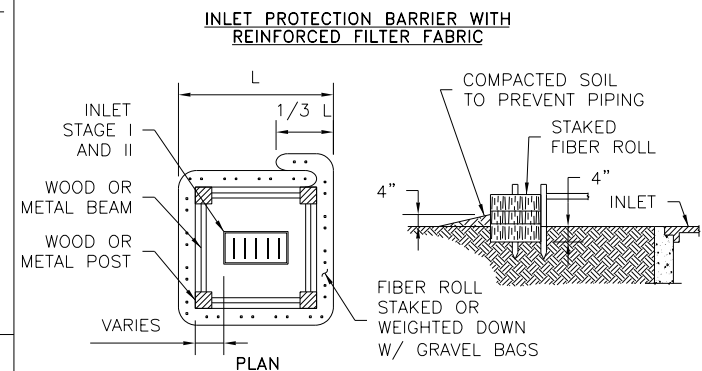
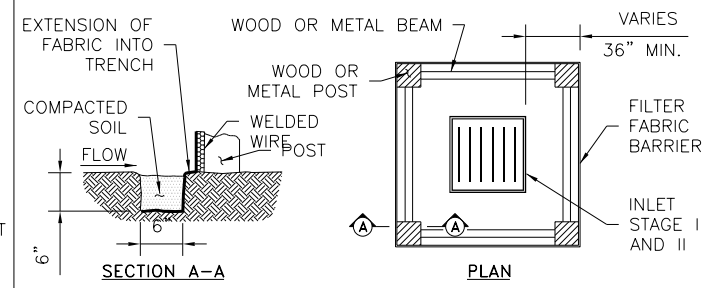


ABOVE GROUND TEMP. VEHICLE & EQUIPMENT FUELING AREA WITH TANK

- GENERAL NOTES:**
1. THE SIZE OF TANK FOUNDATION AREA DEPENDS ON THE SIZE OF ABOVE GROUND STORAGE TANK AND DISPENSER ASSEMBLY.
 2. PROVIDE A MINIMUM SLOPE OF 2% TOWARD THE SUMP PIT.
 3. INSTALL IMPERMEABLE LINER AS PER MANUFACTURER'S RECOMMENDATIONS.

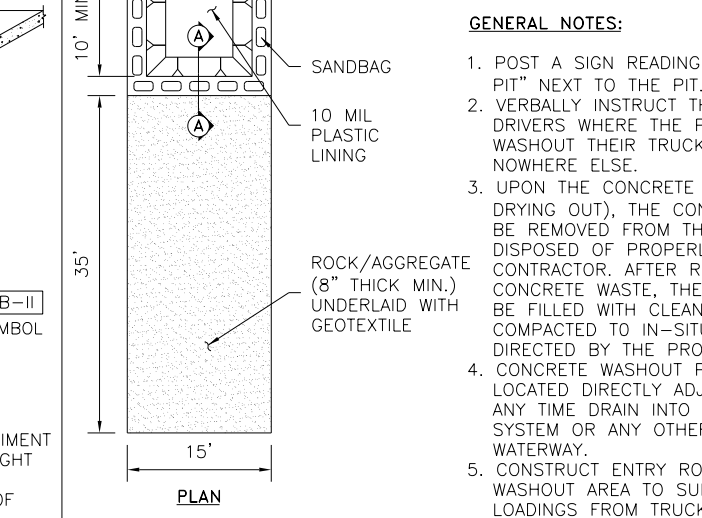
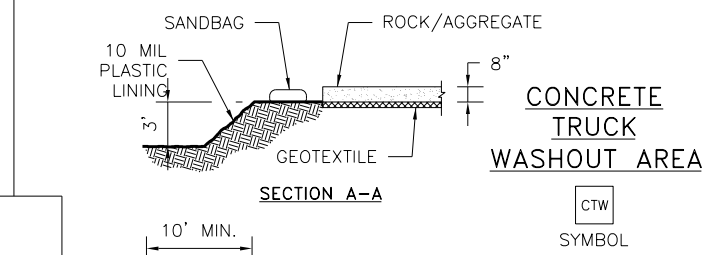


- GENERAL NOTES:**
1. ALTERNATIVELY, STORE BARRELS IN AN ENCLOSED BUILDING OR SHED.
 2. INSTALL IMPERMEABLE LINER AS PER MANUFACTURER'S RECOMMENDATIONS. 60 mil MINIMUM.
 3. CONSTRUCT BERMED AREA WITH VOLUME GREATER THAN OR EQUAL TO 110% VOLUME OF BARRELS.

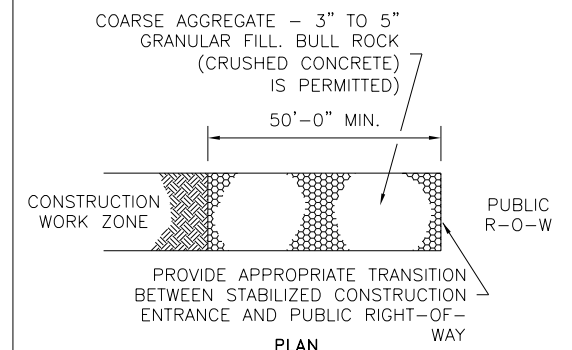
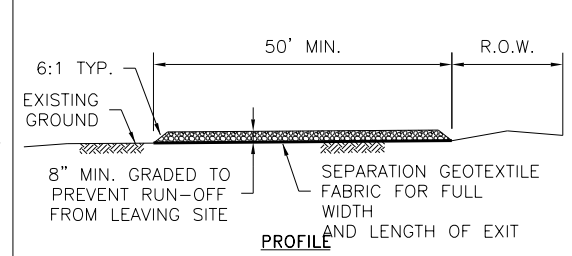


- GENERAL NOTES:**
1. FIBER ROLLS WILL BE UTILIZED ONLY WHEN SITE CONDITIONS DO NOT PERMIT THE USE OF FILTER FABRIC BARRIER, AND AS APPROVED BY THE ENGINEER.

INLET PROTECTION BARRIERS FOR STAGE I INLETS

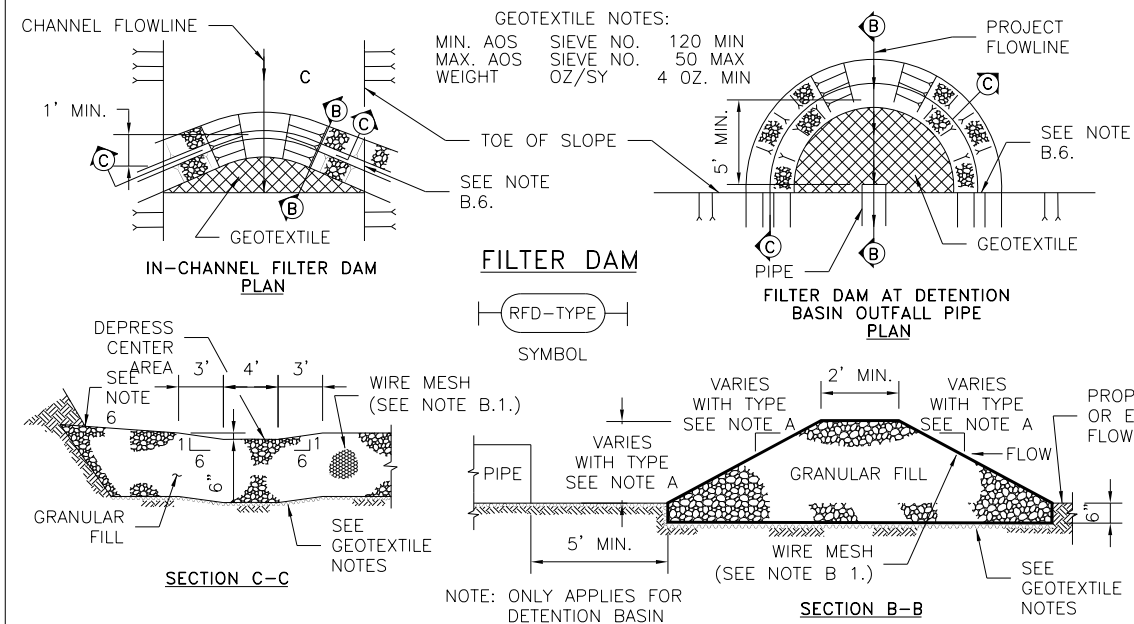
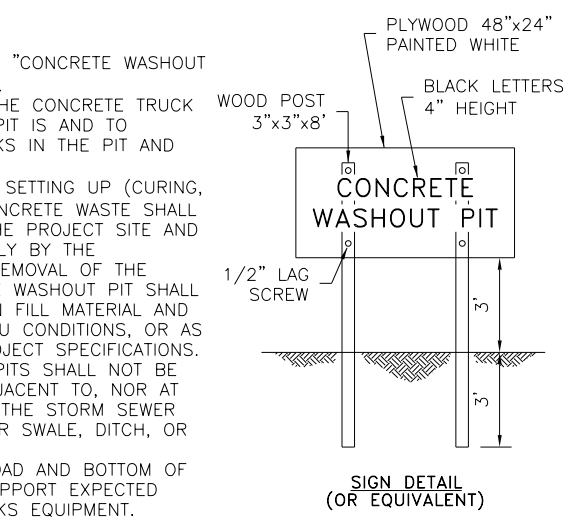


- GENERAL NOTES:**
1. REMOVE SEDIMENT DEPOSIT WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-THIRD THE HEIGHT OF THE BARRIER.
 2. GRAVEL BAGS SHALL NOT BLOCK THROAT OF INLET UNLESS DIRECTED BY ENGINEER.



STABILIZED CONSTRUCTION ACCESS

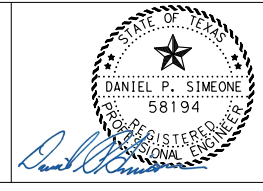
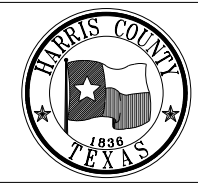
- GENERAL NOTES:**
1. MINIMUM LENGTH IS AS SHOWN ON CONSTRUCTION DRAWINGS OR 50 FEET, WHICHEVER IS MORE.
 2. CONSTRUCT AND MAINTAIN CONSTRUCTION EXIT WITH CONSTANT WIDTH ACROSS ITS LENGTH, INCLUDING ALL POINTS OF INGRESS OR EGRESS.
 3. UNLESS SHOWN ON THE CONSTRUCTION DRAWINGS, STABILIZATION FOR OTHER AREAS WILL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION EXIT.
 4. WHEN SHOWN ON THE CONSTRUCTION DRAWINGS, WIDEN OR LENGTHEN STABILIZED AREA TO ACCOMMODATE A TRUCK WASHING AREA. PROVIDE OUTLET SEDIMENT TRAP FOR THE TRUCK WASHING AREA.
 5. PROVIDE PERIODIC TOP DRESSING WITH ADDITIONAL COARSE AGGREGATE TO MAINTAIN THE REQUIRED DEPTH OR WHEN SURFACE BECOMES PACKED WITH MUD.
 6. PERIODICALLY TURN AGGREGATE TO EXPOSE A CLEAN DRIVING SURFACE.
 7. MINIMUM 14' WIDTH FOR ONE WAY TRAFFIC AND 20' WIDTH FOR TWO WAY TRAFFIC.



- A. TYPES OF FILTER DAMS**
1. TYPE 1 (NON-REINFORCED)
 - a. HEIGHT - 18-24 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
 - b. TOP WIDTH - 2 FEET (MINIMUM)
 - c. SLOPES - 2:1 (MAXIMUM).
 2. TYPE 2 (REINFORCED)
 - a. HEIGHT - 18-36 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
 - b. TOP WIDTH - 2 FEET (MINIMUM).
 - c. SLOPES - 2:1 (MAXIMUM).
 3. TYPE 3 (REINFORCED)
 - a. HEIGHT - 36-48 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
 - b. TOP WIDTH - 2 FEET (MINIMUM).
 - c. SLOPES - 3:1 (MAXIMUM).
 4. TYPE 4 (GABION)
 - a. HEIGHT - 30 INCHES (MINIMUM). MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
 - b. TOP WIDTH - 2 FEET (MINIMUM).
 5. TYPE 5. AS SHOWN ON THE PLANS.
- B. CONSTRUCT FILTER DAMS ACCORDING TO THE FOLLOWING CRITERIA UNLESS SHOWN OTHERWISE ON THE PLANS.**
1. TYPE 2 AND 3 FILTER DAMS: SECURE WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1 INCH DIAMETER HEXAGONAL OPENINGS.
 2. PLACE GRANULAR FILL ON THE WIRE MESH TO HEIGHT AND SLOPES SHOWN ON PLANS OR AS SPECIFIED BY THE ENGINEER.
 - a. 3-5 INCHES FOR ROCK FILTER DAM TYPES 1, 2 AND 4.
 - b. 4-8 INCHES FOR ROCK FILTER DAM TYPE REFER TO GRANULAR FILL IN SPECIFICATION SECTION No. 02378 RIPRAP AND GRANULAR FILL.
 3. FOLD WIRE MESH AT UPSTREAM SIDE OVER GRANULAR FILL AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS.
 4. IN STREAMS: SECURE OR STAKE MESH TO STREAM BED PRIOR TO AGGREGATE PLACEMENT.
 5. SEE HCFC SPECIFICATION SECTION NO. 02364-FILTER DAMS.
 6. EMBED ONE FOOT MINIMUM INTO SLOPE AND RAISE ONE FOOT HIGHER THAN CENTER OF DEPRESSED AREA AT SLOPE.

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY
ENGINEERING DEPARTMENT

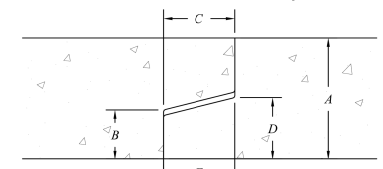
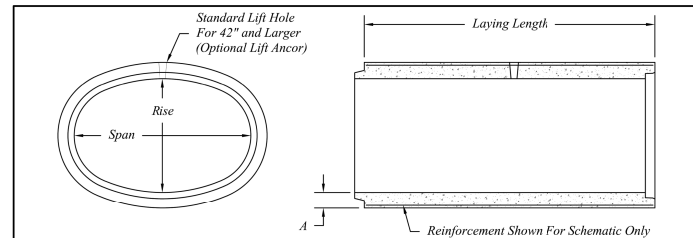


PROJECT TITLE: SEATTLE STREET RECONSTRUCTION PROJECT		CIVIL STANDARD SW3P
SHEET DESCRIPTION: STORM WATER POLLUTION PREVENTION		DATE: 8/15/17
DRAWN BY: JDZ	PLAN DETAILS	SHEET NO: 28 / 53
CR'D BY: NR	SCALE: NONE	

C:\users\agarcia\desktop\acad-sw3p-model.dgn

REFERENCE BENCHMARK:
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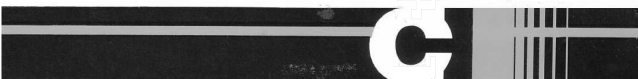
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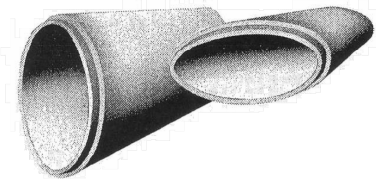
Equivalent Round (in)	A	B	C	D	E	Section Length	Lbs./Section	
24	19	30	3.25	1.25	2.0	1.50	2.0	2760
30	24	38	3.75	1.375	2.5	1.75	2.5	3488
36	29	45	4.5	1.75	3.0	2.25	3.0	5032
42	34	53	5	1.875	3.5	2.50	3.5	6456
48	38	60	5.5	2.1875	3.75	2.875	3.75	8080
54	43	68	6	2.375	4.0	3.125	4.0	9960
60	48	76	6.5	2.625	4.0	3.375	4.0	11952
66	53	83	7	2.75	5.0	3.75	5.0	14112
72	58	91	7.5	2.875	5.5	4.00	5.5	16456
78	63	98	8	3.00	6.0	4.25	6.0	19008
84	68	106	8.5	3.25	6.0	4.50	6.0	21704
90	72	113	9	3.50	6.0	4.75	6.0	24584
96	77	121	9.5	3.75	6.0	5.00	6.0	27680
102	82	128	9.75	4.50	7.0	5.50	7.0	29800
108	87	136	10	4.75	7.0	5.75	7.0	24452

Elliptical Pipe Is Manufactured To ASTM C-507. Reinforcing Class As Required.
 Elliptical Pipe Is Independently Air & Hydrostatic Tested.

	401 Kelton St Bay City, MI 48706	36" to 108" Precast Concrete Elliptical Pipe Detail
5281 Lansing Rd Charlotte, MI 48813	2701 Chicago Dr SW Wyoming, MI 49319	
4950 White Lake Rd Clarkston, MI 48346	3736 Centennial Rd Sylvania, OH 43360	Date: 23 Feb 21 Revised: N/A Scale: N/A 01.03



ELLIPTICAL CONCRETE PIPE



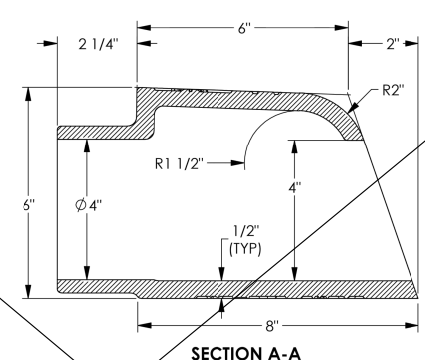
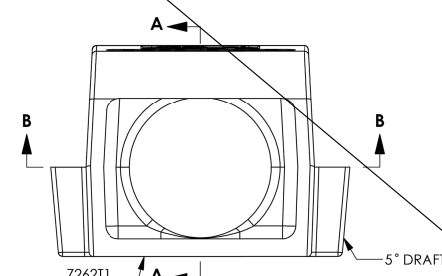
EQUIVALENT ROUND SIZE (INCHES)	HEIGHT INSIDE (INCHES)	WIDTH INSIDE (INCHES)	WALL THICKNESS (INCHES)	WATERWAY AREA (SQ. FT.)	WEIGHT POUNDS PER FOOT
18	14	23	2 ³ / ₄	1.8	211
24	19	30	3 ¹ / ₄	3.3	319
30	24	38	3 ³ / ₄	5.1	452
36	29	45	4 ¹ / ₂	7.4	625
42	34	53	5	10.2	853
48	38	60	5 ¹ / ₂	12.9	1,061
54	43	68	6	16.6	1,235
60	48	76	6 ¹ / ₂	20.5	1,475
72	58	91	7 ¹ / ₂	29.5	2,040
84	68	106	8 ¹ / ₂	40.1	2,680

Horizontal elliptical concrete pipe offers the hydraulic advantage of greater capacity for the same depth of flow than most other structures of equivalent water way area.

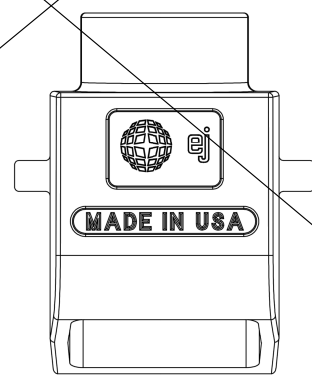
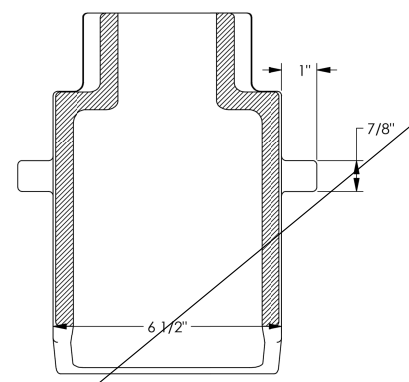
Elliptical concrete pipe (C-507) carries approximately 25% more water than concrete arch pipe (C-506) due to the greater water way area and hydraulic radius. Elliptical pipe has a slightly greater capacity than round pipe.

The term "round equivalent" is a misnomer, and elliptical and arch pipe should not be considered equal alternates. The designer may refer to the "concrete pipe design manual" for flow coefficient values.

7262T1 Curb Outlet



7262T1
 PROD NC
 MO/DY/YR
 ASTM A48 CL35B
 FOUNDRY ID: X



Product Number
 00726253

Design Features
 -Materials
 -Gray Iron (CL35B)
 -Design Load
 -Heavy Duty
 -Open Area
 n/a
 -Coating
 Undipped
 -√ Designates Machined Surface

Certification
 -ASTM A48
 -Country of Origin: USA

Drawing Revision
 08/14/2013 Designer: DJH
 05/12/2015 Revised By: DJH

Disclaimer
 Weights (balg), dimensions (inches/mm) and tolerances provided for your guidance. We reserve the right to modify specifications without prior notice.

CONFIDENTIAL: This drawing is the property of EJ Group, Inc. and embodies confidential information, registered marks, patents, trade secret information, and/or know-how that is the property of EJ Group, Inc. All rights reserved.

Contact
 800 626 4653
 ejco.com

3/31/2022

... \AF_MDF_MISCELLANEOUS DETAILS.s.dgn

16327 LAKEVIEW DR.
 JERSEY VILLAGE, TX 77040

4/1/2022

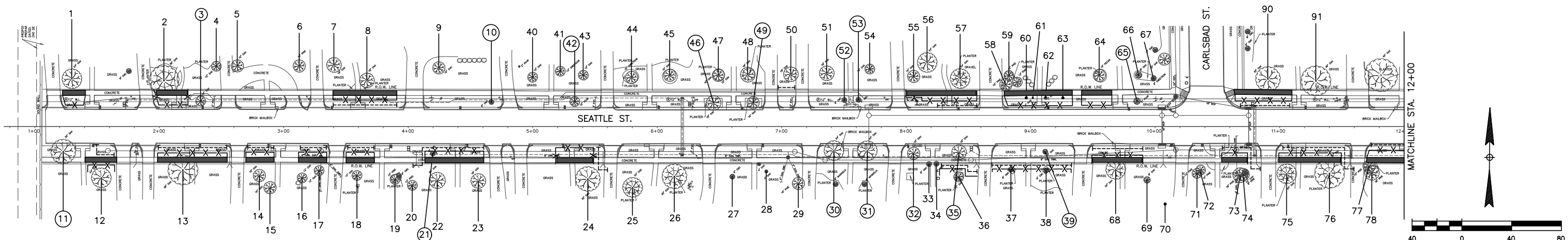
AGUIRRE & FIELDS
 ENGINEERING INNOVATORS
 TBPB FIRM REGISTRATION # 739

**SEATTLE STREET
 RECONSTRUCTION PROJECT**

MISCELLANEOUS DETAILS

NO.	DATE	REVISIONS	BY

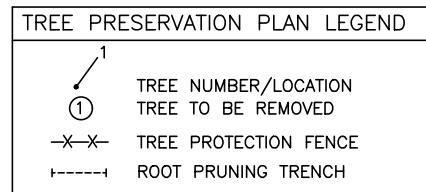
DRAWN BY: TJR APPROVED BY: CAH
 DESIGNED: DPS DATE: 3/31/2022
 SCALE: SHEET: 29 OF 53



Tree No.	Location	Description	Comments	Treatment
Trees on Seattle Street				
1	16246 Seattle Street	26" Live Oak	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
2	16242 Seattle Street	45" Arizona Ash	50% dieback, Private tree	
3	16242 Seattle Street	15" Bradford Pear	Poor condition, 50% of canopy gone, Remove for street widening and stabilization back of curb	Remove tree
4	16242 Seattle Street	16" Green Ash	Private tree, Not impacted	
5	16238 Seattle Street	17" Water Oak	Private tree, Not impacted	
6	16238 Seattle Street	17" Pine	Private tree, Not impacted	
7	16234 Seattle Street	21" Live Oak	Private tree, Not impacted	
8	16234 Seattle Street	24" Live Oak	Private tree	Root prune for street, Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence, Clearance prune
9	16230 Seattle Street	15" Live Oak	Private tree, Not impacted	
10	16230 Seattle Street	9" Crepe Myrtle	Topped, Scale insects, Black sooty mold, Poor condition, Remove for street widening and stabilization back of curb	Remove tree
11	16245 Seattle Street	27" Water Oak	Good condition, Remove for street widening	Remove tree
12	16245 Seattle Street	18" Water Oak	Private tree	Root prune for manhole and sanitary bore pit, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence, Clearance prune
13	16241 Seattle Street	35" Arizona Ash	Private tree	Bore sanitary, Root prune for street, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence, Clearance prune
14	16237 Seattle Street	16" Water Oak	Private tree	Root prune for sanitary open cut trench, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
15	16237 Seattle Street	15" Water Oak	Private tree, Not impacted	
16	16237 Seattle Street	14" Live Oak	Private tree	Clearance prune
17	16237 Seattle Street	15" Water Oak	Private tree	Root prune for sanitary open cut trench, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
18	16233 Seattle Street	13" Live Oak	Private tree	Root prune for sanitary open cut trench, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
19	16233 Seattle Street	14" Pine	Private tree, Not impacted	
20	16233 Seattle Street	11" Pine	Private tree, Not impacted	
21	16229 Seattle Street	5" Crepe Myrtle	Remove for street widening and stabilization back of curb	Remove tree
22	16229 Seattle Street	20" Live Oak	Private tree	Root prune for sanitary open cut trench, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
23	16229 Seattle Street	22" Live Oak	Private tree	Root prune for sanitary open cut trench, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
24	16225 Seattle Street	25" Live Oak	Private tree	Root prune for water service lead, Bore sanitary, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
25	16221 Seattle Street	24" Live Oak	Private tree, Not impacted	
26	16221 Seattle Street	28" Live Oak	Private tree, Very large limb tear wound with decay on trunk, Poor condition, Not impacted	
27	Not available	6" Crepe Myrtle	Private tree, Not impacted	
28	Not available	2" Water Oak	Private tree, Not impacted	
29	16213 Seattle Street	16" Pine	Private tree, Not impacted	
30	16213 Seattle Street	26" Live Oak	Good condition, Remove for street widening and manhole	Remove tree
31	16213 Seattle Street	24" Live Oak	Good condition, Remove for street widening and BB inlet construction	Remove tree
32	16209 Seattle Street	17" Live Oak	Good condition, Remove for street widening	Remove tree
33	16209 Seattle Street	4" Crepe Myrtle	Topped, Poor condition, Private tree, not impacted	
34	16209 Seattle Street	4" Crepe Myrtle	Topped, Poor condition, Private tree, not impacted	
35	16209 Seattle Street	20" Live Oak	Good condition, Remove for street widening	Remove tree
36	16209 Seattle Street	12" Nuttall Oak	Private tree	Root prune for sanitary open cut, Fence
37	16205 Seattle Street	21" Crepe Myrtle	Private tree	Root prune for sanitary open cut, Fence, Clearance prune
38	16205 Seattle Street	21" Crepe Myrtle	Private tree	Root prune for sanitary open cut, Fence, Clearance prune
39	16205 Seattle Street	6" Shumard Oak	Poor condition, 50% of canopy gone, Remove for street widening and stabilization back of curb	Remove tree

