

# APPROVED

Feb 20 2025

## BOARD OF RECREATION AND PARK COMMISSIONERS

**BOARD REPORT**

NO. 25-026

DATE February 20, 2025

C.D. 4

### BOARD OF RECREATION AND PARK COMMISSIONERS

SUBJECT: NORTH OUTFALL SEWER REHABILITATION UNIT 20 & 21 – ZOO DR. RIGHT-OF-WAY TO DORAN ST. (W.O. #SZC13947)(CIP C960) – APPROVAL OF FINAL PLANS; APPROVAL OF A RIGHT OF ENTRY PERMIT ASSOCIATED WITH THE SCOPE OF WORK OF THE SEWER REHABILITATION AT GRIFFITH PARK FERRARO FIELDS – CATEGORICAL EXEMPTION FROM THE PROVISIONS OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) PURSUANT TO ARTICLE 19, SECTION 15301(b) [(REPAIR AND MAINTENANCE OF) EXISTING FACILITIES OF BOTH INVESTOR AND PUBLICLY OWNED UTILITIES USED TO PROVIDE ELECTRIC POWER, NATURAL GAS, SEWERAGE, OR OTHER PUBLIC UTILITY SERVICES] AND SECTION 15302(c) [REPLACEMENT OR RECONSTRUCTION OF EXISTING UTILITY SYSTEMS AND/OR FACILITIES INVOLVING NEGLIGIBLE OR NO EXPANSION OF CAPACITY] OF CALIFORNIA CEQA GUIDELINES AND ARTICLE III, SECTION 1, CLASS 1(2) AND CLASS 2(5) OF CITY CEQA GUIDELINES

B. Aguirre	_____	M. Rudnick	_____
B. Jones	_____	for *C. Santo Domingo	<u>DF</u>
C. Stoneham	_____	N. Williams	_____

General Manager

Approved   X                        Disapproved \_\_\_\_\_                      Withdrawn \_\_\_\_\_

### RECOMMENDATIONS

1. Approve the final plans, substantially in the form on file in the Board of Recreation and Park Commissioners (Board) Office and attached hereto as Attachment No. 1, for the work at Griffith Park Ferraro Fields as a part of the North Outfall Sewer Rehabilitation Unit 20 & 21 – Zoo Dr. Right-of-Way to Doran St. (W.O. #SZC13947)(CIP C960) Project (Project);
2. Determine that the proposed Project is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Article 19, Section 15301(b) [(Repair and maintenance of) existing facilities of both investor and publicly owned utilities used to provide electric power, natural gas, sewerage, or other public utility services] and Section 15302(c) [Replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity] of California CEQA Guidelines and Article III, Section 1, Class 1(2) and Class 2(5) of City CEQA Guidelines;

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3. Request that Bureau of Engineering (BOE) staff file a Notice of Exemption (NOE) with the Los Angeles County Clerk and the California Office of Planning and Research;
4. Authorize the Department of Recreation and Parks (RAP) staff to issue a Right of Entry (ROE) permit to the BOE's selected contractor to complete the work at Griffith Park Ferraro Fields as part of the Project, as more fully described in this Report;
5. Authorize RAP staff to accept the \$144,468 payment from BOE's selected contractor (Contractor) as part of the ROE permit requirements; and
6. Authorize RAP's Chief Accounting Employee or Designee to make technical corrections as necessary to carry out the intent of this Report.

### SUMMARY

The North Outfall Sewer Unit 20 & 21 sewer alignment is located in both the Los Feliz Neighborhood in Council District 4 and the Atwater Village Neighborhood in Council District 13. While the entire Project alignment is located within the public City of Los Angeles right-of-way, approximately 1,140 feet of the North Outfall Sewer runs below Griffith Park Ferraro Fields (Attachment No. 2).

The Project will rehabilitate 6,090 linear feet of the 98-year-old 54-inch North Outfall Sewer and 85-year-old North Outfall Sewer triple-barrel siphon. If left in its current poor condition, the sewer will continue to deteriorate and begin to fail, potentially causing sinkholes and sewage spills. To rehabilitate and restore the structural integrity of the sewer, seven access pits will be excavated at varying depths to slip-line a new pipe in the existing sewer.

Due to the North Outfall Sewer's existing alignment, two of the access pits (Pit #2, Pit #3) fall within the open field areas that is beyond the soccer fields and one maintenance hole is located at the edge of Field Number 4. The open field areas and Field Number 4 are needed for nine months from April 1, 2026 to December 31, 2026 as a work area. The construction for this Project will impact the recurring sporting events held at Field Number 4 and the Contractor will reimburse RAP for the financial impact. RAP staff has determined that this construction work is necessary in order to reduce the chances of sinkholes and sewage spills at Griffith Park Ferraro Fields.

BOE will be conducting all construction management services for the Project. The Contractor's access points, work requirements and restrictions have been included in the Project plans (Attachment No. 1). The Project will protect the existing soccer field fence in place to ensure the public's safety from the construction activities. The Project will also protect all existing landscaping and structures and will fully restore the work areas or any damaged or affected portions to its original pre-construction condition. All other areas of Griffith Park will not be used for any work as part of this Project.

The Project was presented to the Facility Repair and Maintenance Commission Task Force on April 6, 2023. The ROE will be executed with BOE's contractor upon the award of the contract by the Board of Public Works.

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### TREES AND SHADE

The Project will not remove any trees and will protect in place all trees and landscaping. Any proposed tree trimming by the Contractor will be reviewed and approved by RAP staff.

### ENVIRONMENTAL IMPACT

The proposed Project consists of repair and maintenance of existing utilities and replacement and reconstruction of existing utilities

According to the parcel profile report retrieved on April 18, 2023, this area resides in a liquefaction zone. The construction of this Project will not create conditions that could lead to liquefaction. This site is not within a coastal, methane, or historic zone, so there is no reasonable possibility that the proposed Project may impact on an environmental resource of hazardous or critical concern or have a significant effect due to unusual circumstances. No other known projects would involve cumulatively significant impacts, and no future projects would result from the proposed Project. As of April 18, 2023, the State Department of Toxic Substances Control (DTSC) (Envirostor at [www.envirostor.dtsc.ca.gov](http://www.envirostor.dtsc.ca.gov)) and the State Water Resources Control Board (SWCB) (Geotracker at <https://geotracker.waterboards.ca.gov/>) have not listed the Project site. They have listed Envirostor case # 80000865 within 1,000 feet from the project area. The site is a military site that has not yet been investigated. According to the Caltrans Scenic Highway Map, there is no scenic highway located within – or adjacent to -- the Project site. Furthermore, the proposed Project is located within Griffith Park, a City of Los Angeles Historic Cultural Monument (HCM#942). The repairs to existing sewer lines will not cause a substantial adverse change in the significance of this historical resource. An inadvertent discoveries management plan to guide construction crews in the event that archaeological resources or human remains are inadvertently discovered has been prepared.

Based in this information, RAP staff recommends that the Board determines that the proposed Project is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Article 19, Section 15301(b) and 15302(c) of California CEQA Guidelines as well as to Article III, Section 1, Class 1(2) and Class 2(5) of City CEQA Guidelines. BOE staff will file a Notice of Exemption with the Los Angeles County Clerk and the Governor's Office of Land Use and Climate Innovation upon Board's approval.

### FISCAL IMPACT

The Project is fully funded by the City's Sewer Construction and Maintenance Fund. There is no immediate fiscal impact to RAP's General Fund.

The Project will impact all sports and other activities held at Ferraro Field's soccer field during April 1, 2026 to December 31, 2026. A fiscal impact assessment was completed by RAP Staff due to the future closure of the soccer fields and determined a loss of \$144,468.

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The BOE selected contractor will reimburse \$144,468 to offset RAP's financial loss for the construction work at the park. This shall be a requirement of the issuance of the ROE permit.

This Report was prepared by Alyssa Reyes, Project Engineer, BOE Wastewater Conveyance Engineering Division; Reviewed by Mary Thomas, Sr. Engineer, BOE Wastewater Conveyance Engineering Division; Edward Arrington, Division Engineer, BOE Wastewater Conveyance Engineering Division.

### LIST OF ATTACHMENTS

Attachment No. 1 – NOS Unit 20 & 21 Project Plans

Attachment No. 2 – NOS Unit 20 & 21 Vicinity Map

# STANDARD PLANS REQUIRED FOR THIS PROJECT

(ALL STANDARDS SHALL CONFORM TO THE LATEST EDITION OR REVISION)

- S-110 HOUSE CONNECTION SEWERS
- S-111 HOUSE CONNECTION REMODELING
- S-112 TRAP HOUSE CONNECTION SEWER
- S-121 PLASTIC LINER PLATE DETAILS
- S-137 ADJUSTING SEWER MAINTENANCE HOLE TO GRADE
- S-139 GAS TRAP MAINTENANCE HOLE
- S-140 SEWER MANHOLES - GENERAL
- S-141 BRICK MAINTENANCE HOLE
- S-142 PRECAST CONCRETE SEWER MANHOLE
- S-148 DROP SEWER MAINTENANCE HOLE
- S-149 JUNCTION TRAP MAINTENANCE HOLE
- S-150 LARGE PRECAST CONCRETE SEWER MAINTENANCE HOLE FOR 60", 72", 84" & 96" DIAMETER
- S-160 CHIMNEYS
- S-251 PIPE LAYING IN TRENCHES
- S-253 SUPPORTS FOR STORM DRAIN AND SEWER PIPES ACROSS TRENCHES
- S-255 BLANKET PROTECTION FOR PIPES
- S-281 MAINTENANCE HOLE FRAME AND COVER - 24-INCH
- S-282 MAINTENANCE HOLE FRAME AND COVER - 27-INCH
- S-283 MAINTENANCE HOLE FRAME AND COVER - 30-INCH
- S-286 MAINTENANCE HOLE FRAME AND COVER - 36-INCH
- S-333 CONCRETE COLLAR FOR STORM DRAIN
- S-410 TYPE OF CURB AND GUTTER
- S-430 JOINTS IN CONCRETE PAVEMENT
- S-433 BUS PAD
- S-440 DRIVEWAYS
- S-442 CURB RAMPS
- S-444 SIDEWALKS
- S-477 T-TRENCH AND PAVEMENT RESTORATION - ASPHALT CONCRETE STREETS
- S-601 HANDHOLES, MAINTENANCE HOLE COVERS AND FRAMES, DETECTABLE WARNING SURFACE, TREE WELL COVERS, PAVERS AND SIMILAR INSTALLATIONS. CUMULATIVE SUPPLEMENT TO S-601-3
- S-701 SURVEY MONUMENT COVER AND INSTALLATION DETAILS
- S-702 SURVEY MONUMENTS
- S-703 SURVEY BENCH MARKS
- S-704 VERTICAL SURVEY DATUMS
- S-791 ADVANCE CONSTRUCTION NOTICE SIGNS

<http://eng.lacity.org/techdocs/stdplans>

## REFERENCES

AS-BUILTS	UTILITY MAP	WYE MAP	SEWER MAP	CADASTRAL MAP
316_31	UNL-22190	SUB-179E	168B201-SE	S-444 168B201
316_13	P-912		168B201-SW	S-445 168B197
D-14637	E-6437		168B197-SE	
DL-1795	E-8978		7068-9	
D-29523	D-20515		7131-5	
B-11509	E-3281			

## INDEX OF SHEET TYPE

- 0 = GENERAL
- 1 = PLANS
- 2 = ELEVATIONS
- 3 = SECTIONS
- 4 = LARGE SCALE VIEWS
- 5 = DETAILS
- 6 = SCHEDULES AND DIAGRAMS
- 7 = PHOTOS
- 8 = 3D REPRESENTATIONS

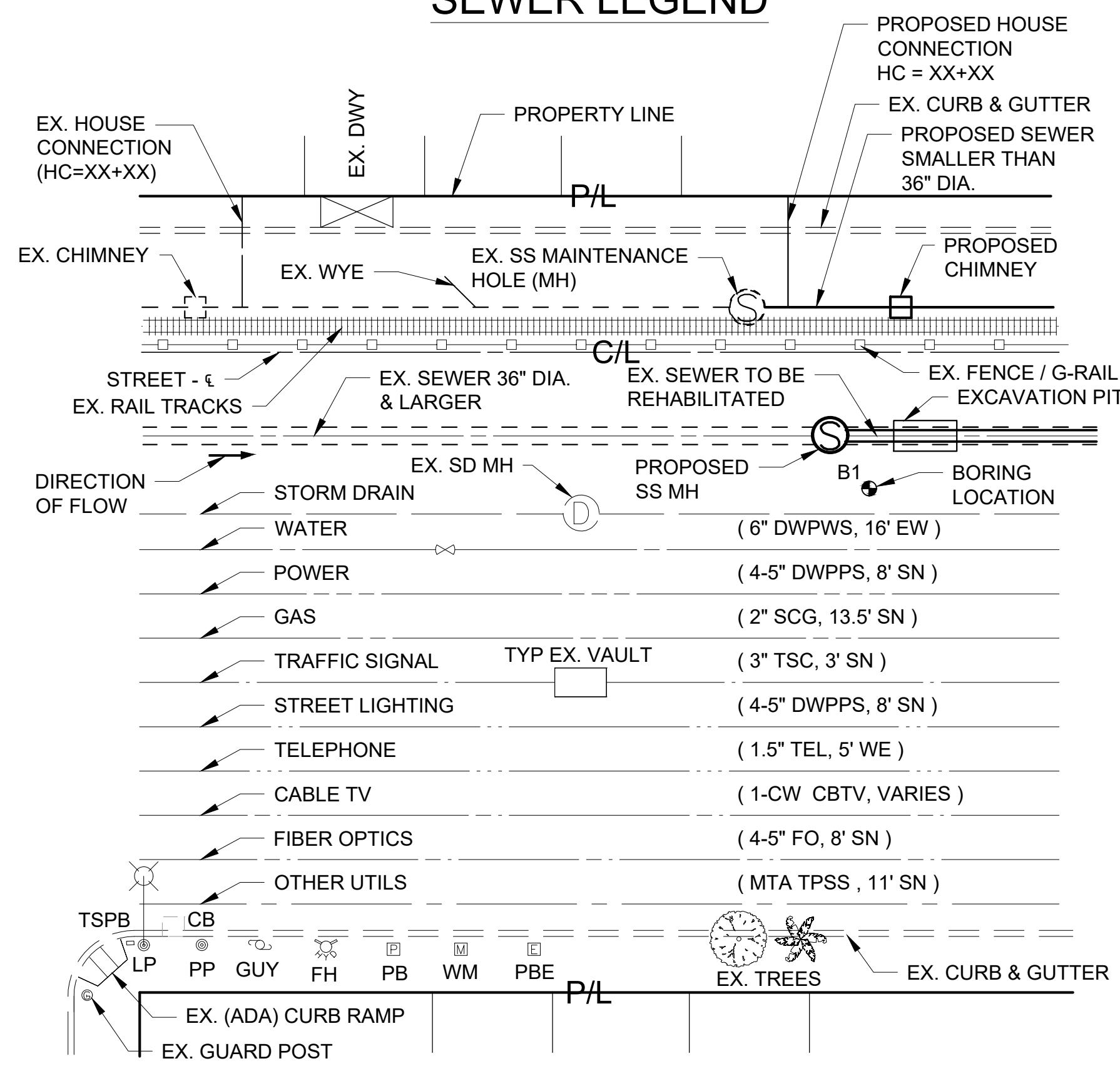
## INDEX TO SHEETS

SHEET #	DRAWING #	TITLE	FROM	TO
<b>GENERAL</b>				
1	GI001	COVER SHEET / TITLE SHEET		
2	GI002	INDEX, REFERENCE, & LEGEND		
3	GI003	ABBREVIATIONS		
4	CG001	GENERAL NOTES		
5	CG002	GENERAL NOTES		
6	CG003	GENERAL NOTES		
<b>CIVIL</b>				
7	CS001	KEY MAP		
8	CU101	PLAN & PROFILE	STA 4+00.00	STA 13+20.00
9	CU102	PLAN & PROFILE	STA 13+20.00	STA 22+20.00
10	CU103	PLAN & PROFILE	STA 22+20.00	STA 31+50.00
11	CU104	PLAN & PROFILE	STA 31+50.00	STA 40+50.00
12	CU105	PLAN & PROFILE	STA 40+50.00	STA 48+60.55
13	CU301	SECTIONS		
14	CU401	WORK AREA ACCESS - ACCESS PIT #1, #2, & #3		
15	CU402	WORK AREA ACCESS - ACCESS PIT #4, #5, #6, & #7		
16	CU403	WORK AREA ACCESS - L.A. RIVER CLEANOUT STRUCTURES		
17	CU501	ACCESS PIT DETAILS - #1, #2, #3, & #4		
18	CU502	ACCESS PIT DETAILS - #5, #6, & #7		
19	CU503	SIPHON INLET DETAIL		
20	CU504	SIPHON OUTLET DETAIL		
21	CU505	SIPHON OUTLET DETAIL		
22	CU506	SIPHON CLEANOUT DETAIL		
23	CU507	MODIFIED 36" PRESSURE MH FRAME & COVER		
24	CU508	CONCRETE ENCASED SEWER AND MH #445-01-006		
25	CU509	EX. BYPASS STRUCTURE AND MH #444-04-006		
26	CU601	BORING LOGS		
27	CU602	BORING LOGS		
28	CU603	HYDROGRAPHS		
29	CU604	HYDROGRAPHS		
30	CU605	RAP STANDARD DETAILS FOR CONSTRUCTION		
31	CU606	SIPHON CURVE DETAILS AND DIVERSION		
32	CU701	SITE PHOTOS		
33	CU702	SITE PHOTOS		
34	CU703	SITE PHOTOS		
<b>STRUCTURAL</b>				
35	SG001	ABBREVIATIONS, LEGEND, & DESIGN DATA		
36	SG002	STRUCTURAL NOTES (1)		
37	SG003	STRUCTURAL NOTES (2)		
38	SG004	STRUCTURAL NOTES (3)		
39	SB101	ACCESS PIT #1 STRUCTURE PLAN & SECTIONS - 48" SE		
40	SB102	ACCESS PIT #6 STRUCTURE PLAN & SECTIONS - 48" SE		
41	SB103	ACCESS PITS #2, #3 & #4 STRUCTURE PLAN & SECTIONS - 48" SE		
42	SB104	ACCESS PIT #3 & REPLACED MH 445-01-007 STRUCTURE SECTIONS - 48" SE		
43	SB105	ACCESS PITS #5 & #7 STRUCTURE PLAN & SECTIONS - 48" SE		
44	SB106	MH 445-01-002 & MH 445-01-007 STRUCTURES PLAN & SECTIONS - 48" SE		
45	SB501	TYPICAL STRUCTURAL DETAILS (1)		
46	SB502	TYPICAL STRUCTURAL DETAILS (2)		
47	SB503	REHABILITATION SECTIONS 48" SEMI-ELLIPTICAL SEWER		
48	SB504	DETAILS		
49	SB505	DETAILS		
50	SB506	DETAILS		
51	SB507	MAINTENANCE HOLE ABANDONMENT SECTION AND DETAIL		

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DISCIPLINE DESIGNATOR	SUBSET DESIGNATOR	
G = GENERAL	C = CONTRACT	I = INFORMATION
	B = GRADING	P = PAVING
C = CIVIL	D = DEMOLITION	S = SITE
	G = GENERAL	U = UTILITIES
	I - IMPROVEMENTS	
S = STRUCTURAL	B = SUBSTRUCTURE	G = GENERAL
	D = DEMOLITION	S = SITE
	F = FRAMING	

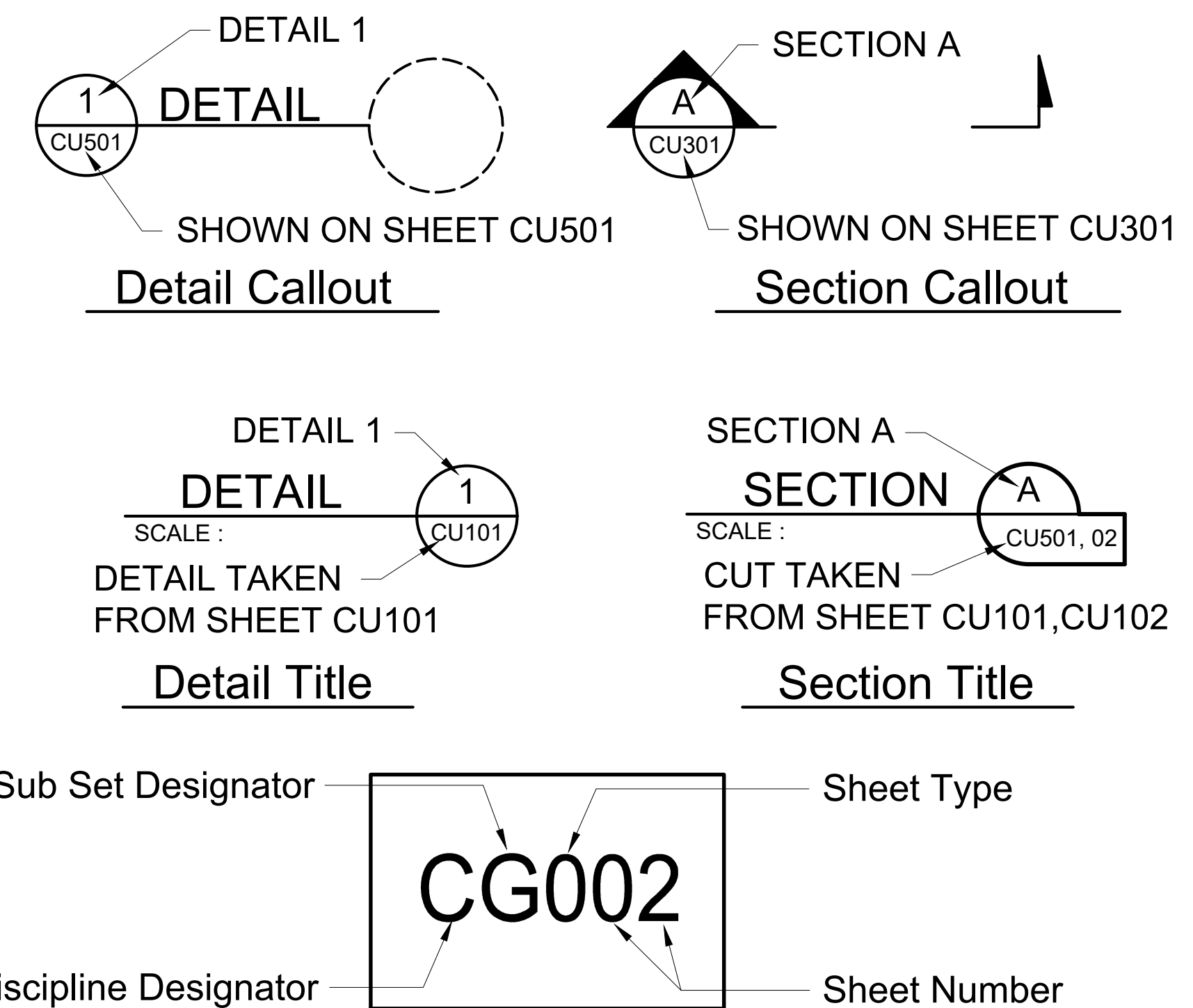
## SEWER LEGEND



## INDEX OF UTILITIES

- SS = SANITARY SEWER
- SD = STORM DRAIN
- DWPWS = WATER
- DWPPS = POWER
- TEL = TELEPHONE
- SCG = GAS
- SLC = STREET LIGHT CONDUIT
- TSC = TRAFFIC SIGNAL
- ABAND = ABANDONED

## CALLOUTS & SHEET NUMBERING LEGEND



**ENGINEERING**  
CITY OF LOS ANGELES

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**BUREAU OF ENGINEERING**

VERTICAL CONTROL: N01028, 1928 ADA (FARMS REQ'D)  
HORIZONTAL CONTROL: N003, EPOCH 1991.5 (FEB 1991 PG 108 & 102)

SHEET TITLE: INDEX, REFERENCE & LEGEND  
PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.  
ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

DATE: BY: 10/22/24 AR  
REVISE TOTAL NUMBER OF SHEETS

CITY ENGINEER: TED ALLEN, P.E.  
DESIGN GROUP: AHMED AMARRAGY, EIT  
ENGINEER: AHMED AMARRAGY, EIT  
DESIGNED BY: ALYSSA REYES, P.E.  
DRAWN BY: NOEL LOPEZ  
CHECKED BY: MARY THOMAS, P.E.  
APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

WORK ORDER NO. SZC13947

SHEET NAME: **GI002**  
SHEET 2 OF 51 SHEETS

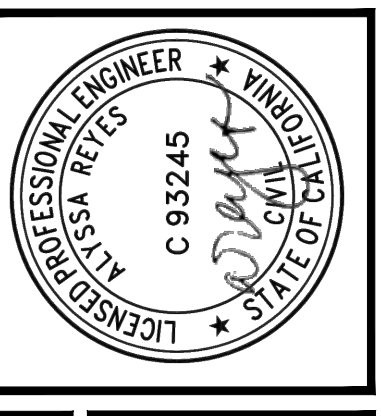
CIP NO. C960  
SHEET TYPE

REVISION DATE (DESIGN STAGE ONLY)

# ABBREVIATIONS

<b>A</b>  ABAN ABANDON ABAND ABANDONED ABUT ABUTMENT AC ASPHALT CONCRETE ACI AMERICAN CONCRETE INSTITUTE ADJ ADJACENT, ADJUSTABLE AHD AHEAD ALT ALTERNATIVE, ALTERNATE APPROX APPROXIMATE AQMD AIR QUALITY MANAGEMENT DISTRICT ARCH ARCHITECTURAL ASST ASSISTANT ASTM AMERICAN STANDARD TESTING OF MATERIAL AT&T TELEPHONE COMPANY ( FORMERLY SBC AND PACIFIC BELL AV, AVE AVENUE AWWA AMERICAN WATER WORKS ASSOCIATION & AND @ AT	<b>B</b>  B BORING BC BEGINNING OF CURVE BCR BEGINNING CURB RETURN BDRY BOUNDARY BH BORING HOLE BK BACK BL BYPASS LINE BLDG BUILDING BLK BLOCK BLVD BOULEVARD BM BENCH MARK, BEAM BPW BOARD OF PUBLIC WORKS BSL BUREAU OF STREET LIGHTING BUR BURIED	<b>C</b>  C COVER, CURB DISTANCE CALC CALCULATED CALIF CALIFORNIA CAL-AM CALIFORNIA-AMERICAN WATER COMPANY CB CATCH BASIN CCFRPM CENTRIFUGALLY CAST FIBERGLASS REINFORCED POLYMER MORTAR CCTV CLOSED CIRCUIT TELEVISION CF CURB FACE CFM CUBIC FEET PER MINUTE CFS CUBIC FEET PER SECOND C&G CURB & GUTTER CHKD CHECKERED CIP CAST IRON PIPE, CLEAN IN PLACE CJ CONSTRUCTION JOINT CL CENTERLINE CL CENTERLINE OR CLASS CLF CHAIN LINK FENCE CLR CLEAR, CLEARANCE CLSM CONTROLLED LOW STRENGTH MATERIAL CMB CRUSH MISCELLANEOUS BASE CMP CORRUGATED METAL PIPE CO COMPANY, CHANGE ORDER COMM COMMUNICATION CONC CONCRETE COND CONDUIT CONN CONNECT, CONNECTION CONST CONSTRUCT, CONSTRUCTION CONT CONTINUATION, CONTROL COS CENTRAL OUTFALL SEWER CPLG COUPLING CSP CORRUGATED STEEL PIPE CV CHECK VALVE	<b>D</b>  d DEPTH D DESIGN, DIAMETER, DEAD LOAD DI DUCTILE IRON DIA DIAMETER DEPT DEPARTMENT DIM DIMENSION DIP DUCTILE IRON PIPE DIV DIVERSION, DIVISION DR DRIVE DWY, DRWY DRIVE WAY DU DUCT DWG(S) DRAWING(S) DWP DEPT. OF WATER AND POWER DWPPS DEPT. OF WATER AND POWER, POWER SERVICE DWPWS DEPT. OF WATER AND POWER, WATER SERVICE Ø DIAMETER Δ DELTA	<b>E</b>  E EAST, EASTERLY, EASTING EA EACH EC END OF CURVE EG EXISTING GRADE, EDGE OF GUTTER EL ELEVATION, ELBOW ELEC ELECTRIC, ELECTRICAL ELEV ELEVATION E'LY EASTERLY EMBED EMBEDMENT EMER EMERGENCY ENG, ENGR ENGINEER, ENGINEERING EP EDGE OF PAVEMENT EPA ENVIRONMENTAL PROTECTION AGENCY EQUIP EQUIPMENT EASEMENT EASEMENT EW EACH WAY E / O EAST OF E / W EAST OF WEST PROPERTY LINE EX, EXIST EXISTING EXP EXPANSION EXT EXTENSION, EXTERIOR (E) EAST SIDE LATERAL CONNECTION	<b>F</b>  F & C FRAME AND COVER F & P FIRE AND POLICE FDN FOUNDATION FH FIRE HYDRANT FIG FIGURE FL FLOW LINE, FLOOR FLEX FLEXIBLE FLG FLANGED FOC FACE OF CRUB FRP FIBERGLASS REINFORCED PLASTIC FRPM FIBERGLASS REINFORCED PLASTIC MORTAR FT FOOT, FEET FWY FREEWAY	<b>G</b>  GA GAUGE GM GAS METER GL GROUND LINE OR GRADE LINE N'LY NORTHERLY GP GUY POLE GR GRADE OR GUARD RAILING GTE GENERAL TELEPHONE COMPANY GWL GROUND WATER LEVEL	<b>H</b>  H HEIGHT, HORIZONTAL HC HOUSE CONNECTION (6" UNLESS OTHERWISE NOTED) HDPE HIGH DENSITY POLYETHYLENE HORIZ HORIZONTAL HT HEIGHT HWY HIGHWAY	<b>I</b>  ID INSIDE DIAMETER IE INVERT ELEVATION IMP IMPERIAL IN INCHES INSP INSPECTION INT INTERIOR, INTERSECTION INTER INTERMEDIATE INV INVERT	<b>J</b>  JS JUNCTION STRUCTURE JT JOINT	<b>K</b>  L LENGTH LA LOS ANGELES , LANE LADBS LOS ANGELES DEPARTMENT OF BUILDING AND SAFETY LADGS LOS ANGELES DEPARTMENT OF GENERAL SERVICES LADOT LOS ANGELES DEPARTMENT OF TRANSPORTATION LACDPW LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS LAT LATERAL LF LINEAR FOOT LH LAMP HOLE, LEFT HAND LOC LOCATION LP LIGHT POLE, LAMP POST, LOW POINT LT LEFT, LIGHT	<b>M</b>  MAINT MAINTENANCE MAX MAXIMUM MCD MULTIPLE CONCRETE DUCT MFR MANUFACTURER MGD MILLION GALLON PER DAY MH MAINTENANCE HOLE MIN MINIMUM MISCELLANEOUS MISCELLANEOUS MATCH LINE MATCH LINE MTA METROPOLITAN TRANSPORTATION AUTHORITY ( OF LA COUNTY ) MWD METROPOLITAN WATER DISTRICT	<b>N</b>  N NORTH, NORTHING, MANNING'S N FACTOR NA NOT APPLICABLE NAG NATURAL GAS NCOS NORTH CENTRAL OUTFALL SEWER NEIS NORTHEAST INTERCEPTOR SEWER N'LY NORTHERLY No (S) NUMBER (S) NO (#) NOR NORTH OUTFALL NOS NORTH OUTFALL SEWER N / O NORTH OF	<b>O</b>  OC ON CENTER OD OUTSIDE DIAMETER OH OVERHEAD OLS OVERHEAD LIGHT STANDARD ORIG ORIGINAL OSHA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (DEPT. OF LABOR)	<b>P</b>  P.LINEAR PLASTIC LINEAR PACBELL PACIFIC BELL (PACIFIC TELESIS GROUP) PBE PULL BOX ELECTRICAL PB PULL BOX, PAC BELL, PRIMARY BATTERY PC POINT OF CURVATURE PCC PORTLAND CEMENT CONCRETE PCCP PRESTRESSED CONCRETE CYLINDER PIPE PCVC POINT OF COMPOUND VERTICAL CURVE PCF POUNDS PER CUBIC FOOT PG PRESSURE GAUGE PI POINT OF INTERSECTION P/L, r PROPERTY LINE PL, PROPERTY LINE, PLATE, PLAN POC POINT OF CONNECTION, POINT OF CURVE POT POINT OF TANGENT PP POWER POLE PR PROFILE PROP PROPOSED PS PIPE SUPPORT, PRIMARY SLUDGE, PROCESS SUPPORT PSI POUNDS PER SQUARE INCH PSF POUNDS PER SQUARE FOOT PT POINT, POINT OF TANGENCY PT&T PACIFIC TELEPHONE AND TELEGRAPH CO. PVC POLYVINYL CHLORIDE PVL POINT OF VERTICAL PVMT PAVEMENT PVT R/W PRIVATE RIGHT-OF-WAY % PERCENT	<b>Q</b>  Q RATE OF FLOW QA QUALITY ASSURANCE QC QUALITY CONTROL	<b>R</b>  R RADIUS, RISER RC REINFORCED CONCRETE RCCP REINFORCED CONCRETE CYLINDER PIPE RCNP REINFORCED CONCRETE NONCYLINDER PIPE RCB REINFORCED CONCRETE BOX RCE REGISTERED CIVIL ENGINEER RCP REINFORCED CONCRETE PIPE RED REDUCER, REDUCING REF REFERENCE REHAB REHABILITATE REINF REINFORCING, REINFORCEMENT RELOC RELOCATION REQ, REQD REQUIRED RET RETURN, RETAINING REV REVISION, REVISED, REVERSE RG RUBBER GASKET ROE RIGHT OF ENTRY RPMP REINFORCED POLYMER MORTAR PIPE	<b>S</b>  S SOUTH, SPIGOT, SLOPE SCAQMD SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT SCH SCHEDULE SCG SOUTHERN CALIFORNIA GAS CO. SD STORM DRAIN SDMH STORM DRAIN MAINTENANCE HOLE SE SEMI-ELLIPTICAL SEC SECOND SECT SECTION SH, SHT SHEET SI INTERNATIONAL SYSTEM OF UNITS (METRIC) S'LY SOUTHERLY SL SEWER LATERAL SO SOUTHERN SOCAL GAS SOUTHERN CALIFORNIA GAS CO. SOCB SIDE OPENING CATCH BASIN S / N SOUTH OF NORTH PROPERTY LINE S / O SOUTH OF SPA SPACING, SPACES SPEC(S) SPECIFICATION, (S) SPK NAIL SPIKE SPPWC STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK) SQ SQUARE SS SANITARY SEWER, STAINLESS STEEL SSFM SANITARY SEWER FORCE MAIN SSPWC STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ST STREET ST HWY STATE HIGHWAY STA STATION, STATIONING STD(S) STANDARD, (S) STL STEEL STRUC STRUCTURAL / STRUCTURE SW SIDEWALK SYS SYSTEM (S) SOUTH SIDE LATERAL CONNECTION	<b>T</b>  TAN THREAD, TANGENT, TELEPHONE, TELEPHONE VAULT TBD TO BE DETERMINED TC TOP OF CURB TCP TRAFFIC CONTROL PLANS TCS TERMINAL CLEANOUT STRUCTURE TD TELEPHONE DUCT TEL TELEPHONE TELE TELEMETRY TEMP TEMPORARY, TEMPERATURE TH TEST HOLE THK THICK TLR TRAFFIC LANE REQUIREMENTS TOC TOP OF CURB TOP TOP OF PIPE TOS TOP OF SLOPE TOPO TOPOGRAPHY TR TRACT TRANS TRANSITION TP TYPE TS TRAFFIC SIGNAL, TRANSITION STRUCTURE TSC TRAFFIC SIGNAL CONDUIT TSS TRAFFIC SIGNAL STANDARD TW TOP OF WALL TYP TYPICAL	<b>U</b>  U UNIFORM BUILDING CODE ( INCLUDING LOS ANGELES CITY ADDITIONS ) USA UNDERGROUND SERVICE ALERT	<b>V</b>  V VERTICAL, VOLUME VAR VARIES, VARIABLE VC VERTICAL CURVE VCP VITRIFIED CLAY PIPE VENT VENTILATION VERT VERTICAL VOL VOLUME	<b>W</b>  W WEST, WIDE, WIDTH WATCH WORK AREA TRAFFIC CONTROL HANDBOOK W / WITH W / O WEST OF, WITHOUT W / E WEST OF EAST PROPERTY LINE WHC WATER HOUSE CONNECTION WD WIDTH W'LY WESTERLY WM WATER METER WO WORK ORDER WOD WATER OPERATING DIVISION WT WEIGHT WV WATER VALVE WWF WELDED WIRE FABRIC (W) WEST SIDE LATERAL CONNECTION	<b>X</b>  X BY, TIMES XCONN CROSS CONNECTION XSEC CROSS SECTION	<b>Y</b>  YD YARD
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NOTE : THIS IS A GENERAL ABBREVIATION LIST. NOT ALL ABBREVIATIONS MAY BE USED IN THESE DRAWINGS.