Tree No.	Location	Description	Comments	Treatment
Trees on Seattle Street				
40	16226 Seattle Street	11" Live Oak	Private tree, Not impacted	
41	16226 Seattle Street	18" Nuttall Oak	Private tree, Not impacted	
42	16226 Seattle Street	15" Callery Pear	Remove for street widening and stabilization back of curb	Remove tree
43	16226 Seattle Street	14" Live Oak	Private tree, Not impacted	
44	16222 Seattle Street	17" Arizona Ash	Private tree, Not impacted	
45	16222 Seattle Street	15" Arizona Ash	Private tree, Not impacted	
46	16218 Seattle Street	21" Live Oak	Good condition, Remove for street widening	Remove tree
47	16218 Seattle Street	18" Water Oak	Private tree, Not impacted	
48	16218 Seattle Street	17" Water Oak	Private tree, Not impacted	
49	16218 Seattle Street	18" Live Oak	Good condition, Remove for street widening	Remove tree
50	16218 Seattle Street	21" Live Oak	Private tree	Root prune for waterline, Clearance prune
51	16214 Seattle Street	19" Arizona Ash	30% dieback, Private tree, poor	Clearance prune
52	16214 Seattle Street	4" Crepe Myrtle	Remove for street widening and stabilization back of curb	Remove tree
53	16214 Seattle Street	8" Crepe Myrtle	Remove for street widening and stabilization back of curb	Remove tree
54	16214 Seattle Street	12" Live Oak	Private tree, Not impacted	
55	16210 Seattle Street	15" Water Oak	Private tree	Root prune for waterline/bore pit, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence, Clearance prune
56	16210 Seattle Street	27" Willow Oak	Private tree, Not impacted	
57	16210 Seattle Street	26" Live Oak	Private tree	Root prune for street, Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence, Clearance prune
58	16206 Seattle Street	19" Pine	Private tree	Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
59	16206 Seattle Street	14" Pine	Private tree	Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
60	16206 Seattle Street	3" Crepe Myrtle	Topped, Poor condition	Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
61	16206 Seattle Street	4" Sago Palm		Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
62	16206 Seattle Street	5" Juniper		Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
63	16206 Seattle Street	3" Crepe Myrtle		Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
64	16206 Seattle Street	18" Pecan	Private tree	Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
65	16202 Seattle Street	9" Crabapple	Remove for street widening and stabilization back of curb	Remove tree
66	16202 Seattle Street	13" Bur Oak	Private tree, Not impacted	
67	16202 Seattle Street	9" Bur Oak	Private tree, Not impacted	
68	Not available	26" Nuttall Oak	Private tree	Bore sanitary, Root prune for street, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence, Clearance prune
69	Not available	9" Mulberry	Private tree, Not impacted	
70	16129 Seattle Street	27" Water Oak	Private tree, Not impacted	
71	16129 Seattle Street	10" Pine	Private tree, Not impacted	
72	16129 Seattle Street	11" Pine	Private tree, Not impacted	
73	16129 Seattle Street	14" Pine	Private tree	Root prune for sanitary open cut trench, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
74	16129 Seattle Street	16" Live Oak	Private tree	Root prune for sanitary open cut trench, Root prune for sanitary lead, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
75	16125 Seattle Street	31" Live Oak	Private tree	Bore sanitary, Root prune for street, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence, Clearance prune
76	16125 Seattle Street	44" Live Oak	Private tree	Root prune for sanitary lead, Bore sanitary, Root prune for street, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence, Clearance prune
77	16121 Seattle Street	19" Pine	Private tree	Bore sanitary, Root prune for street, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
78	16121 Seattle Street	21" Pine	Private tree	Bore sanitary, Root prune for street, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
90	16126 Seattle Street	29" Water Oak	Private tree	Root prune for street, Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
91	16126 Seattle Street	tree no longer there		

NOTE:
 1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED OCTOBER 2021. THE PLAN CONSIDERS ALL FITTINGS, VERTICAL OFFSETS AND AREAS OF NECESSARY EXCAVATION. CHANGES MADE TO DESIGN MAY COMPROMISE THE TREE PROTECTION PLAN. REFER SPECIFICATIONS ON TYP 4 OF 4. CONDITION OF EACH TREE IS BASED ON VISUAL EVALUATION AT TIME OF DESIGN. CONDITION AND STRUCTURAL INTEGRITY OF EACH TREE IS NOT GUARANTEED BY DESIGNER AT ANY POINT IN THE FUTURE, AS ENVIRONMENTAL AND MAINTENANCE INFLUENCES ON EACH TREE CAN NOT BE DETERMINED BY DESIGNER.
 2. IN AREAS WHERE INDIVIDUAL TREES HAVE NOT BEEN TIED IN BY SURVEY APPROXIMATE LOCATION IS INDICATED ON TPP. ACCURACY OF REPRESENTED LOCATION CANT, AND IS NOT GUARANTEED BY DESIGNER.




 16327 LAKEVIEW DR.
 JERSEY VILLAGE, TX 77040

 Urban Forestry, Inc.
 210 Stone Bush Ct. • Katy, Texas 77493
 281-391-0022 ckoehl@koehlanurbanforestry.com
 APPROVED *Craig N. Koehl* 11-08-2021

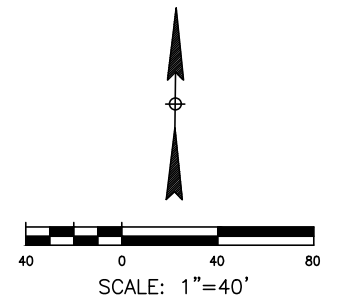
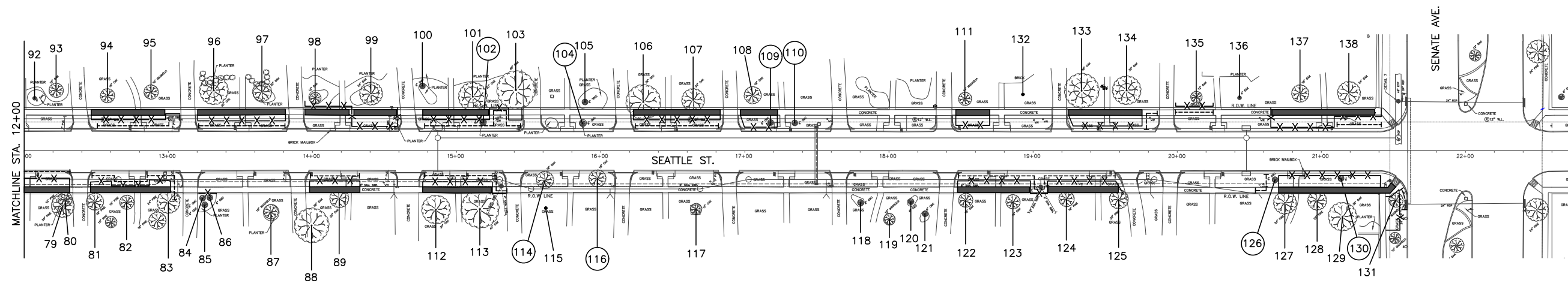
SEATTLE STREET RECONSTRUCTION PROJECT

TREE PROTECTION PLAN
SHEET 1 OF 4

NO.	DATE	REVISIONS	BY

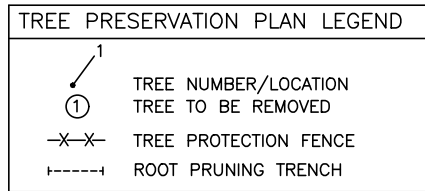
DRAWN BY: N.B. APPROVED BY: C.N.K.
 DESIGNED: C.N.K. DATE: 11-08-2021
 SCALE: SHEET 39 OF 52

\$DATE\$
 \$FILE\$ABBREV\$




Tree No.	Location	Description	Comments	Treatment
Trees on Seattle Street				
79	16121 Seattle Street	26" Pine	Recent excavation between tree and home has impacted tree, Private tree	Bore sanitary, Root prune for street, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
80	16121 Seattle Street	19" Pine	Private tree	Bore sanitary, Root prune for street, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
81	16117 Seattle Street	20" Pine	Private tree	Bore sanitary, Root prune for street, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
82	16117 Seattle Street	19" Pine	Private tree	Root prune for manhole and sanitary bore pit, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
83	16117 Seattle Street	23" Pine	Private tree	Root prune for sanitary lead, Bore sanitary, Root prune for street, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
84	16113 Seattle Street	9" Crepe Myrtle	Private tree	Fence, Clearance prune
85	16113 Seattle Street	9" Crepe Myrtle	Private tree	Fence, Clearance prune
86	16113 Seattle Street	9" Crepe Myrtle	Private tree	Fence, Clearance prune
87	16113 Seattle Street	18" Magnolia	Private tree, Not impacted	
88	Not available	37" Live Oak	Private tree, Not impacted	
89	Not available	27" Live Oak	Private tree	Bore sanitary, Root prune for street, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence, Clearance prune
92	16122 Seattle Street	5" Fringe	Private tree, Not impacted	
93	16122 Seattle Street	20" Magnolia	Private tree, Not impacted	
94	16118 Seattle Street	26" Water Oak	Private tree	Root prune for street, Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
95	16118 Seattle Street	17" Magnolia	25% dieback, Fair condition, Private tree	Root prune for street, Root prune for water tap&lead, Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
96	16114 Seattle Street	32" Live Oak	Private tree	Root prune for street, Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
97	16114 Seattle Street	27" Live Oak	Private tree	Root prune for street, Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
98	16110 Seattle Street	15" Magnolia	Private tree	Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
99	16110 Seattle Street	27" Nutall Oak	Private tree	Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
100	16110 Seattle Street	3" Crepe Myrtle	Private tree, Not impacted	
101	16106 Seattle Street	33" Live Oak	Private tree	Root prune for street, Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
102	16106 Seattle Street	8" Crepe Myrtle	Remove for street widening and stabilization back of curb	Remove tree
103	16102 Seattle Street	36" Live Oak	Private tree	Root prune for street, Bore waterline, Root prune for fire hydrant-tee&valve, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
104	16102 Seattle Street	19" Crepe Myrtle	Remove for street widening and stabilization back of curb	Remove tree
105	16102 Seattle Street	9" Loquat	Private tree, Not impacted	
106	16026 Seattle Street	34" Live Oak	Private tree	Root prune for street, Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence, Clearance prune
107	16026 Seattle Street	25" Live Oak	Private tree	Root prune for street, Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence, Clearance prune
108	16022 Seattle Street	18" Water Oak	Private tree	Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence

Tree No.	Location	Description	Comments	Treatment
Trees on Seattle Street				
109	16022 Seattle Street	8" Crepe Myrtle		Topped, Remove for street widening and stabilization back of curb
110	16022 Seattle Street	10" Crepe Myrtle		Topped, Remove for street widening and stabilization back of curb
111	16014 Seattle Street	14" Magnolia	Private tree	Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
112	16105 Seattle Street	36" Live Oak	Private tree	Bore sanitary, Root prune for street, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
113	16105 Seattle Street	34" Live Oak	Private tree	Root prune for manhole and sanitary bore pit, Root prune for street, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence, Clearance prune
114	Not available	22" Bradford Pear		Topped, Poor condition, Remove for street widening and stabilization back of curb
115	Not available	18" Cedar Elm	Private tree, Not impacted	
116	Not available	22" Bradford Pear		Topped, Poor condition, Remove for street widening and stabilization back of curb
117	16025 Seattle Street	11" Nutall Oak		Trunk cankers, Poor condition, Private tree, Not impacted
118	16017 Seattle Street	10" Crepe Myrtle	Private tree, Not impacted	
119	16017 Seattle Street	14" Magnolia	Private tree, Not impacted	
120	16017 Seattle Street	8" Crepe Myrtle	Topped, Private tree, not impacted	
121	16017 Seattle Street	11" Crepe Myrtle	Topped, Private tree, not impacted	
122	16013 Seattle Street	23" Water Oak	Private tree	Bore sanitary, Root prune for street, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
123	16013 Seattle Street	17" Water Oak	Private tree	Bore sanitary, Root prune for street, Root prune for water service lead, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
124	16009 Seattle Street	19" Pine	Private tree	Bore sanitary, Root prune for street, Root prune for water service lead, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
125	16009 Seattle Street	23" Pine	Private tree	Bore sanitary, Root prune for street, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
126	16001 Seattle Street	9" Crepe Myrtle		Remove for street widening and stabilization back of curb
127	16001 Seattle Street	25" Pine	Private tree	Root prune for sanitary lead, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
128	16001 Seattle Street	21" Pine	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
129	16001 Seattle Street	28" Water Oak	Private tree	Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
130	16001 Seattle Street	8" Crepe Myrtle		Topped, Poor condition, Remove for street widening and stabilization back of curb
131	16001 Seattle Street	19" Magnolia		Topped by overhead utility, 50% dieback, Poor condition
132	16014 Seattle Street	8" Live Oak	Private tree, Not impacted	Root prune for street, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
133	16010 Seattle Street	37" Water Oak	20% dieback, Private tree	Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
134	16010 Seattle Street	27" Water Oak	Private tree	Root prune water tap & lead, Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
135	16006 Seattle Street	12" Water Oak	Private tree	Root prune for waterline open cut, Fence, Clearance prune
136	16006 Seattle Street	6" Live Oak	Private tree, Not impacted	
137	16002 Seattle Street	20" Water Oak	Private tree	Bore waterline, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence
138	16002 Seattle Street	23" Laurel Oak	Private tree	Root prune waterline bends and bore pit, Demo-form-pour walk without damage to tree roots 1" diameter or larger, Fence, Clearance prune



NOTE:
 1. THIS TREE PROTECTION PLAN WAS DEVELOPED WITH INFORMATION PROVIDED BY DESIGN ENGINEER IN DRAWINGS DATED OCTOBER 2021. THE PLAN CONSIDERS ALL FITTINGS, VERTICAL OFFSETS AND AREAS OF NECESSARY EXCAVATION. CHANGES MADE TO DESIGN MAY COMPROMISE THE TREE PROTECTION PLAN. REFER SPECIFICATIONS TO TYP 4 OF 4. CONDITION OF EACH TREE IS BASED ON VISUAL EVALUATION AT TIME OF DESIGN. CONDITION AND STRUCTURAL INTEGRITY OF EACH TREE IS NOT GUARANTEED BY DESIGNER AT ANY POINT IN THE FUTURE, AS ENVIRONMENTAL AND MAINTENANCE INFLUENCES ON EACH TREE CAN NOT BE DETERMINED BY DESIGNER.
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16327 LAKEVIEW DR.
 JERSEY VILLAGE, TX 77040

C.N. Koehl
 Urban Forestry, Inc.
 210 Stone Bush Ct. • Katy, Texas 77493
 281-391-0022 ckoehl@koehlurbanforestry.com
 APPROVED *Craig N. Koehl* 11-08-2021

SEATTLE STREET RECONSTRUCTION PROJECT

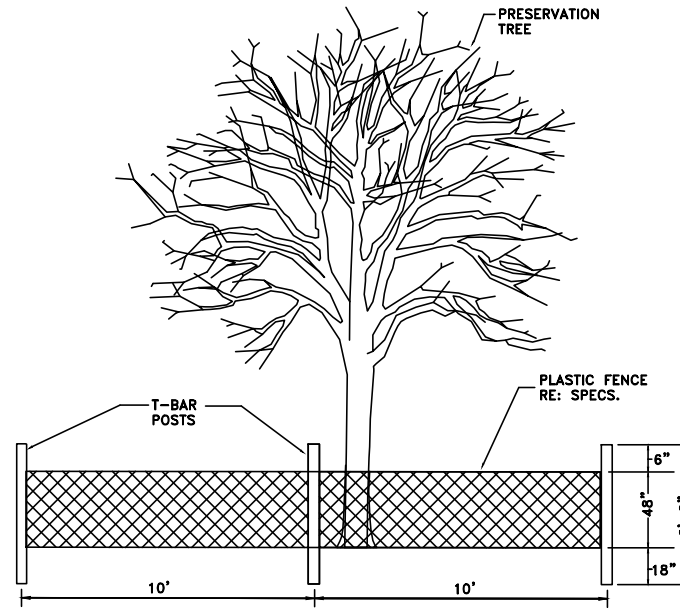
TREE PROTECTION PLAN
 SHEET 2 OF 4

NO.	DATE	REVISIONS	BY

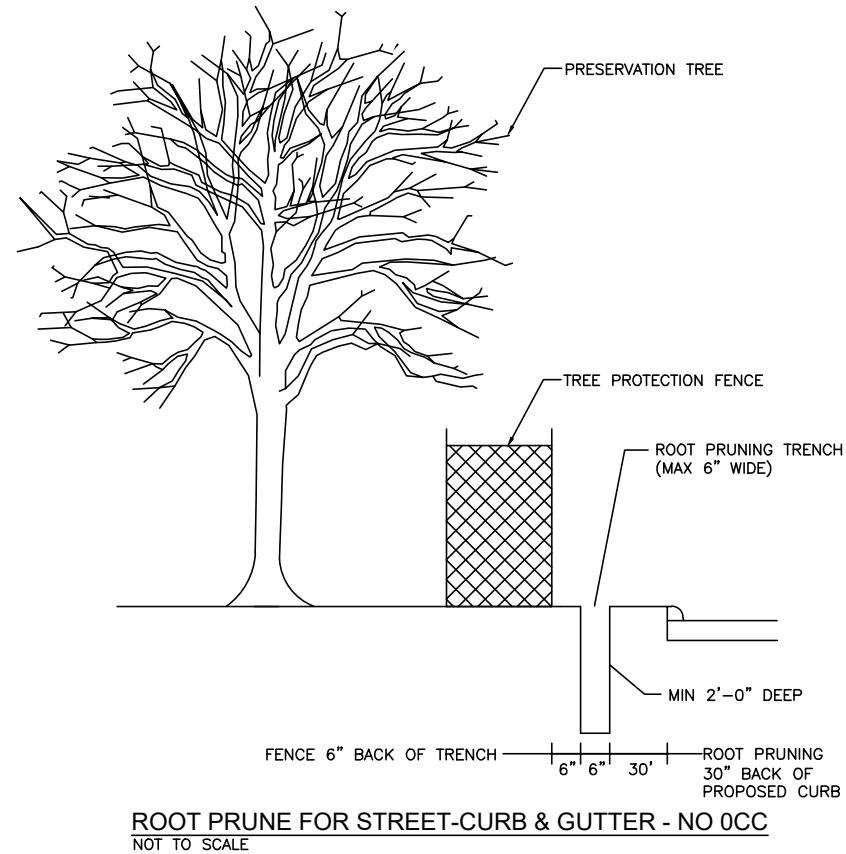
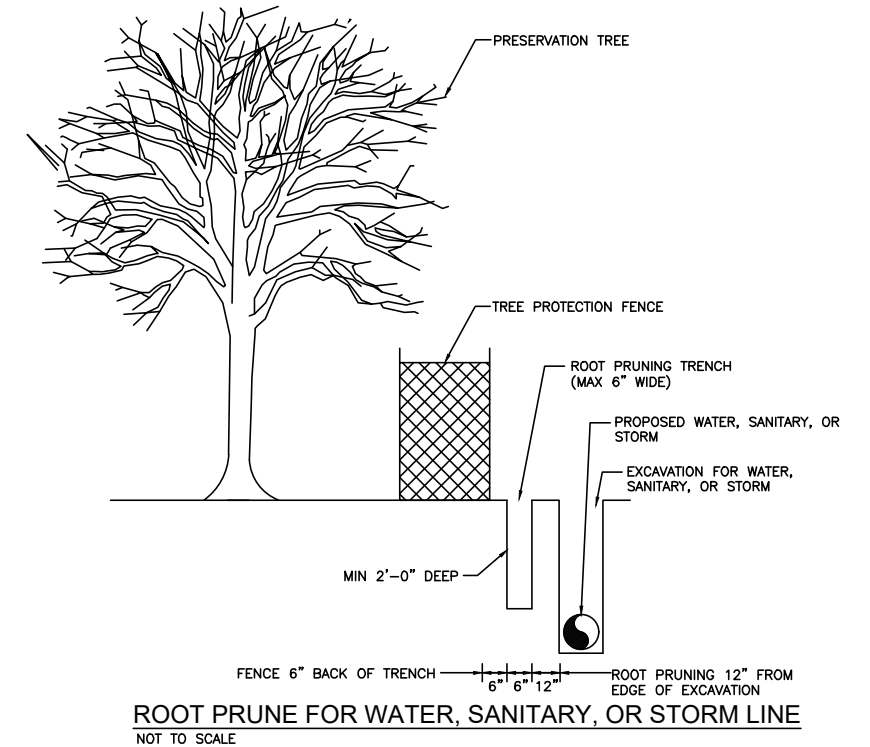
DRAWN BY: N.B. APPROVED BY: C.N.K.
 DESIGNED: C.N.K. DATE: 11-08-2021
 SCALE: SHEET 30 OF 52

\$DATE\$ \$FILE\$ \$ABBREV\$

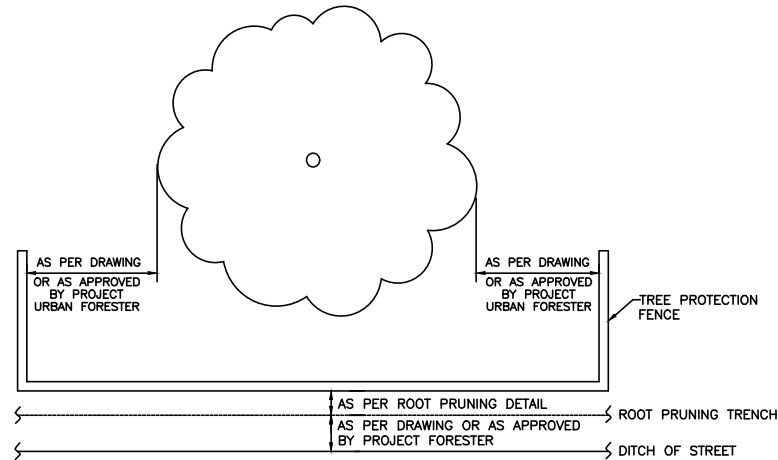
TREE REMOVAL LIST			
Tree No.	Location	Description	Comments
3	16242 Seattle Street	15" Bradford Pear	Poor condition, 50% of canopy gone, Remove for street widening and stabilization back of curb
10	16230 Seattle Street	9" Crepe Myrtle	Topped, Scale insects, Black sooty mold, Poor condition, Remove for street widening and stabilization back of curb
11	16245 Seattle Street	27" Water Oak	Good condition, Remove for street widening
21	16229 Seattle Street	5" Crepe Myrtle	Remove for street widening and stabilization back of curb
30	16213 Seattle Street	26" Live Oak	Good condition, Remove for street widening and manhole
31	16213 Seattle Street	24" Live Oak	Good condition, Remove for street widening and BB inlet construction
32	16209 Seattle Street	17" Live Oak	Good condition, Remove for street widening
35	16209 Seattle Street	20" Live Oak	Good condition, Remove for street widening
39	16205 Seattle Street	6" Shumard Oak	Poor condition, 50% of canopy gone, Remove for street widening and stabilization back of curb
42	16226 Seattle Street	15" Callery Pear	Remove for street widening and stabilization back of curb
46	16218 Seattle Street	21" Live Oak	Good condition, Remove for street widening
49	16218 Seattle Street	18" Live Oak	Good condition, Remove for street widening
52	16214 Seattle Street	4" Crepe Myrtle	Remove for street widening and stabilization back of curb
53	16214 Seattle Street	8" Crepe Myrtle	Remove for street widening and stabilization back of curb
65	16202 Seattle Street	9" Crabapple	Remove for street widening and stabilization back of curb
102	16106 Seattle Street	8" Crepe Myrtle	Remove for street widening and stabilization back of curb
104	16102 Seattle Street	19" Crepe Myrtle	Remove for street widening and stabilization back of curb
109	16022 Seattle Street	8" Crepe Myrtle	Topped, Remove for street widening and stabilization back of curb
110	16022 Seattle Street	10" Crepe Myrtle	Topped, Remove for street widening and stabilization back of curb
114	Not available	22" Bradford Pear	Topped, Poor condition, Remove for street widening and stabilization back of curb
116	Not available	22" Bradford Pear	Topped, Poor condition, Remove for street widening and stabilization back of curb
126	16001 Seattle Street	9" Crepe Myrtle	Remove for street widening and stabilization back of curb
130	16001 Seattle Street	8" Crepe Myrtle	Topped, Poor condition, Remove for street widening and stabilization back of curb



TREE PROTECTION FENCING DETAIL A
NOT TO SCALE



ROOT PRUNE FOR STREET-CURB & GUTTER - NO OCC
NOT TO SCALE



TREE PROTECTION FENCING DETAIL B
NOT TO SCALE

DATE

FILE



16327 LAKEVIEW DR.
JERSEY VILLAGE, TX 77040

C.N. Koehl
Urban Forestry, Inc.
210 Stone Bush Ct. • Katy, Texas 77493
281-391-0022 ckoehl@koehlurbanforestry.com
APPROVED *Craig N. Koehl* 11-08-2021

**SEATTLE STREET
RECONSTRUCTION PROJECT**

TREE PROTECTION PLAN
SHEET 3 OF 4

NO.	DATE	REVISIONS	BY

DRAWN BY: N.B.	APPROVED BY: C.N.K.
DESIGNED: C.N.K.	DATE: 11-08-2021
SCALE:	SHEET 32 OF 52

TREE AND PLANT PROTECTION

PART 1 - GENERAL

- 1.01 SECTION INCLUDES
 - A. TREE AND PLANT PROTECTION
 - B. MINIMUM QUALIFICATIONS OF ARBORIST.
- 1.02 MEASUREMENT AND PAYMENT
 - A. PAYMENT FOR TREE REMOVAL SHALL BE PAID PER EACH TREE REMOVED.
 - B. PAYMENT FOR CLEARANCE PRUNING SHALL BE PAID FOR EACH TREE PRUNED.
 - C. PAYMENT FOR ROOT PRUNING TRENCH SHALL BE PAID ON A PER LINEAR FOOT INSTALLED BASIS.
 - D. PAYMENT FOR TREE PROTECTION FENCE SHALL BE PAID ON A PER LINEAR FOOT INSTALLED BASIS.
 - E. PAYMENT FOR HAND DIG WATER SERVICE TAP & LEAD OR FITTINGS SHALL BE PAID PER EACH EXCAVATION PIT REQUIRED TO BE DUG BY HAND.
 - F. ALL ADDITIONAL TREE PROTECTION TREATMENTS SHALL BE COMPLETED AT NO ADDITIONAL PAY AND ARE CONSIDERED INCIDENTAL.
- 1.03 PROJECT CONDITIONS
 - A. PRESERVE AND PROTECT EXISTING TREES AND PLANTS TO REMAIN FROM FOLIAGE, BRANCH, TRUNK, OR ROOT DAMAGE THAT COULD RESULT FROM CONSTRUCTION OPERATIONS.
 - B. PREVENT FOLLOWING TYPES OF DAMAGE:
 - 1. COMPACTION OF ROOT ZONE BY FOOT OR VEHICULAR TRAFFIC, OR MATERIAL STORAGE.
 - 2. TRUNK DAMAGE FROM EQUIPMENT OPERATIONS, MATERIAL STORAGE, OR FROM NAILING OR BOLTING.
 - 3. TRUNK AND BRANCH DAMAGE CAUSED BY ROPES OR GUY WIRES.
 - 4. ROOT OR SOIL CONTAMINATION FROM SPILLED SOLVENTS, GASOLINE, PAINT, LIME SLURRY, AND OTHER NOXIOUS MATERIALS.
 - 5. BRANCH DAMAGE DUE TO IMPROPER PRUNING OR TRIMMING.
 - 6. DAMAGE FROM LACK OF WATER DUE TO:
 - a. CUTTING OR ALTERING NATURAL WATER MIGRATION PATTERNS NEAR ROOT ZONES.
 - b. FAILURE TO PROVIDE ADEQUATE WATERING.
 - 7. DAMAGE FROM ALTERATION OF SOIL PH CAUSED BY DEPOSITING LIME, CONCRETE, PLASTER, OR OTHER BASE MATERIALS NEAR ROOT ZONES.
 - 8. CUTTING OF ROOTS LARGER THAN ONE INCH IN DIAMETER IN AREAS NOT CALLED OUT FOR ROOT PRUNING TRENCH.
- 1.04 DAMAGE ASSESSMENT
 - A. WHEN TREES OTHER THAN THOSE DESIGNATED FOR REMOVAL ARE DESTROYED OR DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS, REMOVE AND REPLACE WITH SAME SIZE, SPECIES, AND VARIETY UP TO AND INCLUDING 8 INCHES IN TRUNK DIAMETER. TREES LARGER THAN 8 INCHES IN DIAMETER SHALL BE REPLACED WITH AN 8-INCH DIAMETER TREE OF THE SAME SPECIES AND VARIETY AND TOTAL CONTRACT AMOUNT WILL BE REDUCED BY AN AMOUNT DETERMINED FROM THE FOLLOWING FORMULA: $0.7854 \times D^2 \times L \times \125.00 WHERE D IS DIAMETER IN INCHES OF TREE OR SHRUB TRUNK MEASURED 12 INCHES ABOVE GRADE FOR THAT PORTION OF THE TREE WHICH IS GREATER THAN 8 INCHES IN DIAMETER. REMOVAL MUST BE APPLIED FOR AND APPROVED BY THE CITY OF JERSEY VILLAGE PRIOR TO REMOVAL OF ANY TREE NOT SCHEDULED FOR REMOVAL IN THE TREE TREATMENT SCHEDULE.

PART 2 - PRODUCTS

- 2.01 MATERIALS
 - A. PRUNING PAINT: BLACK LATEX, WATER BASED PAINT, FREE OF ALL PETROLEUM PRODUCTS.
 - B. FERTILIZER/ROOT STIMULANT: ROOT STIMULANT SHALL BE A ROOT STIMULANT THAT CONTAINS AT A MINIMUM THE FOLLOWING INGREDIENTS: ECTOMYCORRHIZAL FUNGI, VA MYCORRHIZAL (VAM) FUNGI, *RHIZOSPHERE BACILLUS SPP.*, KELP MEAL, HUMIC ACID, AND SOLUBLE YUCCA. FERTILIZER SHALL BE DAVEY ARBORGREEN.
 - C. TREE PROTECTION FENCING: ORANGE, PLASTIC MESH FENCING, 4 FEET IN HEIGHT WITH 6 FEET HIGH "T" POSTS INSTALLED 10 FEET ON CENTERS AS PER DRAWINGS.
 - D. PLASTIC ROOT/SOIL PROTECTION: CLEAR POLYETHYLENE SHEETING, MINIMUM 6 MIL. THICKNESS.
 - E. SANDY LOAM BACKFILL: A LOAM CONSISTING OF LESS THAN 7 PERCENT CLAY, LESS THAN 50 PERCENT SILT, AND BETWEEN 43 AND 50 PERCENT SAND

PART 3 - EXECUTION

- 3.01 PROTECTION OF EXISTING TREES AND SHRUBS
 - A. SITE PREPARATION WORK AND/OR CONSTRUCTION WORK SHALL NOT BEGIN IN ANY AREA WHERE TREE PRESERVATION MEASURES HAVE NOT BEEN COMPLETED AND APPROVED BY CITY OF JERSEY VILLAGE.
 - B. PROTECT EXPOSED ROOTS AND ROOT ZONE AREAS FROM CONTAMINATION FROM STABILIZATION MATERIALS AND CONCRETE USING PLASTIC ROOT/SOIL PROTECTION (POLYETHYLENE).
 - C. COVER EXPOSED ROOTS WITHIN 4 HOURS TO REDUCE DAMAGE CAUSED BY DESICCATION. ROOTS MAY BE COVERED WITH SOIL, MULCH, POLYETHYLENE, OR WET BURLAP TO HELP PROTECT THEM FROM DRYING.
 - D. DESIGNATE LIMITED AREAS AS CONCRETE WASHOUT AREAS. LOCATE CONCRETE WASHOUT AREAS AWAY FROM ROOT ZONES.
 - E. INSTALL ROOT PRUNING TRENCHING WHERE DESIGNATED IN TREE TREATMENT SCHEDULE AND SHOWN ON THE TREE PROTECTION DRAWINGS. TREES SCHEDULED FOR ROOT PRUNING ARE CALLED OUT SPECIFICALLY IN THE TREATMENT SCHEDULE. TRENCH SHALL BE LOCATED 2 FT. FROM THE EDGE OF PROPOSED WATERLINE OR SANITARY SEWER FOR TREES CALLED OUT FOR ROOT PRUNING FOR WATER OR FITTINGS, OR SANITARY SEWER IN THE TREATMENT SCHEDULE, 2 FT. FROM EDGE OF PROPOSED STORM SEWER PIPE FOR TREES CALLED OUT FOR ROOT PRUNING FOR STORM IN THE TREATMENT SCHEDULE, 30" BACK OF PROPOSED CURB FOR TREES CALLED OUT FOR ROOT PRUNING FOR STREET WHERE ZERO CURB CUTBACK IS NOT ALSO CALLED OUT, AT BACK OF PROPOSED CURB WHERE ZERO CURB CUTBACK IS CALLED OUT IN SAME LOCATION AS ROOT PRUNING, AND AT EDGE OF SIDEWALK FOR TREES CALLED OUT FOR ROOT PRUNING FOR SIDEWALK. TRENCH LOCATIONS SHOWN ON TREE PRESERVATION PLAN ARE DRAWN TO SCALE AND SHOULD BE LOCATED IN FIELD AS DRAWN ON PLAN. EXACT LOCATIONS SHALL BE APPROVED IN THE FIELD BY THE ENGINEER AND/OR CITY OF JERSEY VILLAGE PRIOR TO INSTALLATION. TRENCHING DEPTH SHALL BE TO THE ANTICIPATED BOTTOM OF SIDEWALK AND BASE MATERIAL FOR SIDEWALK ROOT PRUNING; ROOTS LOWER THAN SIDEWALK SHALL NOT BE PRUNED. ALL ROOTS SHALL BE CUT BY TRENCHER, CHAINSAW, OR HANDSAW TO THE SPECIFIED DEPTH. ROOTS SHALL BE CUT CLEANLY, AND NOT RIPPED, TORN, OR CHOPPED. TRENCH SHALL BE BACKFILLED AND COMPACTED IMMEDIATELY AFTER TRENCHING. TRENCH SHALL BE INSTALLED PRIOR TO ANY CLEARING AND GRUBBING, EXCAVATION FOR BASE MATERIAL, OR ANY OTHER SITE WORK.
 - F. INSTALL TREE PROTECTION FENCING AROUND EACH TREE TO BE PRESERVED AS INDICATED IN THE TREE TREATMENT SCHEDULE AND ON THE TREE PROTECTION PLAN.
 - 1. EACH TREE TO BE PRESERVED SHALL BE PROTECTED WITH A TREE PROTECTION FENCE. THE FENCING SHALL BE CONTINUOUS BETWEEN POSTS, SHALL BE PULLED TAUT PRIOR TO SECURING TO POSTS, AND SHALL BE FIRMLY ATTACHED TO THE POSTS WITH A MINIMUM OF 4 WIRE OR CABLE TIES.
 - 2. ALL TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO SITE WORK OR CONSTRUCTION ACTIVITY. THE FENCE SHALL BE PLACED IN A CONTINUOUS ALIGNMENT AS SHOWN ON THE TREE PROTECTION PLAN. FENCES SHOWN ON TREE PROTECTION PLAN ARE DRAWN TO SCALE AND SHALL BE INSTALLED AS DRAWN, IN THE FIELD. IN GENERAL FENCES SHALL BE PLACED 30" BACK OF EXISTING CURB OR EDGE OF PAVEMENT WHERE ROOT PRUNING OR ZERO CURB CUTBACK IS NOT SPECIFIED, AND 6" BACK OF ROOT PRUNING TRENCH WHERE ROOT PRUNING IS SPECIFIED AND 12" BACK OF CURB WHERE ZERO CURB CUTBACK IS SPECIFIED. EXACT LOCATIONS SHALL BE APPROVED BY THE CITY OF JERSEY VILLAGE AND/OR ENGINEER IN THE FIELD. THE FENCES SHALL BE PLACED TO PROTECT ROOTS, TRUNKS, AND FOLIAGE. THE CONTRACTOR SHALL NOT REMOVE OR RELOCATE TREE PROTECTION FENCING AND SHALL NOT OPERATE WITHIN THE LIMITS SHOWN WITHOUT DIRECT APPROVAL OF THE CITY OF JERSEY VILLAGE. NO BORE PITS, PEEP HOLES, SERVICE TAPS, OR ANY EXCAVATION SHOULD OCCUR IN THE AREA OF THE TREE PROTECTION FENCING FOR TREES CALLED OUT WITH "BORE" IN THE TREE TREATMENT SCHEDULE. THE "BORE" LIMITS SHALL BE THE SAME AS THE LIMITS OF THE TREE PROTECTION FENCING.
 - 3. STORAGE OF EQUIPMENT OR MATERIALS WILL NOT BE ALLOWED INSIDE A FENCE. ENTRYWAYS AND ACCESS INTO A PROTECTED AREA SHALL NOT BE PROVIDED UNLESS APPROVED BY THE CITY OF JERSEY VILLAGE.
 - 4. DAMAGE TO TREE FENCES OCCURRING DURING THE PROGRESS OF THE WORK SHALL BE REPAIRED IMMEDIATELY AT NO ADDITIONAL COST TO OWNER. WORKMEN SHALL BE CLEARLY INSTRUCTED TO EXERCISE CAUTION IN PERFORMANCE OF WORK NEAR TREES BEING PRESERVED.
 - 5. TREE PROTECTION FENCING SHALL BE REMOVED BY CONTRACTOR, AT NO ADDITIONAL COSTS, UPON COMPLETION OF ALL CONSTRUCTION ACTIVITY IN EACH WORK ZONE AREA. TREE PROTECTION FENCING MATERIALS USED IN THE FIRST TWO WORK ZONE AREAS SHALL BE REMOVED AND UTILIZED IN SUBSEQUENT WORK ZONE AREAS. MATERIALS AND LABOR SHALL BE PAID FOR EACH LINEAR FOOT OF FENCING INSTALLED IN FIRST TWO WORK AREAS. ALL FENCING INSTALLED IN SUBSEQUENT WORK ZONE AREAS SHALL BE PAID FOR LABOR ONLY.

- G. BORING/AUGURING OF WATER LINES OR SANITARY SEWER LINES
 - 1. WATER LINE OR SANITARY SEWER LINE SHALL BE BORED/AUGURED/HORIZONTALLY DRILLED UNDER CRITICAL ROOT ZONE AREAS OF TREES DESIGNATED WITH AUGER OR BORE IN THE TREE TREATMENT SCHEDULE. THE ENTIRE AREA PROTECTED WITH TREE PROTECTION FENCING SHALL BE BORED. NO BORE PITS, COME THROUGH HOLES, PEEP HOLES, PUSH PITS, OR LONG OR SHORT SIDE SERVICE TAPS SHALL BE ALLOWED IN THE AREAS PROTECTED BY TREE PROTECTION FENCING. THE TREE PROTECTION PLAN TAKES INTO CONSIDERATION THE LIMITS OF AUGURING EQUIPMENT, THERE SHOULD BE ROOM FOR ADEQUATELY SPACED BORE PITS, PEEP HOLES, COME THROUGH HOLES, AND PUSH PITS. ANY CHANGES TO THE LOCATION OF THE TREE PROTECTION FENCING SHALL BE AUTHORIZED BY THE CITY OF JERSEY VILLAGE AND/OR ENGINEER.
- H. HAND DIGGING OF SERVICE TAPS AND LEADS, FIRE HYDRANTS AND FITTINGS
 - 1. TREES CALLED OUT FOR HAND DIG SHORT SIDE SERVICE TAP ARE LOCATED IN VERY CLOSE PROXIMITY TO EXISTING SHORT SIDE WATER METERS. EXCAVATING THE SERVICE TAP WITH MACHINERY WOULD SIGNIFICANTLY IMPACT THE TREE. THESE SHORT SIDE SERVICE TAPS SHALL BE EXCAVATED WITH MANUAL LABOR TO EXPOSE ANY ROOTS 1" IN DIAMETER AND LARGER. THE FIRST 24" OF EXCAVATION SHALL BE COMPLETED MANUALLY TO EXPOSE THE ROOTS. ANY ROOT 1" IN DIAMETER AND LARGER SHALL REMAIN UNDAMAGED, THE ROOTS SHALL NOT BE CUT, NOR SHALL THE BARK AND CAMBIUM LAYER BE SCRAPPED OR DAMAGED. ONCE THE ROOTS ARE EXPOSED, IF THERE IS ADEQUATE ROOM TO UTILIZE A MINI-EXCAVATOR WITHOUT DAMAGING THE ROOTS, THE MINI-EXCAVATOR CAN BE UTILIZED TO COMPLETE THE EXCAVATION DOWN TO THE WATER LINE. 1" PLYWOOD SHALL BE PLACED ON GRADE TO PROVIDE ROOT PROTECTION IN THE AREA OF ACCESS OF THE MINI-EXCAVATOR. IF ROOTS 1" DIAMETER OR LARGER ARE CUT OR DAMAGED, RESPONSIBLE PARTY WILL BE SUBJECT TO A CITATION UNDER THE TREE ORDINANCE, AND MAY ALSO BE REQUIRED TO INCUR THE COST OF TREE REMOVAL AND REPLACEMENT OF DAMAGED TREE ON AN INCH FOR INCH BASIS, IF REQUIRED BY CITY OF JERSEY VILLAGE.
 - 2. TREES CALLED OUT FOR HAND DIG SHORT SIDE OR LONG SIDE SERVICE LEAD ARE LOCATED IN VERY CLOSE PROXIMITY TO EXISTING WATER METERS. EXCAVATING THE SERVICE LEAD WITH MACHINERY WOULD SIGNIFICANTLY IMPACT THE TREE. SHORT SIDE LEADS SHALL BE EXCAVATED WITH MANUAL LABOR TO EXPOSE ANY ROOTS 1" IN DIAMETER AND LARGER FROM THE SERVICE TAP TO THE METER. COME OUT HOLES AND EXCAVATION REQUIRED FOR LONG SIDE SERVICE LEADS SHALL BE EXCAVATED WITH MANUAL LABOR TO EXPOSE ROOTS 1" IN DIAMETER AND LARGER, FROM THE COME OUT HOLE TO THE METER. IN EACH CASE, ALL ROOTS 1" IN DIAMETER AND LARGER SHALL REMAIN UNDAMAGED, THE ROOTS SHALL NOT BE CUT, NOR SHALL THE BARK AND CAMBIUM LAYER BE SCRAPPED OR DAMAGED. IF ROOTS 1" DIAMETER OR LARGER ARE CUT OR DAMAGED, RESPONSIBLE PARTY WILL BE SUBJECT TO A CITATION UNDER THE TREE ORDINANCE, AND MAY ALSO BE REQUIRED TO INCUR THE COST OF TREE REMOVAL AND REPLACEMENT OF DAMAGED TREE ON AN INCH BY INCH BASIS, IF REQUIRED BY CITY OF JERSEY VILLAGE.
 - 3. TREES CALLED OUT FOR HAND DIG FIRE HYDRANT, TEE, OR FITTING ARE LOCATED IN VERY CLOSE PROXIMITY TO PROPOSED FITTING. EXCAVATING THE FITTING WITH MACHINERY WOULD SIGNIFICANTLY IMPACT THE TREE AND BE IN VIOLATION OF THE TREE ORDINANCE. EXCAVATION FOR FIRE HYDRANT OR FITTING SHALL BE COMPLETED WITH MANUAL LABOR TO EXPOSE ANY ROOTS 1" IN DIAMETER AND LARGER. IN EACH CASE, ALL ROOTS 1" IN DIAMETER AND LARGER SHALL REMAIN UNDAMAGED, THE ROOTS SHALL NOT BE CUT, NOR SHALL THE BARK AND CAMBIUM LAYER BE SCRAPPED OR DAMAGED. IF ROOTS 1" DIAMETER OR LARGER ARE CUT OR DAMAGED, RESPONSIBLE PARTY WILL BE SUBJECT TO A CITATION UNDER THE TREE ORDINANCE, AND MAY ALSO BE REQUIRED TO INCUR THE COST OF TREE REMOVAL AND REPLACEMENT OF DAMAGED TREE ON AN INCH BY INCH BASIS, IF REQUIRED BY CITY OF JERSEY VILLAGE.
 - 4. LONG SIDE SERVICE TAPS SHALL NOT BE LOCATED IN AN AREA SPECIFIED TO BE BORED IN THE TREE TREATMENT SCHEDULE. SHOULD IT BE ABSOLUTELY NECESSARY TO LOCATE A LONG SIDE SERVICE TAP IN AN AREA SPECIFIED TO BE BORED, THE EXCAVATION SHALL BE COMPLETED AS SPECIFIED IN PARAGRAPH 1 OF THIS SECTION-HAND DIGGING SHORT SIDE SERVICE TAPS.
 - 5. ALL WATER METERS AND SANITARY SERVICE LEADS CALLED OUT ON P&P DRAWINGS AND VISIBLE IN THE FIELD HAVE BEEN ADDRESSED IN THE TREE PROTECTION PLAN. SHOULD ANY ADDITIONAL METERS OR LEADS BE FOUND DURING CONSTRUCTION, OR ANY NEW METERS OR LEADS INSTALLED BENEATH THE CANOPY OF ANY TREE, OR IN THE AREAS FENCED FOR TREE PROTECTION, THE EXCAVATION SHALL BE COMPLETED AS SPECIFIED IN PARAGRAPH 1 AND/OR 2 OF THIS SECTION AND PAID FOR AT THE UNIT COSTS FOR EACH INCLUDED IN THE CONTRACT.
- I. PRUNING OF TREES
 - 1. TREES SHALL BE PRUNED IN ACCORDANCE WITH THE AMERICAN NATIONAL STANDARD FOR TREE PRUNING, ANSI A300 (PART 1) - 2001 PRUNING REVISION OF ANSI A300-1995 TREE, SHRUB AND OTHER WOODY PLANT MAINTENANCE - STANDARD PRACTICES. PRUNING SHALL BE COMPLETED BY PROFESSIONAL ARBORISTS WHO HAS RECEIVED TRAINING IN PROPER PRUNING TECHNIQUES.
 - 2. CLEARANCE PRUNE DESIGNATED TREES IN TREE PROTECTION PLAN FOR PUBLIC SIDEWALKS AND CONSTRUCTION AREAS. PROVIDE 8 FEET OF VERTICAL CLEARANCE OVER PROPOSED SIDEWALKS. PRUNING TO BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITY. CONTRACTOR SHALL NOTIFY PROPERTY OWNER PRIOR TO TRIMMING OR PRUNING ANY TREES WITH TRUNKS LOCATED ON PRIVATE PROPERTY.
 - 3. ALL CUTS SHOULD BE MADE SUFFICIENTLY CLOSE TO THE PARENT LIMB OR TRUNK WITHOUT CUTTING INTO THE BRANCH COLLAR OR LEAVING A PROTRUDING STUB, SO THAT CLOSURE CAN READILY START UNDER NORMAL CONDITIONS. ALL LATERAL CUTS SHALL BE MADE BACK TO A LATERAL THAT IS AT LEAST 1/3 THE DIAMETER OF THE PARENT LIMB. CLEAN CUTS SHALL BE MADE AT ALL TIMES.
 - 4. TREES SHALL BE PRUNED IN A MANNER THAT WILL NOT DESTROY OR ALTER THE NATURAL SHAPE AND CHARACTER OF THE TREE. APPLY BLACK LATEX PAINT TO ALL FRESH WOUNDS ON OAK (QUERCUS) SPECIES IMMEDIATELY AFTER EACH CUT IS MADE.
- J. TREE REMOVAL
 - 1. TREES SCHEDULED FOR REMOVAL SHALL BE SAWED DOWN AND DEBRIS HAULED FROM THE SITE THE SAME DAY. THE STUMP SHALL BE GROUND TO 6" BELOW GRADE AND EXCESS GRINDINGS SHALL BE HAULED FROM THE SITE THE SAME DAY, SO THAT A PILE OF GRINDINGS IS NOT LEFT WHERE THE STUMP WAS GROUND. ENOUGH GRINDINGS SHOULD BE LEFT SO THAT AN OPEN HOLE DOES NOT REMAIN.
 - 2. ONLY THOSE TREES CALLED OUT FOR REMOVAL IN THE TREE TREATMENT SCHEDULE SHALL BE REMOVED, OR OTHERWISE DAMAGED. SHOULD IT BE DETERMINED THAT ANY ADDITIONAL TREES MUST BE REMOVED, REQUEST MUST BE APPLIED FOR AND APPROVED FROM THE CITY OF JERSEY VILLAGE PRIOR TO REMOVAL.
- K. REGULARLY WATER TREES WHICH HAVE RECEIVED ROOT DAMAGE, TO ELIMINATE ADDITIONAL STRESS CAUSED BY LACK OF MOISTURE. WATER DURING PERIODS WITHOUT ADEQUATE RAINFALL. FOR EXAMPLE, SHOULD 1.0" OF RAIN NOT BE RECEIVED WITHIN A WEEK PERIOD, THE TREES SHOULD BE THOROUGHLY WATERED. MARCH THROUGH SEPTEMBER, WATER ONCE EVERY TWO WEEKS. OCTOBER THROUGH FEBRUARY, WATER EVERY THREE WEEKS. WATER THOROUGHLY TO SATURATE THE ENTIRE ROOT ZONE AREA.
- L. CHEMICALLY TREAT TREE TRUNKS WITH EVIDENCE OF BORER ACTIVITY WITH THE APPROPRIATE APPROVED INSECTICIDE MIXED AND APPLIED PER THE MANUFACTURER'S PRODUCT APPLICATION RECOMMENDATIONS. TREES SHALL BE SPRAYED WITHIN 24 HOURS AFTER OBSERVANCE OF BORER ACTIVITY.
- M. GRADING AND FILLING AROUND TREES.
 - 1. MAINTAIN EXISTING GRADE WITHIN THE DRIPLINE OF TREES, UNLESS OTHERWISE INDICATED.
 - 2. WHERE EXISTING GRADE AROUND TREES IS ABOVE NEW FINISH GRADE, UNDER SUPERVISION OF PROJECT ARBORIST AND CITY OF JERSEY VILLAGE, CAREFULLY HAND EXCAVATE WITHIN THE DRIPLINE TO MAKE TRANSITION TO NEW FINISH GRADE.
 - 3. WHERE EXISTING GRADE IS BELOW NEW FINISH GRADE, PLACE SANDY LOAM SOIL IN A SINGLE LAYER TO MAKE THE TRANSITION TO NEW GRADE. DO NOT COMPACT; HAND GRADE TO REQUIRED ELEVATION.
- N. DEMOLITION, FORMING AND POURING SIDEWALKS (SIDEWALK ON GRADE)
 - 1. DEMOLITION OF EXISTING SIDEWALKS, LOCATED IN CRITICAL ROOT ZONE ARE OF A TREE, SHALL BE COMPLETED WITHOUT DISTURBING, CUTTING, OR OTHERWISE DAMAGING TREE ROOTS AND SOIL LOCATED BENEATH THEM.
 - 2. THE NEW SIDEWALK SHALL BE FORMED AT OR ABOVE THE ELEVATION OF ROOTS 1" DIAMETER AND LARGER, WITHOUT DISTURBING, CUTTING OR OTHERWISE DAMAGING TREE ROOTS. BASE MATERIAL COMPACTION SHALL NOT BE INSTALLED IF TREE ROOTS 1" DIAMETER OR LARGER ARE ENCOUNTERED. EVERY EFFORT HAS BEEN MADE TO ADDRESS TREE ROOT AND SIDEWALK ELEVATION ISSUES WITH INFORMATION AVAILABLE IN THE FIELD AND ON PLAN AND PROFILE SHEETS. THE ELEVATION OF EVERY TREE ROOT WAS NOT AVAILABLE, IF TREE ROOTS ARE FOUND TO BE IN CONFLICT WITH PROPOSED SIDEWALK. PROJECT ENGINEER, ARBORIST AND CITY OF JERSEY VILLAGE SHALL BE CONSULTED AS TO HOW TO INSTALL SIDEWALKS WITH MINIMAL IMPACTS TO ADJACENT TREES.
- O. DEMOLITION, FORMING AND POURING OF DRIVE WAY APPROACHES
 - 1. DEMOLITION OF EXISTING DRIVEWAY APPROACHES LOCATED BENEATH THE DRIPLINE OF ANY TREE SHALL BE COMPLETED WITHOUT DISTURBING, CUTTING, OR OTHERWISE DAMAGING TREE ROOTS AND SOIL LOCATED BENEATH THEM.
 - 2. THE NEW APPROACH SHALL BE FORMED AT OR ABOVE THE ELEVATION OF THE EXISTING APPROACH WHERE TREE ROOTS 1" DIAMETER OR LARGER ARE PRESENT, WITHOUT DISTURBING, CUTTING OR OTHERWISE DAMAGING TREE ROOTS. MAXIMUM DRIVE SLOPES MAY BE NEEDED AT BOTTOM OF APRON TO ALLOW FORMING OF DRIVE OVER TREE ROOTS AT TOP OF DRIVE. AS WITH SIDEWALKS, THE ELEVATION OF EVERY TREE ROOT WAS NOT AVAILABLE IN DESIGN. IF TREE ROOTS ARE FOUND TO BE IN CONFLICT WITH PROPOSED APPROACH, PROJECT ENGINEER, ARBORIST AND CITY OF JERSEY VILLAGE SHALL BE CONSULTED AS TO HOW TO INSTALL DRIVEWAY WITH MINIMAL IMPACTS TO ADJACENT TREES.
- P. ARBORIST QUALIFICATIONS
 - 1. ARBORIST - EMPLOY QUALIFIED ARBORIST ACCEPTABLE TO CITY TO COMPLETE ALL TREE TREATMENTS. ARBORIST SHALL BE NORMALLY ENGAGED IN THE FIELD AND HAVE A MINIMUM OF 5 YEARS' EXPERIENCE. QUALIFICATIONS OF THE SELECTED ARBORIST SHALL BE SUBMITTED FOR REVIEW AND APPROVAL BY THE PROJECT ENGINEER AND CITY OF JERSEY VILLAGE.