BUREAU OF ENGINEERING  
 PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.  
 ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

DEPARTMENT OF PUBLIC WORKS  
 SHEET TYPE: C960

CITY ENGINEER: TED ALLEN, P.E.  
 DESIGN GROUP: AHMED AMARRAGY, EIT  
 DESIGNED BY: ALYSSA REYES, P.E.  
 DRAWN BY: NOEL LOPEZ  
 CHECKED BY: MARY THOMAS, P.E.  
 APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

WORK ORDER NO. SZC13947

SHEET NAME: G1003  
 SHEET 3 OF 51 SHEETS

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

## PLAN AND PROFILE

- ALL WORK SHALL CONFORM TO THE SPECIFICATIONS, GENERAL CONDITIONS, GENERAL REQUIREMENTS, THE LATEST EDITION AND SUPPLEMENTS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC), PARTS 2 THRU 5, ADOPTED BY THE BOARD OF PUBLIC WORKS OF THE CITY OF LOS ANGELES AS MODIFIED BY THE CORRESPONDING ISSUE OF THE BROWN BOOK ADDITIONS & AMENDMENTS AND TO THE TECHNICAL SPECIFICATIONS. SEE GENERAL CONDITIONS ARTICLE 00205 FOR PRECEDENCE OF CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD BEFORE STARTING WORK, AND SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
- THE ENGINEER DOES NOT WARRANT THE ACCURACY OF SCALED DIMENSIONS. ALL DIMENSIONS SHALL BE AS DESIGNATED ON THE PLANS.
- SURVEY STATIONING OR ELEVATIONS SHOWN ON THE PLANS IN PARENTHESES ( ) ARE EITHER EXISTING SEWER STATIONS OR ELEVATIONS CALCULATED FROM EXISTING RECORDS. WHERE CONNECTIONS ARE TO BE MADE TO EXISTING SEWERS OR MAINTENANCE HOLES (MHs), THE CONTRACTOR SHALL VERIFY THE EXISTING ELEVATIONS PRIOR TO DOING ANY WORK THAT MAY BE AFFECTED BY SUCH CONNECTIONS.
- LOCATION AND DEPTH-OF-COVER INFORMATION FOR MAINLINE SEWERS AND EXISTING SUBSTRUCTURES SHOWN ON THE PLANS ARE SPECIFIED WITHIN HORIZONTAL AND VERTICAL TOLERANCES OF (+/-) 2 FT BASED ON BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL BEAR ULTIMATE RESPONSIBILITY FOR FIELD VERIFICATION OF MAINLINE SEWER AND UTILITY LOCATION AND DEPTH INFORMATION.
- LOCATIONS, ELEVATIONS, AND NUMBER OF EXISTING HOUSE CONNECTION SEWERS SHOWN ON THE PLANS ARE APPROXIMATE. HOUSE CONNECTIONS SHALL BE SUPPORTED IN PLACE. IN THE EVENT THAT THE CONTRACTOR ENCOUNTERS HOUSE CONNECTION SEWERS MORE THAN 3 FEET FROM WHAT IS SHOWN ON THE PLANS AND THE HOUSE CONNECTION BECOMES DAMAGED, THE CONTRACTOR SHALL REPLACE THE HOUSE CONNECTION AND BE COMPENSATED PER STIPULATED UNIT PRICES FOR 6-INCH VCP HOUSE CONNECTION SEWER.
- ALL ACCESS PITS BOUNDARY SHOWN ON PLANS ARE NOT DRAWN TO SCALE. THE ACCESS PITS ARE REPRESENTATIVE ONLY AS PROPOSED LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACCESS PIT DIMENSIONS AND SUBMIT TO THE ENGINEER FOR APPROVAL.
- THE CONTRACTOR SHALL ALLOW FOR LOCAL ACCESS AT ALL TIMES.
- THE CONTRACTOR SHALL REMOVE ALL STEPS INSIDE THE EXISTING MHS ON THE SEWER PRIOR TO REHABILITATION.

## STREET WORK

- PERMANENT RESURFACING:**
  - WHERE SLURRY BACKFILL IS PERMITTED BY THE ENGINEER, THE BACKFILL SHALL BE PLACED TO PAVING LEVEL WITH NO BASE MATERIAL REQUIRED.
  - STREETS THAT HAVE BEEN RECONSTRUCTED OR RESURFACED WITHIN THE PAST EIGHT (8) YEARS SHALL HAVE THE ASPHALT CONCRETE (AC) PAVEMENT RESTORED PER STANDARD PLANS S-477. SEE STREETS BELOW:

STREET	U/S MH NO.	D/S MH NO.
N/A	N/A	N/A

- ANY PCC PAVEMENT, CONCRETE CURB, CURB RAMP, GUTTER, OR SIDEWALK, IMMEDIATELY ADJACENT TO OR WITHIN THE AREA OF THIS IMPROVEMENT, THAT IS DAMAGED BY THE CONSTRUCTION OF THIS PROJECT SHALL BE REPAIRED AND/OR REPLACED TO CURRENT STANDARDS BY THE CONTRACTOR AT HIS/HER EXPENSE.
- THE CONTRACTOR IS REQUIRED TO SAWCUT EXISTING PAVEMENT IN OPEN-TRENCH OPERATION ALONG THE ALIGNMENT OF THE SEWER OR ANY OTHER TYPE OF OPERATION WHERE EXISTING PAVEMENT HAS TO BE REMOVED. STOMPING IS NOT ALLOWED.
- THE CONTRACTOR SHALL SWEEP THE CONSTRUCTION AREA AT LEAST TWICE PER DAY WITH A MOTORIZED SWEEPER, WHICH HAS WATER APPLICATION CAPABILITIES (NO DRY SWEEPING). THE CONTRACTOR SHALL UTILIZE STREET SWEEPING EQUIPMENT ON ALL ADJACENT STREETS USED BY HAUL TRUCKS OR VEHICLES THAT HAVE BEEN ON SITE.
- IF EXISTING PAVEMENT INFORMATION IS UNAVAILABLE OR UNKNOWN, IT SHALL BE ASSUMED TO BE 6 INCHES AC ON 6 INCHES OF CONCRETE FOR LOCAL STREETS AND 8 INCHES OF CONCRETE FOR COLLECTOR, SECONDARY, AND/OR MAJOR STREETS (HIGHWAYS). PAYMENT ADJUSTMENT FOR PAVEMENT THICKNESS WILL BE PER STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION (SSPWC) SECTION 300-1.4, AS MODIFIED BY THE BROWN BOOK

- THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF TEMPORARY STRIPING FOR ALL OF THE OBLITERATED CENTER LINES, LANE LINES, PAVEMENT MARKINGS AND CROSSWALKS.
- PROJECT NOT SUBJECT TO HOLIDAY WORK RESTRICTIONS

## PUBLIC RELATIONS

- THE CONTRACTOR, ITS REPRESENTATIVES, AND ALL PERSONNEL INVOLVED IN THE PROJECT UNDER SUPERVISION OF THE CONTRACTOR ARE HEREBY ADVISED OF THE SENSITIVE NATURE OF THIS WORK. THE CONTRACTOR'S PERSONNEL MUST BE COURTEOUS, POLITE, AND HELPFUL WHEN INTERACTING WITH THE PUBLIC, ESPECIALLY THE RESIDENTS AND BUSINESSES NEAR THE CONSTRUCTION SITES. DUE TO THESE CIRCUMSTANCES, ANY OF THE CONTRACTOR'S EMPLOYEES OR REPRESENTATIVES, INCLUDING THE SUPERINTENDENT, WHO IS CONSIDERED BY THE CITY TO BE DISRESPECTFUL OR UNCOOPERATIVE TO THE PUBLIC OR CITY EMPLOYEES, SHALL BE IMMEDIATELY REMOVED FROM THE WORK SITE.

THE CONTRACTOR SHALL BE REQUIRED TO PARTICIPATE IN ALL PUBLIC RELATION AND COMMUNITY MEETINGS UNLESS EXCUSED BY THE ENGINEER.

- HOMELESS MITIGATION:** THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST FOUR (4) WEEKS PRIOR TO THE START OF ANY WORK, WHERE A POTENTIAL IMPACT EXISTS DUE TO INDIVIDUALS TRESPASSING WHICH RESTRICTS THE CONTRACTOR'S ACCESS TO THE WORK SITE WITHIN THE PROJECT LIMITS. THE ENGINEER SHALL CONTACT THE PUBLIC INFORMATION DIRECTOR OF COMMUNITY OUTREACH TEAM (COT), MS. TONYA SHELTON, AT (213) 485-5303, TO REQUEST FOR TRESPASSERS TO BE REMOVED FROM THE AREA WHERE THE CONTRACTOR NEEDS TO PERFORM THE WORK. IN ADDITION, THE ENGINEER SHALL PROVIDE ANY NECESSARY INFORMATION ABOUT THE LOCATION, ACCESS TO THE AREA, THE DATE OF THE REQUEST AND ANY OTHER INFORMATION TO ASSIST THE HOMELESS JOINT TASK FORCE.

IN ADDITION, THE CONTRACTOR SHALL TAKE PREVENTATIVE MEASURES FOR WORK SITES AND/OR CONSTRUCTION TRAILERS TO PREVENT INDIVIDUALS FROM ENCRANCHING INTO WORK AREAS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST FOUR (4) WEEKS PRIOR TO THE INSTALLATION OF ANY TRESPASSING MEASURES. THESE MEASURES SHALL INCLUDE THINGS SUCH AS PROTECTIVE FENCING, LOCKS ON ALL CONSTRUCTION FACILITIES (IE CONSTRUCTION TRAILERS, PORTABLE RESTROOM FACILITIES, EQUIPMENT STORAGE LOCKERS, ETC.), "NO TRESPASSING" SIGNAGE, AND OTHER MEASURES DEEMED NECESSARY BY THE CONTRACTOR. THE ENGINEER SHALL INFORM THE PUBLIC INFORMATION DIRECTOR OF COMMUNITY OUTREACH TEAM (COT), MS. TONYA DURELL, AT (213) 485-5303 OF THESE MEASURES SO THAT THE COMMUNITY MAY BE MADE AWARE OF ALL RESTRICTIONS SURROUNDING OUR WORK AREAS.

## SEWER BYPASS REQUIREMENTS

- FLOW CONDITIONS DURING CONSTRUCTION**

THE CONTRACTOR SHALL EXPECT FLOW CONDITION TO BE 30% HIGHER AT ANY CURVED PORTION OF THE SEWER ALIGNMENT, WHERE PERSONNEL ENTRY WAS CALL OUT ON PLANS. CONTRACTOR SHALL SUBMIT SEWER BYPASS PLAN TO ENGINEER FOR CLEANING AT THE HORIZONTAL CURVE ALIGNMENTS. ALL COST ASSOCIATED WITH SEWER BYPASS FOR CLEANING WORK SHALL BE INCLUDED IN THE UNIT COST FOR TEMPORARY SEWER BYPASS.
- SEWER BYPASS NOTES:**
  - ALL WORK ASSOCIATED WITH SEWER BYPASS REQUIREMENTS SHALL BE INCLUDED IN THE BID PRICE FOR SEWER BYPASS. THE CONTRACTOR SHALL COMPLY WITH THE PROVISIONS OF THE POLLUTION CONTROL-SEWAGE SPILL PREVENTION AND RESPONSE REQUIREMENTS AND THE BOARD OF PUBLIC WORKS' POLICY OF "ZERO SPILLS" REQUIREMENTS AS SET FORTH IN SECTION 01563 OF THE GENERAL REQUIREMENTS.
  - IN CASE OF SEWAGE SPILL, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND CONTACT:  
VENICE PUMPING PLANT (24 HOURS) - (310) 823-5507  
DORRIS PLACE (AFTER HOURS) - (213) 485-7575  
CLEAN WATER NORTH CONVEYANCE DIVISION (CWNCD) AZYA JACKSON, SANITATION DIVISION MANAGER - OFFICE: (213) 207-0818  
THE CONTRACTOR SHALL TAKE ALL ACTION NECESSARY TO RESOLVE SPILLAGE AND BE SOLELY RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH CLEANUP, REPAIR, AND FINE.
  - THE CONTRACTOR SHALL COORDINATE ALL BYPASSING ACTIVITIES WITH THE ENGINEER. UPON APPROVAL, THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE BYPASSING SYSTEM. WHEN THE BYPASSING SYSTEM IS REMOVED, ALL APPURTENANCES SHALL ALSO BE REMOVED, AND THE SEWER SYSTEM RETURNED TO STANDARD OPERATING CONDITION.
  - THE CONTRACTOR IS RESPONSIBLE FOR THE DISPOSAL OF ALL DEBRIS OBTAINED FROM THE BYPASSING WORK.

## SEWER CLEANING AND ACCESS PIT PREPARATION

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ANY FOREIGN MATERIAL AND DEBRIS FOUND IN THE SEWER PIPES DURING SEWER CLEANING OPERATION. THE CONTRACTOR SHALL

TAKE PRECAUTION TO PREVENT DAMAGES TO THE SEWER HOST PIPE DURING SEWER CLEANING OPERATION. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE CONTRACT COST FOR SEWER CLEANING.

- THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN BREAKING OR SAWCUTTING INTO EXISTING SEWER. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES INCLUDING INSTALLATION OF BAR SCREENS TO PREVENT ANY CONSTRUCTION DEBRIS FROM ENTERING THE SEWER. THE CONTRACTOR SHALL WATERPROOF THE PIT AREA TO CONTAIN ANY SEWAGE SPILL AND EMPLOYED SPILL CLEANUP METHOD TO CONTAIN THE SPILL. ALL COST ASSOCIATED WITH PIT WATERPROOFING AND SPILL CLEANUP SHALL BE INCLUDED IN THE UNIT COST FOR PIT ACCESS.

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROCUREMENT OF TEMPORARY STOP LOGS FOR DIVERSION TO FACILITATE THE REHABILITATION OF THE TRIPLE-BARREL SIPHON.

## SURVEY INFORMATION

- SURVEY FIELD BOOK INFORMATION:**  
CENTERLINE - CEFB 168-197 PG'S 108 & 112  
VERTICAL-NAVD 1988/2000 ADJUSTMENT  
ELEV. = 480.74'  
BM HOLD=#09-05198

**BASIS OF BEARINGS:**  
FIELD NAVIGATE LA/ICM COORDINATES ON CP4 AT THE CENTERLINE INTERSECTION OF RIVERSIDE DR. FOR POSITION. FIELD NAVIGATE LA/ICM COORDINATES ON CP3A AT THE CENTERLINE INTERSECTION OF ZOO DR. AND RIVERSIDE DR. FOR BASIS OF BEARINGS. SAID BASIS OF BEARING IS S 3d 49' 11" E.

- DUE TO LIMITED SURVEY INFORMATION, IT SHOULD BE NOTED THAT THIS DESIGN PLAN USES THE VERTICAL CONTROL AND HORIZONTAL CONTROL BASED ON AS-BUILT INFORMATION. THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF LOS ANGELES SURVEY DIVISION TO PERFORM A PRE-CONSTRUCTION SURVEY PRIOR TO THE START OF CONSTRUCTION.

## UTILITIES

- UNDERGROUND SERVICE ALERT (USA) NOTIFICATION**  
BEFORE COMMENCING ANY EXCAVATION WORK, THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA (A.K.A. DIGALERT) BY DIALING 811 AT LEAST TWO (2) FULL WORKING DAYS EXCLUDING WEEKENDS AND HOLIDAYS TO INITIATE UTILITIES MARKINGS REQUEST. REFER TO ONLINE WEBSITE AT WWW.DIGALERT.ORG FOR MARKING INFORMATION AND TO OBTAIN TICKET ID FOR THE WORK REQUEST. NO CHANGE ORDER WILL BE ISSUED FOR UTILITIES MARKING DELAY, UNMARKED OR MISMARKED UTILITIES. THE CONTRACTOR IS DIRECTED TO PURSUE RESPECTIVE UTILITIES COMPANY FOR ANY REQUIRED COMPENSATION.

- THE CONTRACTOR IS ADVISED THAT OTHER AGENCIES/CONTRACTORS MAY BE PERFORMING UTILITY RELOCATIONS WITHIN THE LIMITS OF WORK UNDER THIS CONTRACT. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO COOPERATE WITH OTHER AGENCIES/CONTRACTORS TO SCHEDULE AND MINIMIZE MUTUAL WORK INTERFERENCE. MUTUAL WORK INTERFERENCE MAY NOT BE USED AS A BASIS FOR DELAY OF WORK CLAIM.

- THE CONTRACTOR SHALL PROTECT AND SUPPORT ALL UTILITIES IN PLACE.

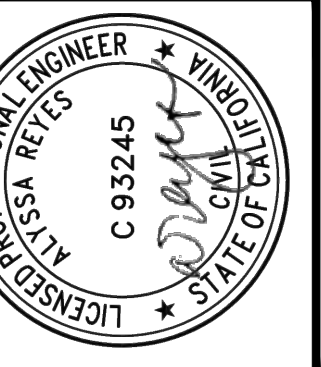
- STREET LIGHTING NOTES**



INDICATES PARALLEL EXISTING STREET LIGHTING FACILITIES. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL STREET LIGHTING FACILITIES WITHIN THE WORK AREA. SHOULD ANY DAMAGE TO THE EXISTING STREET LIGHTING SYSTEM OCCUR, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE BUREAU OF STREET LIGHTING, FIELD OPERATIONS DIVISION, BY CALLING (323) 913-4743; OR, AFTER 4:30 P.M. (3:30 P.M. ON FRIDAYS), CONTACT THE ELECTRIC TROUBLE BOARD OF DWP BY CALLING (800) 821-5279 WITHIN THE (818) AREA CODES OF SAN FERNANDO VALLEY OR (800) 821-5278 WITHIN THE (213) AND (310) AREA CODES OF LOS ANGELES. THE CONTRACTOR SHALL ARRANGE FOR THE IMMEDIATE REPAIR AND RESTORATION TO SERVICE THE DAMAGED LIGHTING SYSTEM AT NO COST TO THE CITY. A LICENSED ELECTRICAL CONTRACTOR IS REQUIRED TO MAKE ALL REPAIRS. ALL STREET LIGHTING WORK SHOULD BE MADE IN ACCORDANCE TO THE LATEST EDITION AND SUPPLEMENTS OF THE "STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION", ADOPTED BY THE BOARD OF PUBLIC WORKS OF THE CITY OF LOS ANGELES AS MODIFIED BY THE CORRESPONDING ISSUE OF THE BROWN BOOK, AND THE LATEST EDITION OF BUREAU OF STREET LIGHTING "SPECIAL SPECIFICATION".



INDICATES "HIGH" VOLTAGE SERIES CIRCUIT. UNAUTHORIZED WORK OR DAMAGE TO THE "HIGH VOLTAGE" SERIES CIRCUIT COULD RESULT IN SERIOUS INJURY. THE CONTRACTOR SHALL ARRANGE FOR IMMEDIATE REPAIR TO THE DAMAGED STREET LIGHTING CONDUIT. PULLBOXES (OTHER THAN THOSE SPECIFIED ON THE PLANS) MAY BE INSTALLED ONLY UPON APPROVAL OF A STREET LIGHTING ENGINEER.



**BUREAU OF ENGINEERING**

VERTICAL CONTROL: NAD83, 1988/2000 (NAVD) (FEB 1985) PG 108 & 102  
HORIZONTAL CONTROL: NAD83, EPOCH 1985 (FEB 1985) PG 108 & 102

SHEET TITLE: GENERAL NOTES

PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR.  
ADDRESS: ZOO DR, RIGHT-OF-WAY TO DORAN ST., LOS ANGELES, CA

**DEPARTMENT OF PUBLIC WORKS**

DATE: 10/22/24 AR

REVISIONS:

NO	REVISIONS
1	REVISE TOTAL NUMBER OF SHEETS

SHEET TYPE: C960

INDEX NO.

**CITY OF LOS ANGELES**

CITY ENGINEER: TED ALLEN, P.E.

DESIGN GROUP: AHMED AMARRAGY, EIT

ENGINEER: AHMED AMARRAGY, EIT

DESIGNED BY: ALYSSA REYES, P.E.

DRAWN BY: NOEL LOPEZ

CHECKED BY: MARY THOMAS, P.E.

APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

WORK ORDER NO.  
SZC13947

SHEET NAME  
**CG001**

SHEET 4 OF 51 SHEETS

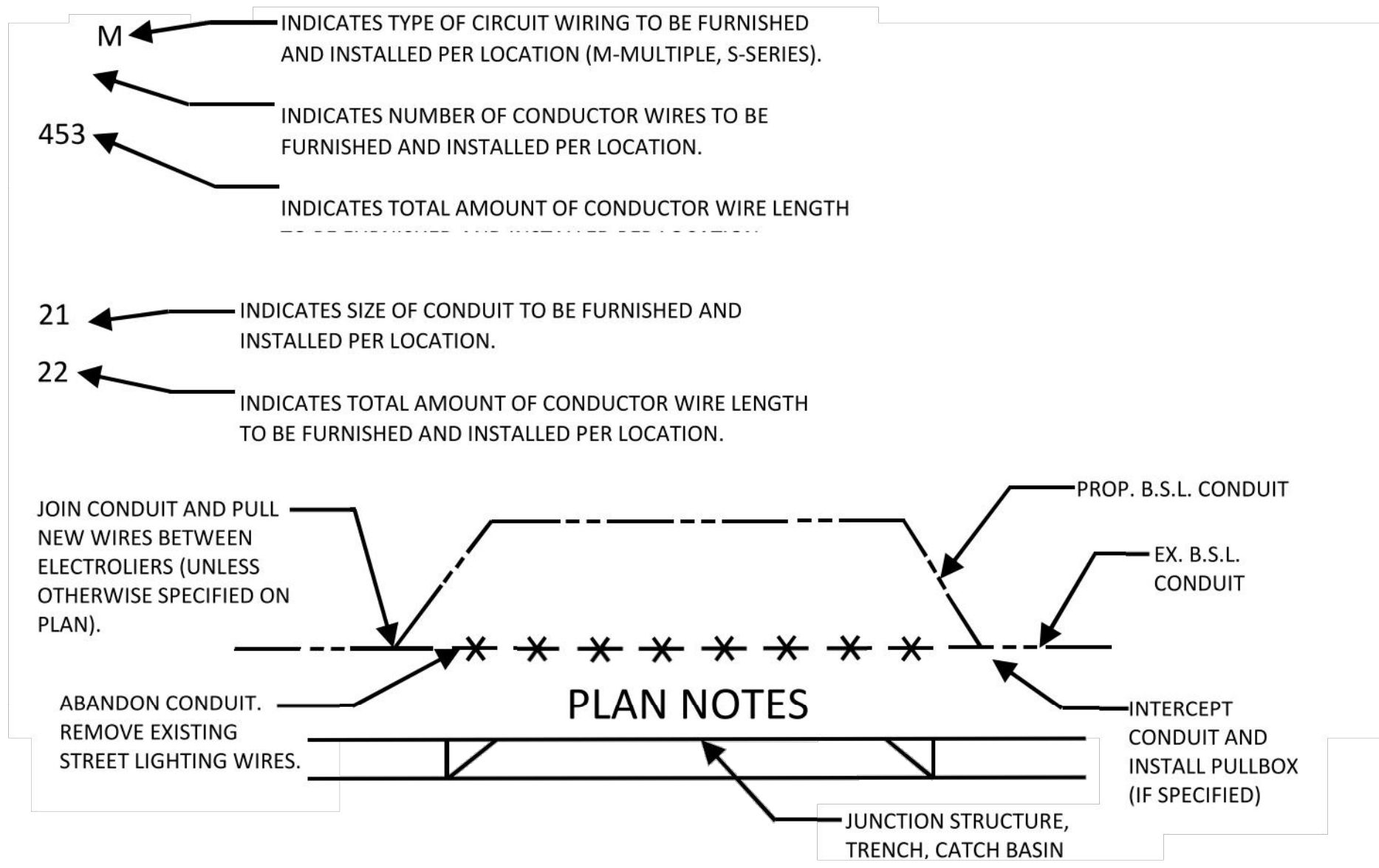
THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REVISION DATES (DESIGN STAGE ONLY)

REVISION DATES (DESIGN STAGE ONLY)

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

WARNING: SAFETY CLEARANCES SHALL BE OBTAINED DAILY FROM THE AFFECTED UTILITY COMPANY OF STREET LIGHTING "SPECIAL SPECIFICATIONS".



THE CONTRACTOR SHALL NOT SHUT OFF WATER SERVICE AT THE CURB AT ANY TIME PER CITY OF LOS ANGELES RULES GOVERNING WATER AND ELECTRIC SERVICE, RULE 16-W, SECTION A.3. SHOULD THE CONTRACTOR REQUIRE THE WATER SERVICE TO BE SHUT OFF TO THE PRIVATE PROPERTY, ARRANGEMENTS SHALL BE MADE SOLELY BY THE CONTRACTOR WITH THE PROPERTY OWNER AND THE CONTRACTOR SHALL PROVIDE THE PROPERTY OWNER WITH AT LEAST 48 HOURS PRIOR NOTICE.

30. **COORDINATION WITH LADWP:**  
THE CONTRACTOR SHALL NOTIFY LADWP AT (213) 367-2130 TO ARRANGE RELOCATION OF INTERFERING WATER MAIN LINES WITHIN THE PIT LOCATION. THE CONTRACTOR SHALL REMOVE INTERFERING WATER MAIN LINES AFTER LADWP ABANDONED THE INTERFERING LINES WITHIN THE PIT AREA. THE CONTRACTOR SHALL COORDINATE WITH LADWP WITH THE ABANDONING AND RELOCATION OF THE INTERFERING WATER MAIN LINES WITHIN THE PIT AREA. THE CONTRACTOR IS ADVISED THAT THE RELOCATION OF THE WATER MAIN LINES TAKE AT LEAST 6 MONTHS.

SUPPORT OR REPLACEMENT OF EXISTING WATER MAINS ACROSS TRENCHES SHALL BE IN ACCORDANCE WITH DWP DRAWINGS A-3615A, B-1453-1A, A-3716 AND A-9219.

31. **COORDINATION WITH SCG:**  
THE CONTRACTOR SHALL NOTIFY SOUTHERN CALIFORNIA GAS COMPANY (SCG) REPRESENTATIVE AT (310) 687-2055 TO ARRANGE FOR RELOCATION OF INTERFERING GAS LINES WITHIN THE PIT AREA. CONTRACTOR SHALL COORDINATE WITH SCG WITH THE RELOCATION OF THE INTERFERING GAS LINES WITHIN THE PIT AREA. THE CONTRACTOR IS ADVISED THAT THE RELOCATION OF THE GAS LINES TAKE AT LEAST 6 MONTHS.

### TRAFFIC REQUIREMENTS

TRAFFIC CONTROL PLANS APPROVED BY LADOT ARE PROVIDED WITH THIS PROJECT. ANY IMPACTS AS A RESULT OF CONTRACTOR REVISIONS TO THE TCP'S SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

THE CONTRACTOR SHALL APPLY FOR AND OBTAIN THE WORKSITE TRAFFIC CONTROL PLAN AND PERMIT FROM THE CALTRANS DISTRICT 07 LOCATED AT 100 SOUTH MAIN STREET, SUITE 100, LOS ANGELES CA 90012. THE CALTRANS CONTACT NUMBER IS (213) 897-3656.

32. **TRAFFIC LANE REQUIREMENTS:**  
MAJOR HIGHWAYS  
INTERSTATE 134 FREEWAY  
SECONDARY HIGHWAYS  
ALL TRAFFIC LANES (INCLUDING THROUGH, TURNING AND PARKING LANES) SHALL BE UNOBSTRUCTED FROM 3:30 P.M. TO 9:00 A.M. OF THE NEXT DAY. ONE LANE MAY BE CLOSED AT ALL OTHER TIMES.

SECONDARY, ALL COLLECTORS AND LOCAL STREETS  
DORAN ST. - W/O SAN FERNANO ROAD WEST  
THE STANDARD SPECIFICATIONS ARE SATISFACTORY FOR TRAFFIC REQUIREMENTS. MAINTAIN LOCAL AND EMERGENCY ACCESS AT ALL TIMES.

FOLLOW THE TEMPORARY TRAFFIC CONTROL PROVISIONS OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2014 EDITION (OR LATEST CITY ADOPTED EDITION) AND THE 2014 "WATCH" MANUAL (OR LATEST CITY ADOPTED EDITION).

ALL TRENCHES AND EXCAVATION SHALL EITHER BE BACKFILLED OR STEEL PLATED AND FEATHERED WITH ASPHALT DAILY SO THAT ALL TRAFFIC AND PARKING LANES ARE OPEN DURING NON-CONSTRUCTION HOURS.

POSTING OF PARKING PROHIBITIONS MAY BE REQUIRED IN ORDER TO MAINTAIN ADEQUATE LANE WIDTHS.

THE CONTRACTOR IS ADVISED THAT THE REVIEW AND APPROVAL OF ALL WORKSITE TRAFFIC CONTROL PLANS BY LADOT TAKES AT LEAST 4 TO 6 MONTHS. ALL COST ASSOCIATED WITH LADOT'S TRAFFIC PLANS REVIEW AND APPROVAL SHALL BE INCLUDED IN THE CONTRACTOR'S BID.