\$DATE\$

\$FILE/ABBREV\$



16327 LAKEVIEW DR.
JERSEY VILLAGE, TX 77040

C.N. Koehl
Urban Forestry, Inc.
210 Stone Bush Ct. • Katy, Texas 77493
281-391-0022 ckoehl@koehlurbanforestry.com
APPROVED *Cing N. Koehl* 11-08-2021

**SEATTLE STREET
RECONSTRUCTION PROJECT**

TREE PROTECTION PLAN
SHEET 4 OF 4

NO.	DATE	REVISIONS	BY

DRAWN BY: N.B.	APPROVED BY: C.N.K.
DESIGNED: C.N.K.	DATE: 11-08-2021
SCALE:	SHEET 32 OF 52

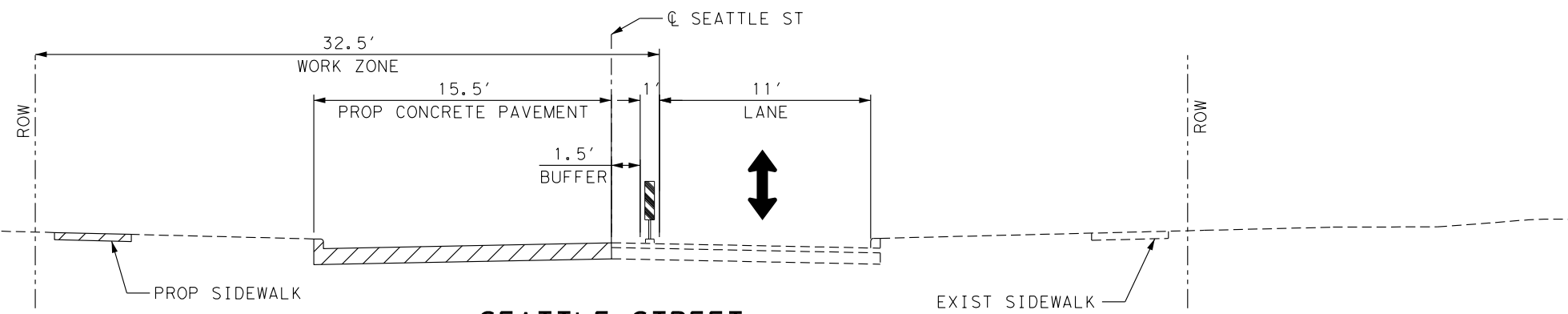
TRAFFIC CONTROL PLAN NARRATIVE:

- CONSTRUCT THE WORK IN PHASES DURING THE CONSTRUCTION PERIOD, COORDINATE CONSTRUCTION SCHEDULE AND OPERATIONS WITH THE CITY:
- PHASE 1: CONSTRUCT THE NORTH HALF OF SEATTLE STREET FROM THE CARLSBAD STREET INTERSECTION TO THE WEST END. CONSTRUCTION ACTIVITIES INCLUDE BUT ARE NOT LIMITED TO STORM DRAINAGE FACILITIES, WATER DISTRIBUTION FACILITIES, STREETLIGHT CONDUIT, PAVEMENT, DRIVEWAYS, SIDEWALKS, AND SITE RESTORATION. CONSTRUCT DRAINAGE FACILITIES FROM THE DOWNSTREAM TIE-IN AT CARLSBAD STREET TO THE MANHOLES AND INLETS. PROVIDE POSITIVE DRAINAGE THROUGHOUT.

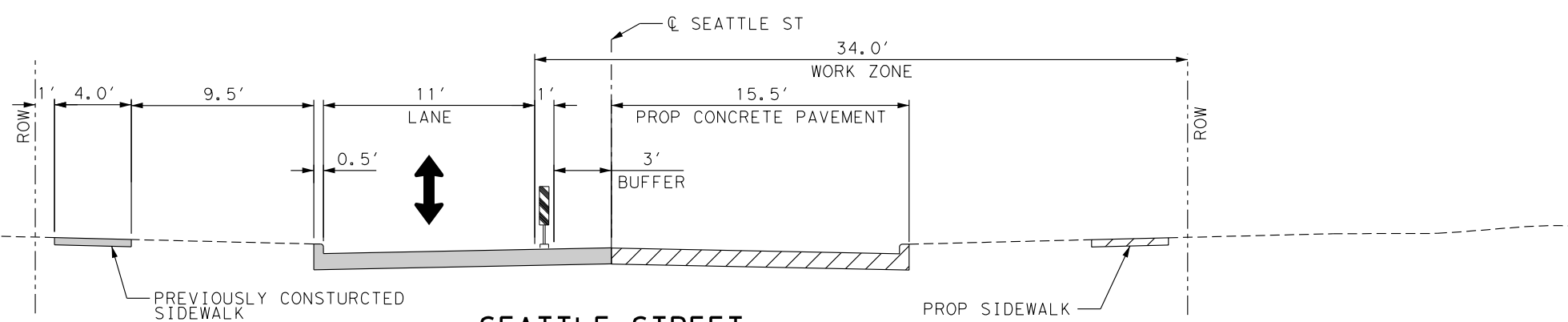
CONSTRUCT THE NORTH HALF OF SEATTLE STREET FROM THE SENATE AVENUE INTERSECTION WEST TO CARLSBAD STREET. CONSTRUCTION ACTIVITIES INCLUDE BUT ARE NOT LIMITED TO STORM DRAINAGE FACILITIES, WATER DISTRIBUTION FACILITIES, STREETLIGHT CONDUIT, PAVEMENT, DRIVEWAYS, SIDEWALKS, AND SITE RESTORATION. CONSTRUCT DRAINAGE FACILITIES FROM THE DOWNSTREAM TIE-IN AT SENATE AVENUE TO THE UPSTREAM MANHOLES AND INLETS. PROVIDE POSITIVE DRAINAGE THROUGHOUT.

- PHASE 2: CONSTRUCT THE SOUTH HALF OF SEATTLE STREET FROM THE CARLSBAD STREET INTERSECTION TO THE WEST END. CONSTRUCTION ACTIVITIES INCLUDE BUT ARE NOT LIMITED TO STORM DRAINAGE FACILITIES, WATER DISTRIBUTION FACILITIES, STREETLIGHT CONDUIT, SANITARY SEWER FACILITIES, PAVEMENT, DRIVEWAYS, SIDEWALKS, AND SITE RESTORATION.

CONSTRUCT THE SOUTH HALF OF SEATTLE STREET FROM THE SENATE AVENUE INTERSECTION WEST TO CARLSBAD STREET. CONSTRUCTION ACTIVITIES INCLUDE BUT ARE NOT LIMITED TO STORM DRAINAGE FACILITIES, WATER DISTRIBUTION FACILITIES, STREETLIGHT CONDUIT, SANITARY SEWER FACILITIES, PAVEMENT, DRIVEWAYS, SIDEWALKS, AND SITE RESTORATION.
- ACTIVE WORK ZONES UTILIZING ONE WAY TRAFFIC SHALL NOT EXCEED 800 FEET IN LENGTH UNLESS AUTHORIZED BY THE CITY.




**SEATTLE STREET
PHASE 1 TCP TYPICAL SECTION**




**SEATTLE STREET
PHASE 2 TCP TYPICAL SECTION**

3/31/2022


... \AF_TCP_TYP_01.dgn



**16327 LAKEVIEW DR.
JERSEY VILLAGE, TX 77040**



4/1/2022



AGUIRRE & FIELDS
ENGINEERING INNOVATORS
TYPE F FIRM REGISTRATION # 739

**SEATTLE STREET
RECONSTRUCTION PROJECT**

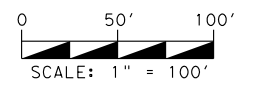
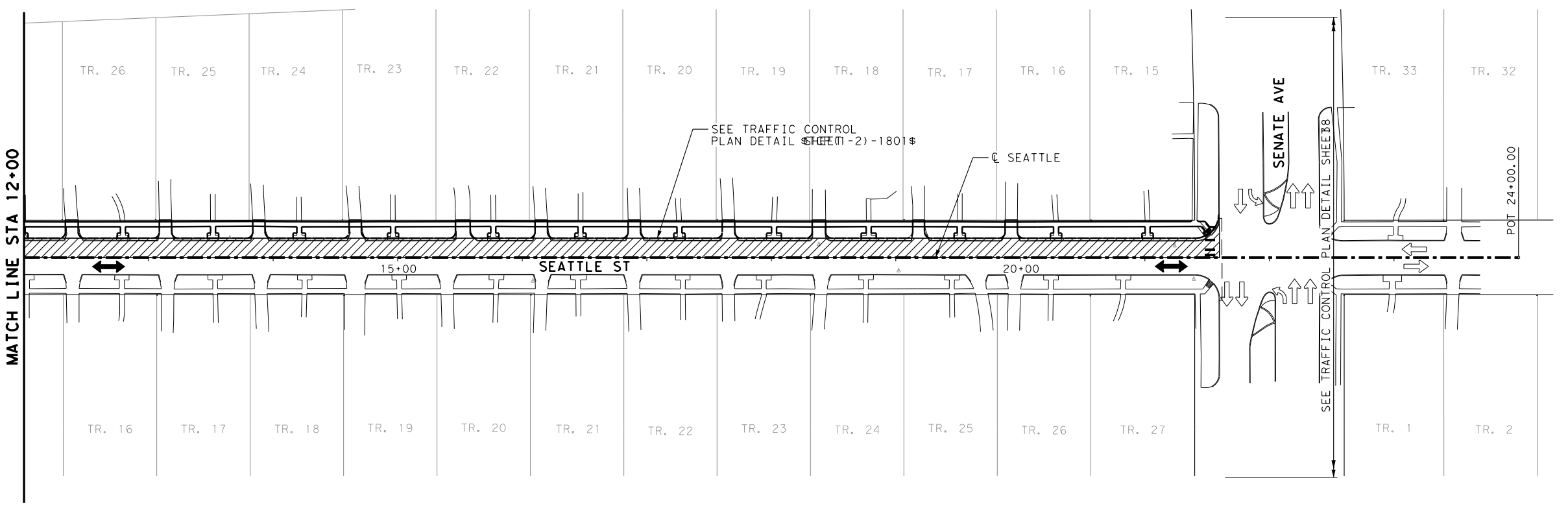
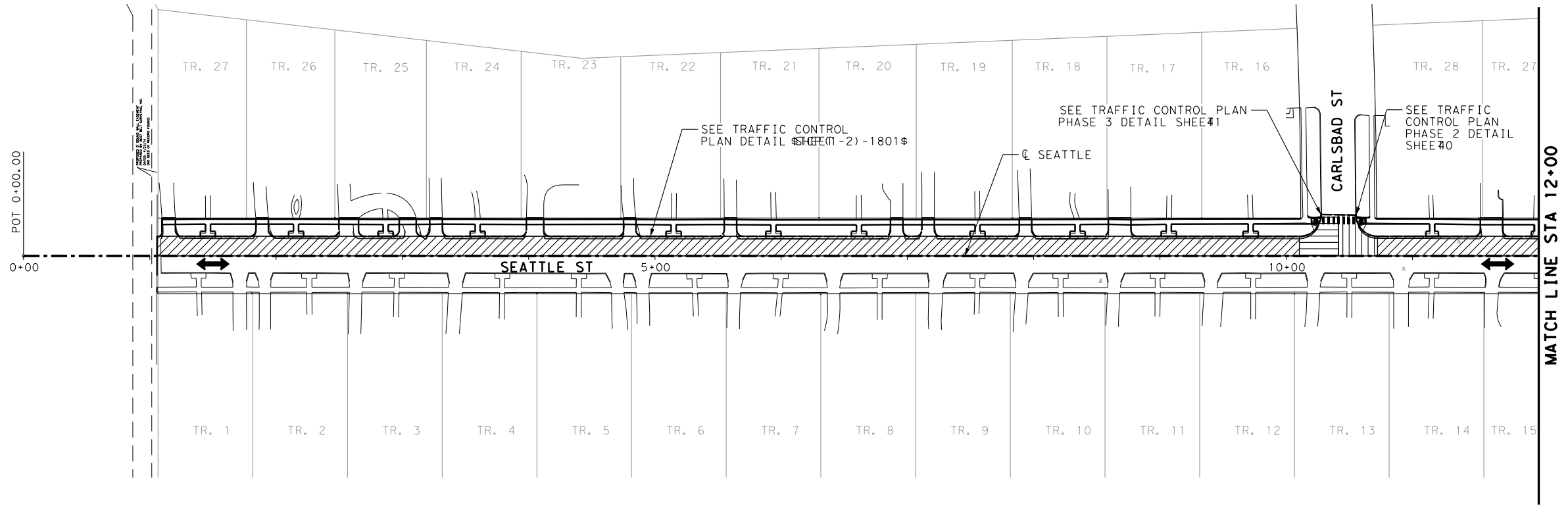
**TRAFFIC CONTROL
TYPICAL SECTIONS**


NO.	DATE	REVISIONS	BY

DRAWN BY: TJR	APPROVED BY: CAH
DESIGNED: DPS	DATE: 3/31/2022
SCALE:	SHEET: 34 OF 53


CONTRACTOR SHALL LIMIT THE LENGTH OF THE WORK ZONE TO 800-FEET OR LESS DURING ANY PHASE OF THE CONSTRUCTION.

CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNERS TO TEMPORARILY CLOSE DRIVEWAYS. ALTERNATIVELY, CONTRACTOR SHALL PLACE TEMPORARY ASPHALT OR GRAVEL SURFACE THROUGH WORK ZONE TO MAINTAIN ACCESS TO PROPERTY.






**16327 LAKEVIEW DR.
JERSEY VILLAGE, TX 77040**



4/1/2022



AGUIRRE & FIELDS
ENGINEERING INNOVATORS
T&E FIRM REGISTRATION # 739

**SEATTLE STREET
RECONSTRUCTION PROJECT**

**TRAFFIC CONTROL PLAN
PHASE 1**

NO.	DATE	REVISIONS	BY

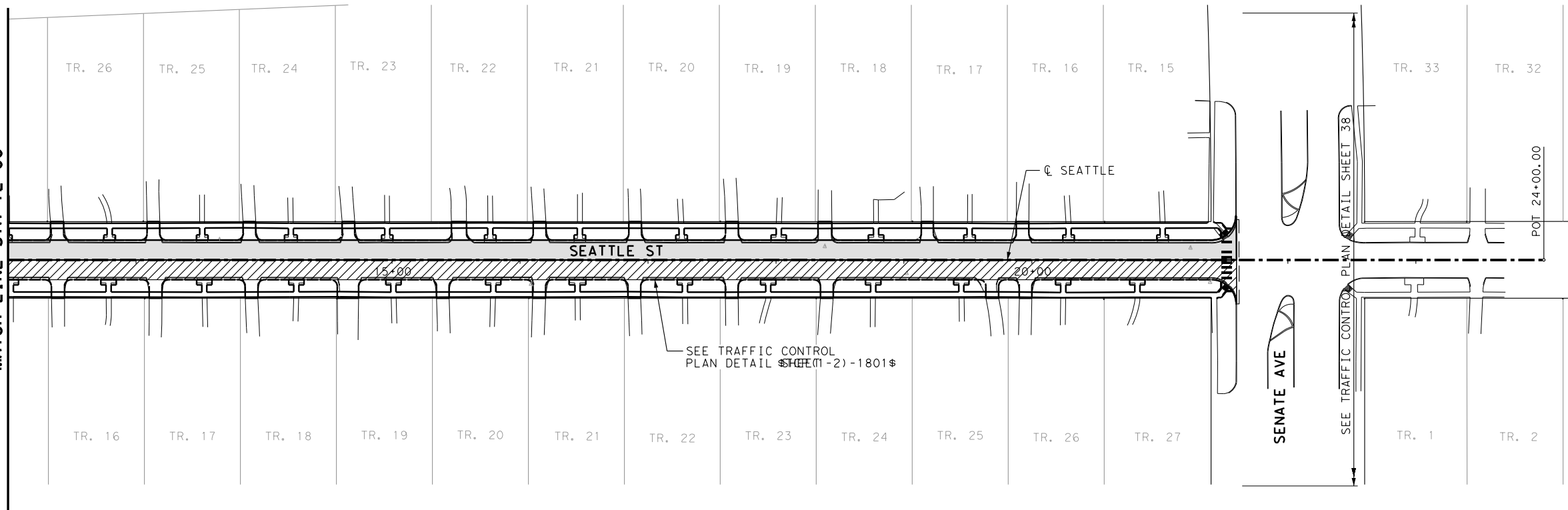
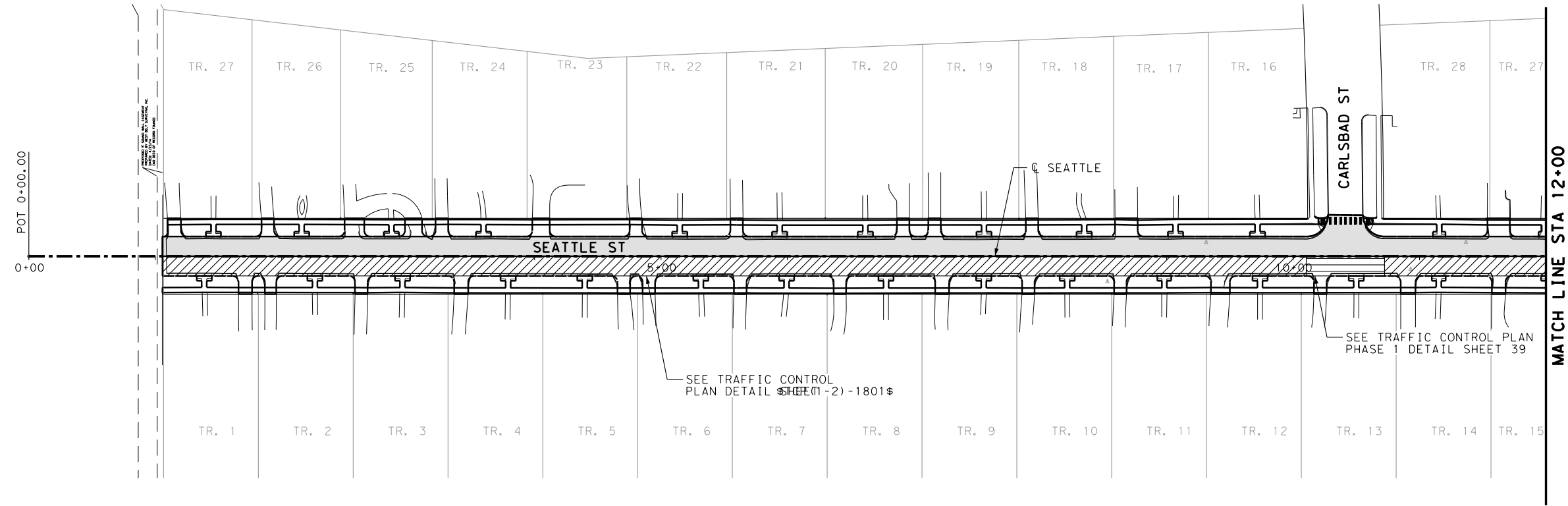
DRAWN BY: TJR	APPROVED BY: CAH
DESIGNED: DPS	DATE: 3/31/2022
SCALE:	SHEET: 35 OF 53

3/31/2022

... \PHASE 1 \AF_MDF_TCP_P1_01.dgn


CONTRACTOR SHALL LIMIT THE LENGTH OF THE WORK ZONE TO 800-FEET OR LESS DURING ANY PHASE OF THE CONSTRUCTION.

CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNERS TO TEMPORARILY CLOSE DRIVEWAYS. ALTERNATIVELY, CONTRACTOR SHALL PLACE TEMPORARY ASPHALT OR GRAVEL SURFACE THROUGH WORK ZONE TO MAINTAIN ACCESS TO PROPERTY.




3/31/2022


... \PHASE 2 \AF_MDF_TCP_P2_01.dgn



**16327 LAKEVIEW DR.
JERSEY VILLAGE, TX 77040**



DANIEL P. SIMONE
REGISTERED PROFESSIONAL ENGINEER
58194
4/1/2022



AGUIRRE & FIELDS
ENGINEERING INNOVATORS
TYPE F FIRM REGISTRATION # 739

**SEATTLE STREET
RECONSTRUCTION PROJECT**

**TRAFFIC CONTROL PLAN
PHASE 2**

NO.	DATE	REVISIONS	BY

DRAWN BY: TJR	APPROVED BY: CAH
DESIGNED: DPS	DATE: 3/31/2022
SCALE:	SHEET: 36 OF 53

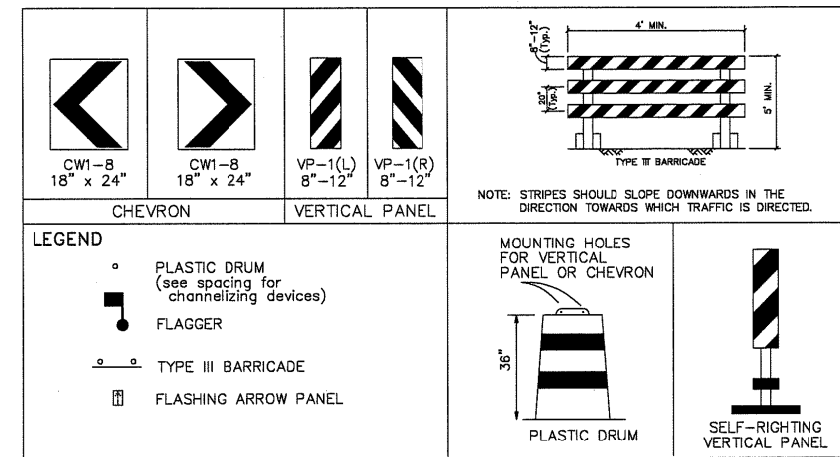
GENERAL NOTES

1. The Contractor shall provide and install traffic control devices in conformance with Part VI of the Texas Manual on Traffic Control Devices (TMUTCD).
2. All signs and traffic control devices shall conform to the latest version of the TMUTCD.
3. No lanes shall be closed during the hours of 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM Monday thru Friday without approval of the City Traffic Engineer.
4. No work shall be performed in residential areas from 7:00 PM to 7:00 AM.
5. Contractor shall maintain approved number of through lanes of traffic in each direction during construction working hours. Traffic control plans shall include one-way and/or detour plans. Contractor shall maintain ADA compliant pedestrian access to bus stops and adequate bus access to all the bus stops.
6. Contractor shall maintain traffic lanes and detours according to traffic control plans during working hours.
7. Contractor shall cover open pavement excavations for minor utility work with anchored steel plate during non-working hours, and open lanes for normal traffic flow when feasible.
8. If the Contractor chooses to use a different method of "Traffic Control Plans" during the construction than what is outlined in the contract drawings, the Contractor shall be responsible for prepare and submit an alternate set of traffic control plans to the City of Houston Project Manager for approval ten working days prior to implementation. These plans shall be drawn to scale and reproducible in mylars and shall be sealed by a Licensed Engineer in the State of Texas. Transportation & Drainage Operations representative approval is required to accept the proposed changes.
9. Contractor shall secure lane/sidewalk/bicycle facility closure permits from Transportation & Drainage Operations (Mobility Permit Section at <http://www.gims.houstontx.gov/portal/WS/MainPortal.aspx>) before implementing the traffic control plans, construction sequencing, and construction schedule with the application.
10. Contractor shall have approved traffic control plan and permit at the job site for inspection at all times.
11. During pavement surface restoration projects; the Contractor shall not open closed lanes until the pavement surface has cured enough to allow vehicular traffic according to City of Houston Standard Specifications.
12. The Contractor is responsible for scheduling and coordinating all construction activities with stake holders in the vicinity including emergency response agencies such as Houston Police Department, Houston Fire Department, and Metropolitan Transit Authority.
13. Contractor shall be responsible for issuing all work directives to all sub-contractors, utility companies, and all other entities performing construction work associated with the project.
14. Nothing in these notes or plans shall relieve the Contractor of the responsibility for job site conditions during the course of construction of the project; including safety of all modes of transportation, persons, and property, and that this requirement shall apply continuously and not be limited to working hours.
15. The Transportation & Drainage Operations (Mobility Permits Group) per the direction of the City Traffic Engineer have the right to demand the installation of additional traffic control devices or modifications of these plans and notes, as deemed necessary to promote the safe and orderly flow of traffic, including pedestrians and bicycles, through the construction work zone. The Contractor shall comply with these additional requests or modifications with due diligence.
16. All existing traffic control signs and pavement markings shall be maintained in visible locations during construction unless prior written approval is obtained from City of Houston Project Manager. The Contractor shall restore or replace (at the discretion of the City Traffic Engineer) any pavement marking or signing damage during construction operations, including Raised Pavement Markers (RPMs).
17. When entering or leaving roadways carrying public traffic, the Contractor's equipment whether empty or loaded shall in all cases yield to public traffic with assistance of Contractor provided certified flagger/peace officer.
18. Access to driveways adjacent to the construction work zone shall be maintained at all times as much as possible. Additional cones delineators may be required to delineate the driveway access route through the construction zone. A minimum of a travel lane shall be maintained across the driveways, unless prior written approval is obtained from City of Houston Project Manager.
19. Spillage resulting from hauling operations along or across any public traveled way shall be removed immediately by the Contractor.
20. The Contractor shall submit an application for temporary parking restrictions if there are parking meters located at the proposed lane closures from Parking Management Division (832-393-8690) at least ten business days before implementation of lane closures. In addition, temporary no parking signs shall be posted 24 hours prior to commencement of work.
21. Additional off duty officers/flaggers may be requested to direct traffic when lanes are blocked at the discretion of the City Project Manager even if they are not specifically identified on the project plans.
22. The Contractor shall replace within 72 hours, all traffic signal loop detectors damaged during construction.
23. In general, a solar powered flashing arrow board shall be required on all major thoroughfare lanes closures. Exceptions to flashing arrow boards and/or implementation on residential lane closures shall be approved by City Traffic Engineer.
24. Approved traffic control plan shall be in place before starting any excavation.

SPACING FOR CHANNELIZING DEVICES

- A. Plastic drums on merging taper @ 30' c - c with chevron sign @ 60' c - c and warning lights for overnight closure.
- B. Plastic drums on downstream taper @ 30' c - c (return taper and barricade are optional and divided roadway section).
- C. Plastic drums on radii @ 35' c - c.
- D. Plastic drums on tangent @ 35' c - c with vertical panel at 70' c - c and approved warning light @ 70' c - c (for overnight closure).
- E. Plastic drums in front of construction zone @ 20' c - c with vertical panel at 40' c - c and approved warning light @ 40' c - c (for overnight closure).
- F. Concrete Traffic Barrier (CTB) or Low Profile Concrete Traffic Barrier (LPCTB) with approved reflectors @ 10' c - c if pavement drop is greater than 1 foot.
- G. Plastic drums w/Guard rail mounted.
- H. Self-Righting vertical panel spacing.
 - 4 lanes to 2 lanes undivided roadway section @ 20' c - c.
 - 4 lanes divided roadway to one side two way roadway @ 20' c - c.
 - Left lane and right lane storage bays @ 15' c - c.
- I. Spacing shown on traffic control shall supersede the above spacing.
- J. Spacing may be adjusted to provide driveways, intersections and for median openings.

CHANNELIZATION AND BARRICADES



Posted Speed (mph)	Sign Spacing "X"	Min. Desirable Taper Length "L"			Suggested Maximum Spacing Of Device	
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent
30	120'	150'	165'	180'	30'	60' - 75'
35	160'	205'	225'	245'	35'	70' - 90'
40	240'	265'	295'	320'	40'	80' - 100'
45	320'	450'	495'	540'	45'	90' - 110'
50	400'	500'	550'	600'	50'	100' - 125'
55	500'	550'	605'	660'	55'	110' - 140'

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

TCP NOTES
CHANNELIZING DEVICES
AND BARRICADES
(NOT TO SCALE)

[Signature]
CITY TRAFFIC ENGINEER

[Signature]
DANIEL P. SIMEONE
DIRECTOR OF
HOUSTON PUBLIC WORKS

EFF DATE: JUL-01-2018 DWG NO: 01512-01

REFERENCE BENCHMARK:
RM050425 - BRASS DISK STAMPED "050425" LOCATED AT THE NORTHEAST CORNER OF THE BRIDGE ON RIO GRANDE OVER E127-00-00 ±60' SOUTH OF VILLAGE DRIVE IN KEY MAP 409L IN THE WHITE OAK BAYOU WATERSHED. ELEVATION = 104.75' (NAVD 88, 2001 ADJ.)