**DETOUR/WTCP PLAN REQUIRED**  
THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD, 2014 ED. OR LATEST) AND THE CALIFORNIA WATCH HANDBOOK 2016 ED. TRAFFIC LANE CLOSURES ON COLLECTOR STREETS REQUIRE WORKSITE SIGNING AND STRIPING PLANS (WORKSITE TRAFFIC CONTROL PLANS (WTCP)). THE WTCP SHALL SHOW TYPICAL LANE CLOSURES AND PROPOSED TEMPORARY TRAFFIC CONTROL DEVICES. THE WTCP SHALL BE SUBMITTED IN FINAL DRAFT FORM AT LEAST TEN (10) DAYS PRIOR TO START OF CONSTRUCTION

CONTACT LADOT'S HOLLYWOOD-WILSHIRE OFFICE DISTRICT, AT (323) 957-6843, TO ARRANGE FOR PLAN REVIEW. ANY DEVIATION FROM THE APPROVED WTCP FOR W.O. SZC13461 SHALL BE SUBMITTED IN WRITING AND RECEIVE APPROVAL FROM HOLLYWOOD WILSHIRE DISTRICT OFFICE, LADOT PRIOR TO IMPLEMENTATION.

THE CONTRACTOR SHALL NOTIFY LADOT'S SPECIAL TRAFFIC CONTROL DIVISION AT (213) 485-2298, FOUR (4) WORK DAYS PRIOR TO THE START OF CONSTRUCTION FOR THE POSTING OF TEMPORARY "TOW AWAY NO STOPPING" SIGNS.

**TRAFFIC CONTROL DEVICES MAINTENANCE**  
THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE RESTORATION OF ALL OBLITERATED STRIPING AND PAVEMENT MARKINGS AND FOR THE REINSTALLATION OF ALL OTHER MISSING OR DAMAGED TRAFFIC CONTROL DEVICES (I.E., SIGNS, CURB MARKINGS, STAMPED CROSSWALKS, PARKING METERS, ETC.). WHEN NECESSARY, ADDITIONAL RELATED TRAFFIC CONTROL DEVICES, INCLUDING, BUT NOT LIMITED TO, DETOUR/CONSTRUCTION WORKSITE TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN SUPPORT OF THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO PHYSICALLY INSTALL THESE TRAFFIC CONTROL DEVICES TO THE FULL SATISFACTION OF LADOT, BUT THE CITY MAY CHOOSE TO INSTALL NONE, SOME, OR ALL OF THE SAID TRAFFIC CONTROL DEVICES. THE ENTIRE COST THEREOF SHALL BE BORNE BY THE CONTRACTOR (UNLESS PAYMENT BY THE CITY IS PRE-APPROVED BY A CITY AGENCY). ALL STRIPING AND PAVEMENT MARKINGS SHALL BE INSTALLED UTILIZING THERMOPLASTIC MATERIALS PER LADOT SPECIFICATIONS. THE CONTRACTOR SHALL CONTACT LADOT'S HOLLYWOOD WILSHIRE DISTRICT OFFICE AT (323) 957-6843 PRIOR TO COMMENCING ANY WORK THAT REQUIRES TRAFFIC CONTROL DEVICES MAINTENANCE.

**RESTORATION STRIPING AND SIGNING**  
THE CONTRACTOR SHALL CONTACT THE LADOT'S HOLLYWOOD WILSHIRE DISTRICT OFFICE AT (323) 957-6843 FOR THE INSTALLATION OR REMOVAL OF NECESSARY TRAFFIC CONTROL DEVICES (I.E., STRIPING REMOVALS AND PARKING SIGNS). THE CONTRACTOR SHALL CONTACT LADOT'S CITYWIDE INVESTIGATIONS AT (213) 928-9612 PRIOR TO COMMENCING ANY WORK RELATED TO THE RESTORATION STRIPING AND SIGNING. THE ENTIRE COST THEREOF SHALL BE BORNE BY THE CONTRACTOR OR B-PERMITTEE.

FOR TRAFFIC RELATED QUESTIONS DURING CONSTRUCTION, PLEASE CONTACT LADOT'S HOLLYWOOD WILSHIRE DISTRICT OFFICE, AT (323) 957-6843.

**PEDESTRIAN ACCESS TO SIDEWALKS AND CROSSWALKS**  
WHEN WORKING ON THE SIDEWALK, THE CONTRACTOR SHALL SET UP TRAFFIC CONTROL PER THE CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) OR THE 2012 WATCH MANUAL. ALL EXCAVATIONS WITHIN PEDESTRIAN WALKWAYS SHALL BE STEEL PLATED AND FEATHERED WITH ASPHALT WHEN OFFSITE. A MINIMUM WIDTH OF FIVE (5') FEET OF PEDESTRIAN ACCESS SHALL BE MAINTAINED ON SIDEWALKS AND WITHIN CROSSWALKS AT ALL OTHERS TIMES. FULL SIDEWALK CLOSURES SHALL BE COORDINATED AND APPROVED BY THE LOS ANGELES DEPARTMENT OF TRANSPORTATION (LADOT) AND THE STREET USE DIVISION OF THE BUREAU OF STREET SERVICES. FOR CLOSURE OF A SIGNALIZED CROSSWALK, THE ENTIRE PEDESTRIAN INDICATION SHALL BE COVER WITH A COVER MANUFACTURED FOR THAT PURPOSE. CARDBOARD, PLASTIC SHEETS, OR OTHER FIELD FABRICATED COVERS SHALL NOT BE USED. PEDESTRIAN PUSH BUTTONS MESSAGE SIGNS SHALL BE REMOVED AND/OR A PEDESTRIAN PUSH BUTTON ASSEMBLY COVER INSTALLED.

**WORKSITE TRAFFIC CONTROL PLAN REQUIREMENTS**

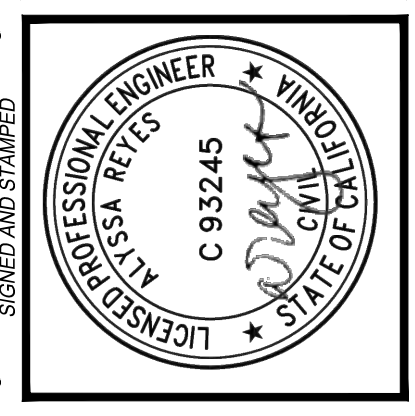
- THE FOLLOWING STREET REQUIRES WORKSITE TRAFFIC CONTROL PLAN: BURBANK BLVD, KESTER AVE, AND MAGNOLIA BLVD.
- LADOT RESERVES THE RIGHT TO OBSERVE THE WORKSITE TRAFFIC CONTROL PLANS IN USE AND TO MAKE ANY CHANGES NECESSITATED BY FIELD CONDITIONS, INCLUDING THE CHANGE OF WORK HOURS IF NECESSARY. THESE CHANGES SHALL SUPERSEDE THE PLAN(S) AND WILL BE IMPLEMENTED SOLELY AT THE CONTRACTOR'S EXPENSE.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR PERFORMING WORK ON A CITY STREET TO INSTALL AND MAINTAIN THE TRAFFIC CONTROL DEVICES AS SHOWN ON THE APPROVED WORKSITE TRAFFIC CONTROL PLAN(S). THE CONTRACTOR MUST ALSO MAINTAIN ANY ADDITIONAL TRAFFIC CONTROL DEVICES THAT MAY BE REQUIRED BY LADOT TO INSURE THE SAFE MOVEMENT OF VEHICULAR AND PEDESTRIAN TRAFFIC THROUGH OR AROUND THE WORK AREA, AND PROVIDE MAXIMUM PROTECTION AND SAFETY TO CONSTRUCTION WORKERS.

- ALL TRAFFIC CONTROL DEVICES SHALL BE KEPT IN THEIR PROPER POSITION AT ALL TIMES AND SHALL BE REPAIRED, REPLACED, OR CLEANED AS NECESSARY TO PRESERVE THEIR APPEARANCE AND CONTINUITY.
- CONSTRUCTION STAGING - THE CONTRACTOR SHALL STAGE CONSTRUCTION TO BE COMPATIBLE WITH THE APPROVED WORKSITE TRAFFIC CONTROL PLAN(S), CONSTRUCTION HOURS, TRAFFIC LANE(S), AND PEDESTRIAN REQUIREMENTS.
- REMOVAL AND/OR RESTORATION OF STRIPING AND PAVEMENT MARKINGS - REMOVAL OF STRIPING AND PAVEMENT MARKINGS MAY BE ACCOMPLISHED BY SAND BLASTING, TURBO-BLASTING, OR LADOT APPROVED ROTARY GRINDING METHOD. COVERING EXISTING STRIPING WITH BLACK PAINT IS NOT PERMITTED BY LADOT. TEMPORARY MAINTENANCE OF STRIPING SHALL BE CONDUCTED USING TRAFFIC DETOUR TAPE, PAINT, OR FLOPPIES UNTIL THE COMPLETION OF THE PROJECT. THE CONTRACTOR SHALL NOTIFY LADOT TO SCHEDULE INSPECTION AND APPROVAL OF ALL MARKOUT LINES PRIOR TO THE INSTALLATION OF DETOUR OR RESTORATION STRIPING.
- ALL DAMAGED AND DESTROYED STRIPING AND PAVEMENT MARKINGS SHALL BE RESTORED UTILIZING THERMOPLASTIC MATERIALS PER LADOT SPECIFICATIONS UNLESS OTHERWISE SPECIFIED BY THE PROJECT ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF TEMPORARY STRIPING FOR ALL OF THE OBLITERATED CENTER LINES, LANE LINES, PAVEMENT MARKINGS AND CROSSWALKS.
- THE CONTRACTOR IS REQUIRED TO HAVE A COPY OF THE APPROVED PERMIT AND TRAFFIC CONTROL PLANS AT THE WORKSITE AT ALL TIMES WHILE WORKING IS BEING CONDUCTED.
- THE CONTRACTOR IS ADVISED THAT THERE MAY BE GROUNDWATER PRESENT AT APPROXIMATELY 10 FT BELOW GROUND SURFACE PER EXISTING SOIL BORING LOG DATA REPORT SHOWN ON SHEET R-8. THE CONTRACTOR SHALL SUBMIT GROUNDWATER CONTROL PLAN TO ENGINEER FOR APPROVAL PRIOR TO EXCAVATION WORK AT LOCATION(S) WHERE GROUNDWATER IS PRESENT.
- THE CONTRACTOR SHALL OBTAIN REQUIRED PERMITS FROM THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY FOR CONSTRUCTION OF TRENCHES AND EXCAVATIONS OVER FIVE FEET DEEP. THE CONTRACTOR SHALL SUBMIT PROOF OF PERMIT TO THE INSPECTOR.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE RULES AND REGULATIONS. SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- PRIOR TO START OF ANY STRUCTURE DEMOLITION WORKS, THE CONTRACTOR SHALL SUBMIT METHOD OF CONTROLLING DUST, NOISE, AND FLYING DEBRIS ARISING FROM DEMOLITION WORKS TO ENGINEER FOR APPROVAL.
- THE CONTRACTOR SHALL NOT SHUT OFF WATER SERVICE AT THE CURB AT ANY TIME PER CITY OF LOS ANGELES RULES GOVERNING WATER AND ELECTRIC SERVICE, RULE 16-W, SECTION A.3. SHOULD THE CONTRACTOR REQUIRE THE WATER SERVICE TO BE SHUT OFF TO THE PRIVATE PROPERTY, ARRANGEMENTS SHALL BE MADE SOLELY BY THE CONTRACTOR WITH THE PROPERTY OWNER AND THE CONTRACTOR SHALL PROVIDE THE PROPERTY OWNER WITH AT LEAST 48 HOURS PRIOR NOTICE.

### 33. GEOTECHNICAL NOTES:

- REFERRING TO THE GEOTECHNICAL INVESTIGATION REPORT THAT IS A PART OF THIS PROJECT, MOST OF THE MATERIALS WITHIN THE PROJECT AREA SHOULD BE READILY EXCAVATED BY CONVENTIONAL EARTHMOVING EQUIPMENT IN GOOD OPERATING CONDITION. ALL TEMPORARY EXCAVATIONS SHALL CONFORM TO THE STATE OF CALIFORNIA CONSTRUCTION SAFETY ORDERS (CAL/OSHA). UNSURCHARGED EXCAVATIONS DEEPER THAN 5 FEET TO A MAXIMUM OF 12 FEET SHALL BE SLOPED AT A 1.5:1 (H:V) OR FLATTER INCLINATION FROM THE EXISTING GROUND SURFACE TO THE BOTTOM OF THE EXCAVATION OR SHOULD BE SHORED. ANY EXCAVATION THAT ENTERS THE INFLUENCE ZONE, 1:1 (H:V) PROJECTION DOWNWARD, OF AN ADJACENT STRUCTURE OR UTILITY SHALL UTILIZE SHORING.
- SHORING SHALL COMPLY WITH THE CALIFORNIA ADMINISTRATIVE CODE, TITLE 8; CONSTRUCTION SAFETY ORDERS, "INJURY AND ILLNESS PREVENTION - SAFETY MEASURES" OF THE GENERAL CONDITIONS AND "EXCAVATION SHORING, FORMS & FALSEWORK" OF THE GENERAL REQUIREMENTS. SHORING PLANS AND CALCULATIONS SHALL BE PREPARED BY A STATE OF CALIFORNIA REGISTERED CIVIL ENGINEER AND SUBMITTED TO THE BOE FOR REVIEW AND APPROVAL. SHORING PLANS SHALL BE DESIGNED IN ACCORDANCE WITH THE FOLLOWING:

ALL SHORING IN PUBLIC RIGHT OF WAY SHALL BE IN ACCORDANCE WITH SECTION 306-4 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION (SSPWC), TITLE 8, DIVISION 1, CHAPTER 4, SUBCHAPTER 4 OF THE CALIFORNIA CODE OF REGULATIONS: CAL/OSHA CONSTRUCTION SAFETY ORDERS. UNLESS NOTED OTHERWISE ELSEWHERE WITHIN THE CONTRACT DOCUMENT, TYPE "C" CONDITIONS SHALL BE ASSUMED FOR ALL



VERTICAL CONTROL: NAD83, EPOCH 1981.0	GENERAL NOTES
HORIZONTAL CONTROL: NAD83, EPOCH 1981.0 (FEB 1981) PG 108 & 102	PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.
SHEET TITLE:	ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

DATE: 10/22/24	BY: AR
REVISIONS:	
1	

CITY ENGINEER: TED ALLEN, P.E.	DESIGN GROUP: AHMED AMARRAGY, EIT
ENGINEER: AHMED AMARRAGY, EIT	DESIGNED BY: ALYSSA REYES, P.E.
DESIGNED BY: ALYSSA REYES, P.E.	DRAWN BY: NOEL LOPEZ
DRAWN BY: NOEL LOPEZ	CHECKED BY: MARY THOMAS, P.E.
CHECKED BY: MARY THOMAS, P.E.	APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.
APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.	

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SHEET NAME: CG002  
SHEET 5 OF 51 SHEETS



EXCAVATIONS/SHORING REQUIRED AND ALL COSTS ASSOCIATED WITH THESE CONDITIONS SHALL BE INCLUDED IN THE BID.

SOLDIER PILES OR SHEET PILES MAY BE USED TO SUPPORT VERTICAL CUTS. AN ACTIVE EQUIVALENT FLUID PRESSURE (EFP) IN POUNDS PER CUBIC FOOT (PCF) INDICATED AS THE CANTILEVER LOADING PER TABLE 1 SHALL BE USED FOR SHORING DESIGN. BRACED SHORING IS RECOMMENDED FOR EXCAVATIONS GREATER THAN 15 FEET IN DEPTH AND IN AREAS WHERE SHORING WILL BE LOCATED CLOSE TO EXISTING UTILITIES OR OTHER INFRASTRUCTURE TO LIMIT SHORING DEFLECTIONS. BRACED SHORING CAN BE DESIGNED USING A UNIFORM RECTANGULAR PRESSURE IN POUNDS PER SQUARE FOOT (PSF) PER THE BRACED LOADING IN TABLE 1, WHERE H IS EQUAL TO THE DEPTH OF THE EXCAVATION IN FEET BEING SHORED. THIS DESIGN ASSUMES A LEVEL BACKSLOPE (FLATTER THAN 5:1) AND THAT NO HYDROSTATIC PRESSURE IS ALLOWED TO DEVELOP BEHIND THE SHORING. IF SLOPES STEEPER THAN 5:1 ARE PRESENT WITHIN A LATERAL DISTANCE EQUAL TO THE DEPTH OF EXCAVATION, THE SOIL LOADS PRESENTED IN TABLE 1 SHALL BE INCREASED BASED ON THE GRADIENT OF THE ADJACENT SLOPE. THE INCREASE SHALL BE BASED ON THE RELATIVE PRESSURES FOR SLOPED CONDITIONS PROVIDED IN SECTION H373.1 OF THE BUREAU OF ENGINEERING STRUCTURAL DESIGN MANUAL.

IN ADDITION TO THE LATERAL PRESSURE FROM RETAINED EARTH, LATERAL PRESSURES FROM OTHER SUPERIMPOSED LOADS, SUCH AS THOSE FROM VEHICLE TRAFFIC AND ADJACENT STRUCTURES SHALL BE ADDED TO THE ABOVE LATERAL EARTH PRESSURES, IF THE LOADS FALL WITHIN A 1:1 PROJECTION OF THE SHORING. A SURCHARGE LOAD EQUIVALENT TO AN ADDITIONAL 100 POUNDS PER SQUARE FOOT SHALL BE APPLIED TO THE UPPER 10 FEET OF SHORING IF LIGHT VEHICULAR TRAFFIC IS EXPECTED WITHIN 0.7H FEET OF THE FACE OF THE SHORING, OR 20 FEET, WHICHEVER IS LESS. IF LOCATED WITHIN 20 FEET LATERALLY OF HEAVIER TRAFFIC LOADING SUCH AS THE FREEWAY, A SURCHARGE LOAD OF 100 PSF SHALL BE APPLIED TO THE UPPER 20 FEET OF THE EXCAVATION. IF LOCATED WITHIN 10 FEET OF HEAVIER TRAFFIC LOADING, THE SURCHARGE ON THE UPPER 10 FEET SHALL BE INCREASED TO 200 PSF. HEAVY CONSTRUCTION EQUIPMENT, ITS WHEELS OR OUTRIGGER LOADS THAT ARE LOCATED WITHIN A DISTANCE EQUAL TO 0.7H FEET OF THE FACE OF THE SHORING WILL BE CONSIDERED AS SURCHARGE LOADS IN THE SHORING CALCULATIONS.

THE SHORING DESIGN MUST CONSIDER SUPPORT OF THE PROPOSED ADJACENT PAVEMENTS, STRUCTURES, AND/OR UNDERGROUND UTILITIES. ALSO, THE EFFECTS OF SHORING DEFLECTION ON SUPPORTED PIPELINES AND STRUCTURES SHALL BE CONSIDERED. SOLID SHEETING SHALL BE USED IN GRANULAR SOILS. ANY AND ALL VOIDS THAT DEVELOP BEHIND THE SHORING SYSTEM SHALL BE BACKFILLED WITH SAND-CEMENT SLURRY OR CLEAN SAND (SAND EQUIVALENT AT LEAST 20) IMMEDIATELY. ALL SHORING SHALL BE DESIGNED FOR A MAXIMUM DEFLECTION OF 1-INCH. SHORING WITHIN THE INFLUENCE ZONE OF STRUCTURES OR NEAR SENSITIVE UTILITIES SHALL BE DESIGNED FOR A MAXIMUM DEFLECTION OF 1/4 INCH.

RESISTANCE OF SHORING TO LATERAL LOADS WILL BE PROVIDED BY PASSIVE EARTH PRESSURE. AN ALLOWABLE PASSIVE BEARING MAY BE TAKEN AS AN EQUIVALENT LOAD PER FOOT OF DEPTH (PSF PER FOOT) PER PASSIVE VALUES IN TABLE 1 UP TO THE PASSIVE MAXIMUM VALUES IN TABLE 1. PASSIVE RESISTANCE MAY BE CONSIDERED AS STARTING AT 1-FOOT BELOW THE BOTTOM OF EXCAVATION. THESE PASSIVE PRESSURES ARE APPLICABLE WHEN SLURRY OR CONCRETE IS USED TO BACKFILL THE SOLDIER PILES. GRANULAR BACKFILL SHALL NOT BE USED FOR BACKFILL OF SHORING PILES BELOW DEPTH OF EXCAVATION WITHOUT SPECIFIC APPROVAL FROM GED. IF SLURRY IS USED AS BACKFILL BELOW THE PROPOSED DEPTH OF EXCAVATION, THEN THE EFFECTIVE WIDTH OF THE PILE FOR THE PURPOSE OF CALCULATING PASSIVE RESISTANCE SHALL BE TAKEN AS THE WIDTH OF THE STEEL BEAM. IF STRUCTURAL CONCRETE IS USED THEN THE EFFECTIVE WIDTH OF THE PILE FOR THE PURPOSE OF CALCULATING PASSIVE RESISTANCE SHALL BE TAKEN AS THE WIDTH OF THE DRILLED HOLE. ALLOWABLE PASSIVE PRESSURE MAY BE DOUBLED FOR PILES SPACED 2.5 DIAMETERS ON CENTER.

WHERE CAVING SOILS ARE ENCOUNTERED, CASING OR OTHER METHODS APPROVED BY THE GEOTECHNICAL ENGINEER OF RECORD SHALL BE USED TO SUPPORT THE SIDES OF THE EXCAVATIONS. THE INSIDE DIAMETER OF CASING SHALL BE AT LEAST AS LARGE AS THE DIAMETER OF THE PILE AS INDICATED ON THE PLANS. DRILLING SHALL BE ACCOMPLISHED WITHIN THE CASING. IF DRILLING FLUIDS ARE PROPOSED TO SUPPORT THE SIDES OF THE EXCAVATION, THE FLUID DATA AND MEANS OF APPLICATION WILL BE SUBMITTED AND APPROVED BY GED BEFORE USAGE. ANY TEMPORARY CASING SHALL BE RAISED SLOWLY AS THE PILE EXCAVATION IS FILLED WITH SLURRY/CONCRETE, PROVIDED THAT THE BOTTOM OF THE CASING IS ALWAYS A MINIMUM OF 3 FEET BELOW THE LEVEL OF THE SLURRY/CONCRETE.

SHORING SHALL FULLY SUPPORT THE SOIL AROUND THE EXISTING UTILITIES. AT NO TIME SHALL SHEETING/ LAGGING BE CONNECTED TO ANY EXISTING UTILITIES. TRENCH BOX OR SHIELD SYSTEMS MUST PROVIDE DIRECT SUPPORT OF THE EXCAVATION SIDES AND REQUIRE GED APPROVAL BEFORE IMPLEMENTATION.

**Table 1 – Shoring Design Load**

Cantilever Active (psf/ft)	Passive (PSF/FT)	Maximum Passive (PSF)	Braced (PSF)
36	300	3,000	28H

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING ANY GROUNDWATER AND SURFACE RUNOFF DURING EXCAVATION, SHORING AND BACKFILLING. THE CONTRACTOR SHALL REVIEW THE PROJECT GEOTECHNICAL REPORT FOR INFORMATION ON GROUNDWATER IN THE PROJECT AREA. IF GROUNDWATER IS ENCOUNTERED WITHIN THE DEPTH OF EXCAVATION, ADDITIONAL RECOMMENDATIONS WILL BE PROVIDED.

D. GRANULAR MATERIAL ENCOUNTERED IN EXCAVATIONS FOR THE PROJECT WILL BE SUITABLE FOR USE AS BACKFILL UNDER THE OBSERVATION OF A CITY INSPECTOR. PREVIOUS BORINGS SHOW SIGNIFICANT AMOUNTS OF CLAYS AND SILTS SIGNIFICANTLY ABOVE THE OPTIMUM MOISTURE CONTENT. THESE SOILS WOULD HAVE TO BE DRIED BEFORE EFFECTIVE COMPACTION AND MAY NOT BE EFFICIENT FOR USE AS BACKFILL. HIGHLY PLASTIC CLAY OR ROCK GREATER THAN 3 INCHES IN DIAMETER ARE NOT SUITABLE FOR BACKFILL AND SHALL BE REMOVED FROM THE SITE. ALL UNSUITABLE MATERIAL BELOW THE BASE OF NEW OR RECONSTRUCTED MAINTENANCE HOLES, AS DETERMINED BY THE INSPECTOR OR THE ENGINEER, SHALL BE REMOVED AND REPLACED WITH IMPORT SOIL OR CEMENT SLURRY. COSTS WILL BE PAID OUT THE ASSOCIATED BID ITEM. IF IMPORT MATERIALS ARE REQUIRED FOR BACKFILL, THEY SHALL BE PREDOMINANTLY GRANULAR IN NATURE WITH AT LEAST 80% PASSING THE U.S. STANDARD #4 SIEVE AND NO MORE THAN 25% MOSTLY NON-PLASTIC MATERIAL PASSING THE NO. 200 SIEVE. IMPORT MATERIAL SHALL HAVE LOW EXPANSIVE POTENTIAL (EI LESS THAN 50) AND SHALL BE UNCONTAMINATED AND FREE OF ORGANIC OR INORGANIC DEBRIS AND MATERIALS LARGER THAN 3 INCHES. IMPORT MATERIAL SHALL BE TESTED AND APPROVED BY THE PROJECT ENGINEER PRIOR TO IMPORTING TO THE JOB SITE.

E. ALL SOIL USED FOR BACKFILL SHALL BE CLEANED OF ORGANICS, HAZARDOUS MATERIALS AND ALL DEBRIS LARGER THAN 3 INCHES PRIOR TO PLACEMENT AS BACKFILL. ALTERNATIVELY, THE CONTRACTOR MAY USE 1 SACK OF CEMENT PER CUBIC YARD OF CONCRETE LOW STRENGTH MATERIAL (CLSM) PER THE SSPWC. ALL BACKFILLING PUBLIC RIGHT OF WAY SHALL BE PLACED IN CONFORMANCE WITH SECTION 306-1.3 OF THE SSPWC, LATEST EDITION, AND BROWN BOOK MODIFICATIONS. FLOODING OF ANY TYPE IS NOT ALLOWED UNDER ANY CIRCUMSTANCE.

F. SOILS WHICH HAVE VISIBLE STAINING OR AN ODOR SHOULD BE SEGREGATED AND STOCKPILED. THE GEOTECHNICAL ENGINEERING DIVISION (GED) SHOULD BE IMMEDIATELY NOTIFIED AT 213-847-0525. THE STOCKPILES SHOULD BE BARRICADED NEAR THE EXCAVATION AREA, AWAY FROM DRAINAGE AREAS OR CATCH BASINS, ON AN IMPERMEABLE PLASTIC LINER (6 MIL NOMINAL THICKNESS AND TESTED AT 100 PSI STRENGTH). CAUTION MUST BE TAKEN TO SEPARATE ANY CONTAMINATED SOIL FROM THE REMAINDER OF THE EXCAVATED MATERIAL. THE SOIL WILL THEN BE SAMPLED IN A RANDOM AND REPRESENTATIVE MANNER UNDER THE DIRECTION OF GED. SAMPLES WILL BE TESTED BY A STATE-CERTIFIED ENVIRONMENTAL LABORATORY. FOLLOWING RECEIPT OF THE ANALYTICAL RESULTS THE SOIL WILL BE CLASSIFIED AS HAZARDOUS OR NON HAZARDOUS. THE BUREAU OF CONTRACT ADMINISTRATION INSPECTOR FOR THE PROJECT SHALL BE NOTIFIED OF ALL CONTAMINATED MATERIAL REMOVALS, AND WILL DOCUMENT ALL QUANTITIES, HELP INSURE SOIL SEGREGATION AND ENSURE COPIES OF SIGNED MANIFESTS ARE RETAINED FOR THE CITY RECORDS.

34. **SITE INVESTIGATION REPORT:**  
THE GEOTECHNICAL ENGINEERING REPORT (GED FILE NO. 21-013) DATED DECEMBER 3, 2021, PREPARED BY THE GEOTECHNICAL ENGINEERING DIVISION (GED).

35. **MILESTONES:**  
THE FOLLOWING SCHEDULE CONSTRAINTS HAVE BEEN ESTABLISHED FOR THIS PROJECT. THE CONTRACTOR SHALL CONFORM TO THESE MILESTONES AND ANY DELAYS SHALL RESULT IN LIQUIDATED DAMAGES SET HEREIN.

**MILESTONE 1 – CCTV 3D SONAR AND LASER PROFILE REPORT**  
THE CONTRACTOR SHALL CONDUCT THE SEWER'S 3D SONAR AND LASER PROFILE AND PRE-CCTV BETWEEN THE UPPER LIMIT OF THE PROJECT AND PIT #1 WITHIN 30 CALENDAR DAYS AFTER THE PRE-CONSTRUCTION SAFETY MEETING TO VERIFY THE CURVES WITHIN THESE SECTIONS AND ASSESS THE EXISTING SEWER HOLES. THE LASER AND SONAR INFORMATION SHALL BE USED TO DETERMINE THE LINER SECTIONS REQUIRED ALONG THE SEWER'S CURVES. THE LASER AND SONAR REPORTS SHALL BE SUBMITTED TO THE PROJECT ENGINEER NO LATER THAN 60 CALENDAR DAYS AFTER THE PRE-CONSTRUCTION SAFETY MEETING. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE FULL INSPECTION REPORT WHICH SHALL INCLUDE DATA, VIDEO, GRAPHS, IMAGES AND GRAPHICS, ETC. THE CONTRACTOR SHALL USE THE FINDINGS TO VERIFY THE TOTAL LINER FOOTAGE REQUIRED FOR THE PROJECT. THE CONTRACTOR SHALL PERFORM THIS WORK WITHIN THE LIMITS OF THE EXISTING SEWER EASEMENTS AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL COORDINATE WITH CALTRANS AND DEPARTMENT OF RECREATION AND PARKS FOR INGRESS AND EGRESS TO ACCESS THE SEWER ON THE RESPECTIVE PROPERTIES. THE CONTRACTOR'S BASELINE SCHEDULE SHALL REFLECT THE TIME FOR THIS WORK AND SHALL NOT BE A BASIS FOR ADDITIONAL CONTRACT TIME OR MONETARY COMPENSATION BY THE CONTRACTOR.

**MILESTONE 2 – PROCUREMENT OF REHABILITATION LINER**  
FOR STRAIGHT SEGMENTS, THE CONTRACTOR SHALL SUBMIT THE PURCHASE ORDER FOR THE PROCUREMENT OF THE REHABILITATION LINER IN ACCORDANCE WITH TECHNICAL SPECIFICATION 02570, REINFORCED POLYMER MORTAR PIPE (RPMP) WITHIN 30 CALENDAR DAYS AFTER THE NOTICE TO PROCEED. FOR CURVE SEGMENTS AND SPECIAL FITTINGS, INCLUDING THOSE IDENTIFIED UNDER MILESTONE 1, THE CONTRACTOR SHALL START THE PROCUREMENT OF THE REHABILITATION LINER RPMP WITHIN 30 DAYS AFTER COMPLETION OF MILESTONE NO. 1.

**MILESTONE 3 - THE CONTRACTOR SHALL SUBMIT THE CALTRANS ENCROACHMENT PERMIT AND TRAFFIC CONTROL PLAN APPLICATION TO CALTRANS WITHIN 60 CALENDAR DAYS FROM THE NTP. THE CONTRACTOR SHALL START THE FOLLOWING TASKS CONCURRENTLY WITH AND FOLLOWING THE SUBMITTAL OF APPLICATIONS TO CALTRANS: PREPARATION OF THE CIPP MATERIAL SUBMITTAL, PREPARATION OF THE LINING MATERIAL APPROVAL, FABRICATION AND DELIVERY OF CIPP, FABRICATION AND DELIVERY OF LINING MATERIALS, CONSTRUCTION OF PITS WITHIN CALTRANS ROW, CLEANING OF REACHES WITHIN CALTRANS ROW, REHABILITATION OF REACHES WITHIN CALTRANS ROW, AND SITE RESTORATION OF PITS WITHIN CALTRANS ROW.**

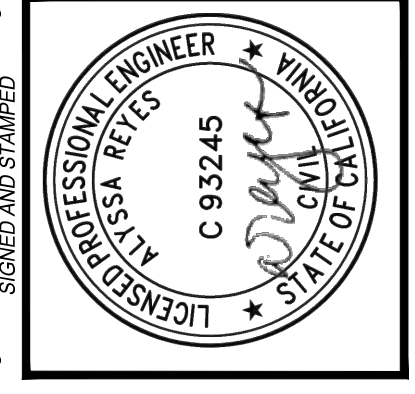
**MILESTONE 4 – WORK ON CALTRANS INTERSTATE 134 FREEWAY**  
CONTRACTOR SHALL COMMENCE WORK WITHIN CALTRANS ROW (WHERE ACCESS PITS 4, 5, 6, AND 7 ARE LOCATED) BEFORE COMMENCING WORK AT THE REMAINING PROJECT LOCATIONS. THE CONTRACTOR SHALL OBTAIN APPROVAL OF THE TRAFFIC CONTROL PLAN WITH CALTRANS FOR THIS WORK AS SPECIFIED ON NOTE

3 ON SHEET CU104. THE CONTRACTOR SHALL PERFORM ALL WORK WITHIN THE CALTRANS I-134 FREEWAY WITHIN 90 DAYS AFTER THE WORKSITE TRAFFIC CONTROL PLANS AND CALTRANS ENCROACHMENT PERMIT ARE APPROVED.

**LIQUIDATED DAMAGES:**  
LIQUIDATED DAMAGES FOR FAILURE OR REFUSAL TO ACHIEVE THE ABOVE MILESTONES AND WORK RESTRICTIONS WILL ACCRUE CUMULATIVELY WITH OTHER MILESTONES AND SEPARATELY FORM THE PROJECT'S CONSTRUCTION COMPLETION DATE. LIQUIDATED DAMAGES OF \$4,000/CALENDAR DAY PLUS ANY CITY APPROVED CLAIMS PER MILESTONE DATE OF VIOLATION SHALL BE APPLIED WHEN THE CONTRACTOR FAILS TO COMPLETE SPECIFIC WORK WITHIN THE SCHEDULED TIME IMPOSED BY EACH OF THE MILESTONES LISTED ABOVE.

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REVISION DATES (DESIGN STAGE ONLY)



**BUREAU OF ENGINEERING**

VERTICAL CONTROL: NTP/025 - 1025 ADA (TRANS. REG.)  
HORIZONTAL CONTROL: NAD83, EPOCH 1985 (FEB 1985-197 PG 108 & 102)

SHEET TITLE: GENERAL NOTES

PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.

ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

**DEPARTMENT OF PUBLIC WORKS**

DATE: 10/22/24 AR

BY: [Signature]

INDEX NO. C960

SHEET TYPE

**CITY OF LOS ANGELES**

DESIGN GROUP: AHMED AMARRAGY, EIT

ENGINEER: AHMED AMARRAGY, EIT

DESIGNED BY: ALYSSA REYES, P.E.

DRAWN BY: NOEL LOPEZ

CHECKED BY: MARY THOMAS, P.E.

APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

WORK ORDER NO. SZC13947

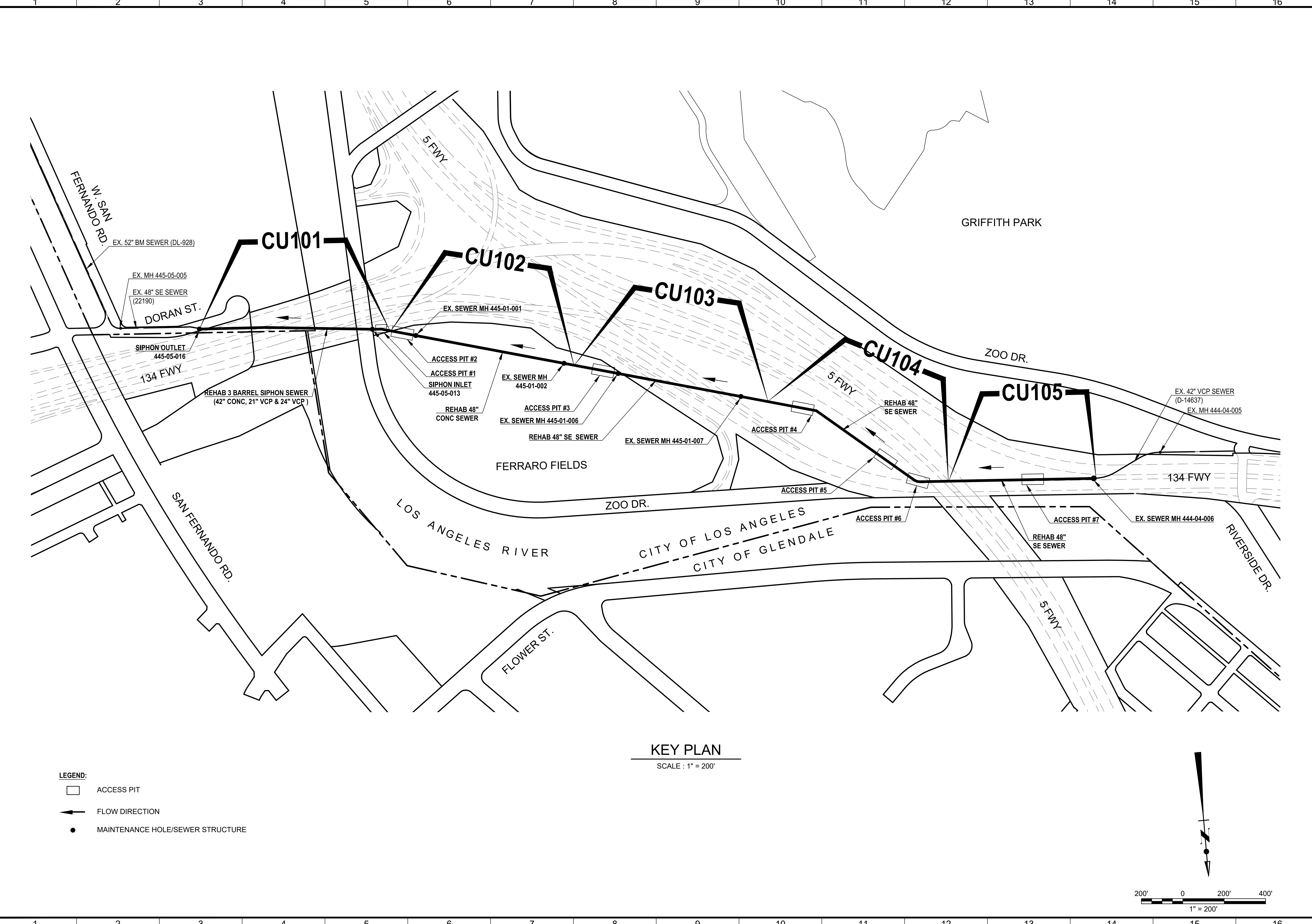
SHEET NAME: CG003

SHEET 6 OF 51 SHEETS

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

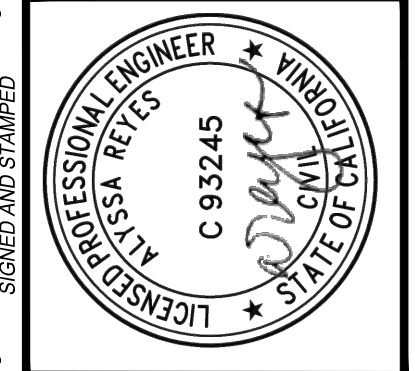
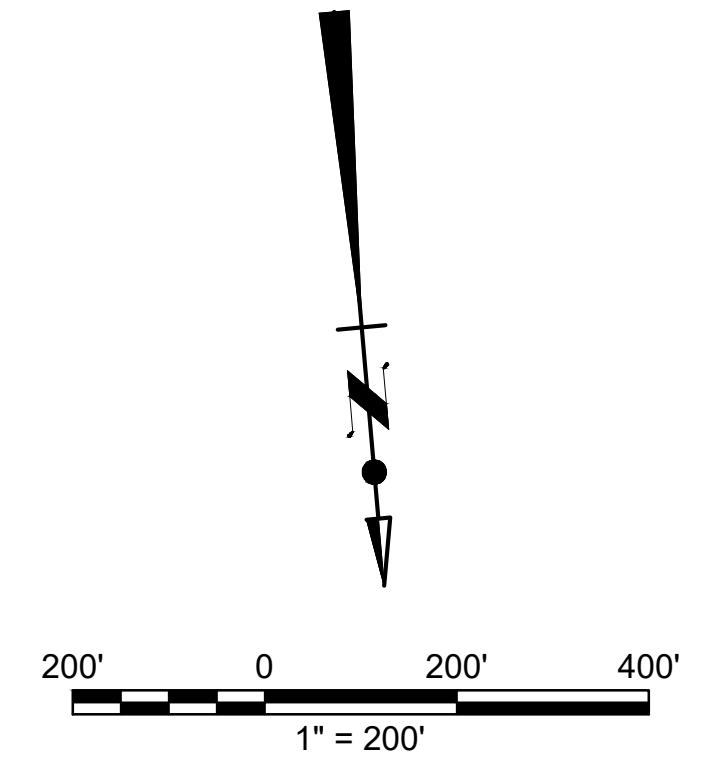
REVISION DATES (DESIGN STAGE ONLY)

Sheet Version 4.0



- LEGEND:**
- ACCESS PIT
  - FLOW DIRECTION
  - MAINTENANCE HOLE/SEWER STRUCTURE

**KEY PLAN**  
SCALE : 1" = 200'



**BUREAU OF ENGINEERING**

VERTICAL CONTROL:	NO. 1024 - 1024 ADJ (R&MS) (REV)
HORIZONTAL CONTROL:	NADES. EPOCH 1 1991.5 (FEB 165-197 PG 108 & 102)
SHEET TITLE:	KEY MAP
PROJECT:	NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.
ADDRESS:	ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

**DEPARTMENT OF PUBLIC WORKS**

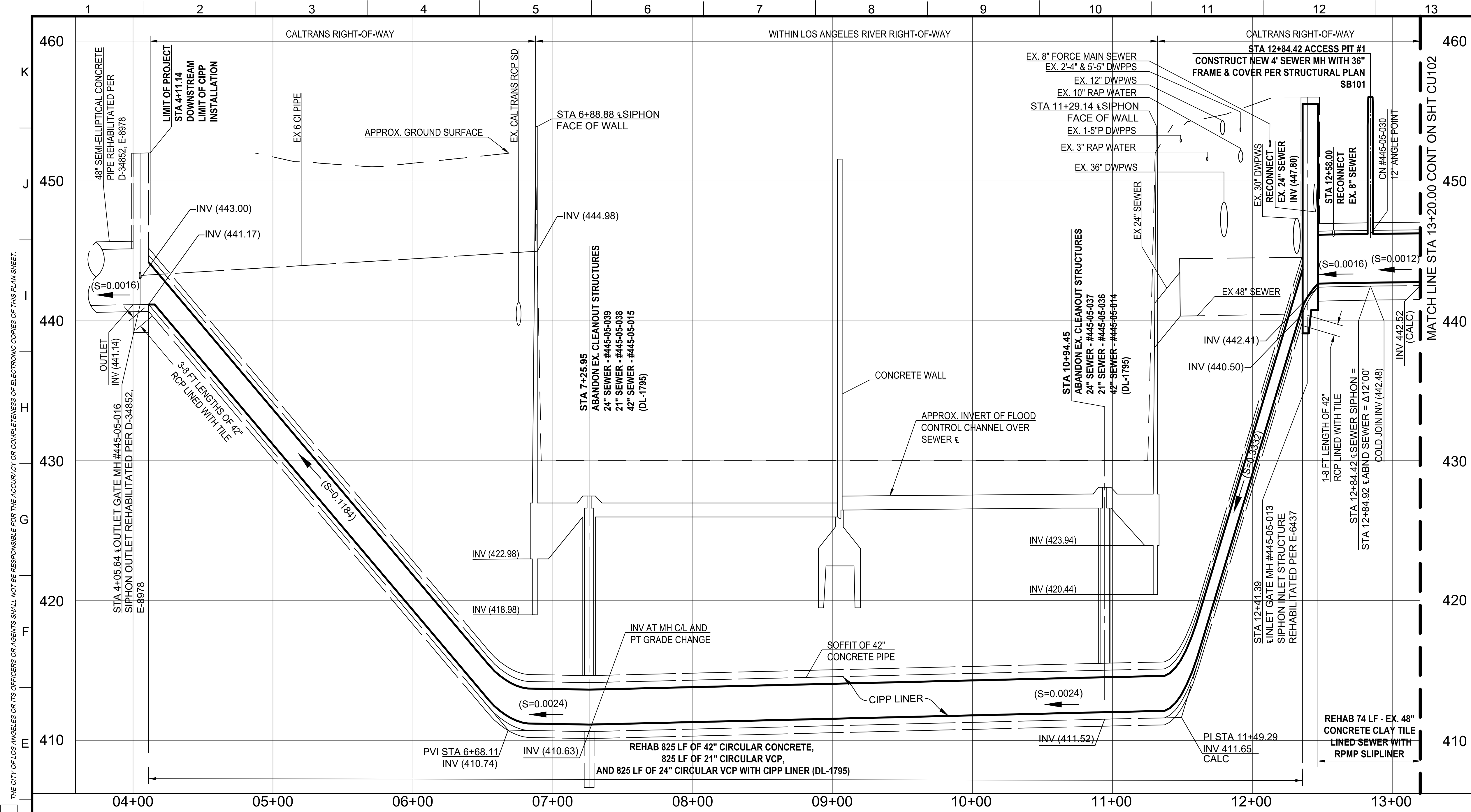
DATE:	BY:
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NO. REVISIONS:	REVISION TOTAL NUMBER OF SHEETS
1	
INDEX NO.	SHEET TYPE
	C960

**CITY OF LOS ANGELES**

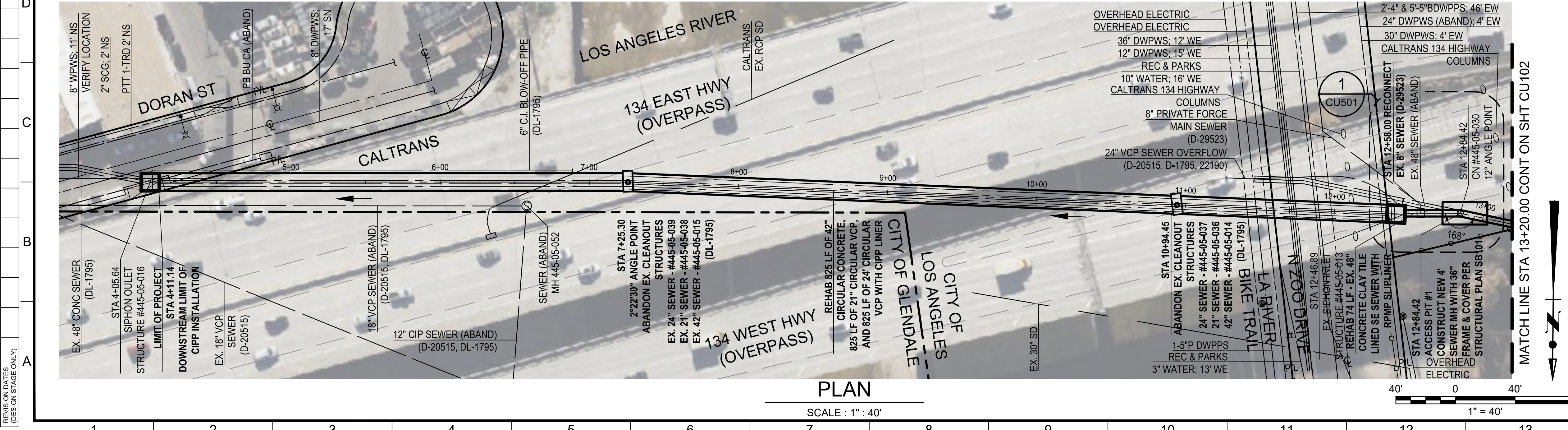
CITY ENGINEER:	DATE:
TED ALLEN, P.E.	
DESIGN GROUP:	ENGINEER:
AHMED AMARRAGY, EIT	
DESIGNED BY:	DRAWN BY:
ALYSSA REYES, P.E.	NOEL LOPEZ
CHECKED BY:	APPROVED BY:
MARY THOMAS, P.E.	EDWARD ARRINGTON, S.E., ENV. SP.

WORK ORDER NO.  
**SZC13947**

SHEET NAME  
**CS001**  
SHEET 7 OF 51 SHEETS



**PROFILE**  
SCALE: HORIZ: 1" = 40' VERT: 1" = 4'



**PLAN**  
SCALE: 1" = 40'

**NOTES :**

- SIPHON CLEANOUT STRUCTURES**
  - THE SIPHON CLEANOUT STRUCTURES ARE IN THE LOS ANGELES RIVER CHANNEL. THE CONTRACTOR MAY USE THE CLEANOUTS TO CLEAN THE SIPHON ONLY IF NEEDED. THE CONTRACTOR SHALL TAKE EXTREME CARE AND PRESERVE THE EXISTING FRAMES, COVERS, PRESSURE COVERS, AND GASKETS FOR REUSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING THEM AT NO ADDITIONAL COST TO THE CITY.
  - THE FRAME & COVER FOR CLEANOUT #445-05-015/445-05-038/445-05-039 WAS REMOVED AND REPLACED PER EMERGENCY PROJECT SWC01768 ESR - ZOO DRIVE (INDEX NO. E-3281).
  - THE CONTRACTOR SHALL ABANDON THE EXISTING CLEANOUTS BY NOT CORING THE LINER AT BOTH CLEANOUT STRUCTURES.
- SIPHON INLET STRUCTURE**
  - THE SIPHON INLET WAS REHABILITATED WITH ARROW LOCK IN 2015 PER EMERGENCY PROJECT SWC02664 ESR - ZOO DRIVE (5400 BLOCK) (INDEX NO. E-6437).
- CALTRANS**
  - A CALTRANS ENCROACHMENT PERMIT IS REQUIRED FOR THE CONSTRUCTION WITHIN THE CALTRANS RIGHT-OF-WAY FOR ACCESS PIT NO.1 (STA 12+84.92). THE CONTRACTOR SHALL APPLY FOR AND OBTAIN THE PERMIT FROM THE CALTRANS DISTRICT 07 LOCATED AT 100 SOUTH MAIN STREET, SUITE 100, LOS ANGELES CA 90012. THE CALTRANS CONTACT NUMBER IS (213) 897-3656.
  - THE CONTRACTOR SHALL OBTAIN ALL NECESSARY INFORMATION FROM THE CALTRANS ENCROACHMENT MANUAL AND ENCROACHMENT PERMIT WEBSITE AT [HTTPS://DOT.CA.GOV/PROGRAMS/TRAFFIC-OPERATIONS](https://dot.ca.gov/PROGRAMS/TRAFFIC-OPERATIONS).
  - THE CONTRACTOR SHALL SUBMIT THE ENCROACHMENT PERMIT APPLICATION WITH ALL REQUIRED DOCUMENTS INCLUDING BUT NOT LIMITED TO CIVIL PLANS, SPECIFICATIONS, SOIL REPORTS, SHORING DESIGN, AND TRAFFIC CONTROL PLANS WITHIN 60 CALENDAR DAYS FORM THE DATE OF THE ISSUANCE OF THE NTP. THE CONTRACTOR SHALL NOT BE GRANTED A TIME EXTENSION IF THE CONTRACTOR FAILS TO DO SO. THE CONTRACTOR SHALL ALLOW AT LEAST 90 CALENDAR DAYS FOR CALTRANS TO REVIEW AND APPROVE.
- SIPHON OUTLET STRUCTURE**
  - THE SIPHON OUTLET WAS REHABILITATED IN 2019 PER THE PROJECT SZC12796 - NOS REHAB UNIT 18 PROJECT (E-8978). THE SIPHON OUTLET FRAME AND COVER WAS REMOVED AND REPLACED PER EMERGENCY PROJECT SWC01768 ESR - ZOO DRIVE (INDEX NO. E-3281).
  - THE SIPHON OUTLET HAS A REMOVABLE LID. THE CONTRACTOR SHALL VERIFY IF THE OUTLET STRUCTURE HAS SPECIAL JOINTING. IF THE JOINTING BETWEEN THE TANK AND THE LID IS OVERLAID WITH LINER, THEN THE CONTRACTOR SHALL SCORE IT TO PREVENT RIPPING THE LINER.
- DIVERSION**
  - THE CONTRACTOR SHALL REFER TO SHEET CU606 FOR THE DIVERSION PLAN.
- SIPHON SLOPES**
  - THE SLOPE OF THE SIPHON IS 0.1184 BETWEEN STA 4+00.15 AND 6+68.11.
  - THE SLOPE OF THE SIPHON IS 0.0020 BETWEEN STA 6+68.11 AND STA 7+25.30
  - THE SLOPE OF THE SIPHON IS 0.0024 BETWEEN STA 7+25.30 TO STA 11+49.29.
  - THE SLOPE OF THE SIPHON IS 0.3332 BETWEEN STA 11+49.29 AND STA 12+34.81.
- SIPHON CLEANING AND DEBRIS REMOVAL**
  - THE CONTRACTOR SHALL USE THE SIPHON INLET AND OUTLET STRUCTURES TO FACILITATE THE CLEANING AS MUCH AS POSSIBLE PER ITS 02760. THE CONTRACTOR SHALL STATE CLEARLY IN THE CLEANING METHOD SUBMITTAL WHETHER THE CLEANOUT STRUCTURES WILL BE USED AND THE REASONS WHY. THE CONTRACTOR SHALL SHOW HOW THE CONTRACTOR WILL FOLLOW ALL THE REQUIREMENTS SET FORTH IN THE GR 01140 AND THE ATTACHED PERMITS FROM THE REGIONAL WATER QUALITY CONTROL BOARD, US ARMY CORPS OF ENGINEERS (USACE), AND THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW).
- THE LOCATION OF THE 134 HIGHWAY OVERPASS COLUMNS PROVIDED IS TAKEN FROM CALTRANS ASBUILT PLAN D-12099. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF THE COLUMNS AND FOUNDATION AND THEIR DISTANCE TO ACCESS PIT #1 PRIOR TO THE SHORING DESIGN AND CONSTRUCTION OF ACCESS PIT #1.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL SUBSTRUCTURES.
- THE CONTRACTOR SHALL VERIFY CONNECTION OF 8" FORCE MAIN SEWER TO THE 48" NOS AT STA 12+58.00
- SEE SHEETS CU402 AND CU403 FOR ADDITIONAL NOTES.

**ENGINEERING**  
CITY OF LOS ANGELES

**WCED**  
WATER CONSTRUCTION ENGINEERING DESIGN

**PROFESSIONAL ENGINEER**  
ALYSSA REYES  
C 93245  
STATE OF CALIFORNIA

**BUREAU OF ENGINEERING**  
NO. 0024 1972 ADU (RMS) 3E-03  
HORIZONTAL CONTROL: NAD83, EPOCH 1985.5 (FEB 1985) PG 108 & 102

**DEPARTMENT OF PUBLIC WORKS**  
DATE: BY: 10/22/24 AR  
REVISIONS: 1 REVISE NOTES 5A AND 13

**CITY ENGINEER**  
TED ALLEN, P.E.

**DESIGN GROUP**  
AHMED AMARRAGY, EIT

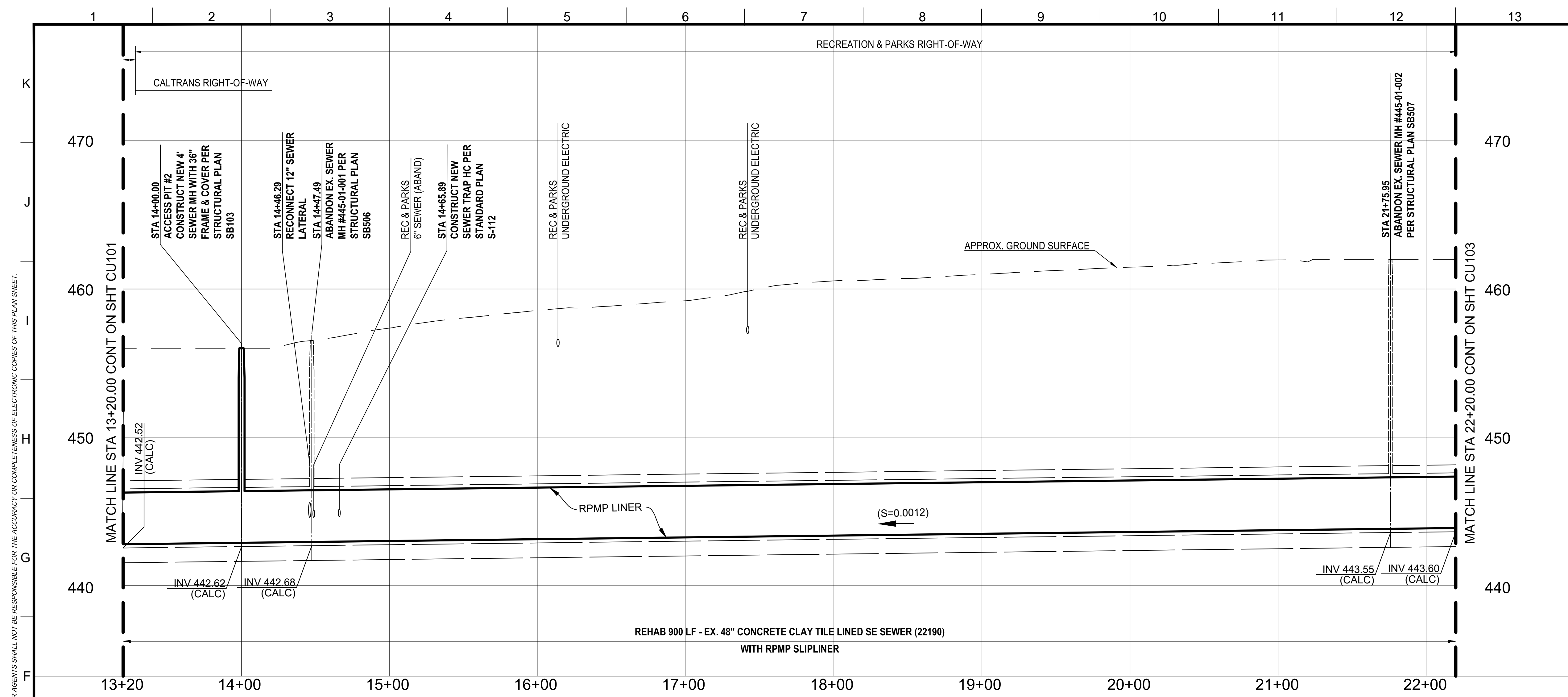
**ENGINEER**  
DESIGNED BY: ALYSSA REYES, P.E.  
DRAWN BY: NOEL LOPEZ  
CHECKED BY: MARY THOMAS, P.E.  
APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

**WORK ORDER NO.**  
SZC13947

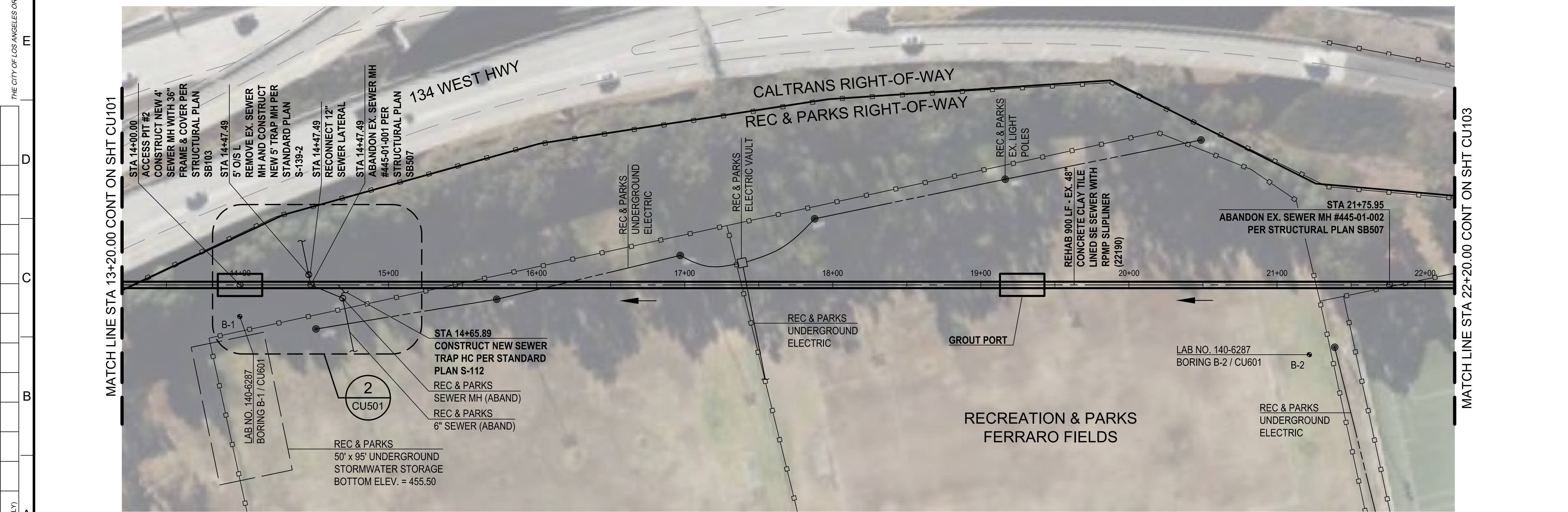
**SHEET NAME**  
CU101

**SHEET 8 OF 51 SHEETS**

VERTICAL CONTROL: NAD83, EPOCH 1985.5 (FEB 1985) PG 108 & 102  
SHEET TITLE: PLAN & PROFILE - STA 4+00.00 TO STA 13+20.00  
PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR.  
ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST., LOS ANGELES, CA  
INDEX NO. C960  
SHEET TYPE




**PROFILE**  
SCALE: HORIZ: 1" = 40' VERT: 1" = 4'




**PLAN**  
SCALE: 1" = 40'

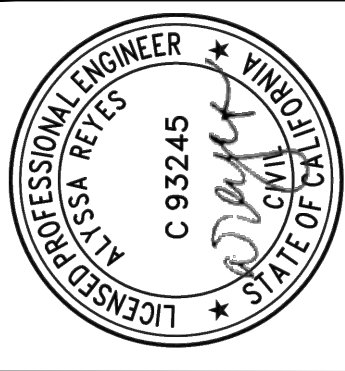
**NOTES :**

1. DEPARTMENT OF RECREATION & PARKS
  - A. THE CONTRACTOR SHALL COORDINATE WITH THE DEPARTMENT OF RECREATION & PARKS STAFF, STEFANIE SMITH AT STEFANIE.SMITH@LACITY.ORG AND JORGE DE LOERA AT JORGE.DELOERA@LACITY.ORG TO ACCESS THE GRIFFITH PARK FERRARO FIELDS PRIOR TO THE START OF CONSTRUCTION AND COMPLETE AND SUBMIT WITH THE PERMITS ATTACHED IN THE CONTRACT DOCUMENTS.
  - B. THE CONTRACTOR SHALL COORDINATE WITH THE DEPARTMENT OF RECREATION & PARKS TO VERIFY THE LOCATION OF UTILITIES SUCH AS GAS, WATER, AND IRRIGATION SYSTEM. THE CONTRACTOR SHALL USE ALL MEANS AND METHODS TO LOCATE THEM PRIOR TO START OF CONSTRUCTION. THE COSTS ASSOCIATED WITH THIS SHALL BE INCLUDED INTO THE CONTRACTOR'S BID.
  - C. THE CONTRACTOR SHALL DOCUMENT THE PRE-EXISTING AND POST-CONSTRUCTION SITE CONDITIONS IN THE FORM OF PICTURES FOR RAP REVIEW. ANY DAMAGE TO PARK PROPERTY SHALL BE RESTORED TO A CONDITION THAT IS EQUAL OR EXCEEDS THE ORIGINAL STATE/CONDITION OF THE ELEMENTS DAMAGED. ALL WORK TO BE PERFORMED SHALL BE VERIFIED WITH THE DEPARTMENT OF RECREATION & PARKS STAFF.
  - D. THE EXISTING MAINTENANCE HOLE #445-01-002 AT STA 21+75.95 IS BURIED BENEATH THE SOCCER FIELD. REFERENCE CU401 FOR ADDITIONAL INFORMATION FOR THE WORK ON RAP RIGHT-OF-WAY AND COORDINATE WITH THE DEPARTMENT OF RECREATION & PARKS PRIOR TO ITS ABANDONMENT.
  - E. CONTRACTOR TO COMPLY WITH THE RAP TREE PROTECTION GUIDELINES AS LISTED IN THE ATTACHEMENTS TO GR 01140.
2. LOS ANGELES ZOO
  - A. THE CONTRACTOR SHALL COORDINATE WITH THE LOS ANGELES ZOO PRIOR TO THE START OF CONSTRUCTION TO REDUCE WATER USAGE. THE LA ZOO CONTACT IS NICK STEFFAN AT NICHOLAS.STEFFAN@LACITY.ORG.
  - B. CONTRACTOR TO FIELD VERIFY THE 12" LATERAL AND RECONNECT AS NEEDED



ENGINEERING  
CITY OF LOS ANGELES





VERTICAL CONTROL: NAD83, EPOCH 1985 (MARS 85.0)

HORIZONTAL CONTROL: NAD83, EPOCH 1985 (FEB 1985-197 FIG 108 & 102)

SHEET TITLE: PLAN & PROFILE - STA 13+20.00 TO STA 22+20.00

PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.

ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

DATE: 10/22/24

REVISIONS:

NO	REVISIONS	DATE
1	REVISE NOTES TO 1D AND 2B	

CITY ENGINEER: TED ALLEN, P.E.

DESIGN GROUP: AHMED AMARRAGY, EIT

ENGINEER: AHMED AMARRAGY, EIT

DESIGNED BY: ALYSSA REYES, P.E.

DRAWN BY: NOEL LOPEZ

CHECKED BY: MARY THOMAS, P.E.

APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

WORK ORDER NO. SZC13947

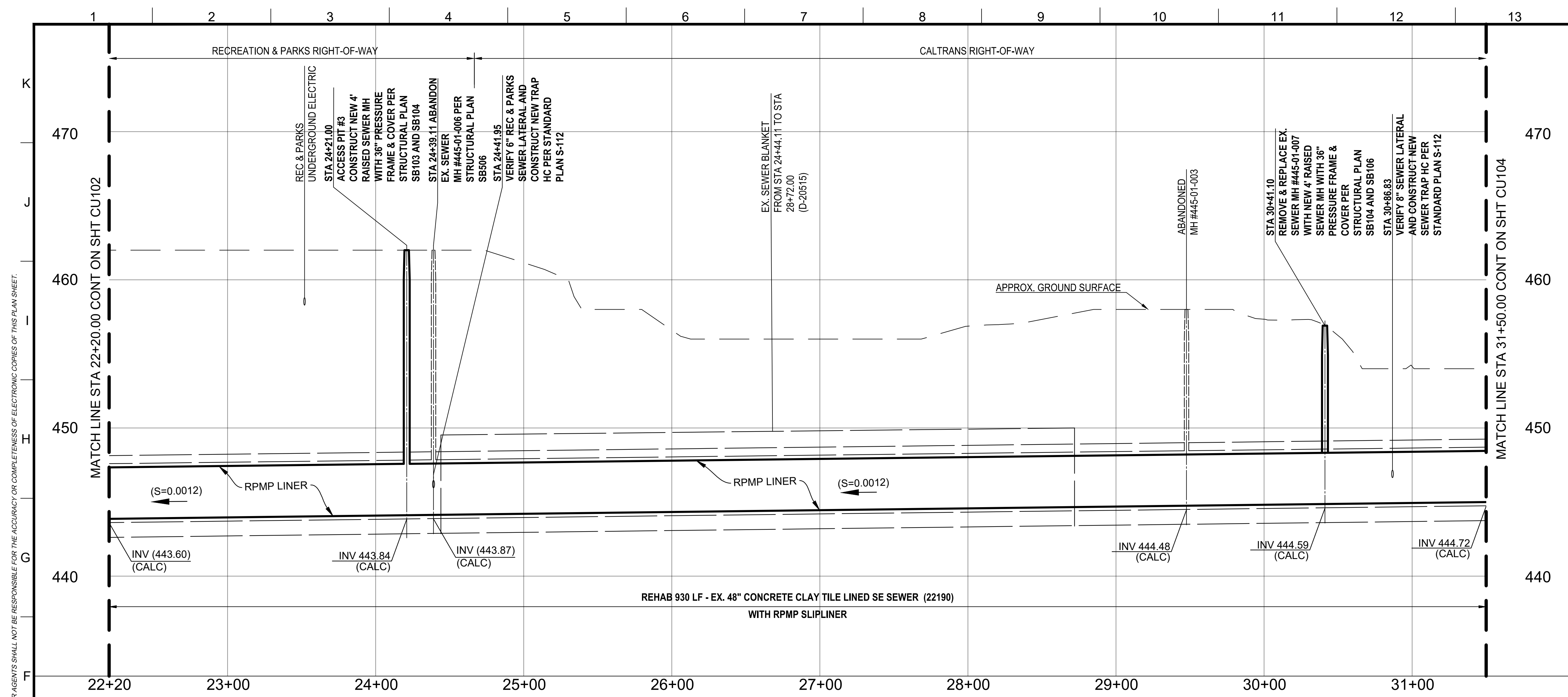
SHEET NAME: CU102

SHEET 9 OF 51 SHEETS

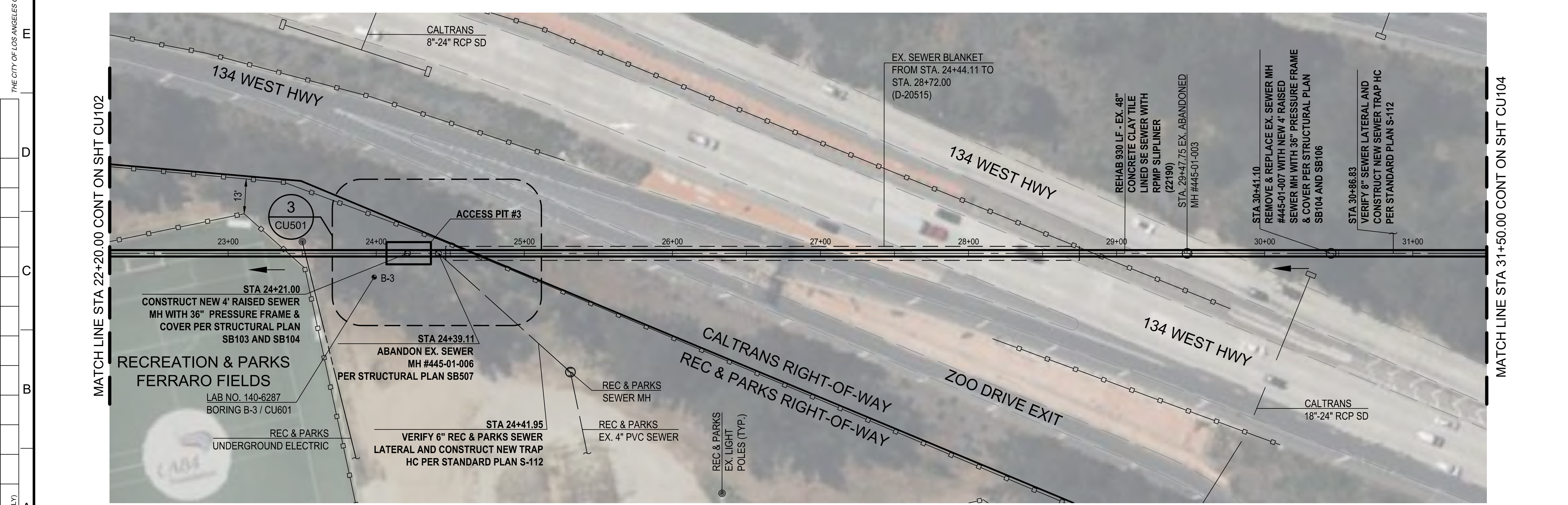
CIP NO. C960

SHEET TYPE

INDEX NO.



**PROFILE**  
SCALE: HORIZ: 1" = 40' VERT: 1" = 4'



**PLAN**  
SCALE: 1" = 40'

**NOTES :**

- DEPARTMENT OF RECREATION & PARKS
  - THE CONTRACTOR SHALL COORDINATE WITH THE DEPARTMENT OF RECREATION & PARKS STAFF, STEFANIE SMITH AT STEFANIE.SMITH@LACITY.ORG AND JORGE DE LOERA AT JORGE.DELOERA@LACITY.ORG TO ACCESS THE GRIFFITH PARK FERRARO FIELDS PRIOR TO THE START OF CONSTRUCTION AND COMPLY WITH THE ATTACHED PERMITS.
  - ANY DAMAGE TO PARK PROPERTY SHALL BE RESTORED TO A CONDITION THAT IS EQUAL OR EXCEEDS THE ORIGINAL STATE/CONDITION OF THE ELEMENTS DAMAGED. ALL WORK TO BE PERFORMED SHALL BE VERIFIED WITH THE DEPARTMENT OF RECREATION & PARKS STAFF.
  - THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE LATERAL AT STA 24+41.95. AFTER VERIFYING ITS LOCATION, THE CONTRACTOR SHALL INSTALL A NEW TRAP HC PER STANDARD PLAN S-112.
- CALTRANS
  - THE CONTRACTOR SHALL SECURE THE WORKSITE TRAFFIC CONTROL PLANS ALONG WITH THE CORRESPONDING ENCROACHMENT PERMIT AND COORDINATE WITH CALTRANS TO ACCESS THE CALTRANS RIGHT-OF-WAY BETWEEN THE 134 WEST AND 5 NORTH FREEWAYS PRIOR TO THE START OF CONSTRUCTION AND COMPLY WITH THE ATTACHED PERMITS. THE CONTRACTOR SHALL APPLY FOR AND OBTAIN THE PERMIT FROM THE CALTRANS DISTRICT 07 LOCATED 100 SOUTH MAIN STREET, SUITE 100, LOS ANGELES, CA 90012. THE CALTRANS CONTACT NUMBER IS (213) 897-3656.
  - THE CONTRACTOR SHALL VERIFY IF THE LATERAL AT STA 30+86.83 IS ACTIVE AND IDENTIFY ITS SOURCE OF FLOW. IF THE LATERAL IS ACTIVE, THE CONTRACTOR SHALL INSTALL A NEW TRAP HC PER STANDARD PLAN S-112.

**ENGINEERING**  
CITY OF LOS ANGELES

**WCED**

**PROFESSIONAL ENGINEER**  
ALYSSA REYES  
C 93245  
LOS ANGELES, CALIFORNIA

**BUREAU OF ENGINEERING**  
NO. 1023 - 1978 ADU (RANS) (RED)  
HORIZONTAL CONTROL: NAD83, EPOCH 1983.5 (FEB 1983-197) PG 108 & 102  
SHEET TITLE: PLAN & PROFILE - STA 22+20.00 TO STA 31+50.00  
PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.  
ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

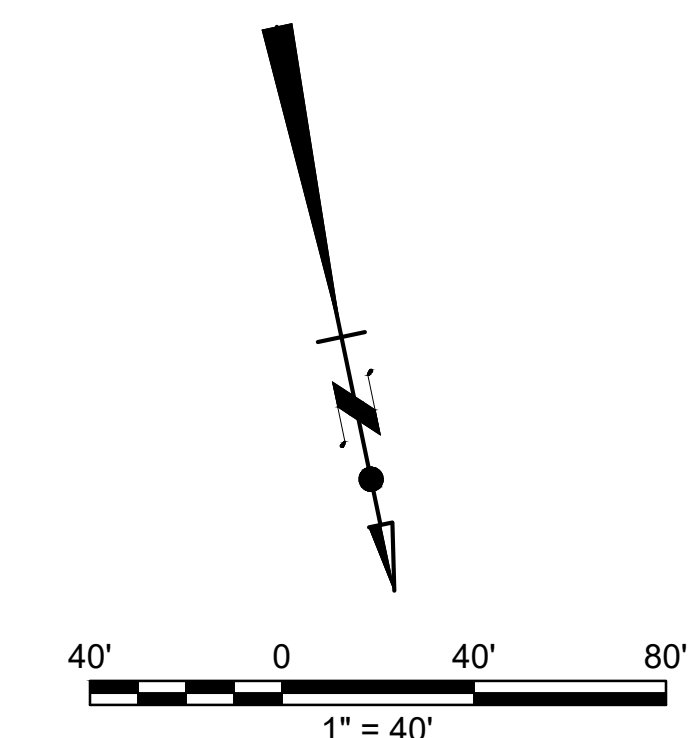
**DEPARTMENT OF PUBLIC WORKS**  
DATE: 10/22/24  
BY: AR  
REVISIONS: 1 REVISE NOTE 2B

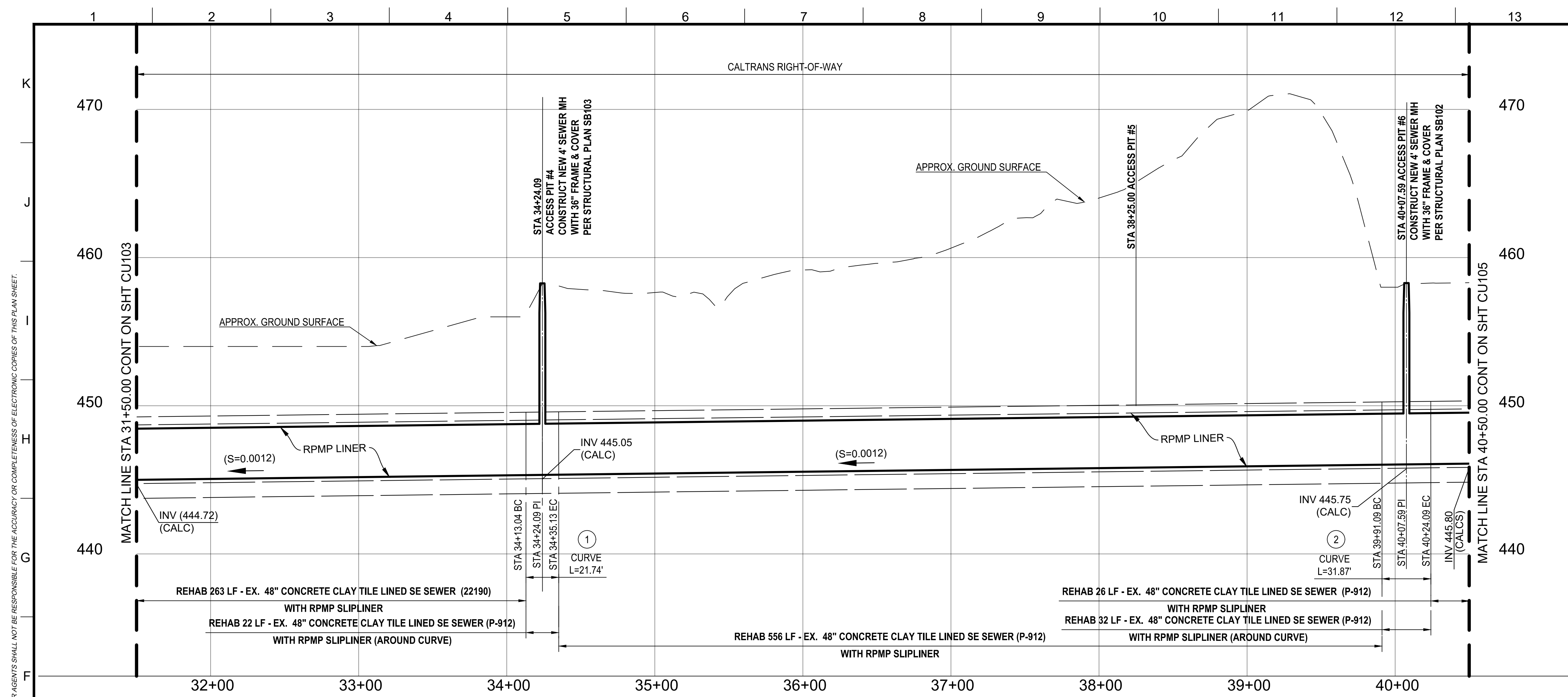
**CITY OF LOS ANGELES**  
CITY ENGINEER: TED ALLEN, P.E.  
DESIGN GROUP: AHMED AMARRAY, EIT  
ENGINEER: AHMED AMARRAY, EIT  
DESIGNED BY: ALYSSA REYES, P.E.  
DRAWN BY: NOEL LOPEZ  
CHECKED BY: MARY THOMAS, P.E.  
APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

WORK ORDER NO. SZC13947

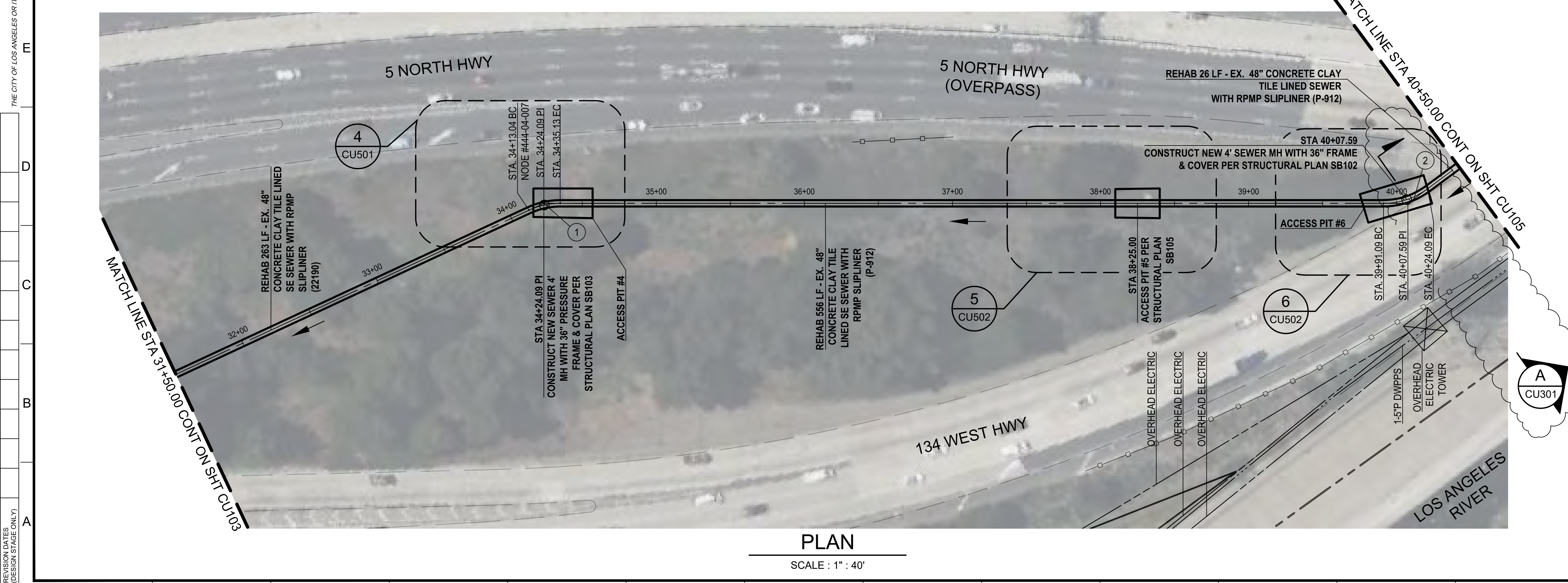
SHEET NAME: **CU103**  
SHEET 10 OF 51 SHEETS

CIP NO. C960  
SHEET TYPE





**PROFILE**  
SCALE: HORIZ: 1" = 40' VERT: 1" = 4'



**PLAN**  
SCALE: 1" = 40'

**NOTES :**

- CURVE DATA**

A. THE CURVE DATA PROVIDED IS TAKEN FROM ASBUILT PLAN P-912 AND MAY VARY FROM THE ACTUAL CURVE ALIGNMENT. THE CONTRACTOR SHALL FIELD VERIFY THE ACTUAL CURVE ALIGNMENT.
- REHABILITATION AROUND CURVES**

A. THE CONTRACTOR SHALL USE SMALLER LINER SEGMENTS TO REHABILITATE THE SEWER AROUND THE CURVES. ALL THE COST ASSOCIATED WITH THIS SHALL BE INCLUDED IN THE BID ITEM.

B. THE FLOW CONDITIONS AT CURVES ARE HIGHER THAN THE FLOW CONDITIONS AT THE STRAIGHT PORTIONS. THE CONTRACTOR SHALL DESIGN THE PIT TO CONTAIN THE SEWAGE SO THAT THE TOP PORTION OF THE HOST PIPE CAN BE REMOVED FOR THE REHABILITATION WHEN THE ANTICIPATED FLOW IS HIGHER THAN THE SPRING LINE OF THE HOST PIPE. ALL COST ASSOCIATED WITH THIS SHALL BE INCLUDED INTO THE BID ITEMS FOR PIT #4 AND #6.
- CALTRANS**

A. CALTRANS ENCROACHMENT PERMIT IS REQUIRED FOR THE CONSTRUCTION WITHIN THE CALTRANS RIGHT-OF-WAY FOR ACCESS PIT NO. 4 (STA 34+24.09), PIT NO. 5 (STA 38+25.00) AND PIT NO. 6 (STA 40+07.59), AND THE TWO NEW MAINTENANCE HOLES AT PIT NO. 4 AND PIT NO. 6. THE CONTRACTOR SHALL APPLY FOR AND OBTAIN THE WORKSITE TRAFFIC CONTROL PLAN AND PERMIT FROM THE CALTRANS DISTRICT 07 LOCATED AT 100 SOUTH MAIN STREET, SUITE 100, LOS ANGELES CA 90012. THE CALTRANS CONTACT NUMBER IS (213) 897-3656.

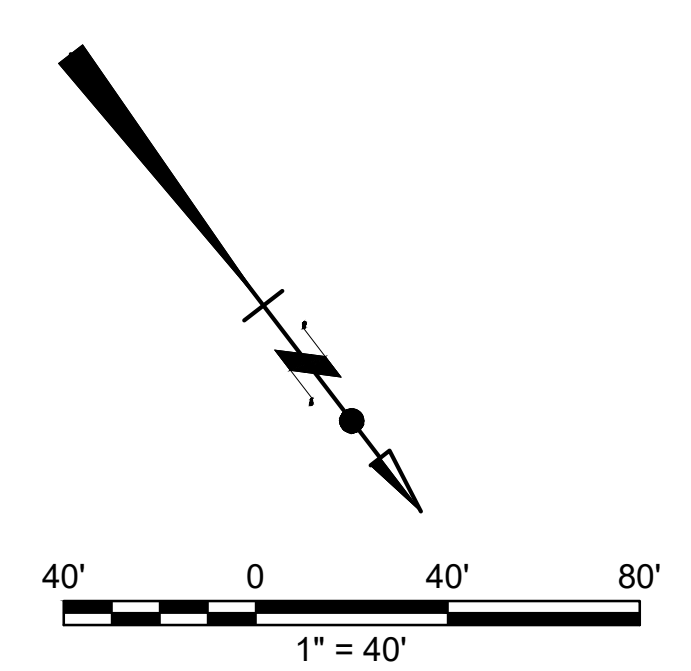
B. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY INFORMATION FROM THE CALTRANS ENCROACHMENT MANUAL AND ENCROACHMENT PERMIT WEBSITE AT [HTTPS://DOT.CA.GOV/PROGRAMS/TRAFFIC-OPERATIONS](https://dot.ca.gov/programs/traffic-operations).

C. THE CONTRACTOR SHALL SUBMIT THE ENCROACHMENT PERMIT APPLICATION WITH ALL REQUIRED DOCUMENTS INCLUDING BUT NOT LIMITED TO CIVIL PLANS, SPECIFICATIONS, SOIL REPORTS, SHORING DESIGN, AND TRAFFIC CONTROL PLANS WITHIN 60 CALENDAR DAYS FORM THE DATE OF THE ISSUANCE OF THE NTP. THE CONTRACTOR SHALL NOT BE GRANTED A TIME EXTENSION IF THE CONTRACTOR FAILS TO DO SO. THE CONTRACTOR SHALL ALLOW AT LEAST 90 CALENDAR DAYS FOR CALTRANS TO REVIEW AND APPROVE.

D. THE SEWER FROM PIT #5 TO STA 48+60.55 SHALL BE CLEANED, LINED, AND GROUTED FIRST RATHER THAN THE TYPICAL SEQUENCE OF CLEANING, LINING, AND GROUTING THE ENTIRE ALIGNMENT.

**CURVE DATA**

NO.	R	Δ	T	L
①	50'	24° 54' 47"	11.05'	21.74'
②	50'	36° 31' 15"	16.50'	31.87'



**ENGINEERING**  
CITY OF LOS ANGELES

**WCED**

**PROFESSIONAL ENGINEER**  
ALYSSA REYES  
C 93245  
LOS ANGELES, CA

**BUREAU OF ENGINEERING**  
VERTICAL CONTROL: NAD83, EPOCH 1985 (MMS READ)  
HORIZONTAL CONTROL: NAD83, EPOCH 1985 (FEB 1985-07 PG 108 & 102)  
SHEET TITLE: PLAN & PROFILE - STA 31+50.00 TO STA 40+50.00  
PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR.  
ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST., LOS ANGELES, CA

**DEPARTMENT OF PUBLIC WORKS**  
DATE: 10/22/24  
REVISE NOTE 3D

**CITY ENGINEER**  
TED ALLEN, P.E.  
DESIGN GROUP: AHMED AMARRAGY, EIT  
ENGINEER: AHMED AMARRAGY, EIT  
DESIGNED BY: ALYSSA REYES, P.E.  
DRAWN BY: NOEL LOPEZ  
CHECKED BY: MARY THOMAS, P.E.  
APPROVED BY: EDWARD ARRINGTON, S.E., ENV/SP

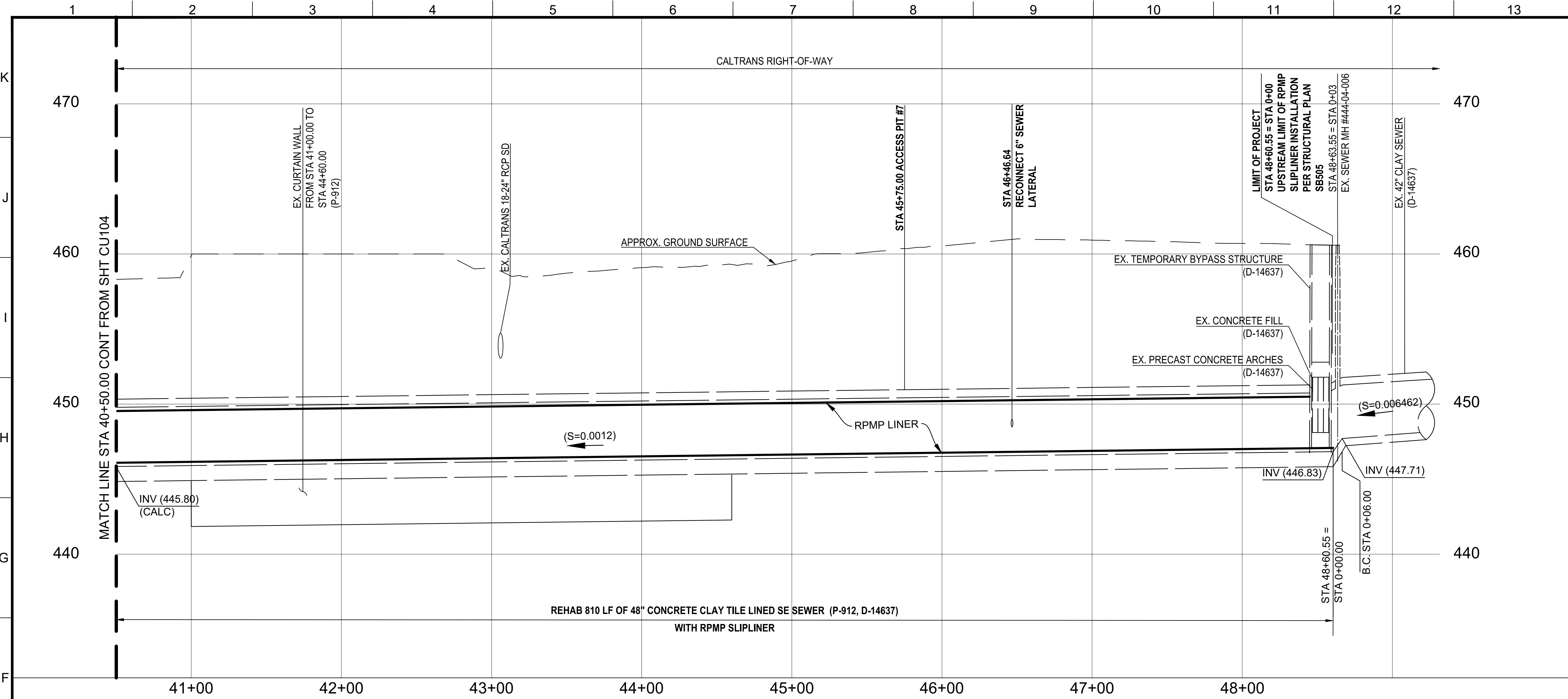
WORK ORDER NO. SZC13947

SHEET NAME: **CU104**  
SHEET 11 OF 51 SHEETS

CIP NO. C960  
SHEET TYPE

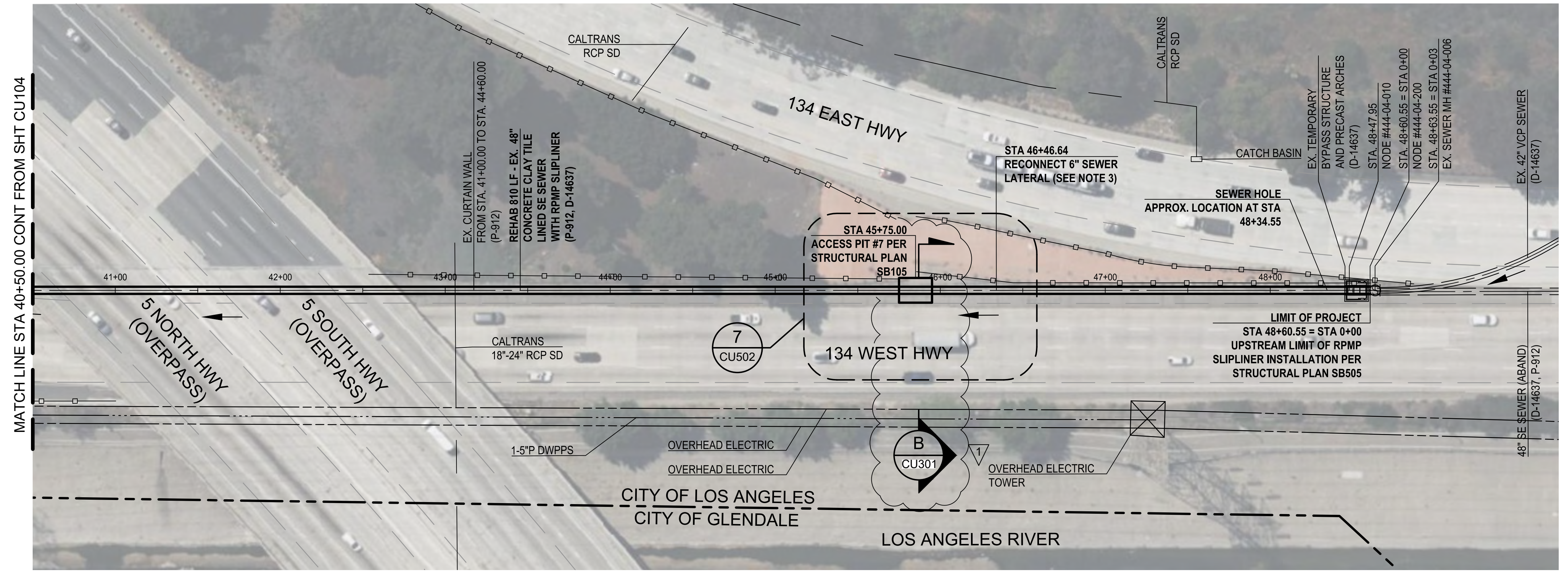
REVISION DATES (DESIGN STAGE ONLY)

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



**PROFILE**

SCALE: HORIZ: 1" = 40' VERT: 1" = 4'

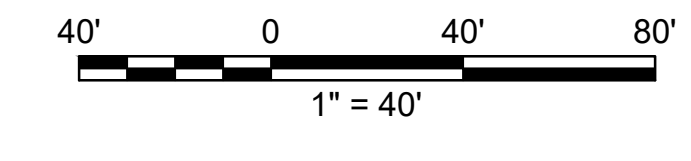


**PLAN**

SCALE: 1" = 40'

**NOTES :**

1. SEWER HOLE
  - A. 2021-2023 CCTV REVEALED 4 SEWER HOLES APPROXIMATELY 29' DOWNSTREAM OF MH 444-04-006 UNDER THE 134 WEST FREEWAY. THE CONTRACTOR SHALL CCTV TO VERIFY THE HOLES LOCATION, SIZE AND CONDITION. THE CONTRACTOR SHALL TAKE EXTRA PRECAUTION WHEN WORKING IN THIS AREA TO PREVENT SURCHARGING AT THE HOLES FROM EQUIPMENT OR CONSTRUCTION ACTIVITIES MAY CAUSE THE SEWER HOLES TO INCREASE IN SIZE.
2. CALTRANS
  - A. A CALTRANS ENCROACHMENT PERMIT IS REQUIRED FOR THE CONSTRUCTION WITHIN THE CALTRANS RIGHT-OF-WAY FOR ACCESS PIT NO. 6 (STA 45+75.00) AND THE LATERAL RECONNECTION AT STA 46+34.00. THE CONTRACTOR SHALL APPLY FOR AND OBTAIN THE WORKSITE TRAFFIC CONTROL PLAN AND PERMIT FROM THE CALTRANS DISTRICT 07 LOCATED AT 100 SOUTH MAIN STREET, SUITE 100, LOS ANGELES CA 90012. THE CALTRANS CONTACT NUMBER IS (213) 897-3656.
  - B. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY INFORMATION FROM THE CALTRANS ENCROACHMENT MANUAL AND ENCROACHMENT PERMIT WEBSITE AT [HTTPS://DOT.CA.GOV/PROGRAMS/TRAFFIC-OPERATIONS](https://dot.ca.gov/programs/traffic-operations).
  - C. THE CONTRACTOR SHALL SUBMIT THE ENCROACHMENT PERMIT APPLICATION WITH ALL REQUIRED DOCUMENTS INCLUDING BUT NOT LIMITED TO CIVIL PLANS, SPECIFICATIONS, SOIL REPORTS, SHORING DESIGN, AND TRAFFIC CONTROL PLANS WITHIN 60 CALENDAR DAYS FROM THE DATE OF THE ISSUANCE OF THE NTP. THE CONTRACTOR SHALL NOT BE GRANTED A TIME EXTENSION IF THE CONTRACTOR FAILS TO DO SO. THE CONTRACTOR SHALL ALLOW AT LEAST 90 CALENDAR DAYS FOR CALTRANS TO REVIEW AND APPROVE.
  - D. THE SEWER FROM PIT #5 TO STA 48+60.55 SHALL BE CLEANED, LINED, AND GROUTED FIRST RATHER THAN THE TYPICAL SEQUENCE OF CLEANING, LINING, AND GROUTING THE ENTIRE ALIGNMENT.
3. THE CONTRACTOR SHALL VERIFY IF THE LATERAL AT STA 46+46.64 IS ACTIVE. IF THE LATERAL IS ACTIVE, THE CONTRACTOR SHALL RECONNECT IT.