TEMPORARY BENCHMARKS:
TBM "A" - BOX CUT ON "BB" INLET LOCATED AT THE NORTHWEST CORNER OF SEATTLE STREET AND SENATE AVENUE. ELEVATION = 103.44'
TBM "B" - BOX CUT ON "BB" INLET LOCATED AT THE SOUTHWEST CORNER OF SEATTLE STREET AND CARLSBAD STREET. ELEVATION = 103.68'
TBM "C" - BOX CUT ON THE END OF THE CONCRETE SIDEWALK AT THE SOUND WALL LOCATED ON THE SOUTH SIDE OF SEATTLE STREET. ELEVATION = 106.16'

16327 LAKEVIEW DR.
JERSEY VILLAGE, TX 77040

4/1/2022

AGUIRRE & FIELDS
ENGINEERING INNOVATORS
TBP# FIRM REGISTRATION # 739

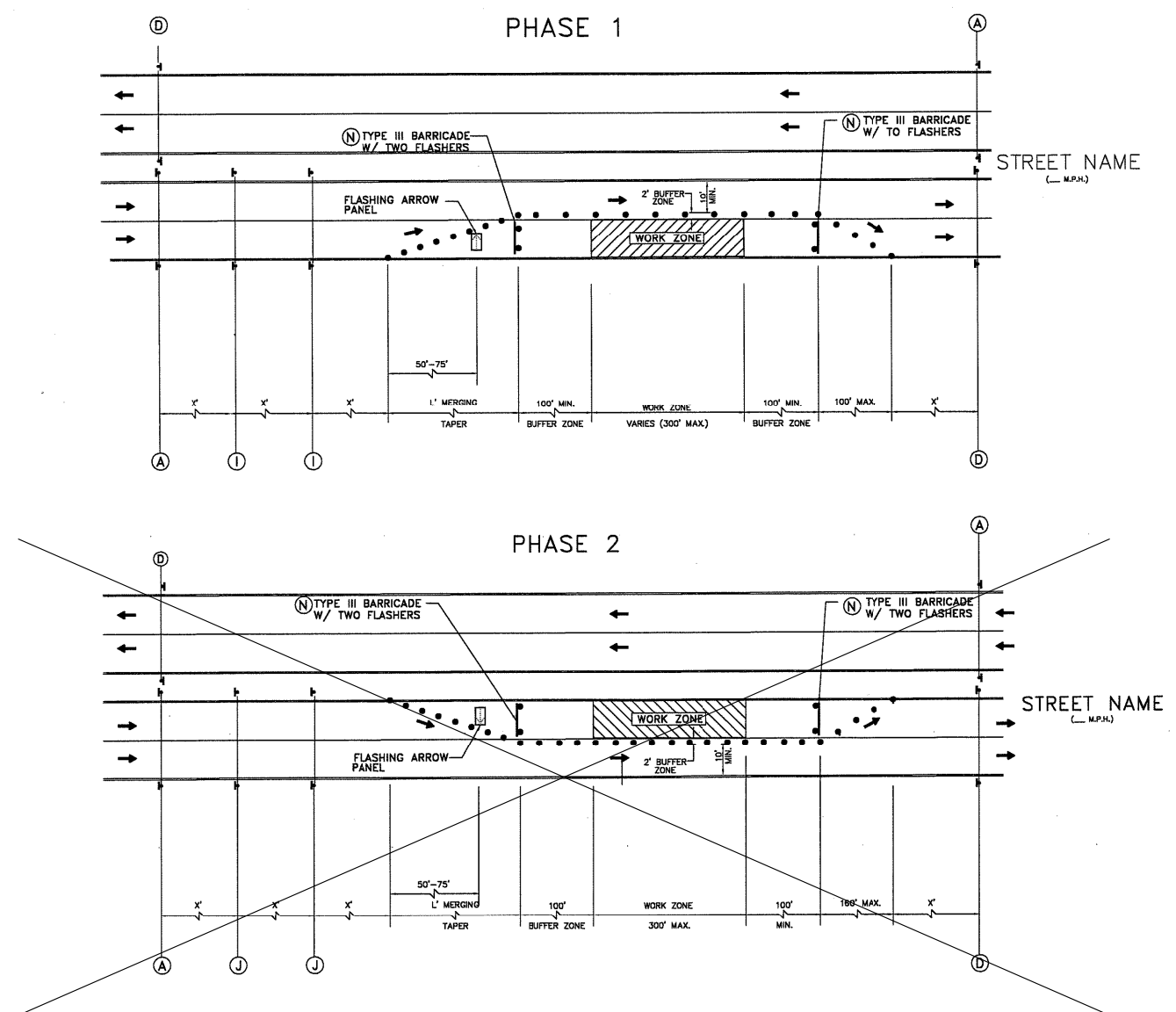
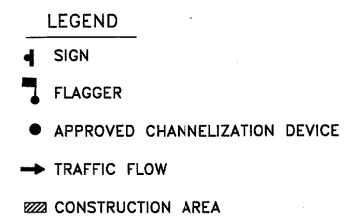
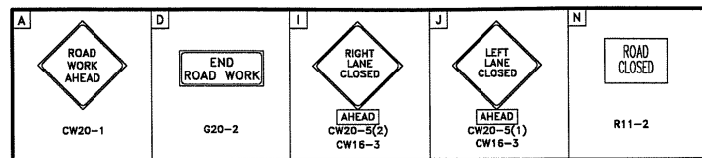
SEATTLE STREET RECONSTRUCTION PROJECT

TRAFFIC CONTROL DETAILS

SHEET 1 OF 6	
NO.	DATE
REVISIONS	
BY	
DRAWN BY: TJR	
APPROVED BY: CAH	
DESIGNED: DPS	
DATE: 3/31/2022	
SCALE:	
SHEET: 37 OF 53	

3/31/2022

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- NOTE:**
1. RETURN TAPERS AND DOWNSTREAM BARRICADES ARE OPTIONAL ON A DIVIDED ROADWAY SECTION.
 2. DOUBLE SIGNS SHALL BE USED ONLY ON ROADWAYS WITH MEDIANS.
 3. FOR DIMENSIONS REFER TO SHEET 01512-01.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

TCP ONE LANE CLOSURE
PHASE 1 & 2
(NOT TO SCALE)

<i>[Signature]</i> CITY TRAFFIC ENGINEER Mark T. Meyer CITY ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01512-04

REFERENCE BENCHMARK:
RM050425 - BRASS DISK STAMPED "050425" LOCATED AT THE NORTHEAST CORNER OF THE BRIDGE ON RIO GRANDE OVER E127-00-00 ±60' SOUTH OF VILLAGE DRIVE IN KEY MAP 409L IN THE WHITE OAK BAYOU WATERSHED. ELEVATION = 104.75' (NAVD 88, 2001 ADJ.)

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CITY OF JERSEY VILLAGE
TEXAS STAR COMMUNITY

16327 LAKEVIEW DR.
JERSEY VILLAGE, TX 77040

[Signature]
DANIEL P. SIMONE
REGISTERED PROFESSIONAL ENGINEER
58194
4/1/2022

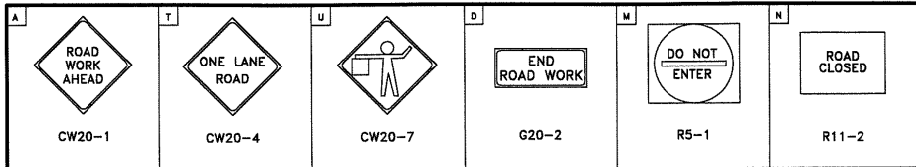
AGUIRRE & FIELDS
ENGINEERING INNOVATORS
TBP# FIRM REGISTRATION # 739

SEATTLE STREET RECONSTRUCTION PROJECT

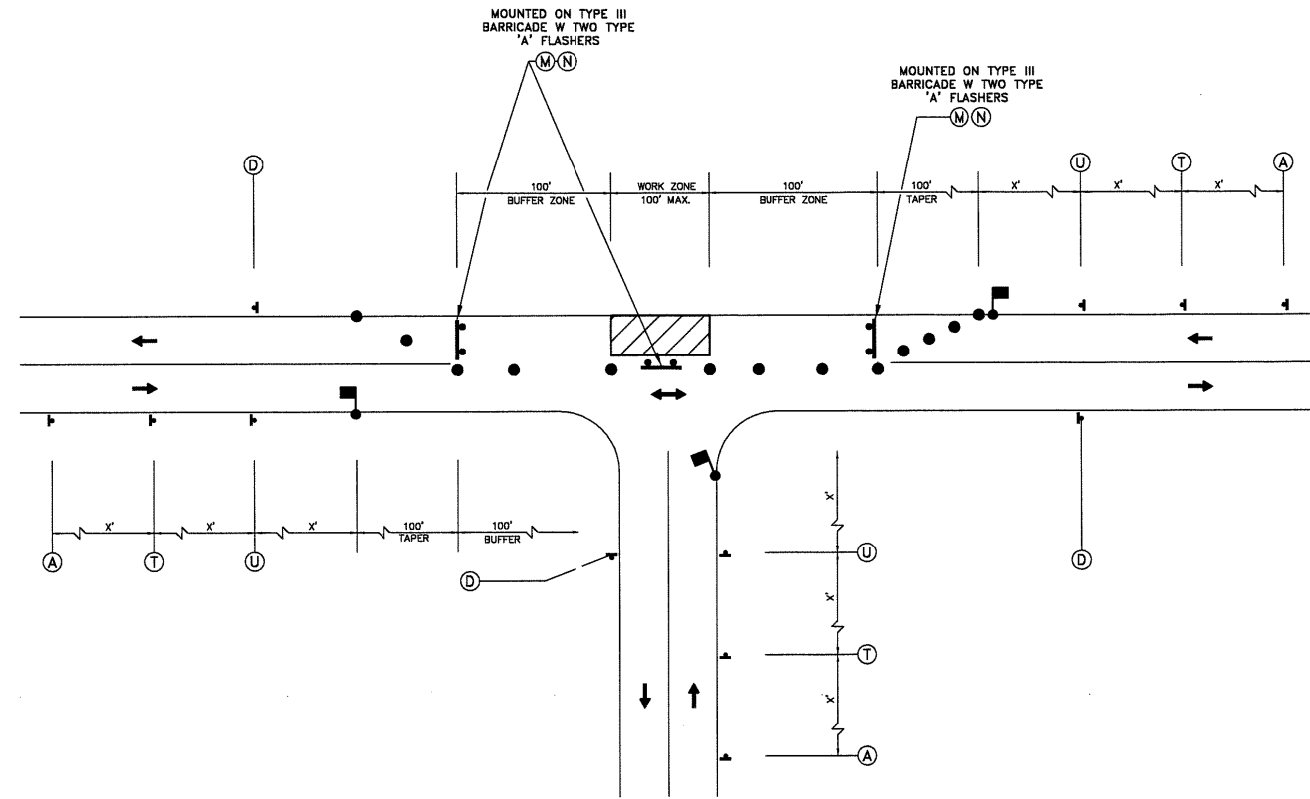
TRAFFIC CONTROL DETAILS
SHEET 2 OF 6

NO.	DATE	REVISIONS	BY

DRAWN BY: TJR	APPROVED BY: CAH
DESIGNED: DPS	DATE: 3/31/2022
SCALE:	SHEET: 38 OF 53



- LEGEND**
- 1 SIGN
 - FLAGGER
 - APPROVED CHANNELIZATION DEVICE
 - TRAFFIC FLOW
 - BARRICADE
 - FLASHING ARROW PANEL



STREET NAME
(___ M.P.H.)

STREET NAME
(___ M.P.H.)

**PHASE 1 OF 3
TYPICAL CONSTRUCTION ZONE
AT A T-INTERSECTION**

- NOTE:**
1. MINOR WORK ONLY.
 2. CONTRACTOR SHALL USE ONE-LANE ROAD CLOSURE AND DETOUR ROUTING FOR MAJOR OPERATIONS AND OVERNIGHT LANE CLOSURES.
 3. FOR DIMENSIONS REFER TO SHEET 01512-01

CITY OF HOUSTON HOUSTON PUBLIC WORKS	
TCP TYPICAL 3-WAY INTERSECTION PHASE 1 OF 3 (NOT TO SCALE)	
<i>[Signature]</i> CITY TRAFFIC ENGINEER <i>[Signature]</i> CITY ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01512-06

REFERENCE BENCHMARK:
RM050425 - BRASS DISK STAMPED "050425" LOCATED AT THE NORTHEAST CORNER OF THE BRIDGE ON RIO GRANDE OVER E127-00-00 ±60' SOUTH OF VILLAGE DRIVE IN KEY MAP 409L IN THE WHITE OAK BAYOU WATERSHED. ELEVATION = 104.75' (NAVD 88, 2001 ADJ.)

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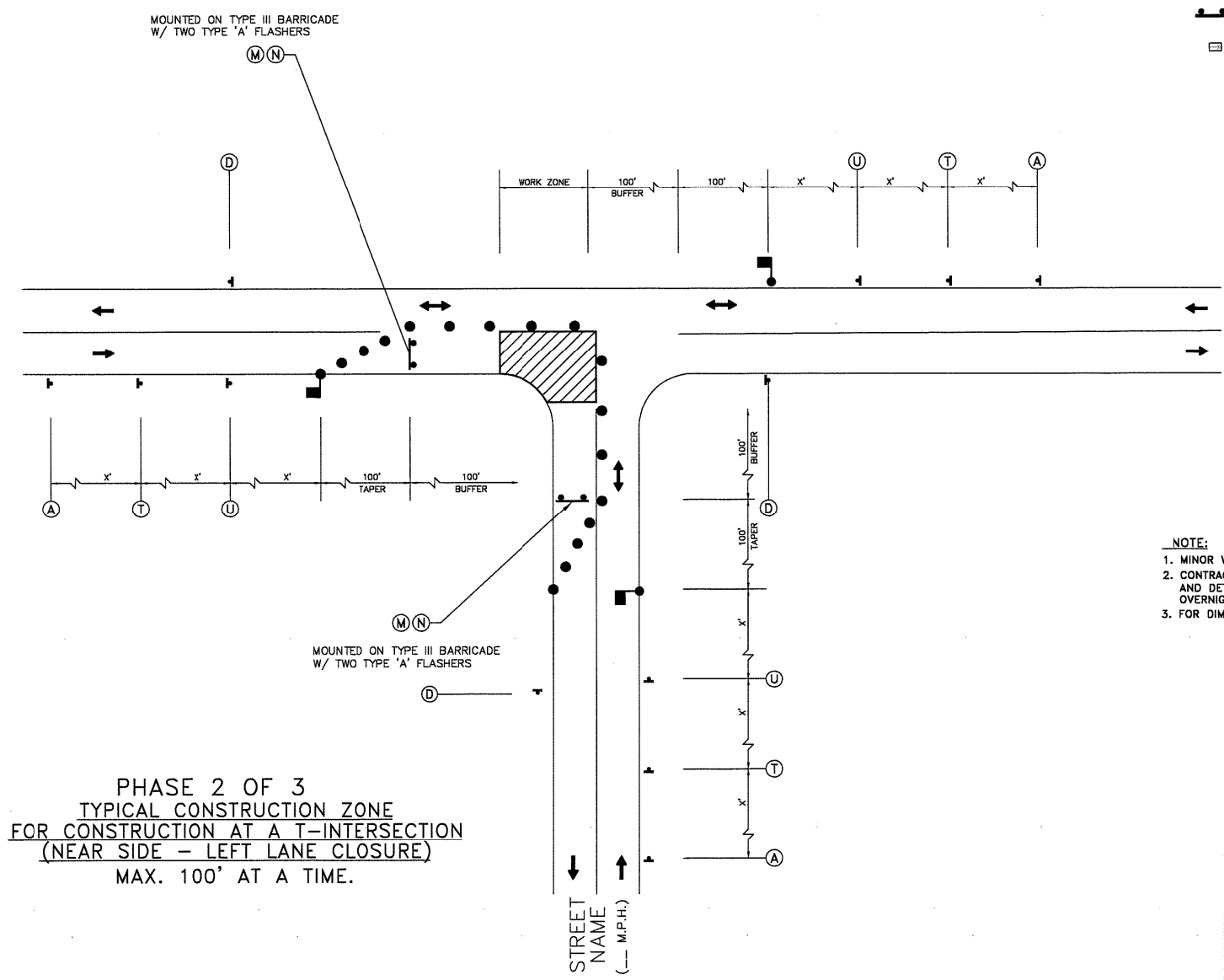
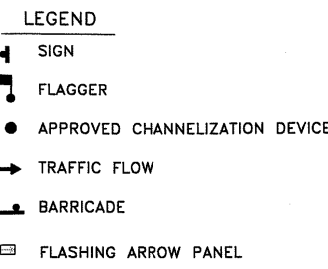
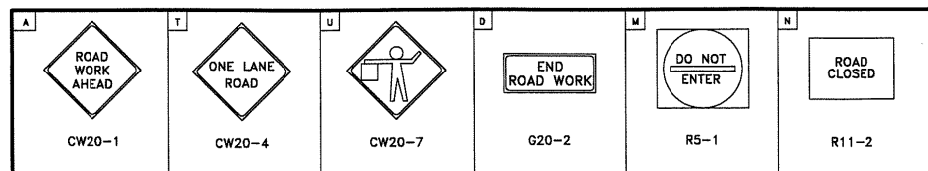
3/31/2022

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 16327 LAKEVIEW DR. JERSEY VILLAGE, TX 77040			
 DANIEL P. SIMONE REGISTERED PROFESSIONAL ENGINEER 58194 4/1/2022			
 AGUIRRE & FIELDS ENGINEERING INNOVATORS TBPB FIRM REGISTRATION # 739			
SEATTLE STREET RECONSTRUCTION PROJECT			
TRAFFIC CONTROL DETAILS			
SHEET 3 OF 6			
NO.	DATE	REVISIONS	BY
DRAWN BY: TJR		APPROVED BY: CAH	
DESIGNED: DPS		DATE: 3/31/2022	
SCALE:		SHEET: 39 OF 53	

3/31/2022

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PHASE 2 OF 3
TYPICAL CONSTRUCTION ZONE
FOR CONSTRUCTION AT A T-INTERSECTION
(NEAR SIDE - LEFT LANE CLOSURE)
MAX. 100' AT A TIME.

NOTE:
1. MINOR WORK ONLY.
2. CONTRACTOR SHALL USE ONE-LANE ROAD CLOSURE AND DETOUR ROUTING FOR MAJOR OPERATIONS AND OVERNIGHT LANE CLOSURES.
3. FOR DIMENSIONS REFER TO SHEET 01512-01

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

TCP TYPICAL 3-WAY INTERSECTION
PHASE 2 OF 3
(NOT TO SCALE)

[Signature]
CITY TRAFFIC ENGINEER
CITY ENGINEER

[Signature]
DIRECTOR OF
HOUSTON PUBLIC WORKS

EFF DATE: JUL-01-2018 DWG NO: 01512-07

REFERENCE BENCHMARK:
RM050425 - BRASS DISK STAMPED "050425" LOCATED AT THE NORTHEAST CORNER OF THE BRIDGE ON RIO GRANDE OVER E127-00-00 ±60' SOUTH OF VILLAGE DRIVE IN KEY MAP 409L IN THE WHITE OAK BAYOU WATERSHED. ELEVATION = 104.75' (NAVD 88, 2001 ADJ.)

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CITY OF JERSEY VILLAGE
TEXAS STAR COMMUNITY

16327 LAKEVIEW DR.
JERSEY VILLAGE, TX 77040

STATE OF TEXAS
DANIEL P. SIMEONE
58194
REGISTERED PROFESSIONAL ENGINEER
4/1/2022

AGUIRRE & FIELDS
ENGINEERING INNOVATORS
TBP# FIRM REGISTRATION # 739

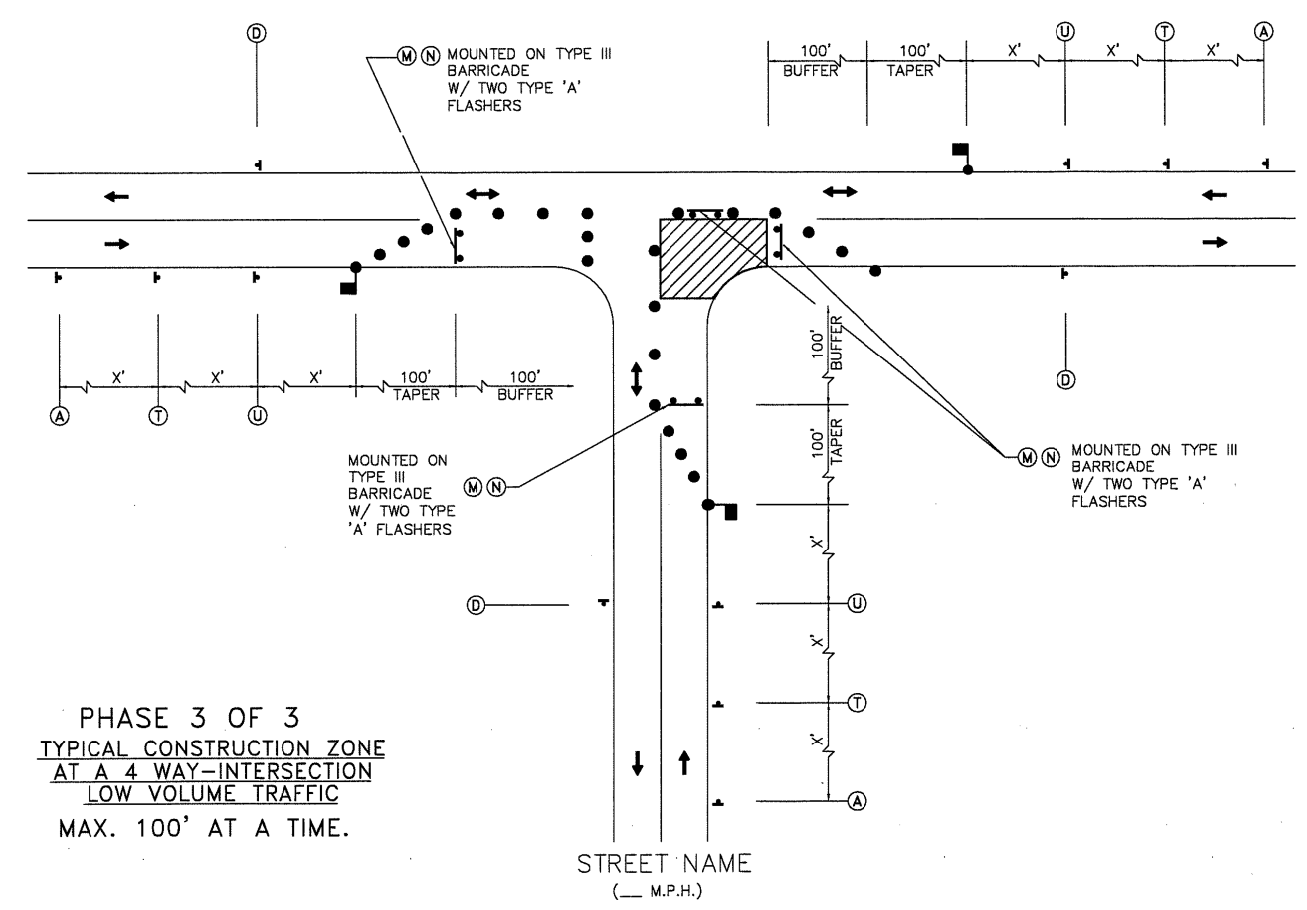
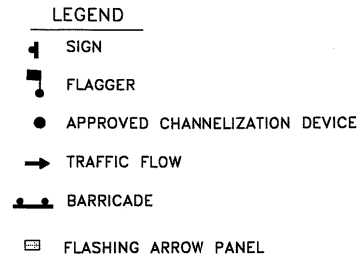
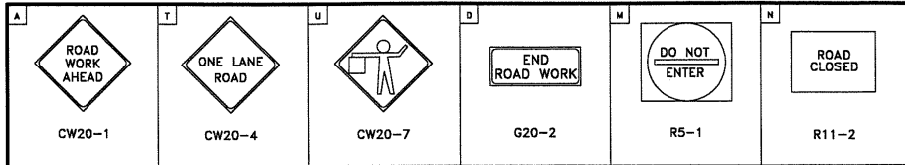
SEATTLE STREET
RECONSTRUCTION PROJECT

TRAFFIC CONTROL
DETAILS

SHEET 4 OF 6

NO.	DATE	REVISIONS	BY

DRAWN BY: TJR APPROVED BY: CAH
DESIGNED: DPS DATE: 3/31/2022
SCALE: SHEET: 40 OF 53



PHASE 3 OF 3
 TYPICAL CONSTRUCTION ZONE
 AT A 4 WAY-INTERSECTION
 LOW VOLUME TRAFFIC
 MAX. 100' AT A TIME.

- NOTE:**
- MINOR WORK ONLY.
 - CONTRACTOR SHALL USE ONE-LANE ROAD CLOSURE AND DETOUR ROUTING FOR MAJOR OPERATIONS AND OVERNIGHT LANE CLOSURES.
 - FOR DIMENSIONS REFER TO SHEET 01512-01

CITY OF HOUSTON HOUSTON PUBLIC WORKS	
TCP TYPICAL 3-WAY INTERSECTION PHASE 3 OF 3 (NOT TO SCALE)	
<i>[Signature]</i> CITY TRAFFIC ENGINEER	<i>[Signature]</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NC: 01512-08

REFERENCE BENCHMARK:
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16327 LAKEVIEW DR.
 JERSEY VILLAGE, TX 77040

4/1/2022

AGUIRRE & FIELDS
 ENGINEERING INNOVATORS
 TBPB FIRM REGISTRATION # 739

**SEATTLE STREET
 RECONSTRUCTION PROJECT**

**TRAFFIC CONTROL
 DETAILS**

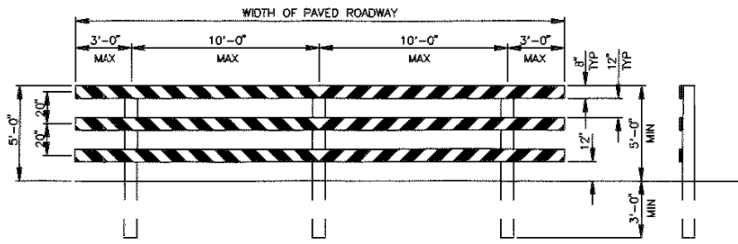
SHEET 5 OF 6

NO.	DATE	REVISIONS	BY

DRAWN BY: TJR	APPROVED BY: CAH
DESIGNED: DPS	DATE: 3/31/2022
SCALE:	SHEET: 41 OF 53

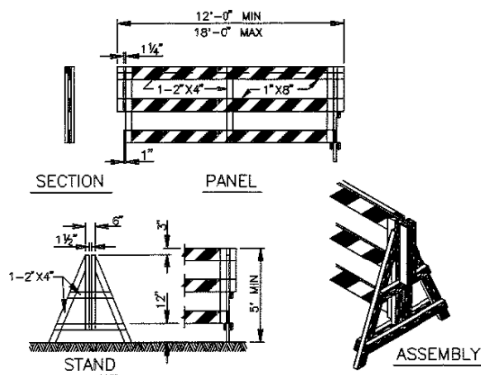
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TYPE III BARRICADE FOR END OF ROAD

FOR TYPE III BARRICADE FOR END OF ROAD, THE THREE (3) RAILS SHALL BE REFLECTIVE RED AND REFLECTIVE WHITE STRIPES ON SIDE FACING TRAFFIC



DEMOUNTABLE TYPE III BARRICADE

BARRICADE NOTES

THE MOST RECENT EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND ITS REVISIONS, SHALL GOVERN THE CONSTRUCTION AND USE OF ALL ITEMS HEREIN DESCRIBED.

CHANNELIZATION DEVICES OTHER THAN BARRICADES SHOULD NORMALLY BE USED FOR CHANNELIZATION PURPOSES.

BARRICADES SHOULD NORMALLY BE PLACED PERPENDICULAR TO THE TRAFFIC FLOW. OTHER CHANNELIZING DEVICES, SUCH AS DRUMS, VERTICAL PANELS OR PORTABLE BARRIERS, SHOULD BE USED WHERE NEEDED TO SEPARATE TRAFFIC FROM THE WORK AREA. IN ALL CASES, THE BARRICADES SHOULD BE SO LOCATED AS TO MOST ADVANTAGEOUSLY WARN AND DIRECT TRAFFIC.

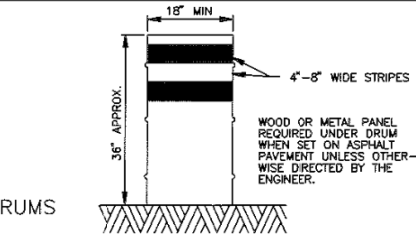
BARRICADES MAY BE DESIGNED AND CONSTRUCTED FROM WOOD OR ANY OTHER SUITABLE MATERIAL IN A MANNER APPROVED BY THE DEPARTMENT OF TRAFFIC AND TRANSPORTATION. THE CONSTRUCTION DETAILS SHOWN HEREON ARE TYPICAL AND ARE SUGGESTED DETAILS FOR WOOD SUPPORT SYSTEMS FOR BARRICADES. THE DETAILS OF RAIL WIDTH AND STRIPING, NUMBER AND SPACING OF RAILS, MINIMUM LENGTH AND HEIGHT (ABOVE PAVEMENT) OF RAILS MUST BE ADHERED TO WHEN ALTERNATE DESIGNS ARE USED.

BARRICADES ARE TO BE CONSTRUCTED OF CLEAN SOUND MATERIAL ALL SURFACES ABOVE GROUND WHICH ARE NOT STRIPED, SHALL BE WHITE EXCEPT THE UNPAINTED GALVANIZED METAL OR ALUMINUM COMPONENTS MAY BE USED. COMPONENTS MADE OF LUMBER SHALL BE PAINTED WITH A MINIMUM OF TWO COATS OF AN APPROVED BRAND OF WHITE PAINT TO SECURE THOROUGH COVERAGE AND A UNIFORM WHITE COLOR.

THE REFLECTORIZED WHITE AND REFLECTORIZED ORANGE (REFLECTORIZED RED) STRIPES FOR BARRICADES, DRUMS AND VERTICAL PANELS SHALL BE CONSTRUCTED OF HIGH INTENSITY SHEETING AND SHALL BE MAINTAINED TO MEET THE APPEARANCE, COLOR AND REFLECTIVITY REQUIREMENTS SET BY DOT.

THE CONTRACTOR SHALL MAINTAIN EACH BARRICADE IN A CLEAN AND GOOD CONDITION.

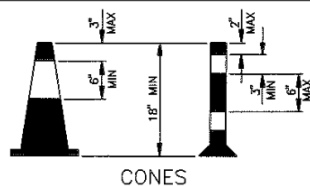
BARRICADES SHALL BE REMOVED UPON COMPLETION OF THE WORK AND/OR THE ELIMINATION OF THE HAZARD ON ANY SECTION.



DRUMS

DRUMS, SET ON END, AND USED FOR TRAFFIC WARNING OR CHANNELIZATION SHALL BE APPROX 36" IN HEIGHT AND A MIN OF 18" IN DIAMETER. THE CONTRACTOR, AT HIS OPTION, MAY USE DRUMS MADE FROM STEEL BARRELS OR BLACK POLYETHYLENE PLASTIC DRUM LINERS WEIGHING APPROX EIGHT POUNDS EACH. THE MARKINGS ON DRUMS SHALL BE HORIZONTAL, CIRCUMFERENTIAL, REFLECTORIZED ORANGE AND REFLECTORIZED WHITE STRIPES, 4 TO 8 INCHES WIDE. THE FIRST REFLECTORIZED STRIPE SHOULD START WITHIN TWO (2) INCHES OF THE TOP OF THE DRUM. THERE SHALL BE AT LEAST TWO ORANGE AND TWO WHITE STRIPES ON EACH DRUM. IF THERE ARE NON-REFLECTORIZED SPACES BETWEEN THE HORIZONTAL ORANGE AND WHITE STRIPES, THEY SHALL BE NO MORE THAN 2 INCHES WIDE. METAL DRUMS SHALL BE PAINTED BLACK OR ORANGE BEFORE REFLECTORIZED STRIPES ARE ADDED. ALL DRUMS ON PROJECT WILL BE THE SAME COLOR. WHEN DRUMS ARE PLACED IN THE ROADWAY, APPROPRIATE WARNING SIGNS SHOULD BE USED. DURING HOURS OF DARKNESS, A FLASHING WARNING LIGHT SHOULD BE PLACED ON DRUMS USED SINGLY AS A WARNING DEVICE. STEADY BURN ELECTRIC LIGHTS OR DELINEATORS SHOULD BE PLACED ON DRUMS USED IN SERIES FOR TRAFFIC CHANNELIZATION. DRUMS SHALL BE WEIGHED WITH SAND TO THE EXTENT INDICATED IN THE PLANS.

CW1-8 CHEVRON SIGNS, CW1-6A ARROW SIGNS OR VP-1 VERTICAL PANELS MOUNTED ABOVE DRUMS MAY BE USED AS SUPPLEMENTS TO DRUM DELINEATION.

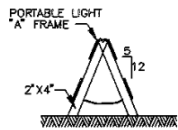


CONES

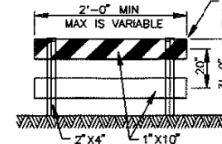
TRAFFIC CONES AND TUBULAR MARKERS SHALL BE A MIN OF 18" INCHES IN HEIGHT WITH A BROADENED BASE AND MAY BE MADE OF VARIOUS MATERIALS TO WITHSTAND IMPACT WITHOUT DAMAGE TO THEMSELVES OR TO VEHICLES. LARGER SIZES SHOULD BE USED ON FREEWAYS AND OTHER ROADWAYS WHERE SPEED ARE RELATIVELY HIGH OR WHERE EVER MORE CONSPICUOUS GUIDANCE IS NEEDED. ORANGE SHALL BE THE PREDOMINANT COLOR ON CONES AND TUBULAR MARKERS. THEY SHOULD BE KEPT CLEAN AND BRIGHT FOR MAX TARGET VALUE. FOR NIGHTTIME USE THEY SHALL BE REFLECTORIZED OR EQUIPPED WITH LIGHTING DEVICES FOR MAX VISIBILITY. REFLECTORIZED MATERIAL SHALL HAVE A SMOOTH, SEALED OUTER SURFACE WHICH WILL DISPLAY THE SAME APPROX COLOR DAY AND NIGHT.

REFLECTORIZATION OF TUBULAR MARKERS SHALL BE A MIN OF TWO THREE-INCH BANDS PLACED A MAX OF 2" FROM THE TOP WITH A MAX OF 6" BETWEEN THE BANDS. REFLECTORIZATION OF CONES SHALL BE PROVIDED BY A MIN 6" BAND PLACED A MAX OF 3" FROM THE TOP.

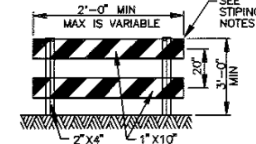
CONES OR TUBULAR MARKERS ARE GENERALLY ONLY SUITABLE FOR TEMPORARY USAGE (UP TO 8 HOURS) WITH OTHER CHANNELIZATION DEVICES SUCH AS VERTICAL PANELS OR BARRICADES. PREFERRED FOR LONGER TERM USAGE. CARE SHOULD BE TAKEN TO INSURE THAT THEY REMAIN IN THEIR PROPER LOCATION AND IN AN UPRIGHT POSITION.



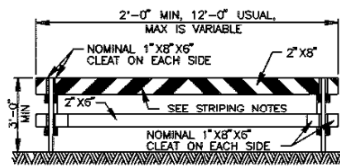
"A" FRAME



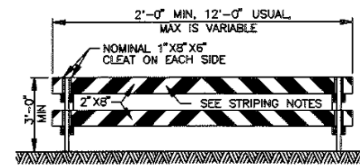
TYPE I



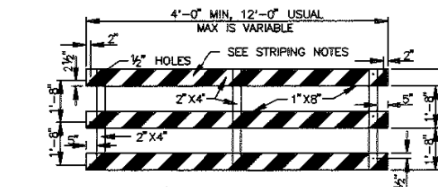
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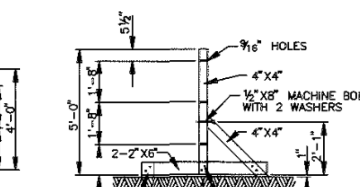
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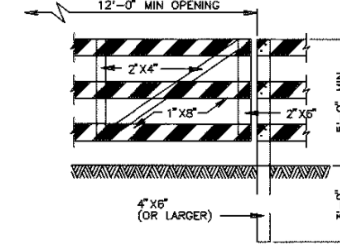
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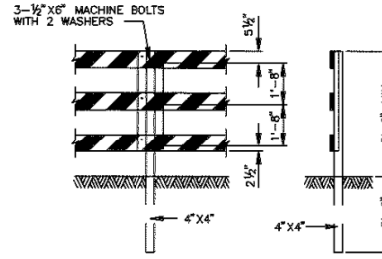
PANEL FOR TYPE III BARRICADE



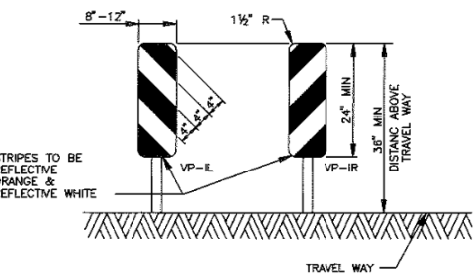
STAND FOR TYPE III BARRICADE



GATE FOR TYPE III BARRICADE

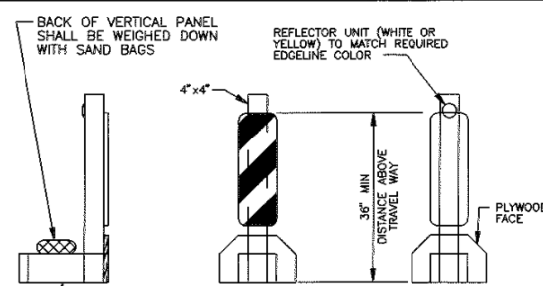


POST FOR TYPE III BARRICADE



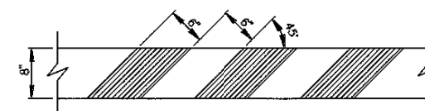
VERTICAL PANELS (VP)

VERTICAL PANELS ARE NORMALLY USED AS CHANNELIZING DEVICES TO INDICATE TANGENT OR NEARLY TANGENT ROADWAY ALIGNMENT WHERE GOOD TARGET VALUE OF A DEVICE IS NEEDED IN DAYTIME AS WELL AS THE NIGHTTIME. IN ADDITION, VERTICAL PANELS SHOULD BE USED AT THE EDGE OF SHOULDER DROP-OFFS AND OTHER SUCH AREAS AS LANE TRANSITIONS WHERE POSITIVE DAY AND NIGHT DELINEATION MAY BE REQUIRED. VERTICAL PANELS SHOULD BE MOUNTED BACK TO BACK IF USED AT THE EDGE OF CUTS ADJACENT TO TWO-WAY TWO LANE ROADWAYS. STRIPES SHOULD ALWAYS SLOPE DOWNWARD TOWARD THE TRAVELED WAY.



TYPICAL PORTABLE VERTICAL PANEL OR DELINEATOR

OTHER SIMILAR SUPPORTS MAY BE USED WHEN APPROVED OR TIME OF THE COH DEPT OF TRAFFIC AND TRANSPORTATION



STRIPING FOR BARRICADE

FOR ALL TYPES OF BARRICADES WITH RAILS LESS THAN 3'-0" LONG, STRIPES 4" WIDE SHALL BE USED. IDENTIFICATION MARKINGS MAY BE SHOWN ONLY ON BACK SIDE OF BARRICADE RAILS.

STRIPING SHOULD COVER THE FULL WIDTH OF THE RAIL. STRIPING OF RAILS, PANELS, ETC. SHOULD SLOPE DOWNWARD AT AN ANGLE OF 45° DEGREES IN DIRECTIONS TRAFFIC IS TO PASS.

WHERE A BARRICADE EXTENDS ENTIRELY ACROSS A ROADWAY, IT IS DESIRABLE THAT THE STRIPES SLOPE DOWNWARD IN THE DIRECTION TOWARD WHICH TRAFFIC MUST TURN IN DETOURING. WHEN BOTH RIGHT AND LEFT TURNS ARE PROVIDED FOR, THE CHEVRON STRIPING MAY SLOPE DOWNWARD IN BOTH DIRECTIONS FROM THE CENTER OF THE BARRICADE.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION

BARRICADE STANDARD
(NOT TO SCALE)

APPROVED BY: *[Signature]*
CITY ENGINEER

APPROVED BY: *[Signature]*
DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: OCT-01-2002 DWG NO: 01580-01

REFERENCE BENCHMARK:
RM050425 - BRASS DISK STAMPED "050425" LOCATED AT THE NORTHEAST CORNER OF THE BRIDGE ON RIO GRANDE OVER E127-00-00 ±60' SOUTH OF VILLAGE DRIVE IN KEY MAP 409L IN THE WHITE OAK BAYOU WATERSHED. ELEVATION = 104.75' (NAVD 88, 2001 ADJ.)

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CITY OF JERSEY VILLAGE
TEXAS STAR COMMUNITY

16327 LAKEVIEW DR.
JERSEY VILLAGE, TX 77040

STATE OF TEXAS
REGISTERED ENGINEER
DANIEL P. SIMONE
58194
4/1/2022

AGUIRRE & FIELDS
ENGINEERING INNOVATORS
TPE FIRM REGISTRATION # 739

SEATTLE STREET RECONSTRUCTION PROJECT

TRAFFIC CONTROL DETAILS

SHEET 6 OF 6





NO.	DATE	REVISIONS	BY

DRAWN BY: TJR APPROVED BY: CAH
DESIGNED: DPS DATE: 3/31/2022
SCALE: SHEET: 42 OF 53

3/31/2022

... \COH BARRICADE DETAIL.dgn

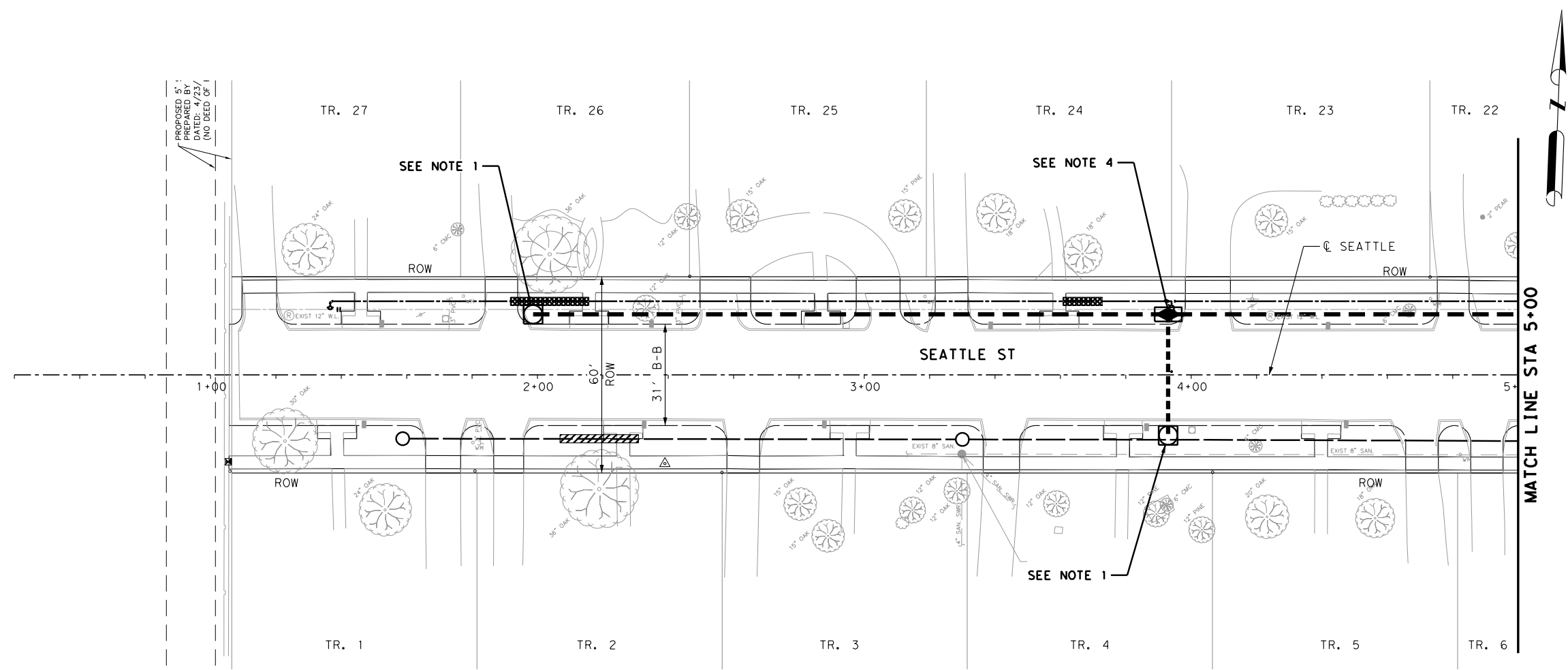
LEGEND:

-  PROP 2-INCH UNDERGROUND CONDUIT SCH 40
-  PROP 2-INCH UNDERGROUND CONDUIT SCH 80
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-  PROP LUMINAIRE FURNISHED AND INSTALLED BY CENTERPOINT

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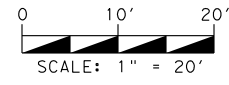
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3/31/2022

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 CIVIL
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SEATTLE STREET RECONSTRUCTION PROJECT

ILLUMINATION LAYOUT BEGIN TO STA 5+00

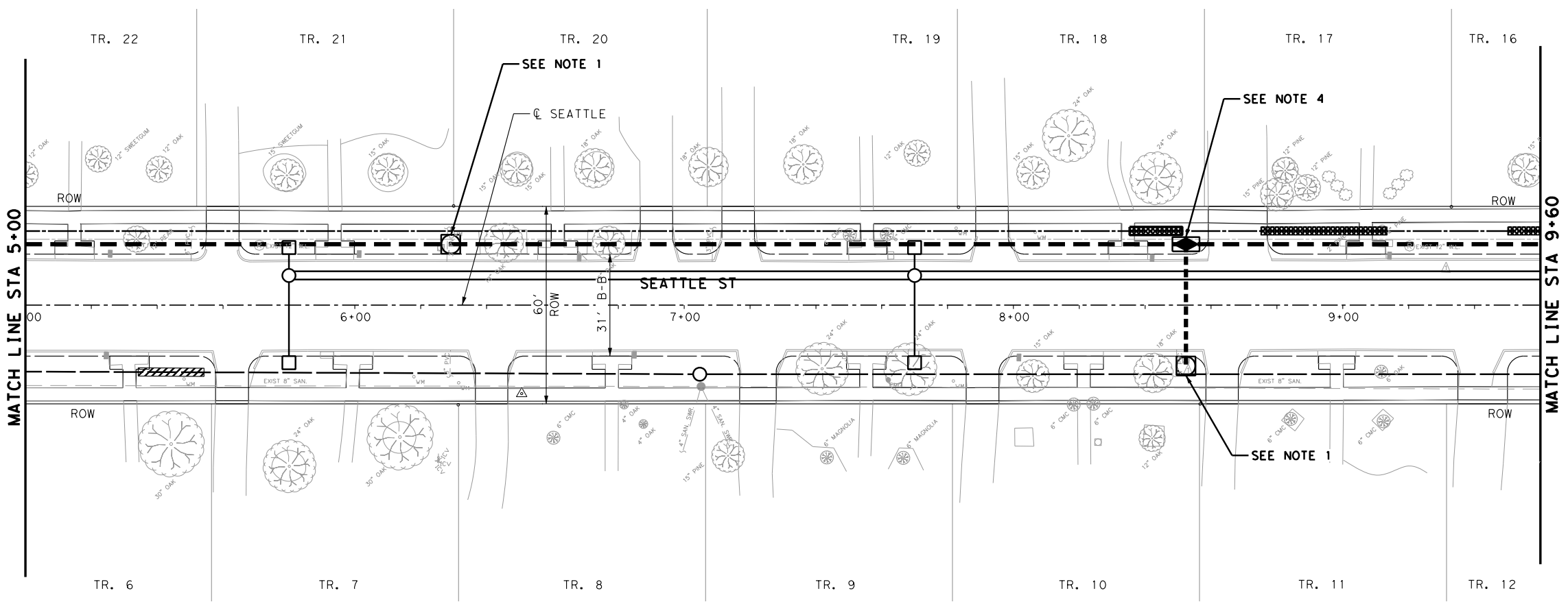
SHEET 1 OF 5

NO.	DATE	REVISIONS	BY

DRAWN BY: TJR	APPROVED BY: CAH
DESIGNED: DPS	DATE: 3/31/2022
SCALE:	SHEET: 43 OF 53

3/31/2022

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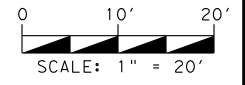


- LEGEND:**
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 JERSEY VILLAGE, TX 77040**

DANIEL P. SIMONE
 58194
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 4/1/2022

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**SEATTLE STREET
 RECONSTRUCTION PROJECT**





**ILLUMINATION LAYOUT
 STA 5+00 TO STA 9+60**

SHEET 2 OF 5

NO.	DATE	REVISIONS	BY

DRAWN BY: TJR	APPROVED BY: CAH
DESIGNED: DPS	DATE: 3/31/2022
SCALE:	SHEET: 44 OF 53

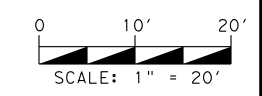
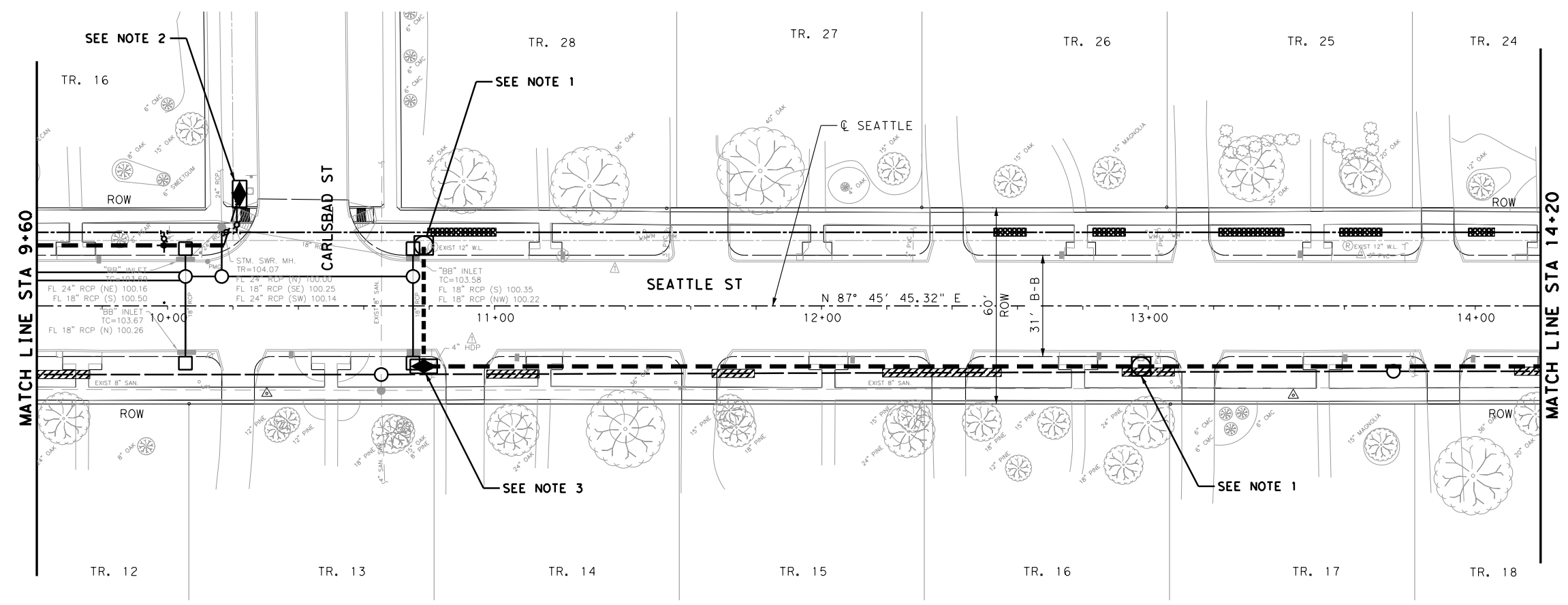
LEGEND:

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SEATTLE STREET RECONSTRUCTION PROJECT

ILLUMINATION LAYOUT
 STA 9+60 TO STA 14+60

SHEET 3 OF 5





NO.	DATE	REVISIONS	BY

DRAWN BY: TJR	APPROVED BY: CAH
DESIGNED: DPS	DATE: 3/31/2022
SCALE:	SHEET: 45 OF 53

3/31/2022

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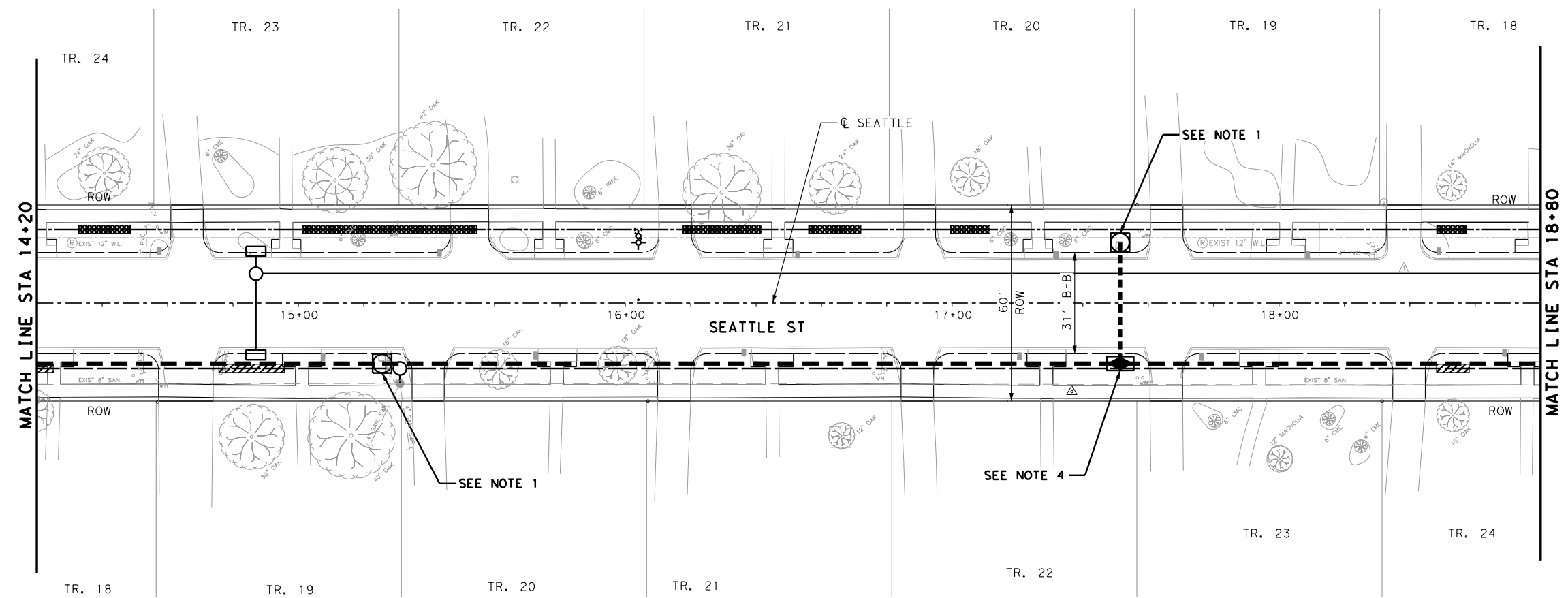
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JERSEY VILLAGE, TX 77040