**ENGINEERING**  
CITY OF LOS ANGELES

**WCED**

PROFESSIONAL ENGINEER  
CALIFORNIA REG. NO. C 93245  
LOS ANGELES, CALIFORNIA

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**BUREAU OF ENGINEERING**

VERTICAL CONTROL: 10/20/24 AR  
HORIZONTAL CONTROL: 10/20/24 AR

SHEET TITLE: PLAN & PROFILE - STA 40+50.00 TO STA 48+60.55  
PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR.  
ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

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**DEPARTMENT OF PUBLIC WORKS**

DATE: 10/22/24  
REVISE TOTAL NUMBER OF SHEETS: 1

INDEX NO. C960  
SHEET TYPE

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**CITY OF LOS ANGELES**

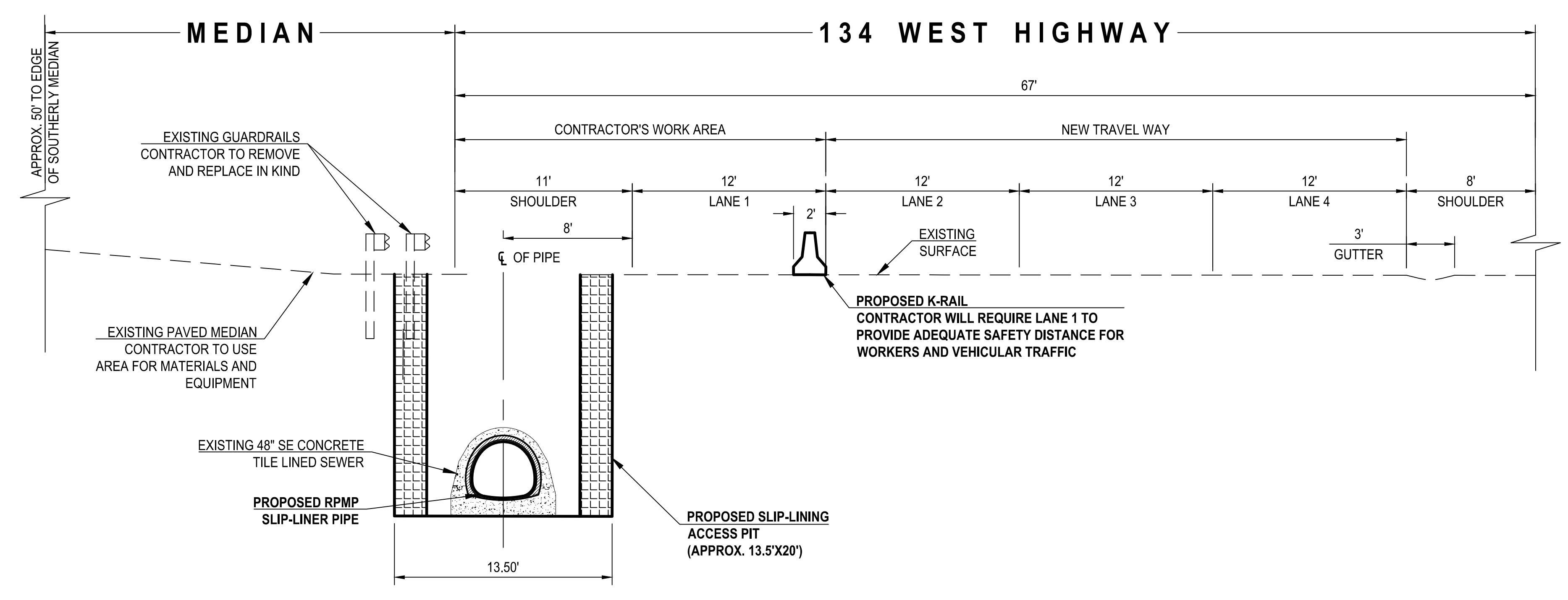
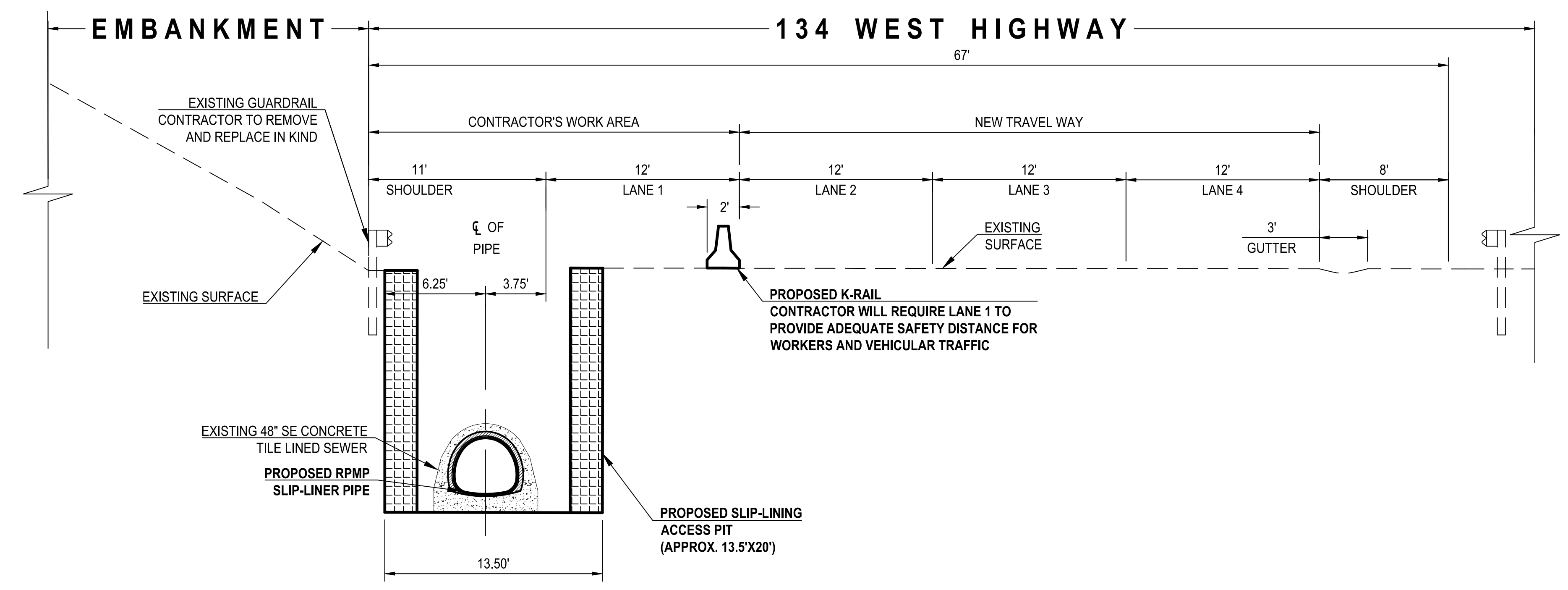
CITY ENGINEER: TED ALLEN, P.E.  
DESIGN GROUP: AHMED AMARRAGY, EIT  
DESIGNED BY: ALYSSA REYES, P.E.  
DRAWN BY: NOEL LOPEZ  
CHECKED BY: MARY THOMAS, P.E.  
APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

WORK ORDER NO. SZC13947

SHEET NAME: **CU105**  
SHEET 12 OF 51 SHEETS

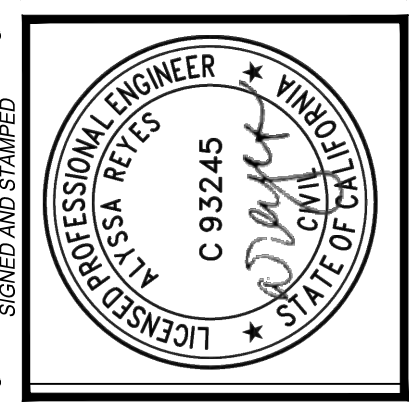
REVISION DATES (DESIGN STAGE ONLY)

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



**NOTES :**

- THE CROSS SECTIONS OF ACCESS PITS #6 AND #7 REFLECT THE PROPOSED WORKSITE TRAFFIC CONTROL CONCEPT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING THE WORKSITE TRAFFIC CONTROL PLAN TO CALTRANS FOR REVIEW AND APPROVAL, AS STIPULATED IN THE TRAFFIC REQUIREMENTS ON CU105.

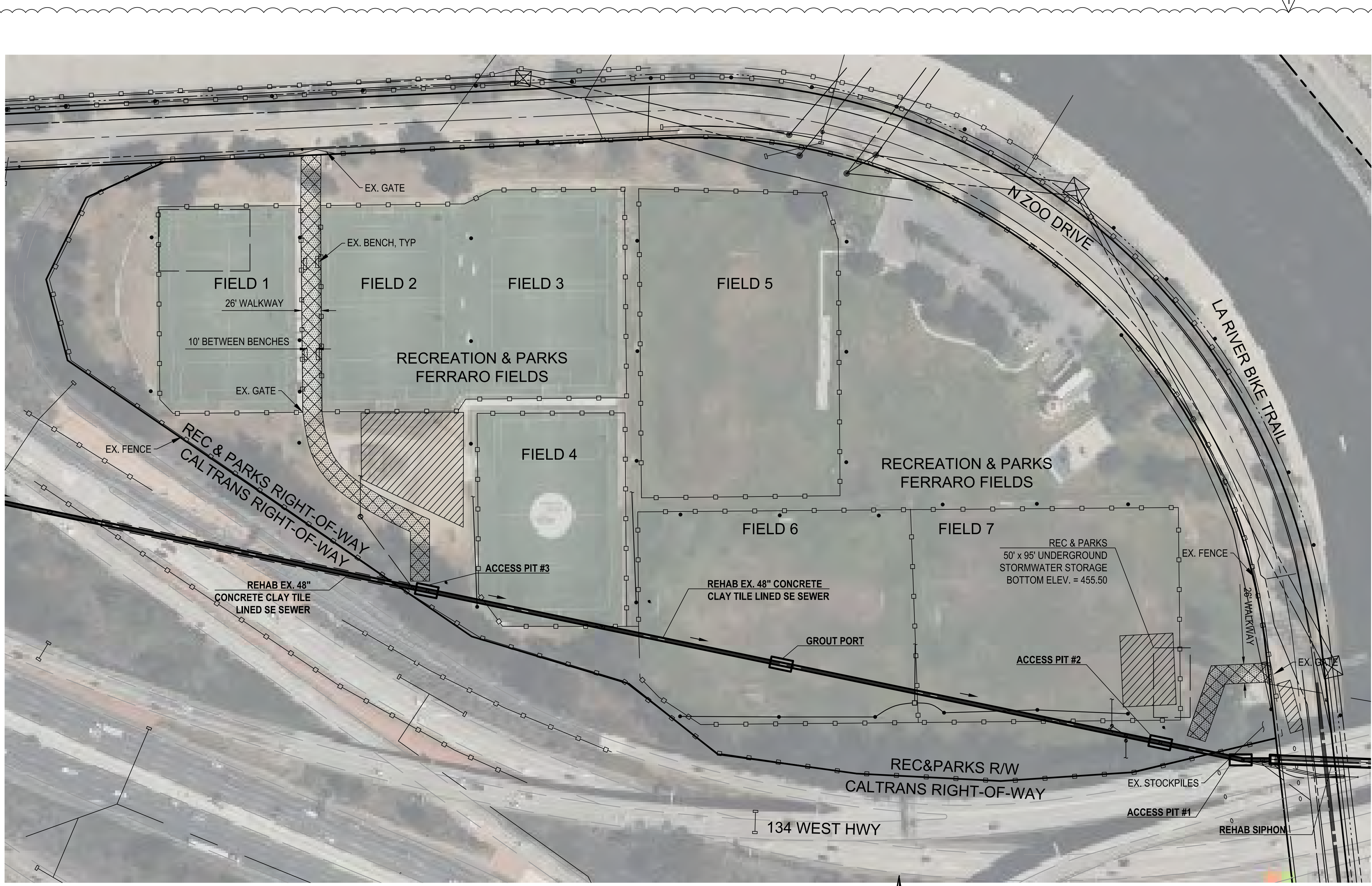


BUREAU OF ENGINEERING	
VERTICAL CONTROL: NOS 1028 & 1028 ADJ (RAMP 1028)	SECTION
HORIZONTAL CONTROL: NAD83, EPOCH 1983, FEB 1985, 1971 PG 108 & 102	PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.
SHEET TITLE	ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

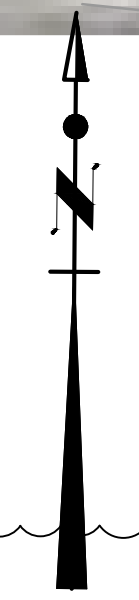
DEPARTMENT OF PUBLIC WORKS	
NO. REVISIONS	DATE BY: AR
1	ADDED DETAIL SHEET
CITY ENGINEER	DATE
TED ALLEN, P.E.	
DESIGN GROUP	
ENGINEER: AHMED AMARRAGY, EIT	
DESIGNED BY: ALYSSA REYES, P.E.	
DRAWN BY: NOEL LOPEZ	
CHECKED BY: MARY THOMAS, P.E.	
APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.	
INDEX NO.	SHEET TYPE
	C960

CITY OF LOS ANGELES	
WORK ORDER NO.	SZC13947
SHEET NAME	CU301
SHEET 13 OF 51 SHEETS	





SITE ACCESS / WORK AREA NO. 1, 2 & 3  
NTS

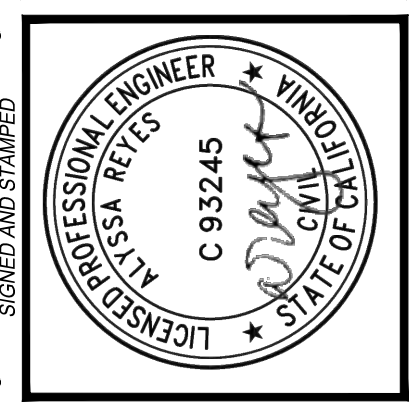


**NOTES :**

- CALTRANS**
  - A. A CALTRANS ENCROACHMENT PERMIT IS REQUIRED FOR THE CONSTRUCTION WITHIN THE CALTRANS RIGHT-OF-WAY FOR ACCESS PIT NO.1 (STA 12+84.92) AND ACCESSING THE SIPHON INLET. THE CONTRACTOR SHALL APPLY FOR AND OBTAIN THE PERMIT FROM THE CALTRANS DISTRICT 07 LOCATED AT 100 SOUTH MAIN STREET, SUITE 100, LOS ANGELES CA 90012. THE CALTRANS CONTACT NUMBER IS (213) 897-3656.
  - B. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY INFORMATION FROM THE CALTRANS ENCROACHMENT MANUAL AND ENCROACHMENT PERMIT WEBSITE AT [HTTPS://DOT.CA.GOV/PROGRAMS/TRAFFIC-OPERATIONS](https://dot.ca.gov/programs/traffic-operations).
  - C. THE CONTRACTOR SHALL SUBMIT THE ENCROACHMENT PERMIT APPLICATION WITH ALL REQUIRED DOCUMENTS INCLUDING BUT NOT LIMITED TO CIVIL PLANS, SPECIFICATIONS, SOIL REPORTS, SHORING DESIGN, AND TRAFFIC CONTROL PLANS WITHIN 60 CALENDAR DAYS FORM THE DATE OF THE ISSUANCE OF THE NTP. THE CONTRACTOR SHALL NOT BE GRANTED A TIME EXTENSION IF THE CONTRACTOR FAILS TO DO SO. THE CONTRACTOR SHALL ALLOW AT LEAST 90 CALENDAR DAYS FOR CALTRANS TO REVIEW AND APPROVE.
- DEPARTMENT OF RECREATION & PARKS**
  - A. THE CONTRACTOR SHALL COORDINATE WITH THE DEPARTMENT OF RECREATION & PARKS STAFF, STEFANIE SMITH AT [STEFANIE.SMITH@LACITY.ORG](mailto:STEFANIE.SMITH@LACITY.ORG) AND JORGE DE LOERA AT [JORGE.DELOERA@LACITY.ORG](mailto:JORGE.DELOERA@LACITY.ORG) TO ACCESS THE GRIFFITH PARK FERRARO FIELDS PRIOR TO THE START OF CONSTRUCTION AND COMPLETE AND SUBMIT WITH THE PERMITS ATTACHED IN THE CONTRACT DOCUMENTS.
  - B. THE CONTRACTOR SHALL DOCUMENT THE PRE-EXISTING AND POST-CONSTRUCTION SITE CONDITIONS IN THE FORM OF PICTURES FOR RAP REVIEW. ANY DAMAGE TO PARK PROPERTY SHALL BE RESTORED TO A CONDITION THAT IS EQUAL OR EXCEEDS THE ORIGINAL STATE/CONDITION OF THE ELEMENTS DAMAGED. ALL WORK TO BE PERFORMED SHALL BE VERIFIED WITH THE DEPARTMENT OF RECREATION & PARKS STAFF.
  - C. MH 445-01-002 IS BURIED BENEATH THE SOCCER FIELD NO. 4. THE CONTRACTOR SHALL RESTORE THE SITE PER RAP STANDARD DETAILS FOR CONSTRUCTION AS PROVIDED ON SHEET CU605.
  - D. THE CONTRACTOR SHALL ENTER GRIFFITH PARK FERRARO FIELDS THROUGH THE GATE ON NORTH ZOO DRIVE EAST OF ACCESS PIT #2.
  - E. THE CONTRACTOR SHALL ENTER GRIFFITH PARK FERRARO FIELDS THROUGH THE GATE ON NORTH ZOO DRIVE NORTH OF ACCESS PIT #3. THE CONTRACTOR SHALL REMOVE AND REPLACE THE BENCHES IN THE WALKWAY AND REPLACE ANY DAMAGED PORTIONS OF THE WALKWAY IN KIND.
  - F. THE CONTRACTOR IS ADVISED THAT TRESPASSING IS COMMON AFTER BUSINESS HOURS. THE CONTRACTOR SHALL PROVIDE 24/7 SECURITY OF THE WORK AREAS ON RAP PROPERTY. INSTALL FENCE CLAMPS AT EACH FENCE PANEL, AND LOCK ALL GATES DURING OFF-HOURS TO PREVENT TRESPASSING.
  - G. THE CONTRACTOR SHALL PERFORM DEBRIS REMOVAL AT PIT #2, SO AS TO MINIMIZE FREQUENT TRANSPORTATION OF HEAVY MACHINERY ON THE CONCRETE WALKWAY BETWEEN FIELDS NO. 1 AND NO. 2.
  - H. THE CONTRACTOR SHALL INSTALL TEMPORARY FENCING, 6 FEET OR HIGHER, AROUND ALL WORK AREAS FOR THE DURATION OF THE WORK.

**LEGEND:**

- PROPOSED ABOVE GROUND STORAGE AREA
- PROPOSED ACCESS PATH



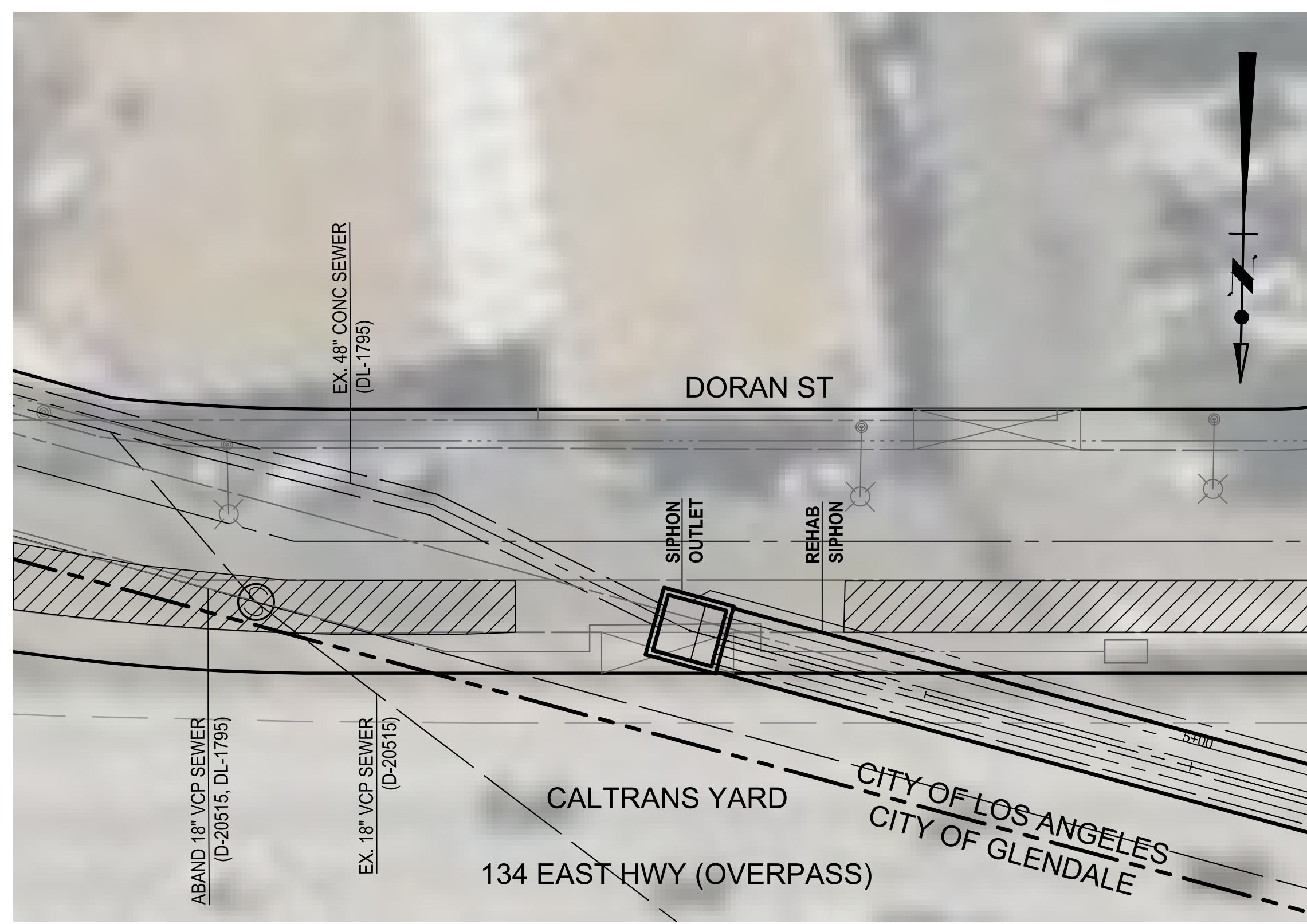
VERTICAL CONTROL: NAD83, EPOCH 1985 (FEET)	INDEX NO. C960
HORIZONTAL CONTROL: NAD83, EPOCH 1985 (FEET)	SHEET TYPE
SHEET TITLE: WORK AREA ACCESS - ACCESS PIT #1, #2, & #3	CIP NO. C960
PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.	
ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA	

DATE: 10/22/24	BY: AR
REVISION: 1	REVISION NOTE: 28 TO 2F

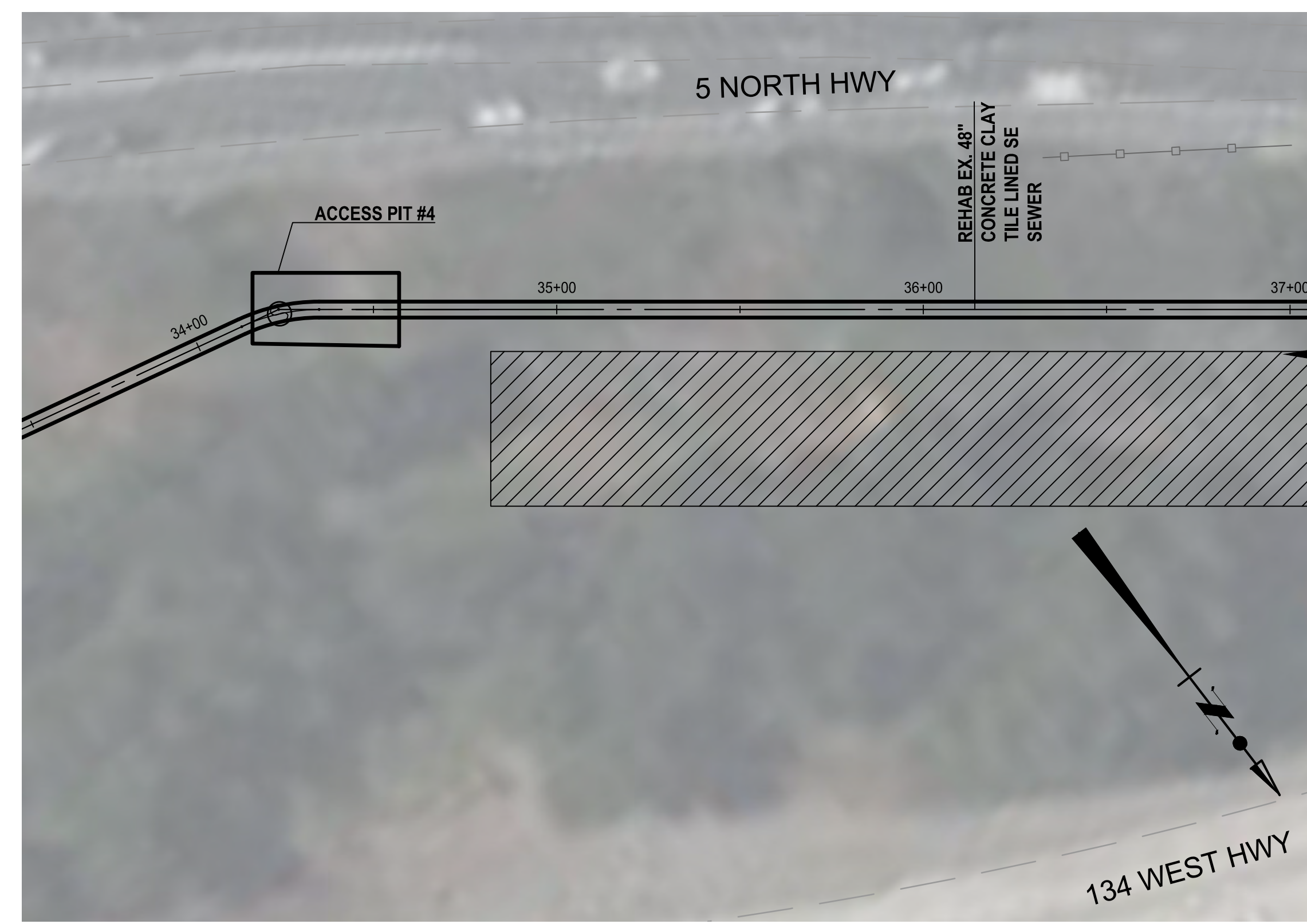
CITY ENGINEER: TED ALLEN, P.E.	DESIGN GROUP: AHMED AMARRAGY, EIT
ENGINEER: AHMED AMARRAGY, EIT	DESIGNED BY: ALYSSA REYES, P.E.
DESIGNED BY: ALYSSA REYES, P.E.	DRAWN BY: NOEL LOPEZ
DRAWN BY: NOEL LOPEZ	CHECKED BY: MARY THOMAS, P.E.
CHECKED BY: MARY THOMAS, P.E.	APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

WORK ORDER NO. SZC13947

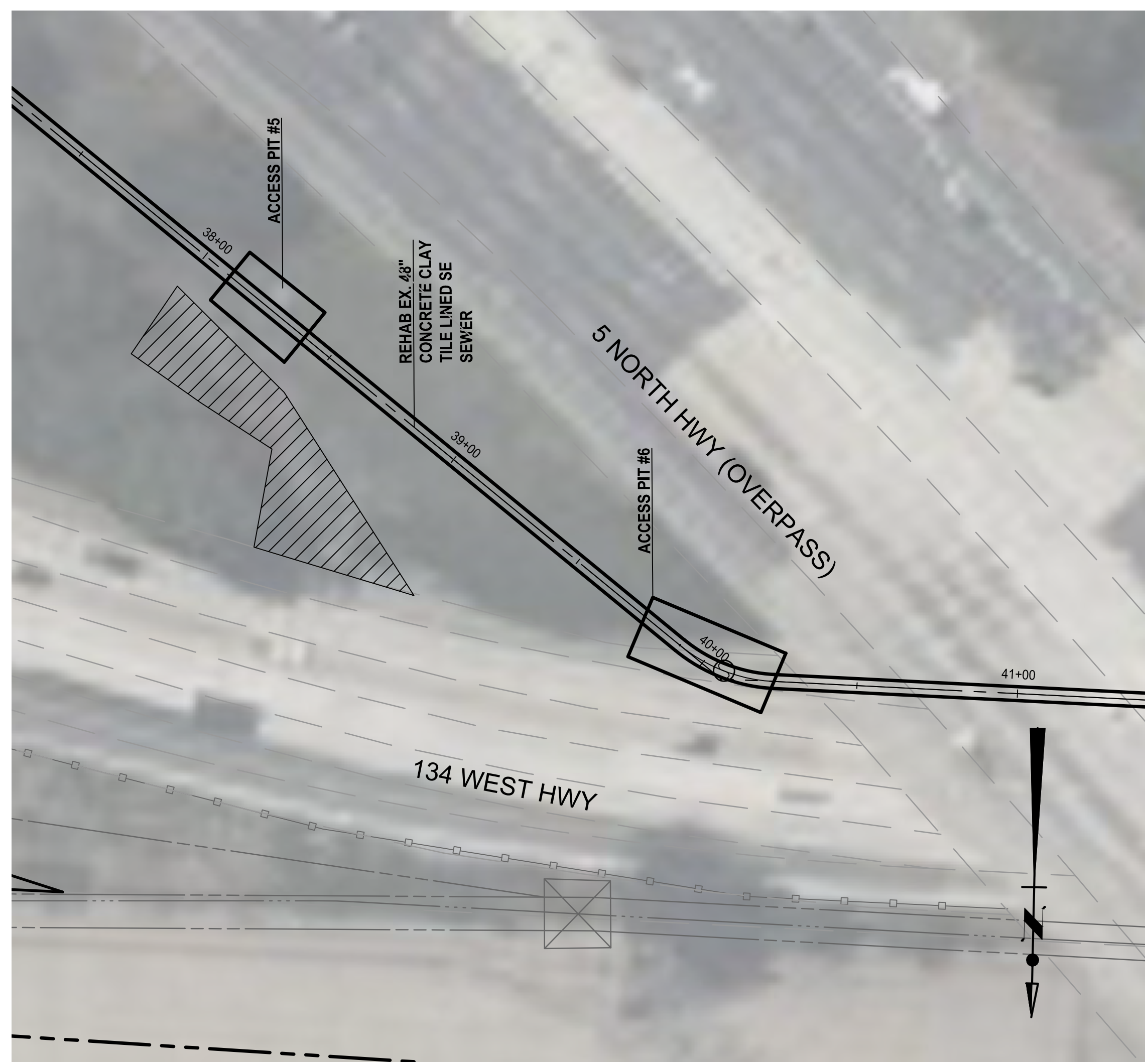
SHEET NAME CU401  
SHEET 14 OF 51 SHEETS



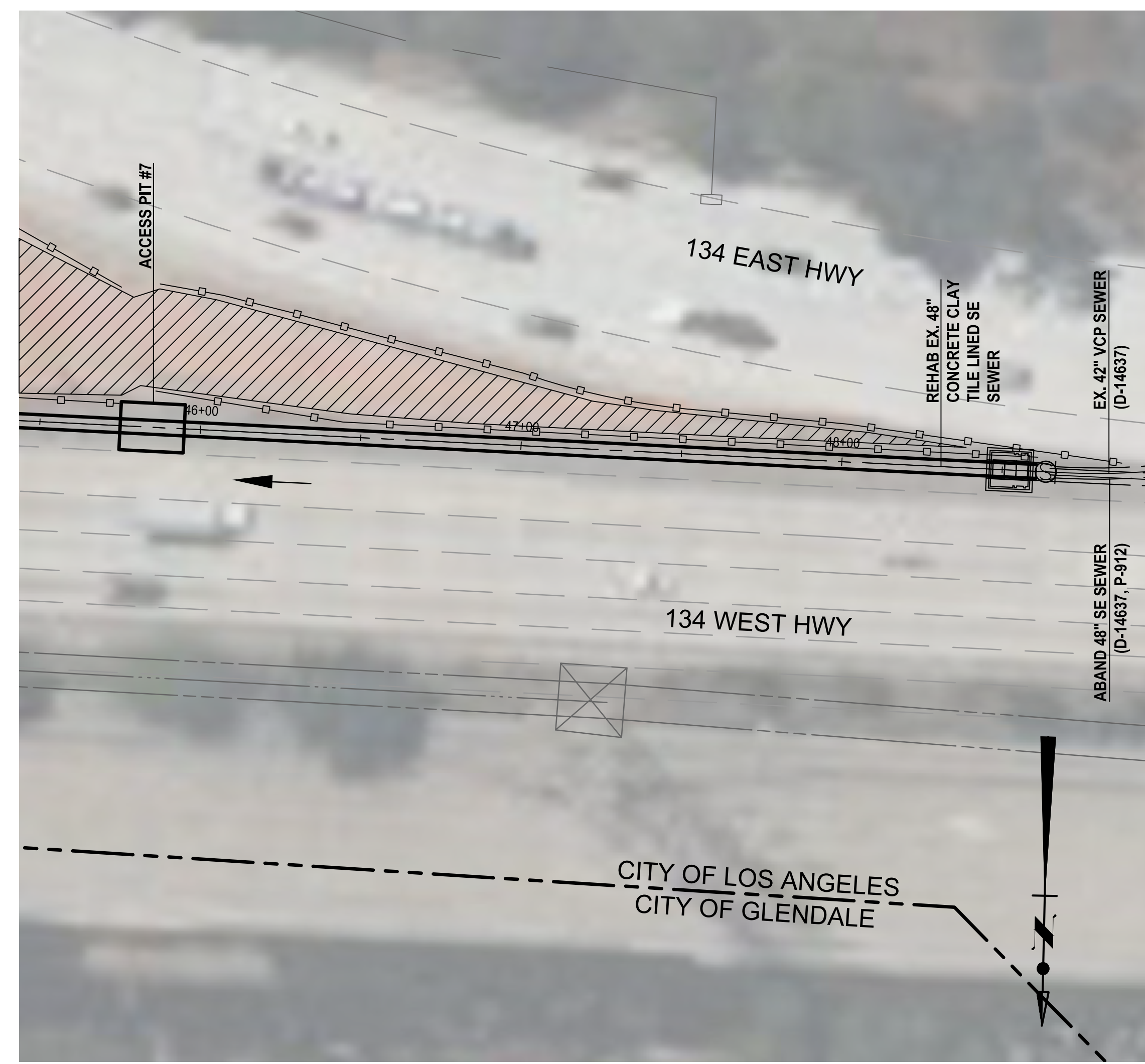
**SITE ACCESS / WORK AREA NO. 3**  
SCALE : 1" = 20'



**SITE ACCESS / WORK AREA NO. 4**  
SCALE : 1" = 30'



**SITE ACCESS / WORK AREA NO. 5**  
SCALE : 1" = 30'



**SITE ACCESS / WORK AREA NO. 6**  
SCALE : 1" = 30'

- NOTES :**
- SIPHON OUTLET**
- THE CONTRACTOR SHALL COORDINATE WITH CALTRANS FOR ACCESS TO THE SIPHON OUTLET STRUCTURE WHICH IS ON A DRIVEWAY FOR THE CALTRANS DORAN STATION. THE CONTRACTOR SHALL CONTACT THE DORAN MAINTENANCE SUPERINTENDENT, COY MAYS, AT (213) 705-6007 TO COORDINATE DRIVEWAY ACCESS AT THE SIPHON OUTLET.
  - THE CONTRACTOR SHALL IMPLEMENT THE APPROVED TRAFFIC CONTROL PLANS PER LADOT FOR WORK ON DORAN STREET.
  - THE CONTRACTOR SHALL INSTALL THE CIPP LINER WET OUT AT THE SIPHON OUTLET.