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 STATE OF TEXAS
 4/1/2022


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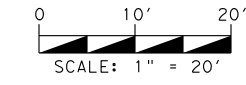
SEATTLE STREET RECONSTRUCTION PROJECT

**ILLUMINATION LAYOUT
 STA 14+20 TO STA 18+80**

SHEET 4 OF 5

NO.	DATE	REVISIONS	BY

DRAWN BY: TJR	APPROVED BY: CAH
DESIGNED: DPS	DATE: 3/31/2022
SCALE:	SHEET: 46 OF 53



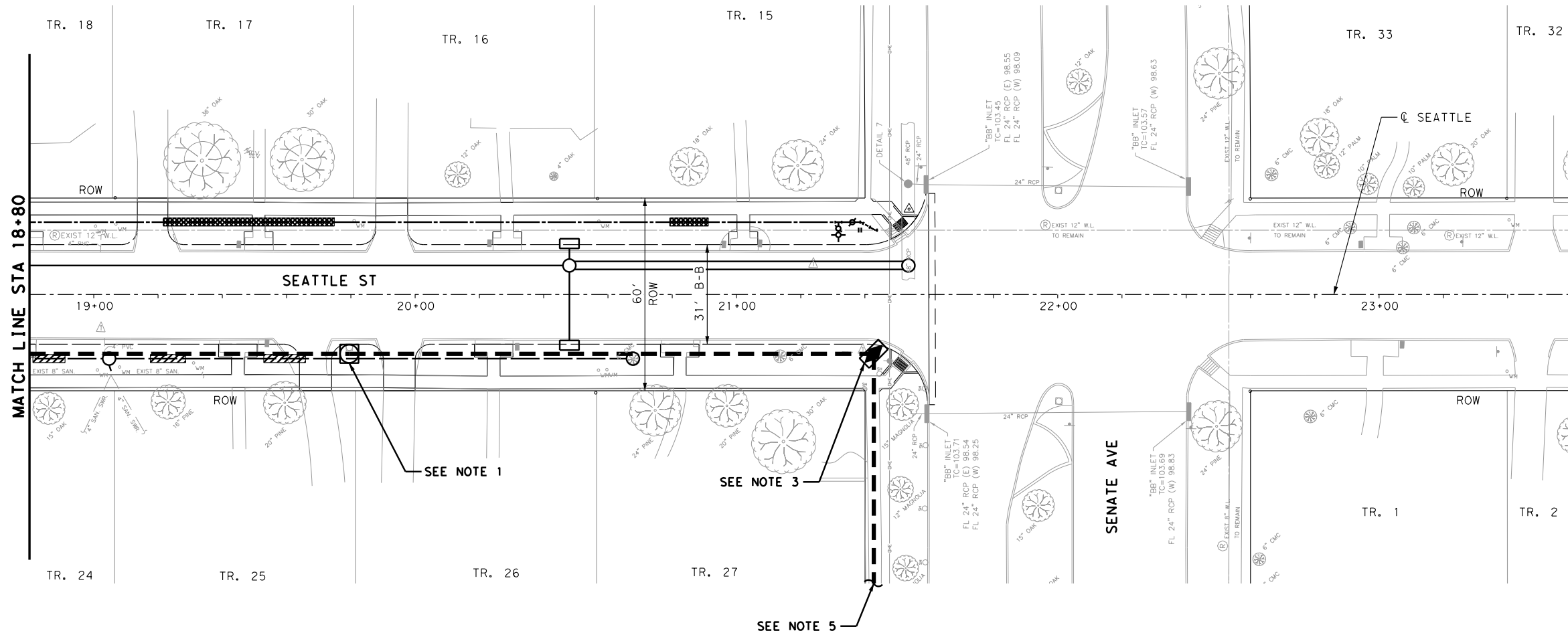
UTILITY ONE CALL

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3/31/2022

...NIO-ILLUMINATIONAF_TRF_ILL-05



MATCH LINE STA 18+80

SEATTLE ST

SENATE AVE

SEATTLE

TR. 24

TR. 25

TR. 26

TR. 27

TR. 18

TR. 17

TR. 16

TR. 15

TR. 33

TR. 32

TR. 1

TR. 2

19+00

20+00

21+00





22+00

23+00

SEE NOTE 1

SEE NOTE 3

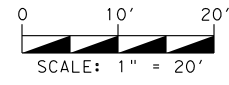
SEE NOTE 5

- LEGEND:
-  PROP 2-INCH UNDERGROUND CONDUIT SCH 40
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DANIEL P. SIMONE
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 4/1/2022

SEATTLE STREET RECONSTRUCTION PROJECT

ILLUMINATION LAYOUT STA 18+80 TO END

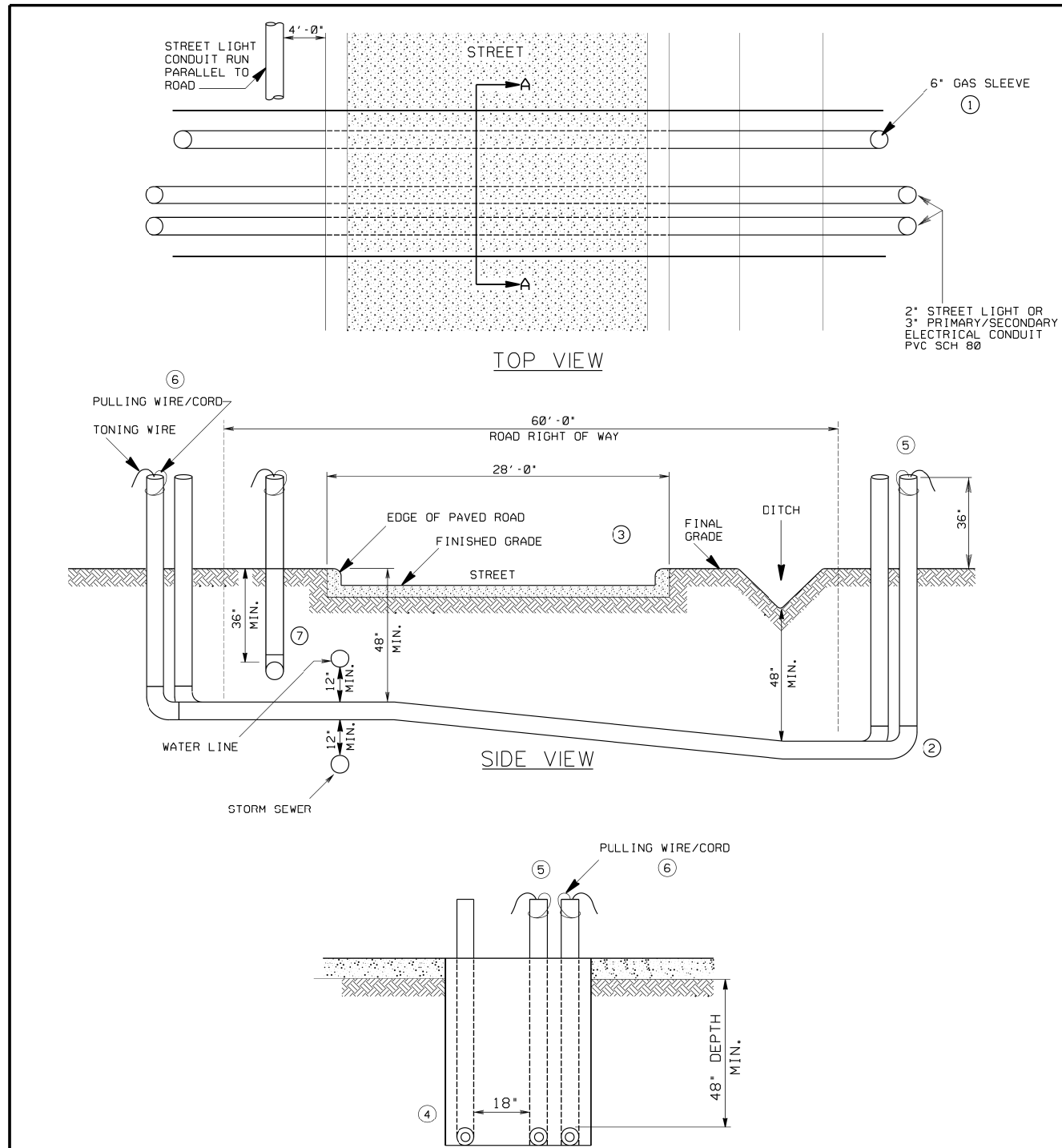
SHEET 5 OF 5

NO.	DATE	REVISIONS	BY

DRAWN BY: TJR	APPROVED BY: CAH
DESIGNED: DPS	DATE: 3/31/2022
SCALE:	SHEET: 47 OF 53

3/31/2022

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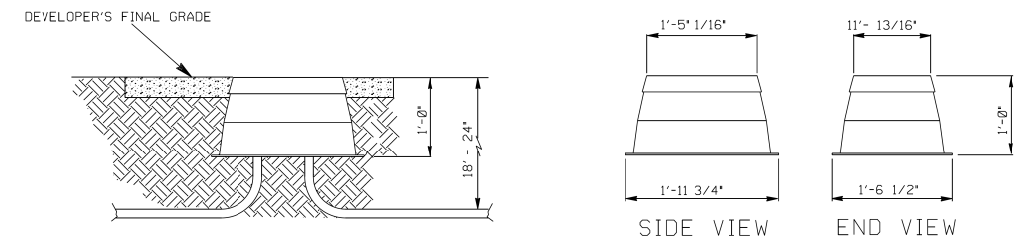
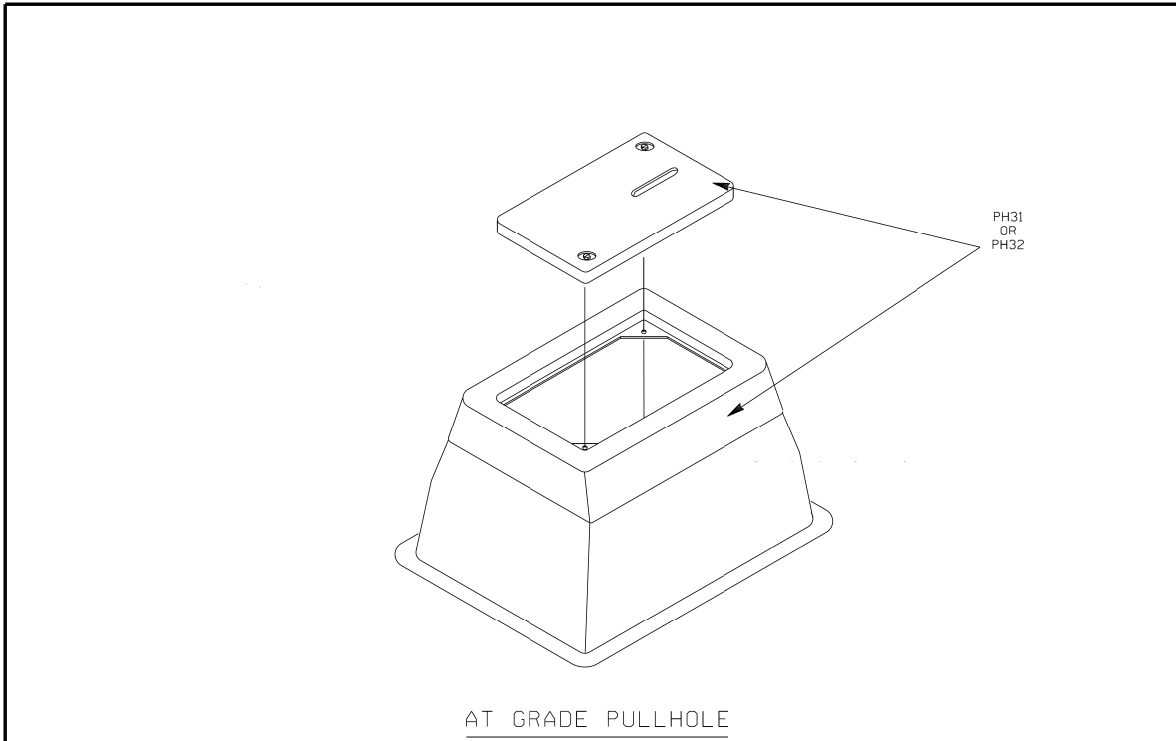


- ① ROAD CROSSING FOR A GAS 2 INCH PIPE WILL REQUIRE A 6 INCH SCHEDULE 80 SLEEVE.
- ② THE ENDS OF THE CONDUITS WILL HAVE 90 DEGREE ELBOWS INSTALLED VERTICAL. A PIECE OF CONDUIT WILL EXTEND 3 FEET ABOVE GROUND AS AN END MARKER. PIPES SHALL BE MARKED EL FOR ELECTRIC, GA FOR GAS, CO FOR COMMUNICATIONS.
- ③ TRENCH AND BACKFILL ACROSS STREET TO BE COMPLETED BEFORE PAVING IS INSTALLED.
- ④ GAS PIPE TO BE 18" RADIAL CLEARANCE FROM ELECTRICAL CABLE.
- ⑤ PLUGS SHALL BE INSTALLED ON ALL CONDUIT TERMINATION POINTS TO PREVENT BLOCKAGE, UNTIL THE CABLE IS INSTALLED.
- ⑥ THE PULLING WIRE/CORD AND TONING WIRE SHALL BE ATTACHED AND VIEWABLE OUTSIDE THE END OF THE CONDUIT RUN.
- ⑦ BRAZORIA COUNTY REQUIRES A 48" DEPTH FOR ALL UTILITIES.

5	10-25-07	ADD CLEARANCE TO OTHER UTILITIES AND BELOW DITCH.	KTN	JCD	MG
4	7-17-07	REVISED DRAWING, ALSO ADDED NOTE 5 & 6	KTN	JCD	LHH
DRAWN		11-18-01	L R MCCOY		
CHECKED		11-19-01	LEO H HAAS		
GAS APPROVED		11-19-01	CHARLES DOLEZEL		
APPROVED		11-19-01	LEO H HAAS		
SECTION		2			
SUB-SECTION		PH31			
SHEET		2			
DRAWING NUMBER		00423716			

DISTRIBUTION STANDARD
31-740

DEVELOPER / CONTRACTOR
INSTALLED CONDUIT IN
COUNTY RIGHT OF WAYS
CenterPoint Energy
HOUSTON, TEXAS



- ① GRADE AT TIME OF INSTALLATION SHALL BE CONSIDERED DEVELOPER'S FINAL GRADE.
- ② WHEN INSTALLING PULLHOLES IN INCIDENTAL TRAFFIC LOADING AREA, DEVELOPER'S FINAL GRADE REFERS TO THE SURFACE OF THE PAVEMENT.

DISTRIBUTION STANDARD
PH31/2

STREET LIGHTING PULLHOLE			
CenterPoint Energy			
HOUSTON, TEXAS			
DRAWN	09-01-04	P.G. WILLIAMS	SECTION MS
CHECKED	09-02-04	JAMES C. DAVIS	SUB-SECTION PH31
APPROVED	09-13-04	LEO H. HAAS	SHEET 2 OF 4 SHEETS
DRAWING NUMBER		004 238 63	

REFERENCE BENCHMARK:
RM050425 - BRASS DISK STAMPED "050425" LOCATED AT THE NORTHEAST CORNER OF THE BRIDGE ON RIO GRANDE OVER E127-00-00 ±60' SOUTH OF VILLAGE DRIVE IN KEY MAP 409L IN THE WHITE OAK BAYOU WATERSHED. ELEVATION = 104.75' (NAVD 88, 2001 ADJ.)

TEMPORARY BENCHMARKS:
TBM "A" - BOX CUT ON "BB" INLET LOCATED AT THE NORTHWEST CORNER OF SEATTLE STREET AND SENATE AVENUE. ELEVATION = 103.44'
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CITY OF JERSEY VILLAGE
TEXAS STAR COMMUNITY

16327 LAKEVIEW DR.
JERSEY VILLAGE, TX 77040

STATE OF TEXAS
DANIEL P. SIMEONE
58194
REGISTERED PROFESSIONAL ENGINEER
4/1/2022

AGUIRRE & FIELDS
ENGINEERING INNOVATORS
TYPE F FIRM REGISTRATION # 739

SEATTLE STREET
RECONSTRUCTION PROJECT

ILLUMINATION DETAILS

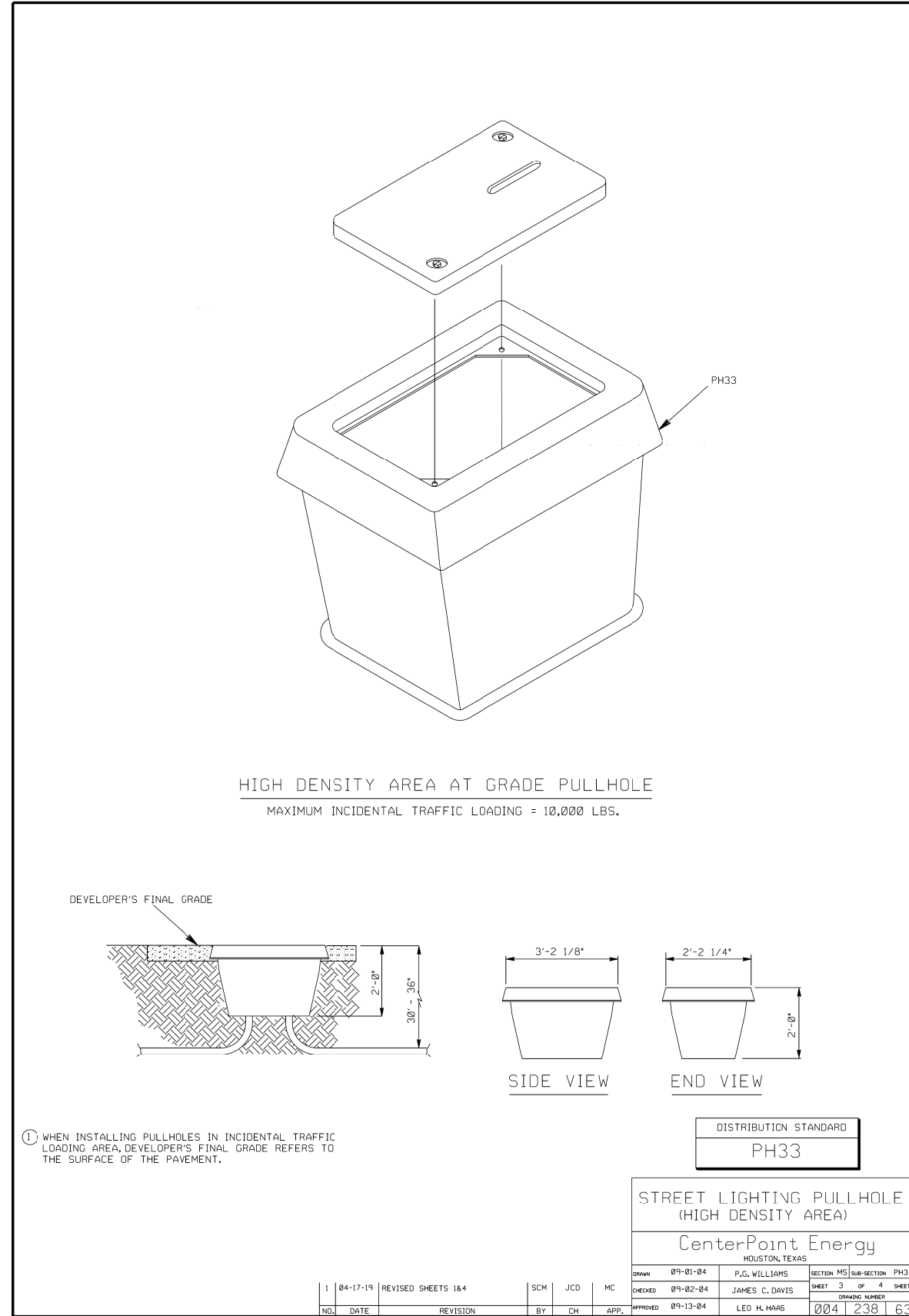
SHEET 1 OF 2

NO.	DATE	REVISIONS	BY

DRAWN BY: TJR APPROVED BY: CAH
DESIGNED: DPS DATE: 3/31/2022
SCALE: SHEET: 48 OF 53

3/31/2022

...STANDARDS\AF_ILL_DET_02.dgn



PU: PH3XX: STREET LIGHTING PULLHOLE FOR STANDARDS PH3
STREET LIGHT PULLHOLE-XX: STREET LIGHTING PULLHOLE, VARIABLE
PH31: STREET LIGHT, PULL HOLE, GRASSY AREA
PH32: STREET LIGHT, PULL HOLE, INCIDENTAL TRAFFIC AREA
PH33: STREET LIGHT, PULL HOLE, HIGH DENSITY AREA

PH3XX	SU NAME		
	PH31	PH32	PH33
CU NAME	CU QTY		
ACCOUNT - 373			
PH31	1	-	-
PH32	-	1	-
PH33	-	-	1
ACCOUNT - 367			
ANT-POISON	1	1	1

SU NAME	CU NAME	PART #	PART DESCRIPTION	PART QTY
PH31	PH31	107895	PEDESTAL, LIGHT, STREET	1
	ANT-POISON	134649	INSECTICIDE, 5% DURSBAN, GRANUL	1
PH32	PH32	107900	PULL HOLE, SL, 11"W X 18"L X 12"D, 20K LID	1
	ANT-POISON	134649	INSECTICIDE, 5% DURSBAN, GRANUL	1
PH33	PH33	107946	PULL HOLE, SL, 4"W X 36"L X 4"D, 20K LID	1
	ANT-POISON	134649	INSECTICIDE, 5% DURSBAN, GRANUL	1

DISTRIBUTION STANDARD
PH3XX


STREET LIGHTING PULLHOLES
CenterPoint Energy
HOUSTON, TX

NO.	DATE	REVISION	BY	CH	APP.	APPROVED	DRAWING NUMBER
1	04-17-19	UPDATED TO CDS LAYOUT	SCM	JCD	MC		


NO.	DATE	REVISIONS	BY

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16327 LAKEVIEW DR.
JERSEY VILLAGE, TX 77040



4/1/2022



AGUIRRE & FIELDS
ENGINEERING INNOVATORS
TYPE F FIRM REGISTRATION # 739

SEATTLE STREET RECONSTRUCTION PROJECT

ILLUMINATION DETAILS

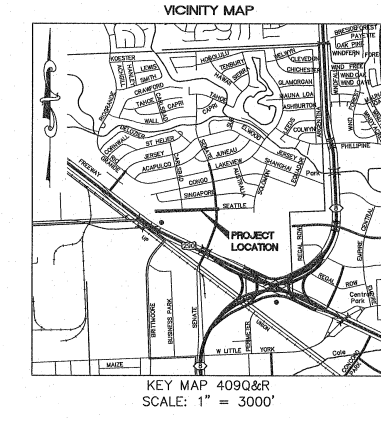
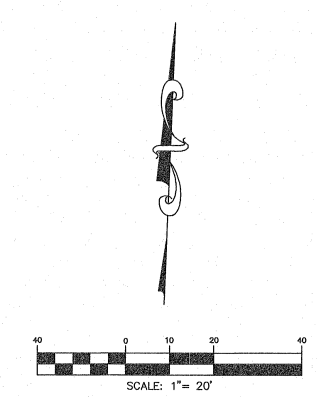
SHEET X OF X

DRAWN BY: TJR	APPROVED BY: CAH
DESIGNED: DPS	DATE: 3/31/2022
SCALE:	SHEET: 48 OF 88

08 Oct 2021 12:14PM darrenb
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 Includes Xref(s)

- LEGEND**
- "B" INLET
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 - ⊕ BENCHMARK
 - ⊕ CLEANOUT
 - ⊕ FIRE HYDRANT
 - ⊕ GAS VALVE
 - ⊕ IRRIGATION CONTROL VALVE
 - ⊕ LIGHT STANDARD
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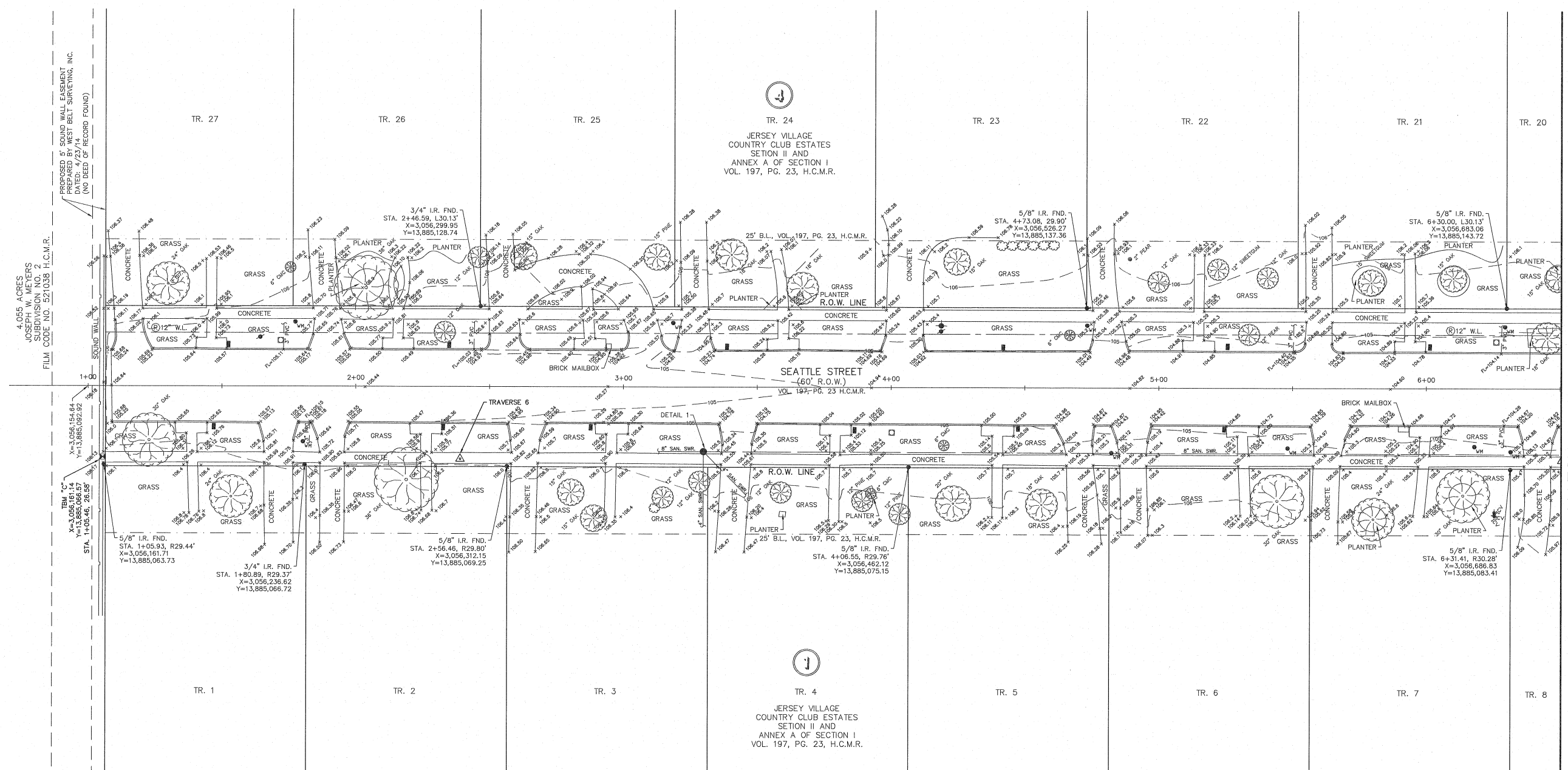
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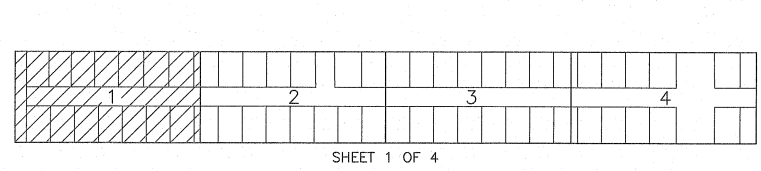
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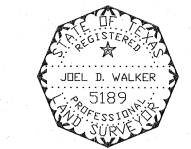
MATCH LINE SHEET # 2



POINT TABLE					
POINT	NORTHING (SURFACE)	EASTING (SURFACE)	STATION	ELEV.	DESCRIPTION
1	13885199.6298	3058205.7550	21+53.72, L26.55	103.65	5/8" I.R. SET W/ RED CAP "WEST BELT TRAVERSE"
2	13885129.7403	3057791.0543	17+36.60, R27.09	104.84	CUT "X" IN CONCRETE SET
3	13885114.1917	3057399.1134	13+44.35, R27.33	104.50	CUT "X" IN CONCRETE SET
4	13885102.4805	3057085.3182	10+30.34, R26.78	104.15	CUT "X" IN CONCRETE SET
5	13885087.5386	3056705.9398	6+50.67, R26.90	105.22	CUT "X" IN CONCRETE SET
6	13885071.2498	3056294.5918	2+39.00, R27.12	105.81	CUT "X" IN CONCRETE SET

UNDERGROUND SEWER DETAILS

DETAIL 1
 SAN. SWR. MH.
 TR=105.60
 FL 8" SAN. SWR. (E) 100.10
 FL 4" SAN. SWR. (SE) 101.34
 FL 4" SAN. SWR. (SW) 100.32
 FL 8" SAN. SWR. (W) 100.17



TO: CITY OF JERSEY VILLAGE

THIS SURVEY SUBSTANTIALLY COMPLIES WITH THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS STANDARDS AND SPECIFICATIONS FOR A CATEGORY 6, CONDITION II SURVEY AND THE CURRENT MINIMUM REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYING ACT.

10/8/21
 DATE

JOEL D. WALKER, R.P.L.S.
 TEXAS REGISTRATION NO. 5189

CITY OF
 JERSEY VILLAGE

TOPOGRAPHIC SURVEY

SHEET 1 OF 4

SEATTLE STREET
 OUT OF THE
 JOHN DEMENT SURVEY
 ABSTRACT NO. 228
 CITY OF JERSEY VILLAGE
 HARRIS COUNTY, TEXAS

WEST BELT SURVEYING, INC.

21020 PARK ROW
 KATY, TX. 77449
 PHONE: (817) 599-8288
 FAX: (817) 492-0026
 CERTIFIED FIRM NO. 10073800

NO.	DATE	REVISIONS	BY

10/8/21 ADDRESSED COMMENTS

DRAWN BY: MDL
 CHECKED BY: KMH

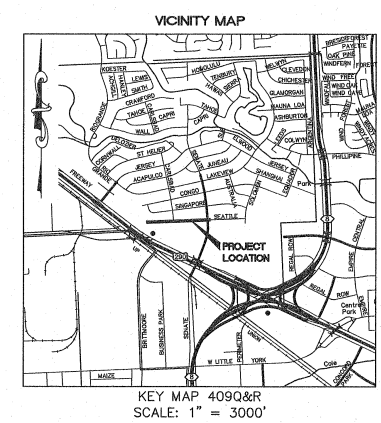
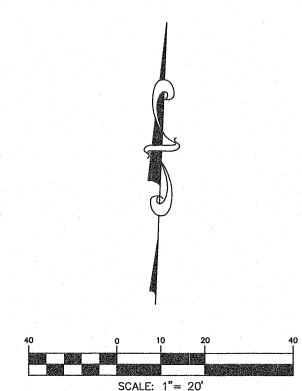
SCALE: 1"=20'
 APPROVED BY: JDW

PROJECT NO. 5537-0020A
 DATE: MARCH 4, 2021

SHEET: 50 OF 53

- LEGEND**
- "B" INLET
 - "BB" INLET
 - BENCHMARK
 - ⊙ CLEANOUT
 - ⊙ FIRE HYDRANT
 - ⊙ GAS VALVE
 - ⊙ IRRIGATION CONTROL VALVE
 - LIGHT STANDARD
 - MAILBOX (POST)
 - MANHOLE
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 - ⊙ POWER POLE
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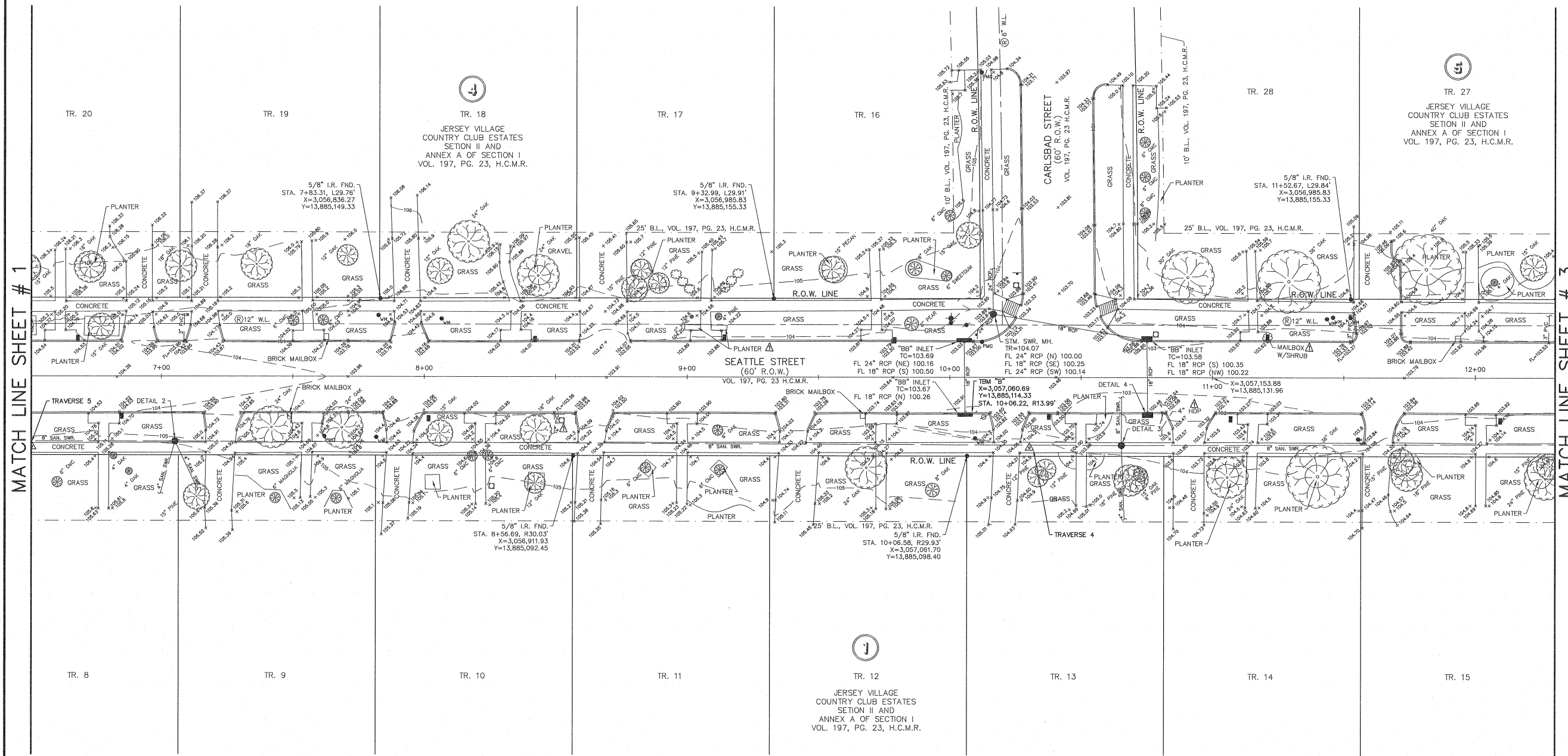
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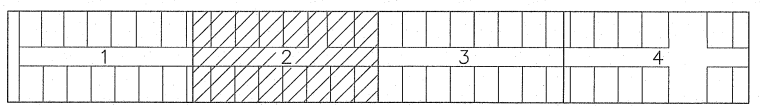
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MATCH LINE SHEET # 1

MATCH LINE SHEET # 3



SHEET 2 OF 4

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6	13885071.2498	3056294.5918	2+39.00, R27.12	105.81	CUT "X" IN CONCRETE SET

UNDERGROUND SEWER DETAILS

DETAIL 2
SAN. SWR. MH.
TR=105.18
FL 8" SAN. SWR. (E) 99.01
FL 4" SAN. SWR. (SE) 99.86
FL 4" SAN. SWR. (SW) 99.32
FL 8" SAN. SWR. (W) 99.03

DETAIL 3
SAN. SWR. MH.
TR=103.85
FL 8" SAN. SWR. (N) 97.60
FL 8" SAN. SWR. (E) 97.64
FL 4" SAN. SWR. (S) 97.79
FL 8" SAN. SWR. (W) 97.68

DETAIL 4
"BB" INLET
TC=103.18
FL 18" RCP (N) 99.94



TO: CITY OF JERSEY VILLAGE

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10/8/21
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Joel D. Walker
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TEXAS REGISTRATION NO. 5189

CITY OF JERSEY VILLAGE

TOPOGRAPHIC SURVEY

SEATTLE STREET
OUT OF THE
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ABSTRACT NO. 228
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HARRIS COUNTY, TEXAS

WEST BELT SURVEYING, INC.

21020 PARK ROW
KATY, TX. 77449
PHONE: 281-590-8288
FAX: 281-492-6026
CERTIFIED FIRM NO. 1007800

NO.	DATE	REVISIONS	BY
1	10/8/21	ADRESSED COMMENTS	DB

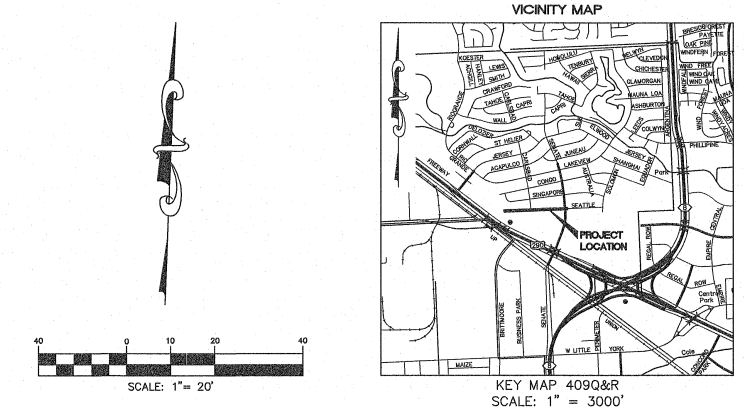
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CHECKED BY: KMH

SCALE: 1"=20'
PROJECT NO. S537-0020A

APPROVED BY: JOW
DATE: MARCH 4, 2021

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 Includes Xref(s):

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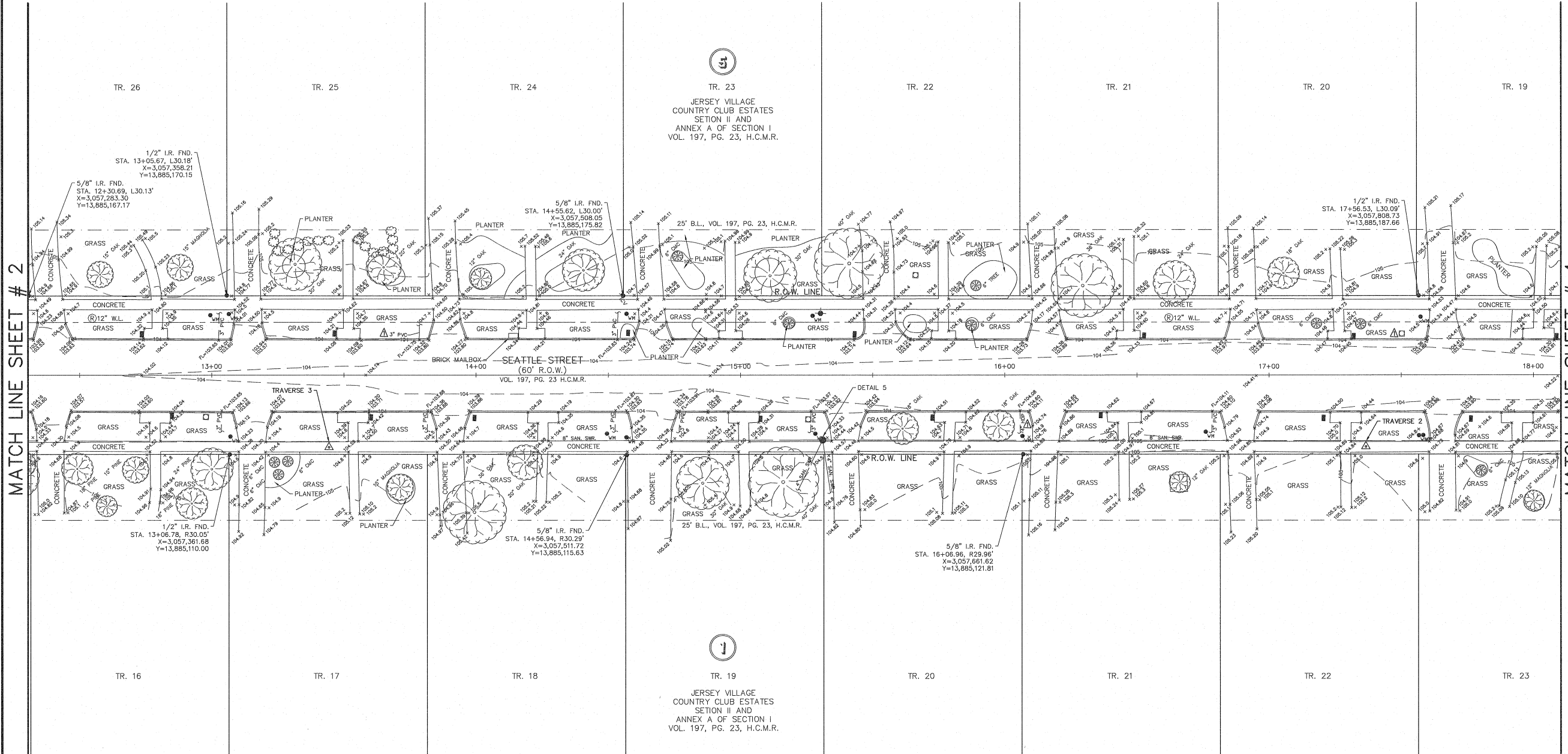
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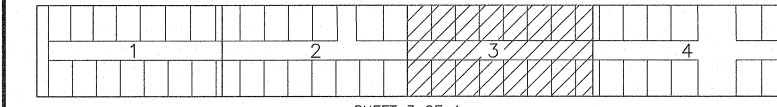
TBM "B" — BOX CUT ON "BB" INLET LOCATED AT THE SOUTHWEST CORNER OF SEATTLE STREET AND CARLSBAD STREET. ELEVATION = 103.68'

TBM "C" — BOX CUT ON THE END OF THE CONCRETE SIDEWALK AT THE SOUND WALL LOCATED ON THE SOUTH SIDE OF SEATTLE STREET. ELEVATION = 106.16'



MATCH LINE SHEET # 2

MATCH LINE SHEET # 4



POINT TABLE					
POINT	NORTHING (SURFACE)	EASTING (SURFACE)	STATION	ELEV.	DESCRIPTION
1	13885199.6298	3058205.7550	21+53.72, L26.55	103.65	5/8" I.R. SET W/ RED CAP "WEST BELT TRAVERSE"
2	13885129.7403	3057791.0543	17+36.60, R27.09	104.84	CUT "X" IN CONCRETE SET
3	13885114.1917	3057399.1134	13+44.35, R27.33	104.50	CUT "X" IN CONCRETE SET
4	13885102.4805	3057085.3182	10+30.34, R26.78	104.15	CUT "X" IN CONCRETE SET
5	13885087.5386	3056705.9398	6+50.67, R26.90	105.22	CUT "X" IN CONCRETE SET
6	13885071.2498	3056294.5918	2+39.00, R27.12	105.81	CUT "X" IN CONCRETE SET

UNDERGROUND SEWER DETAILS

DETAIL 5
 SAN, SWR, MH.
 TR=104.42
 FL 8" SAN, SWR. (E) 98.48
 FL 4" SAN, SWR. (SE) 98.92
 FL 4" SAN, SWR. (SW) 98.87
 FL 8" SAN, SWR. (W) 98.49



TO: CITY OF JERSEY VILLAGE

THIS SURVEY SUBSTANTIALLY COMPLIES WITH THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS STANDARDS AND SPECIFICATIONS FOR A CATEGORY 6, CONDITION II SURVEY AND THE CURRENT MINIMUM REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYING ACT.

10/8/21
 DATE

JOEL D. WALKER, R.P.L.S.
 TEXAS REGISTRATION NO. 5189

CITY OF JERSEY VILLAGE
 TOPOGRAPHIC SURVEY
 SHEET 3 OF 4
 SEATTLE STREET
 OUT OF THE
 JOHN DEMENT SURVEY
 ABSTRACT NO. 228
 CITY OF JERSEY VILLAGE
 HARRIS COUNTY, TEXAS

WEST BELT SURVEYING, INC.

21020 PARK ROW KATY, TX. 77449
 PHONE: (281) 590-8288 FAX: (281) 492-0029
 CERTIFIED FIRM NO. 10073800

NO.	DATE	REVISIONS	BY

10/8/21 ADDRESSED COMMENTS

DRAWN BY: MDL CHECKED BY: KMH
 SCALE: 1"=20' APPROVED BY: JDW
 PROJECT NO. S537-0020A DATE: MARCH 4, 2021

SHEET: 52 OF 53

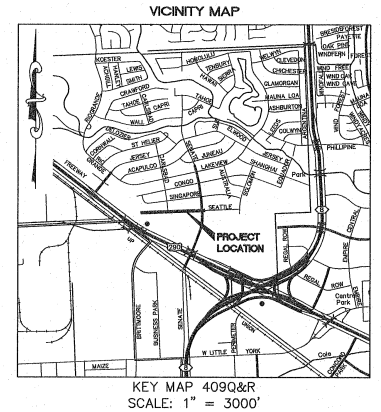
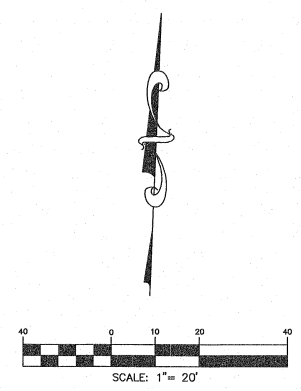
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 Includes Xref(s)

LEGEND

- "B" INLET
- "BB" INLET
- BENCHMARK
- CLEANOUT
- FIRE HYDRANT
- GAS VALVE
- IRRIGATION CONTROL VALVE
- LIGHT STANDARD
- MAILBOX (POST)
- MANHOLE
- PAINT MARKER (GAS)
- POWER POLE
- SHRUB
- SIGN
- SPRINKLER HEAD
- WATER METER
- WATER VALVE

ABBREVIATIONS

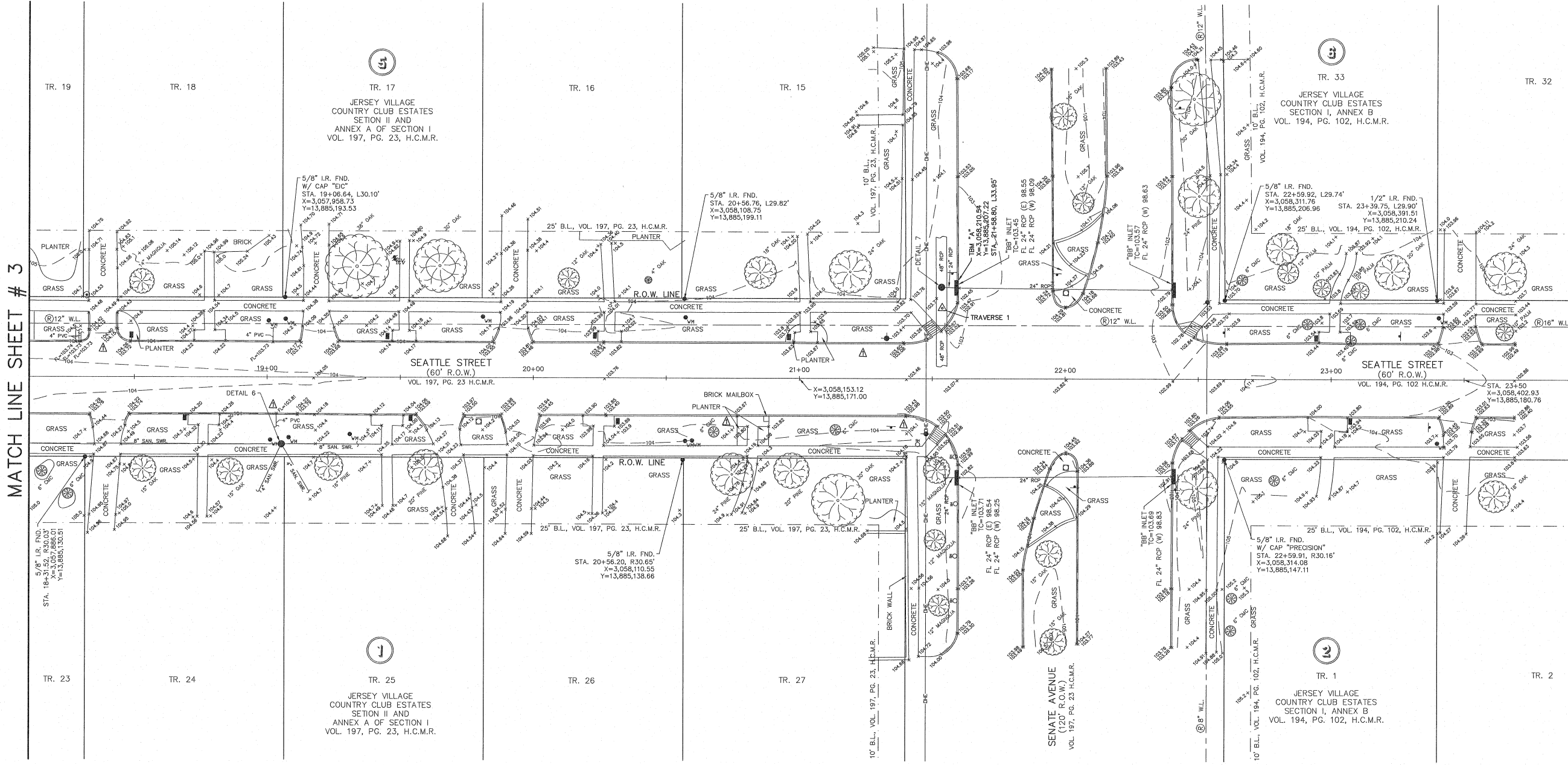
- B.L.—BUILDING LINE
- CMC—CREPE MYRTLE CLUSTER
- FL—FLOW LINE
- FND.—FOUND
- H.C.M.R.—HARRIS COUNTY MAP RECORDS
- I.R.—IRON ROD
- MH—MANHOLE
- OHE—OVERHEAD ELECTRIC
- PG.—PAGE
- PVC—POLYVINYL CHLORIDE PIPE
- RCP—REINFORCED CONCRETE PIPE
- R.O.W.—RIGHT-OF-WAY
- SAN.—SANITARY
- STM.—STORM
- SWR.—SEWER
- TR—TOP OF RIM
- VOL.—VOLUME



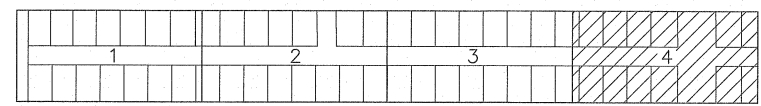
- SURVEYOR'S NOTES:**
- THE BEARINGS SHOWN HEREON ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD 83.
 - THE CAD FILE OF THE DRAWING AND COORDINATES SHOWN HEREIN ARE BASED ON TEXAS SOUTH CENTRAL ZONE NO. 4204, STATE PLANE SURFACE VALUE (NAD83) AND MAY BE CONVERTED TO GRID BY SCALING THE DRAWING BY THE FOLLOWING COMBINED SCALE FACTOR OF 0.999907837880.
 - ACCORDING TO F.I.R.M. MAP NOS. 48201C0440N AND 48201C0445M (COMMUNITY—PANEL NOS. 4803000440N AND 4803000445M), MAP REVISED DATES: NOVEMBER 15, 2019 AND JUNE 9, 2014. THE SUBJECT PROPERTY LIES WITHIN THE AREA DESIGNATED AS ZONE "X" UNSHADED, DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD.
 - THIS STATEMENT IS BASED ON SCALING THE LOCATION OF THE SUBJECT TRACT ON THE ABOVE REFERENCED MAP. THIS INFORMATION IS TO DETERMINE FLOOD INSURANCE RATES ONLY AND IS NOT INTENDED TO IDENTIFY SPECIFIC FLOODING CONDITIONS.
 - ALL UTILITIES SHOWN HEREON ARE LOCATED USING "APPARENT & VISIBLE" EVIDENCE BY ON-SITE OBSERVATION UNLESS OTHERWISE NOTED.
 - Ⓞ INDICATES RECORD UTILITIES PLOTTED FROM MAPS PROVIDED BY BROOKS & SPARKS, INC.
 - S INDICATES AN UNDERGROUND SEWER LINE WITH UNKNOWN DIRECTION, SIZE OR LOCATION OR A POSSIBLE STUB-OUT.

REFERENCE BENCHMARK:
 RM050425 — BRASS DISK STAMPED "050425" LOCATED AT THE NORTHEAST CORNER OF THE BRIDGE ON RIO GRANDE OVER E127-00-00 ±60' SOUTH OF VILLAGE DRIVE IN KEY MAP 409L IN THE WHITE OAK BAYOU WATERSHED. ELEVATION = 104.75' (NAVD 88, 2001 ADJ.)

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MATCH LINE SHEET # 3



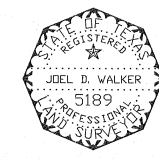
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UNDERGROUND SEWER DETAILS

- DETAIL 6**
 SAN. SWR. MH.
 TR=104.39
 FL 8" SAN. SWR. (E) 99.87
 FL 4" SAN. SWR. (S) 100.28
 FL 4" SAN. SWR. (SW) 100.29
 FL 8" SAN. SWR. (W) 99.91
- DETAIL 7**
 STM. SWR. MH.
 TR=103.46
 FL 48" RCP (N) 96.69
 FL 24" RCP (E) 97.69
 FL 48" RCP (S) 97.50

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