**LEGEND:**

PROPOSED STORAGE AREA

**ENGINEERING**  
CITY OF LOS ANGELES

**WCED**

**PROFESSIONAL ENGINEER**  
ALYSSA REYES  
C 93245  
STATE OF CALIFORNIA

**BUREAU OF ENGINEERING**

VERTICAL CONTROL: NOS 1028, 1028 ADJ (RMS) (REV 0)  
HORIZONTAL CONTROL: NAD83, EPOCH 1983, FEB 1983, 197 FIG 108 & 102

SHEET TITLE: WORK AREA ACCESS - ACCESS PIT #4, #5, #6, & #7  
PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.  
ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

**DEPARTMENT OF PUBLIC WORKS**

NO. REVISIONS	DATE	BY
1	10/22/24	AR
REVISE TOTAL NUMBER OF SHEETS		

CIP NO. C960

**CITY OF LOS ANGELES**

TED ALLEN, P.E.  
DESIGN GROUP: AHMED AMARRAGY, EIT  
ENGINEER: AHMED AMARRAGY, EIT  
DESIGNED BY: ALYSSA REYES, P.E.  
DRAWN BY: NOEL LOPEZ  
CHECKED BY: MARY THOMAS, P.E.  
APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

WORK ORDER NO. SZC13947

SHEET NAME: CU402  
SHEET 15 OF 51 SHEETS

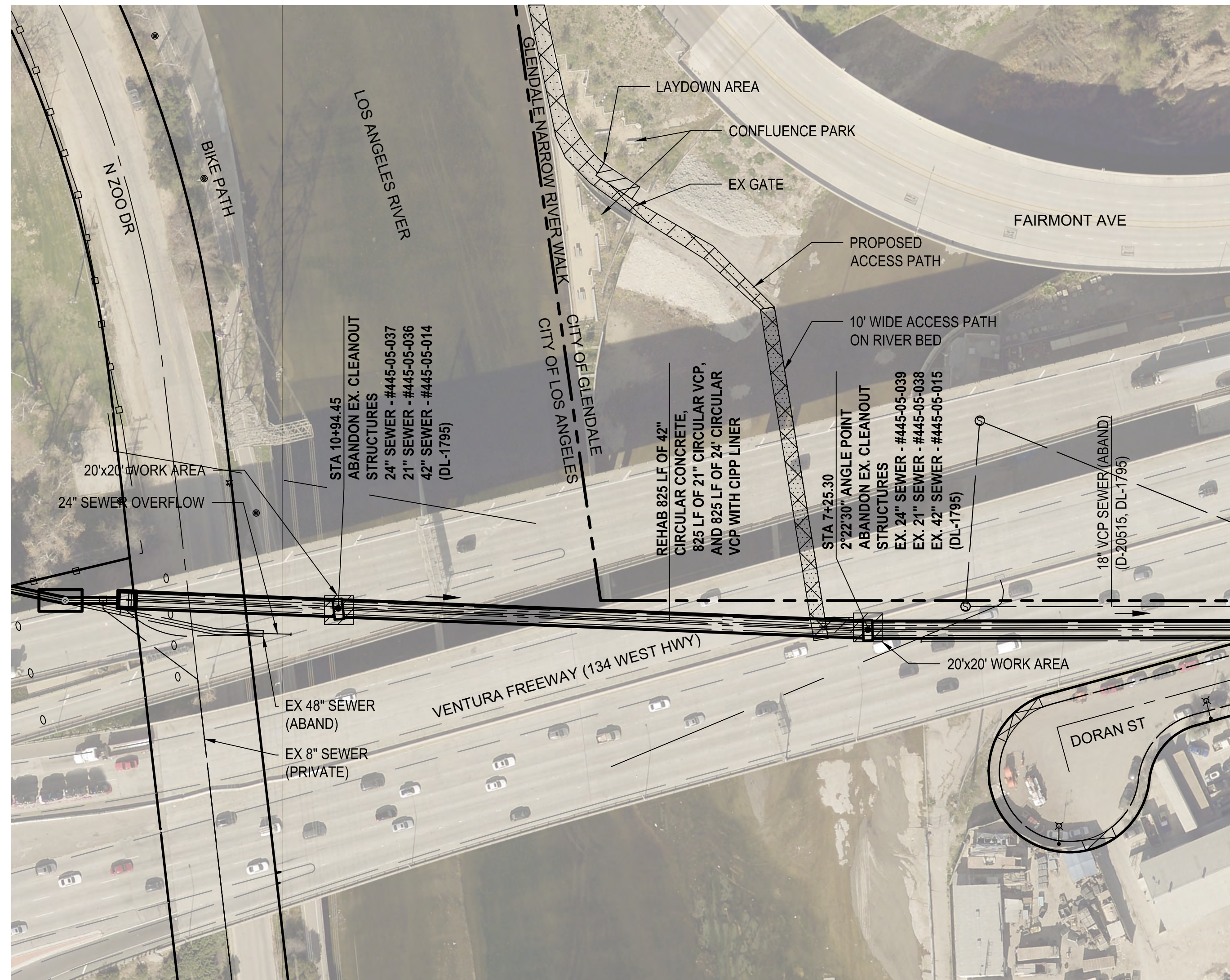
REVISION DATES (DESIGN STAGE ONLY)

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



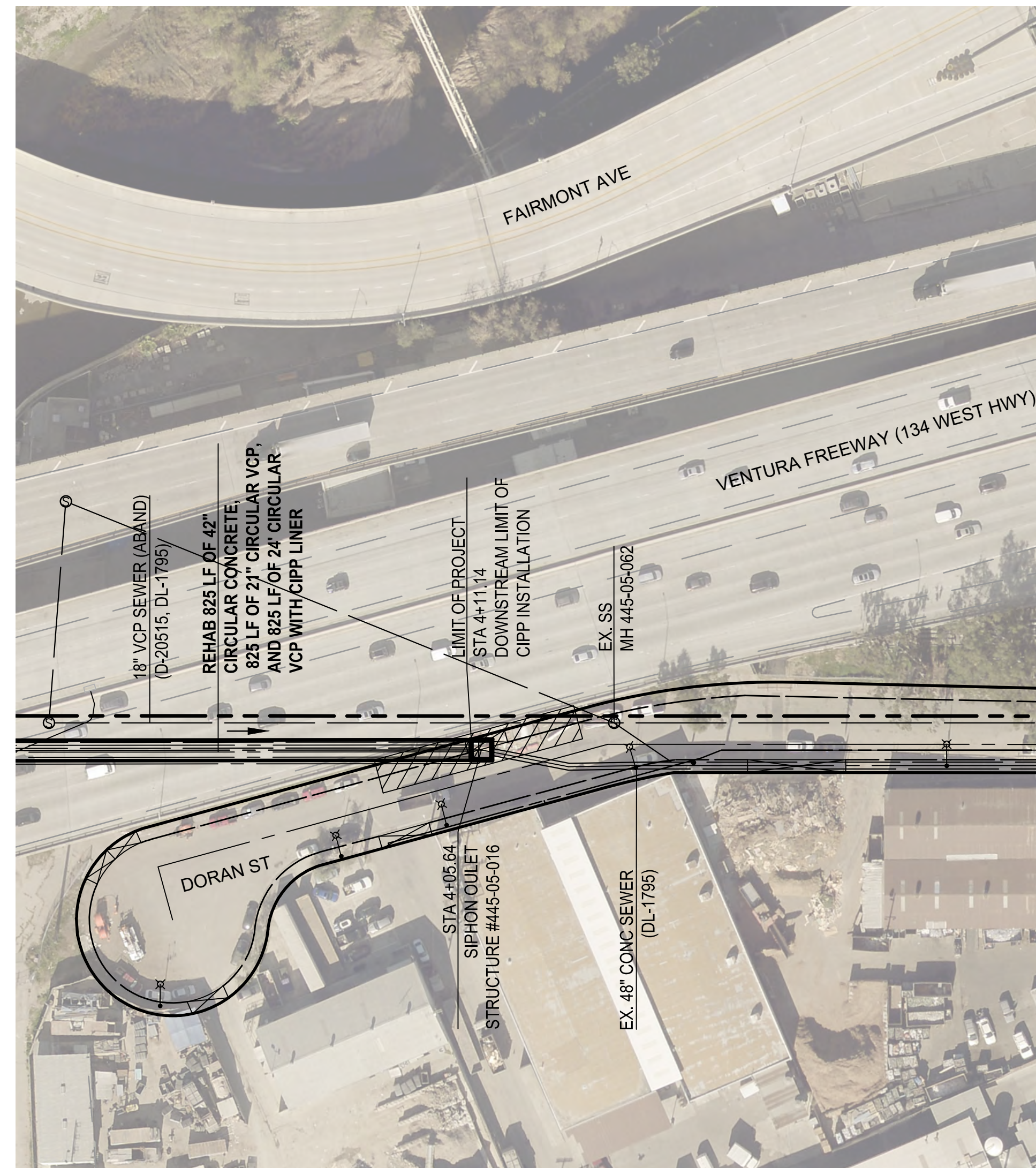
**SITE ACCESS / WORK AREA NO. 7**

SCALE : 1" = 30'



**SITE ACCESS / WORK AREA NO. 8**

SCALE : 1" = 60'

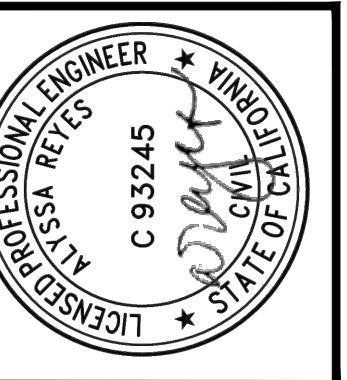


**SITE ACCESS / WORK AREA NO. 9**

SCALE : 1" = 60'

**NOTES :**

- SIPHON CLEANOUT STRUCTURES**
- THE CONTRACTOR SHALL USE THE SIPHON INLET AND OUTLET STRUCTURES TO FACILITATE THE CLEANING AS MUCH AS POSSIBLE PER TS 02760. THE CONTRACTOR SHALL STATE CLEARLY IN THE CLEANING METHOD SUBMITTAL WHETHER THE CLEANOUT STRUCTURE AT 7+25.30 WILL BE USED AND THE REASONS WHY. THE CONTRACTOR SHALL SHOW HOW THE CONTRACTOR WILL FOLLOW ALL THE REQUIREMENTS SET FORTH IN THE GR 01140 AND THE ATTACHED PERMITS FROM THE REGIONAL WATER QUALITY CONTROL BOARD, US ARMY CORPS OF ENGINEERS (USACE), AND THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW).
  - THE CONTRACTOR SHALL ENTER THE LA RIVER AND TRANSPORT CONSTRUCTION EQUIPMENT AND VEHICLES THROUGH THE GREEN GATE ENTRANCE TO THE GLENDALE NARROWS RIVERWALK, LOCATED APPROXIMATELY 210 FEET WEST OF THE INTERSECTION OF FLOWER STREET AND FAIRMONT AVENUE. THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF GLENDALE PUBLIC WORKS DEPARTMENT FOR ACCESS THROUGH THE GATES BY CONTACTING TAHMASB ARASTEH AT TAHMASB@GLENDALECA.GOV.



VERTICAL CONTROL:	NAD83, EPOCH 1985 (FEB 165-197 PG 108 & 102)
HORIZONTAL CONTROL:	NAD83, EPOCH 1985 (FEB 165-197 PG 108 & 102)
SHEET TITLE:	WORK AREA ACCESS - L.A. RIVER CLEANOUT STRUCTURES
PROJECT:	NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.
ADDRESS:	ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

DATE:	10/22/24
BY:	AR
REVISIONS:	
1	REVISE TOTAL NUMBER OF SHEETS
INDEX NO.	C960
SHEET TYPE	

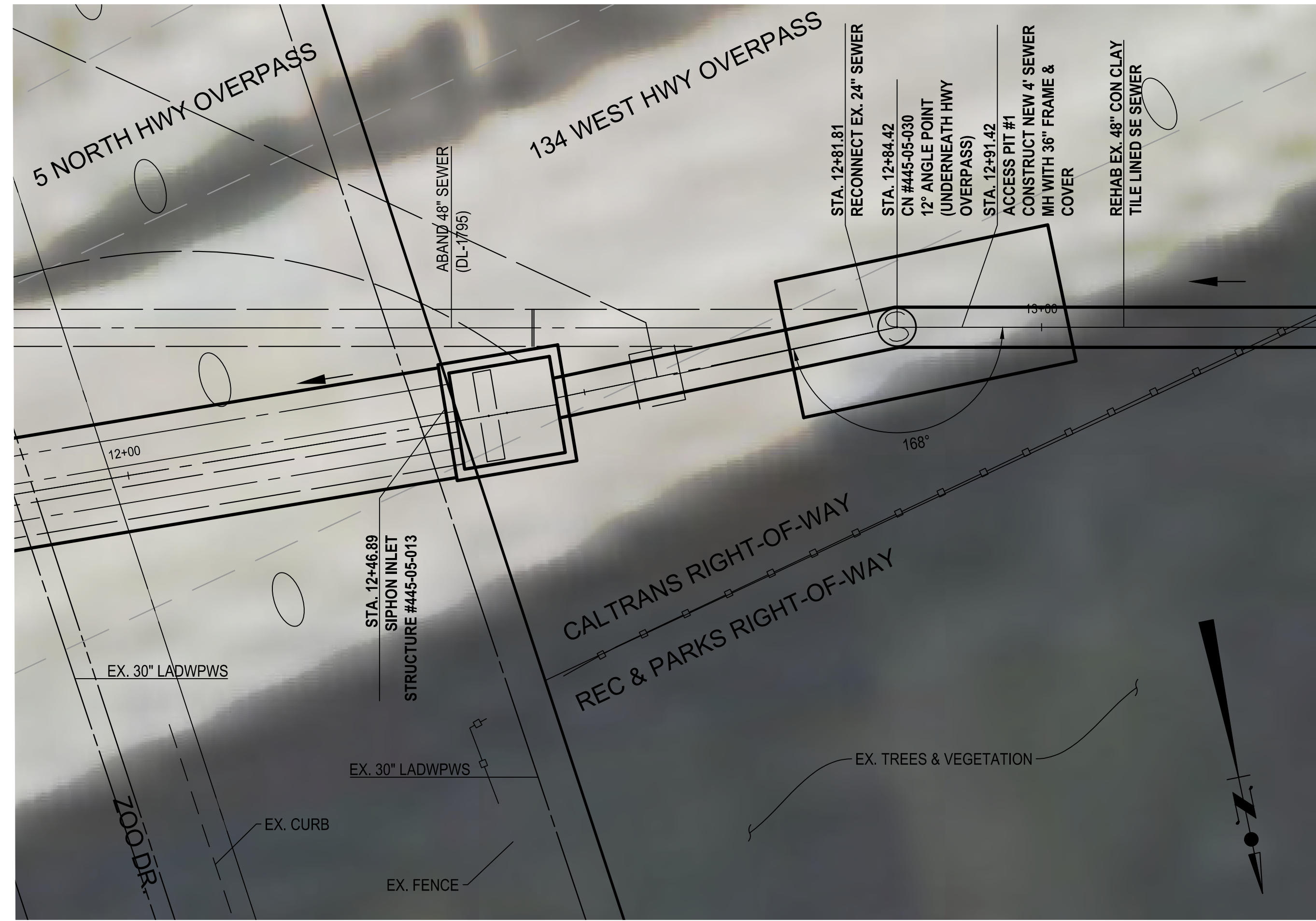
CITY ENGINEER:	TED ALLEN, P.E.
DESIGN GROUP:	AHMED AMARRAGY, EIT
ENGINEER:	ALYSSA REYES, P.E.
DESIGNED BY:	ALYSSA REYES, P.E.
DRAWN BY:	NOEL LOPEZ
CHECKED BY:	MARY THOMAS, P.E.
APPROVED BY:	EDWARD ARRINGTON, S.E., ENV. SP.

WORK ORDER NO.	SZC13947
SHEET NAME	CU403
SHEET	16 OF 51 SHEETS

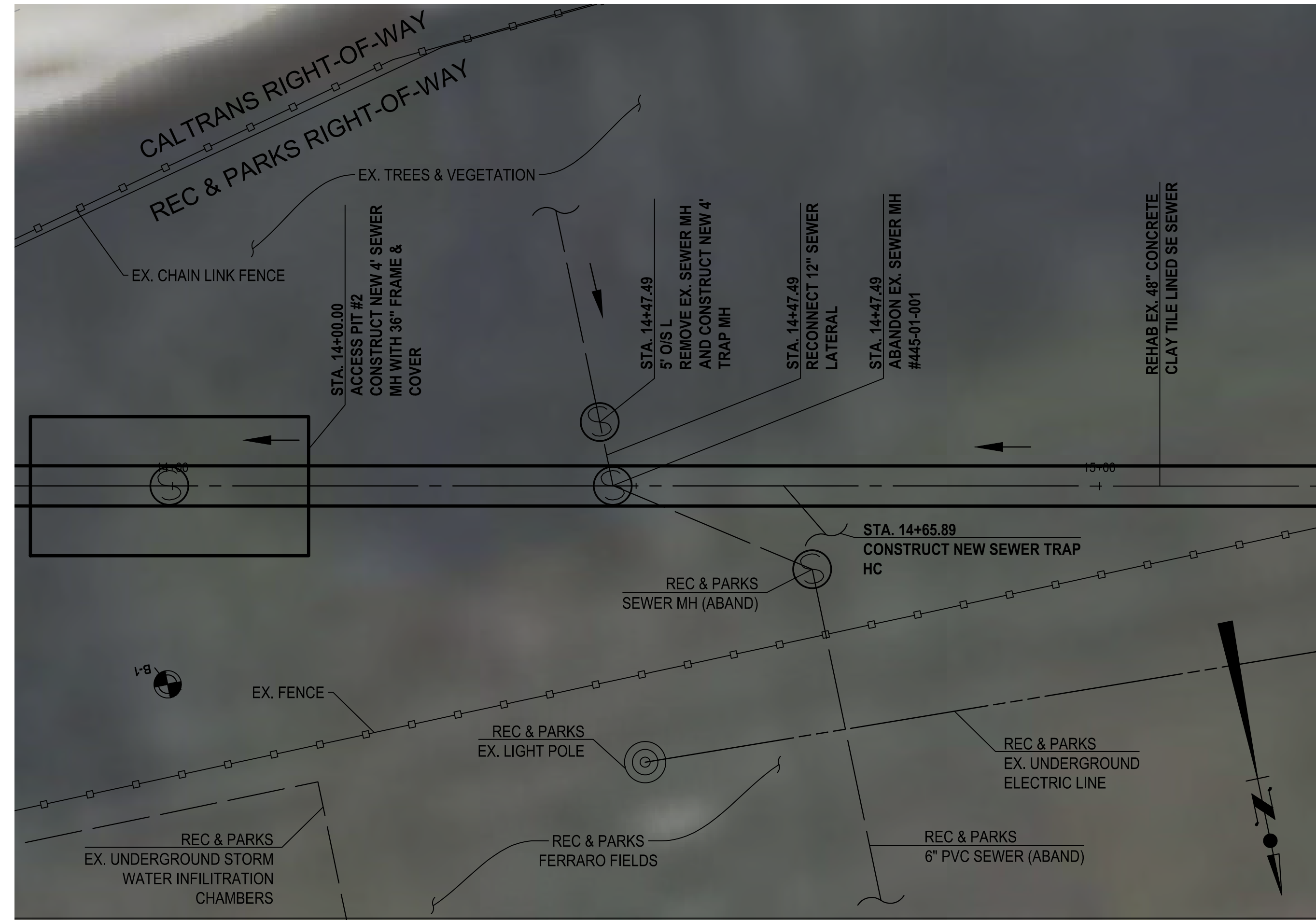
**LEGEND:**

- PROPOSED STORAGE AREA
- PROPOSED ACCESS PATH

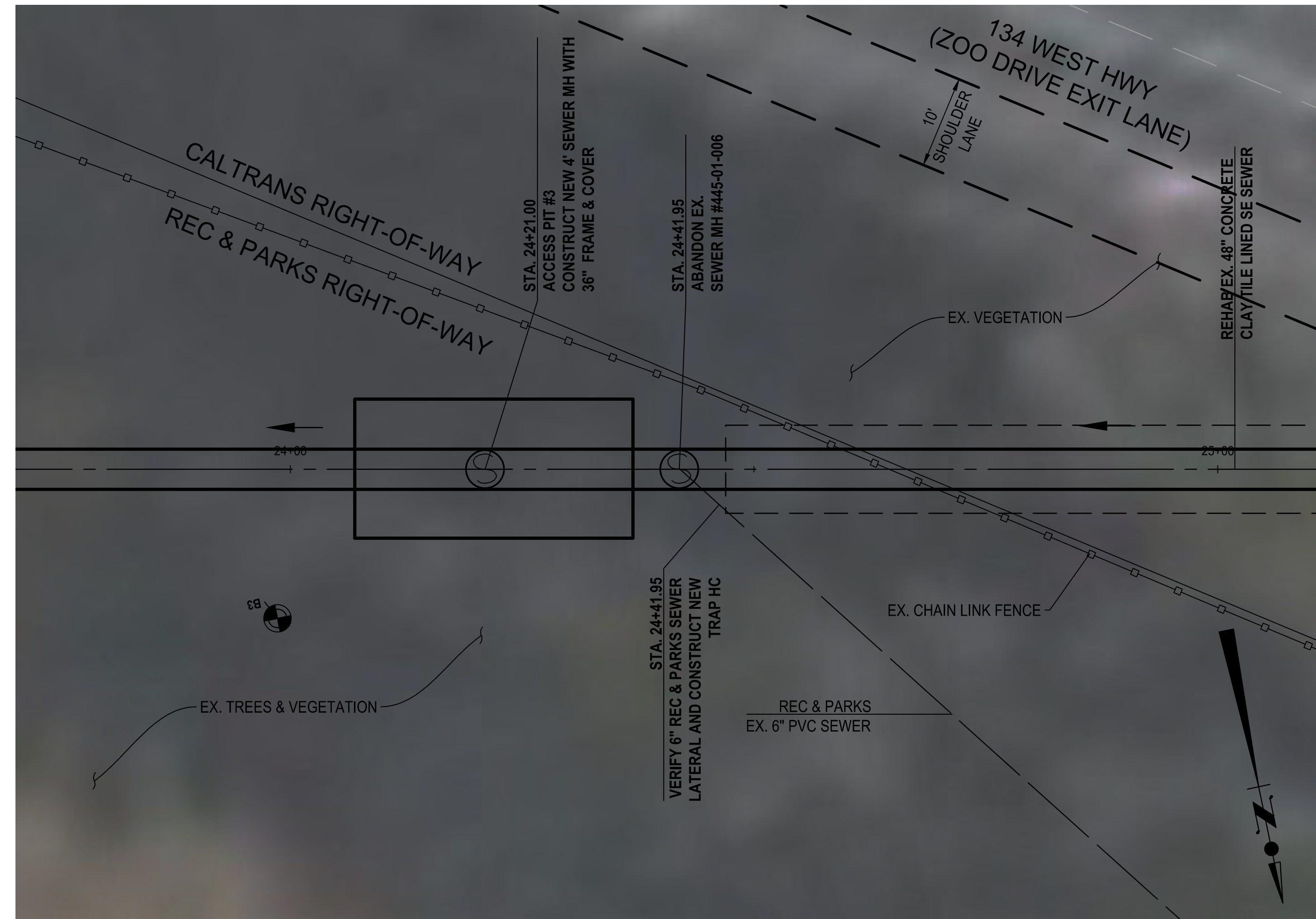
REVISION DATES (DESIGN STAGE ONLY) SHEET NUMBER: 16 OF 51 SHEETS THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



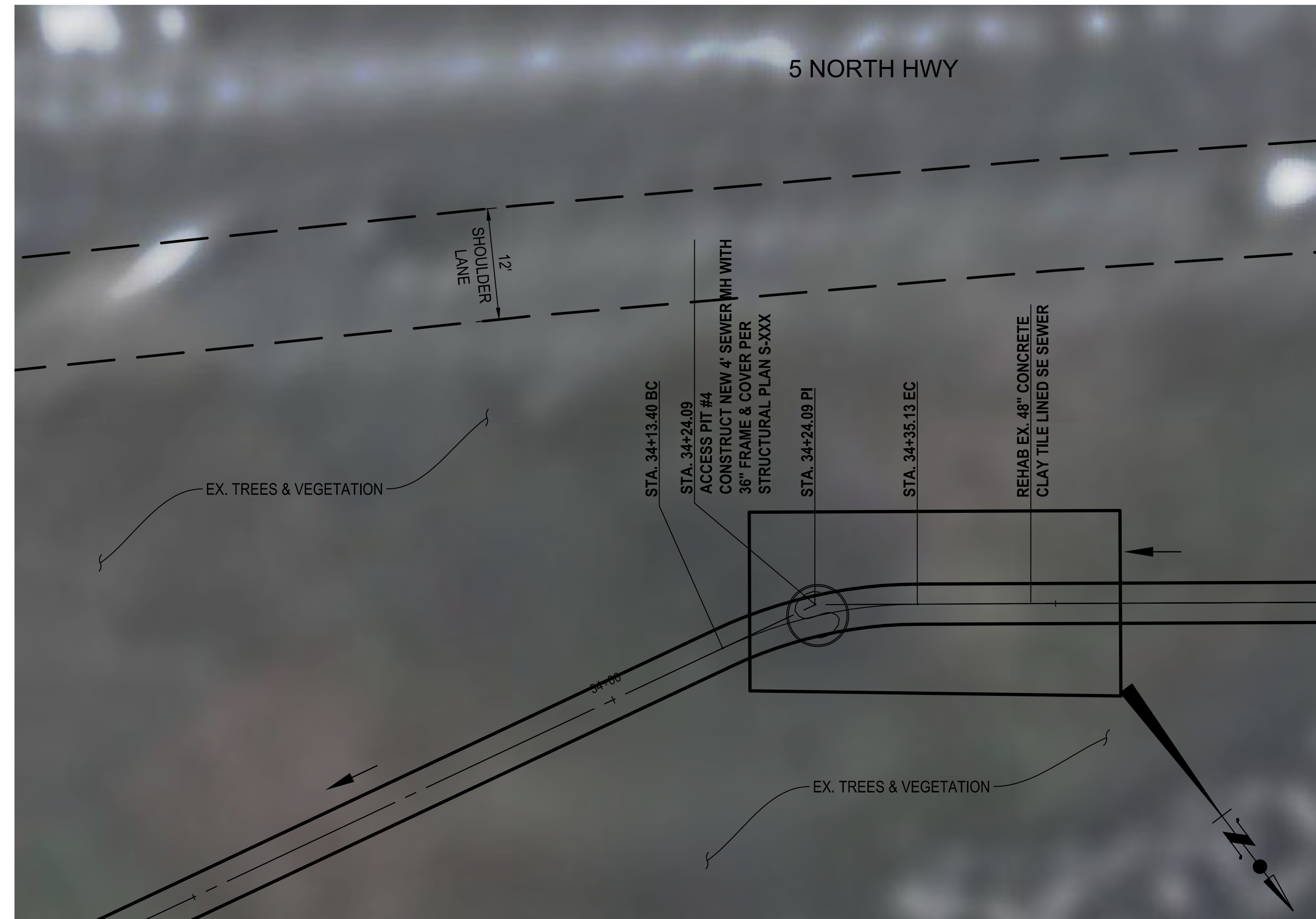
**ACCESS PIT #1**  
SCALE: 1"=10'  
CU101



**ACCESS PIT #2**  
SCALE: 1"=10'  
CU102



**ACCESS PIT #3**  
SCALE: 1"=10'  
CU103



**ACCESS PIT #4**  
SCALE: 1"=10'  
CU104

REVISION DATES (DESIGN STAGE ONLY) SHEET NO. 17 OF 51 SHEETS

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

Sheet Version 4.0

FILE PATH: G:\SHARED DRIVES\WCE\CAD DATA\SZCXXXXX\INOS UNIT 20 & 21\CIVIL\DESIGN\SZC13947\_C\_SH\_CU501.DWG PLOT DATE: 11/13/2024 5:14 PM SAVED: 11/13/2024 3:56 PM SAVED BY: ENGCID439

ENGINEERING  
CITY OF LOS ANGELES

WCED

PROFESSIONAL ENGINEER  
ALISSA REYES  
C 93245  
STATE OF CALIFORNIA

• THIS PLAN WAS ELECTRONICALLY SIGNED AND SEALED

**BUREAU OF ENGINEERING**

VERTICAL CONTROL: N051024 (10/24/24) (AMARRAGY, EIT)  
HORIZONTAL CONTROL: N0483. EPOCH 1 (03/13/25) (FEB 16/25) (PI) PG 108 & 102

SHEET TITLE: ACCESS PIT DETAILS - #1, #2, #3 & #4

PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.

ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

DATE: BY: 10/22/24 AR

REVISIONS: 1 REVISE TOTAL NUMBER OF SHEETS

INDEX NO. SHEET TYPE

CIP NO. C960

**CITY OF LOS ANGELES**

TED ALLEN, P.E.  
ENGINEER: AHMED AMARRAGY, EIT  
DESIGNED BY: ALYSSA REYES, P.E.  
DRAWN BY: NOEL LOPEZ  
CHECKED BY: MARY THOMAS, P.E.  
APPROVED BY: EDWARD ARRINGTON, S.E., ENV/SP

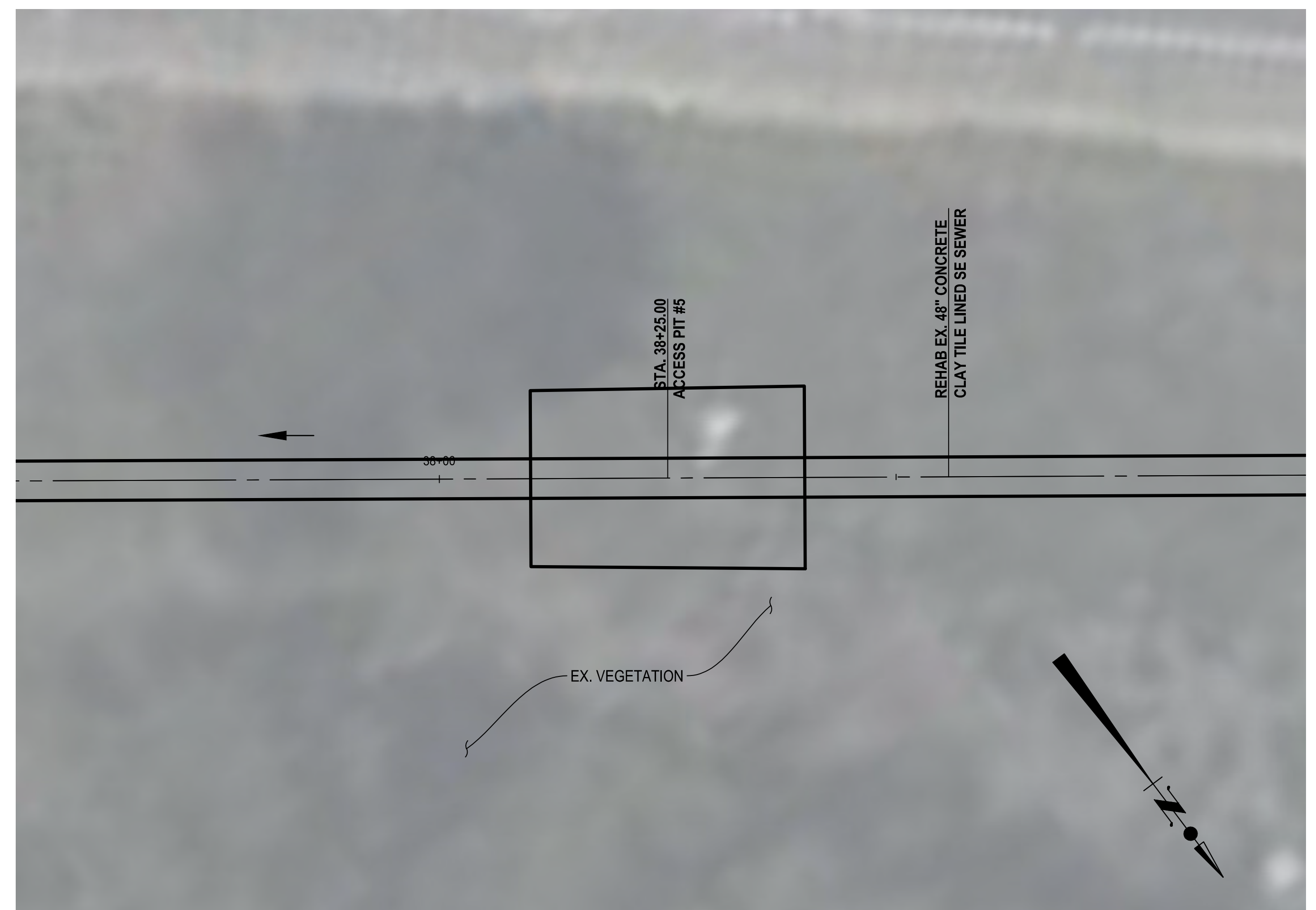
WORK ORDER NO. SZC13947

SHEET NAME: CU501

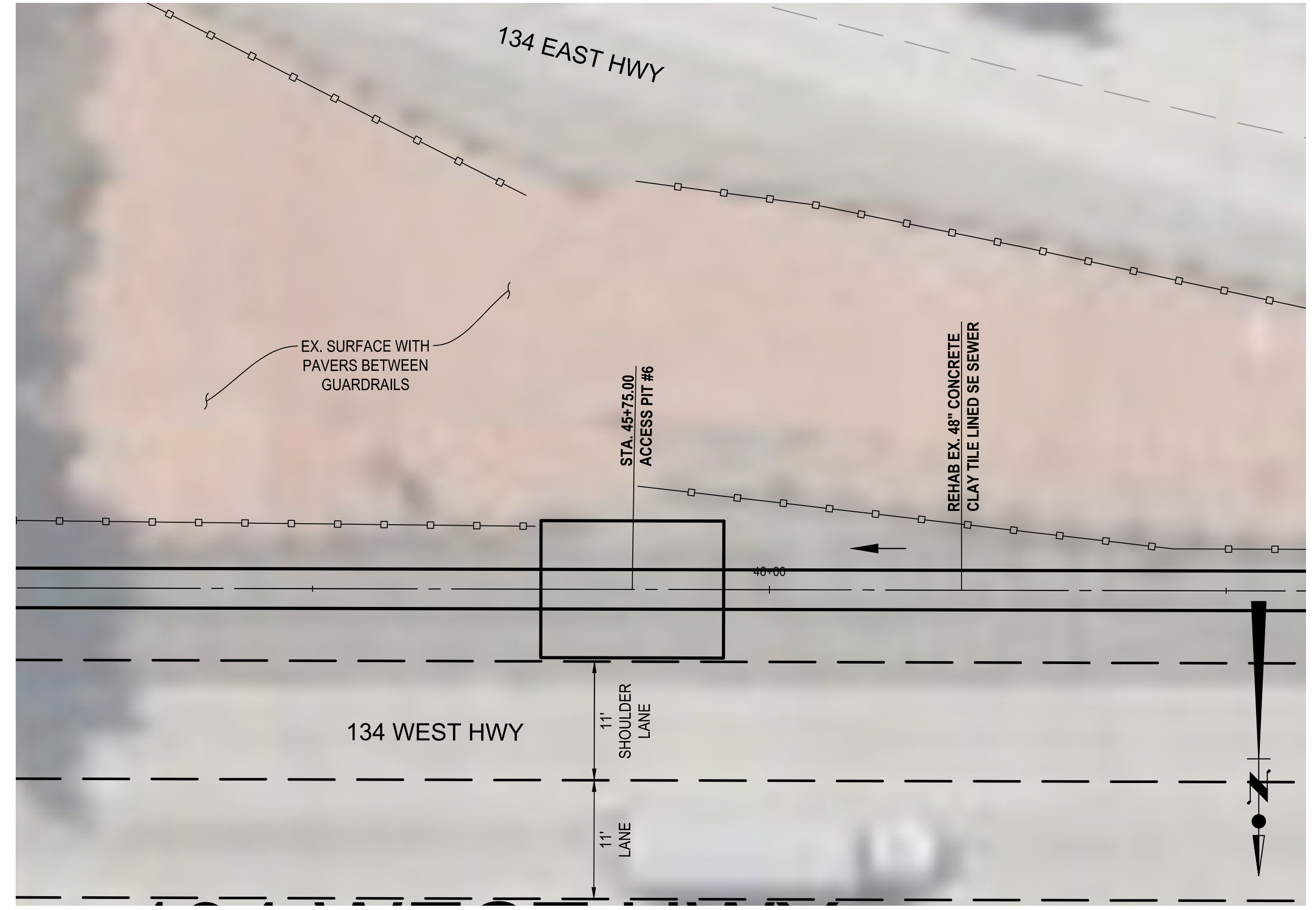
SHEET 17 OF 51 SHEETS

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

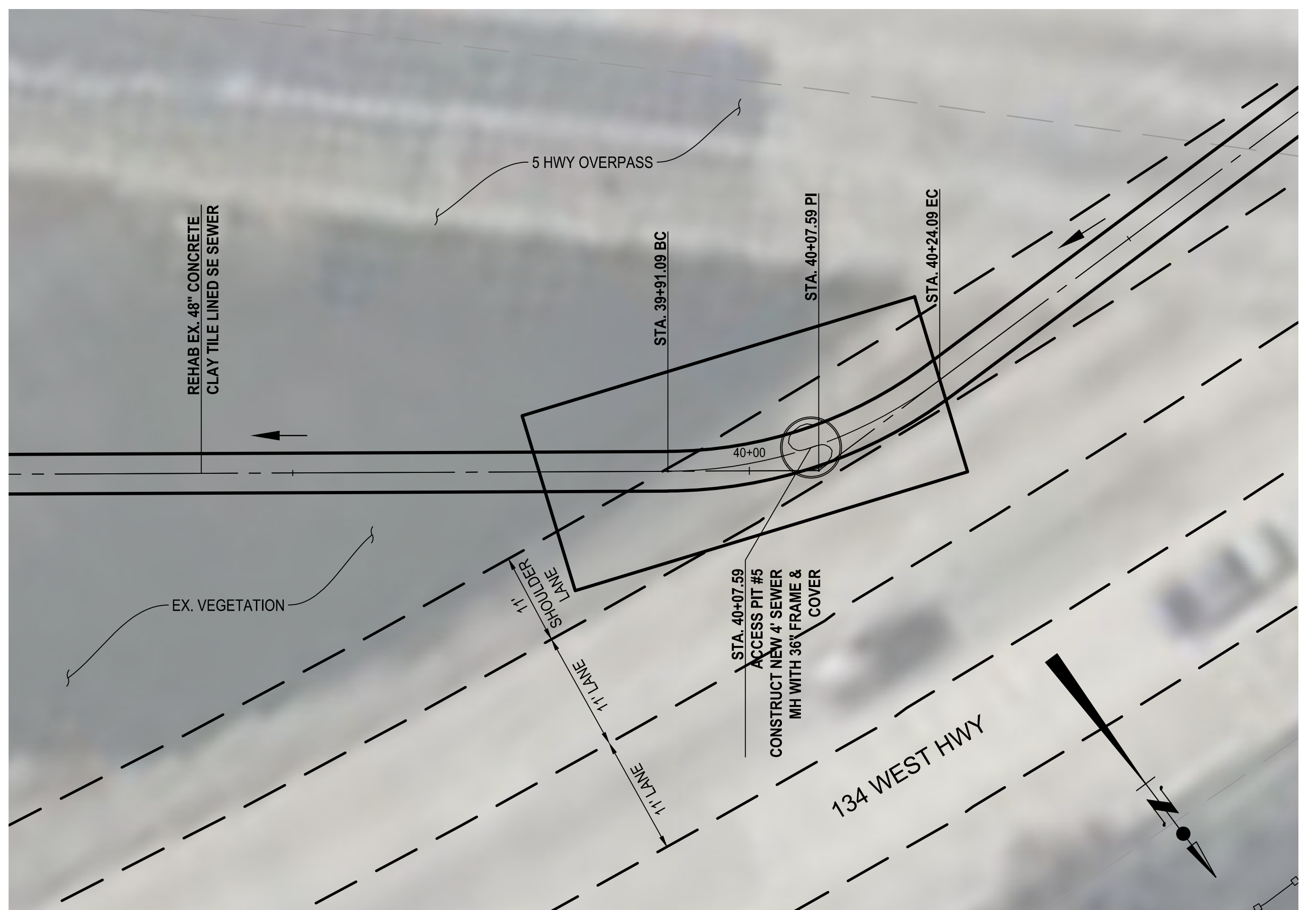
REVISION DATES (DESIGN STAGE ONLY)



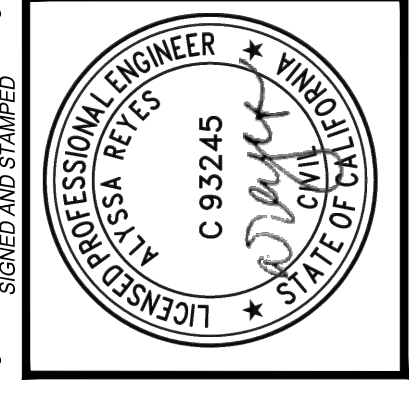
**ACCESS PIT #5** (5)  
SCALE: 1"=10'  
CU104



**ACCESS PIT #7** (7)  
SCALE: 1"=10'  
CU105



**ACCESS PIT #6** (6)  
SCALE: 1"=10'  
CU104



**BUREAU OF ENGINEERING**

VERTICAL CONTROL:	NO. 1024	1972 ADU (PMB) (S.E.D.)
HORIZONTAL CONTROL:	NO. 83	EPSC11891.5 (FEB 1985-197 PG 108 & 102)
SHEET TITLE:	ACCESS PIT DETAILS - #5, #6, & #7	
PROJECT:	NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.	
ADDRESS:	ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA	

**DEPARTMENT OF PUBLIC WORKS**

NO. REVISIONS:	DATE:	BY:
1	10/22/24	AR
REVISE TOTAL NUMBER OF SHEETS		
INDEX NO.	SHEET TYPE	CIP NO.
		C960

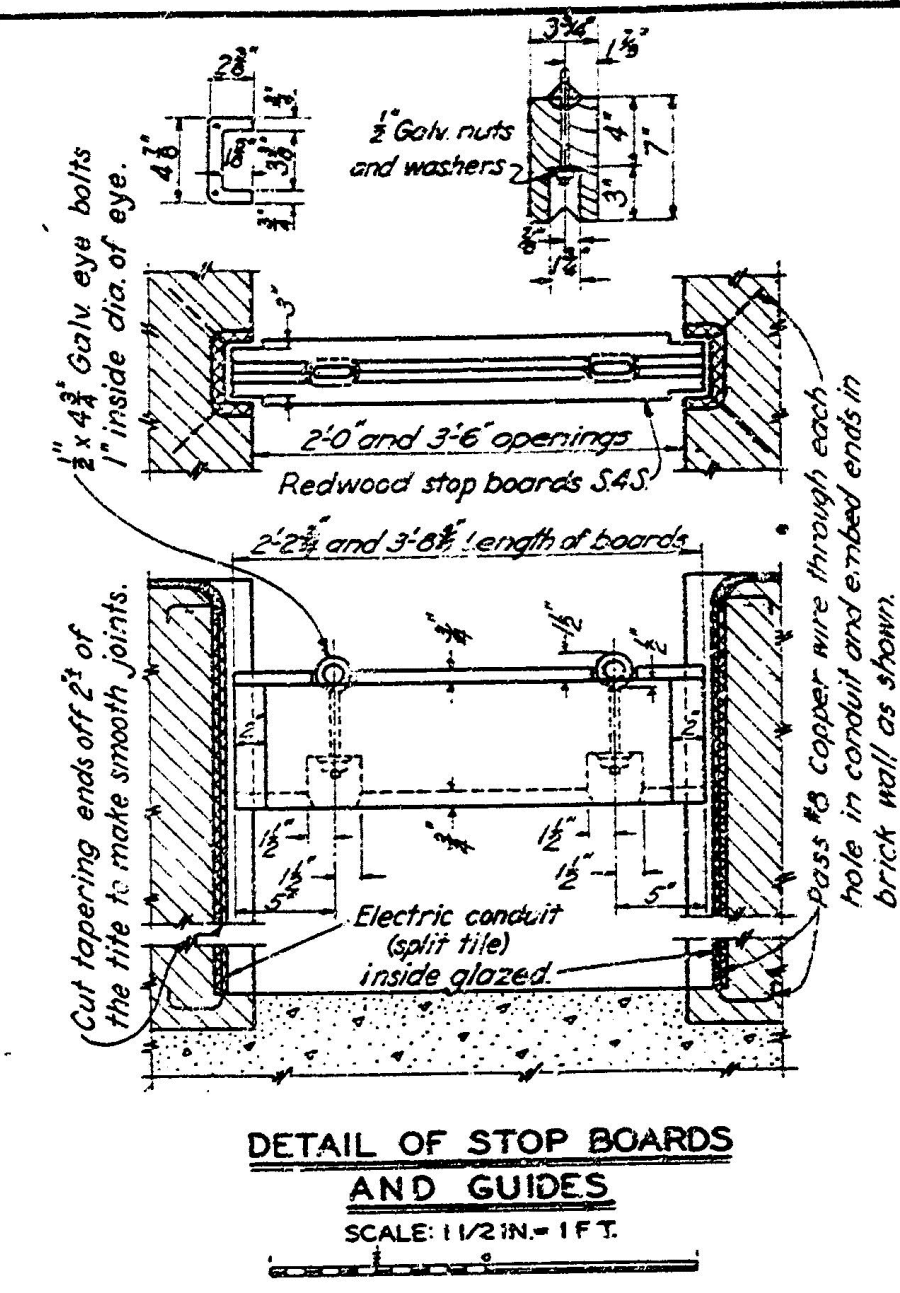
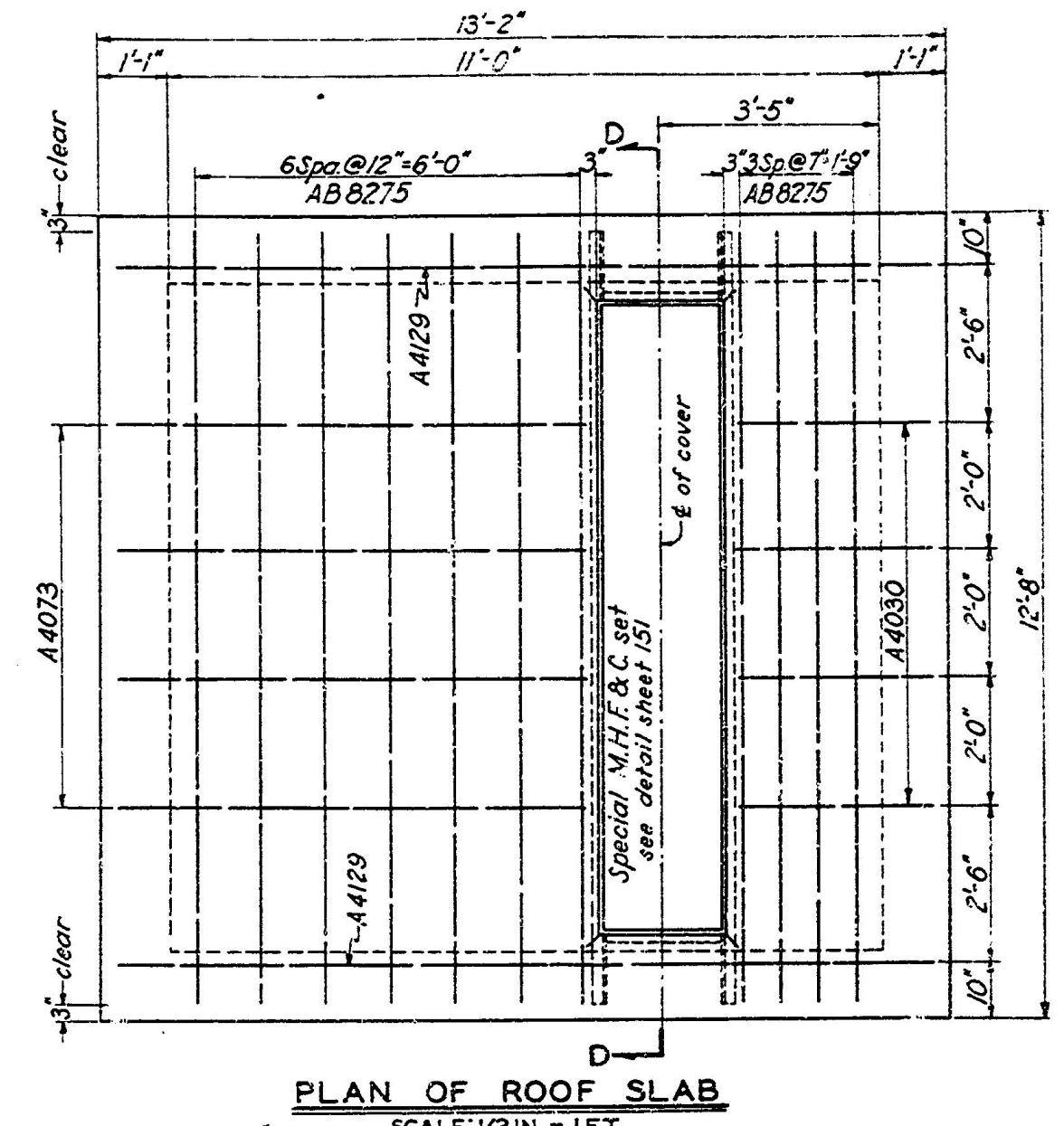
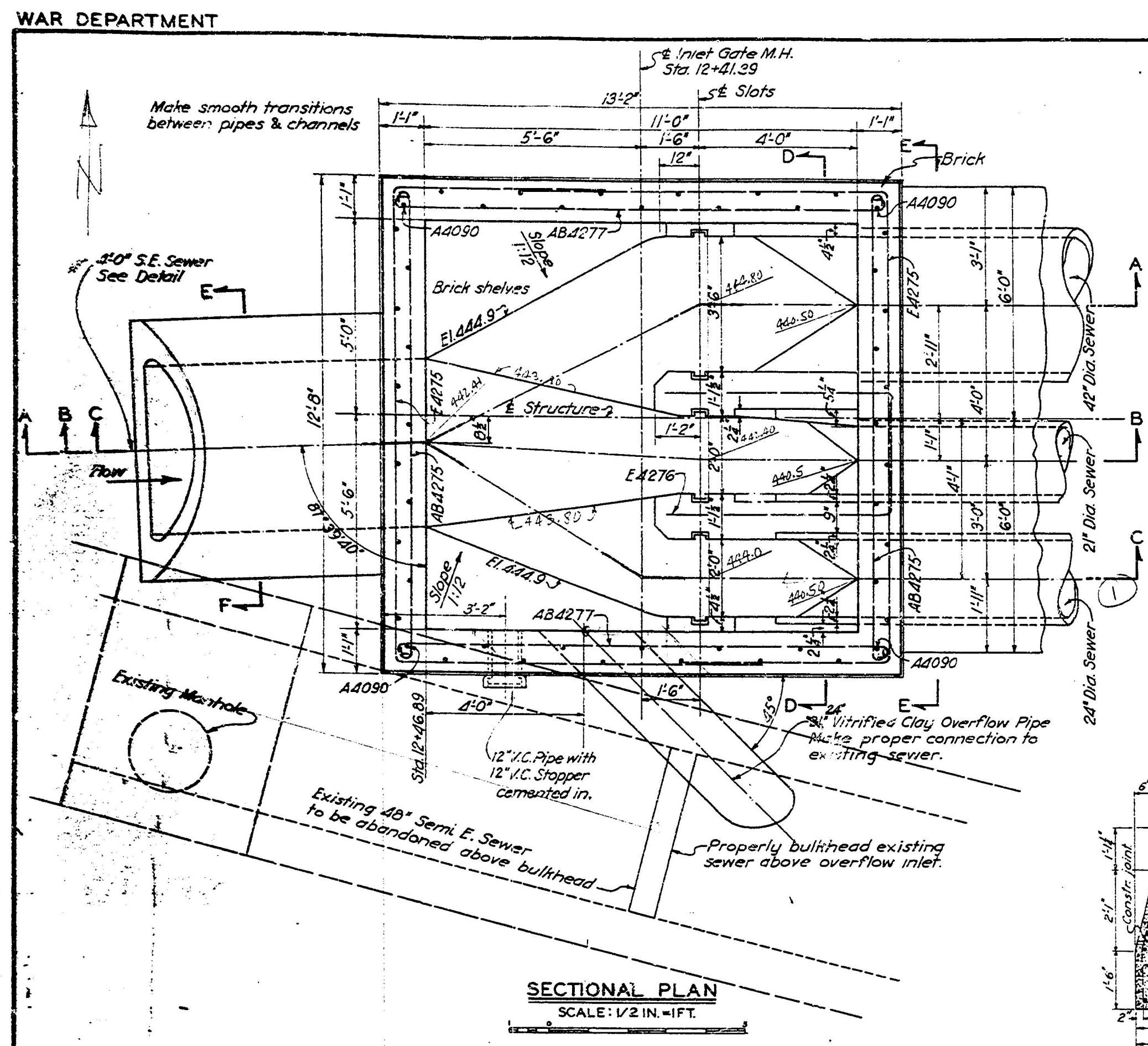
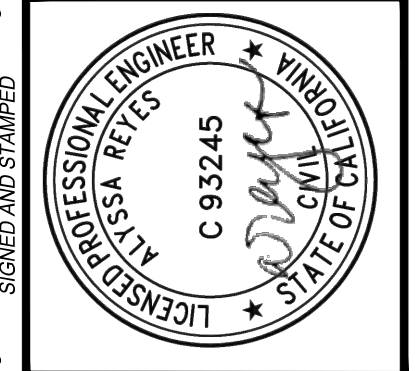
**CITY OF LOS ANGELES**

CITY ENGINEER:	DESIGN GROUP:	DATE:
TED ALLEN, P.E.	AHMED AMARRAGY, EIT	
ENGINEER:	DESIGNED BY:	
AHMED AMARRAGY, EIT	ALYSSA REYES, P.E.	
	DRAWN BY:	
	NOEL LOPEZ	
	CHECKED BY:	
	MARY THOMAS, P.E.	
	APPROVED BY:	
	EDWARD ARRINGTON, S.E., ENV. SP.	

WORK ORDER NO.  
SZC13947

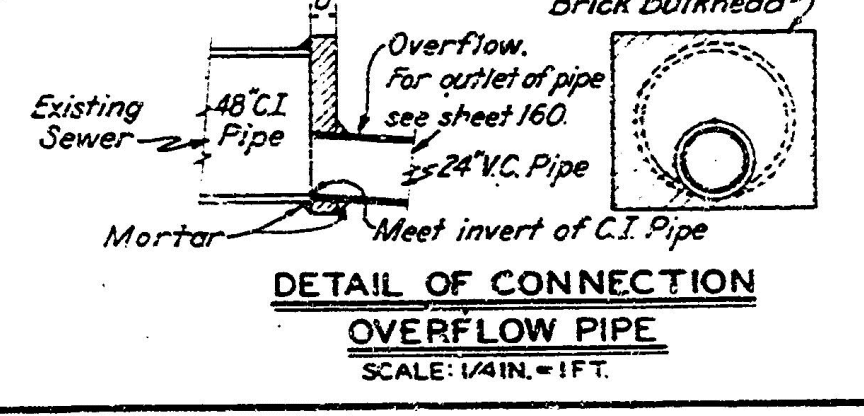
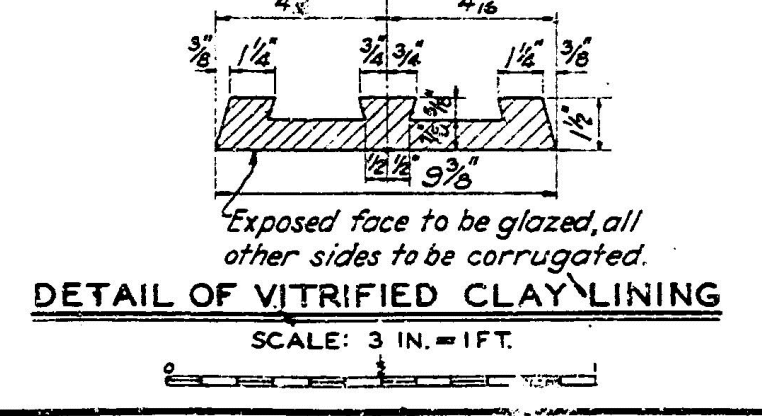
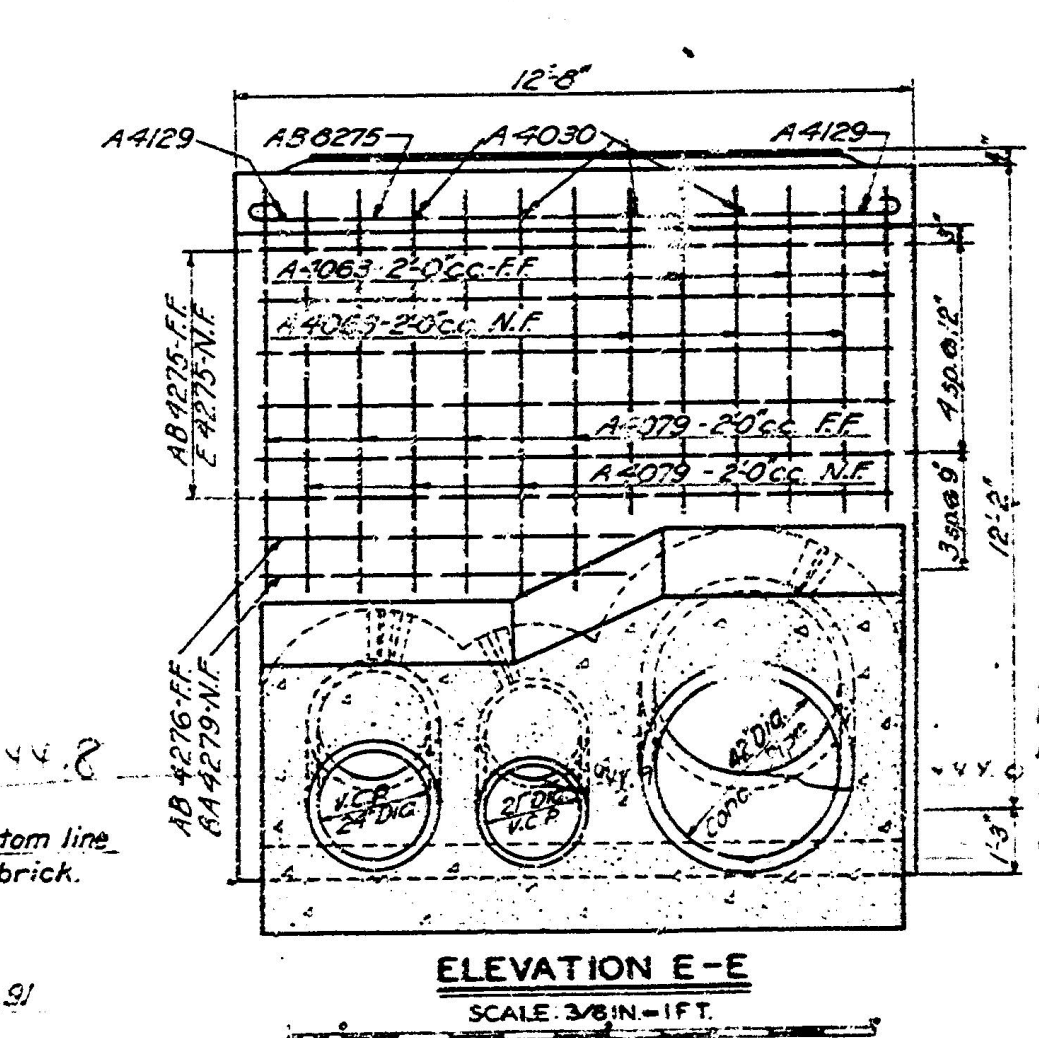
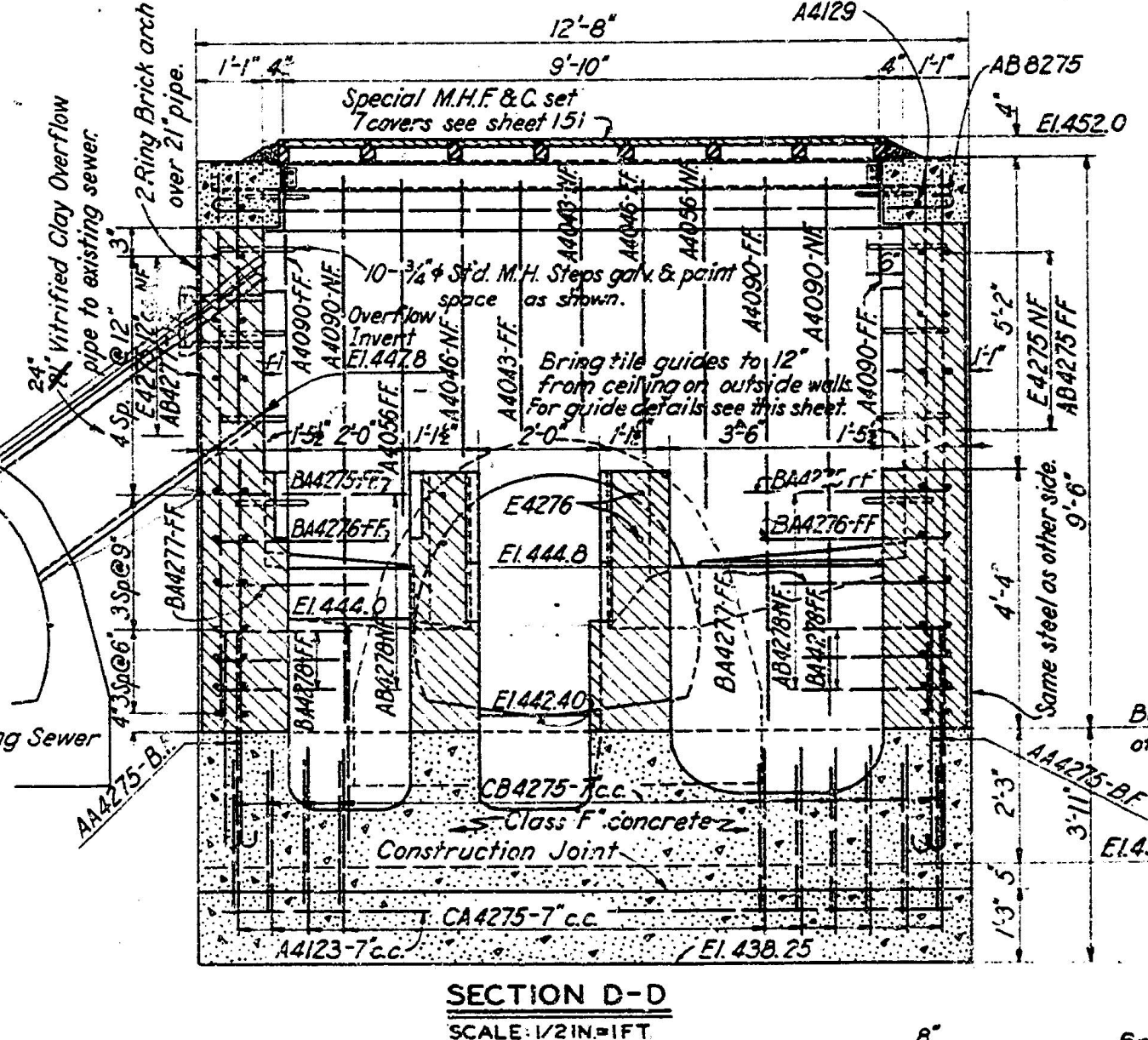
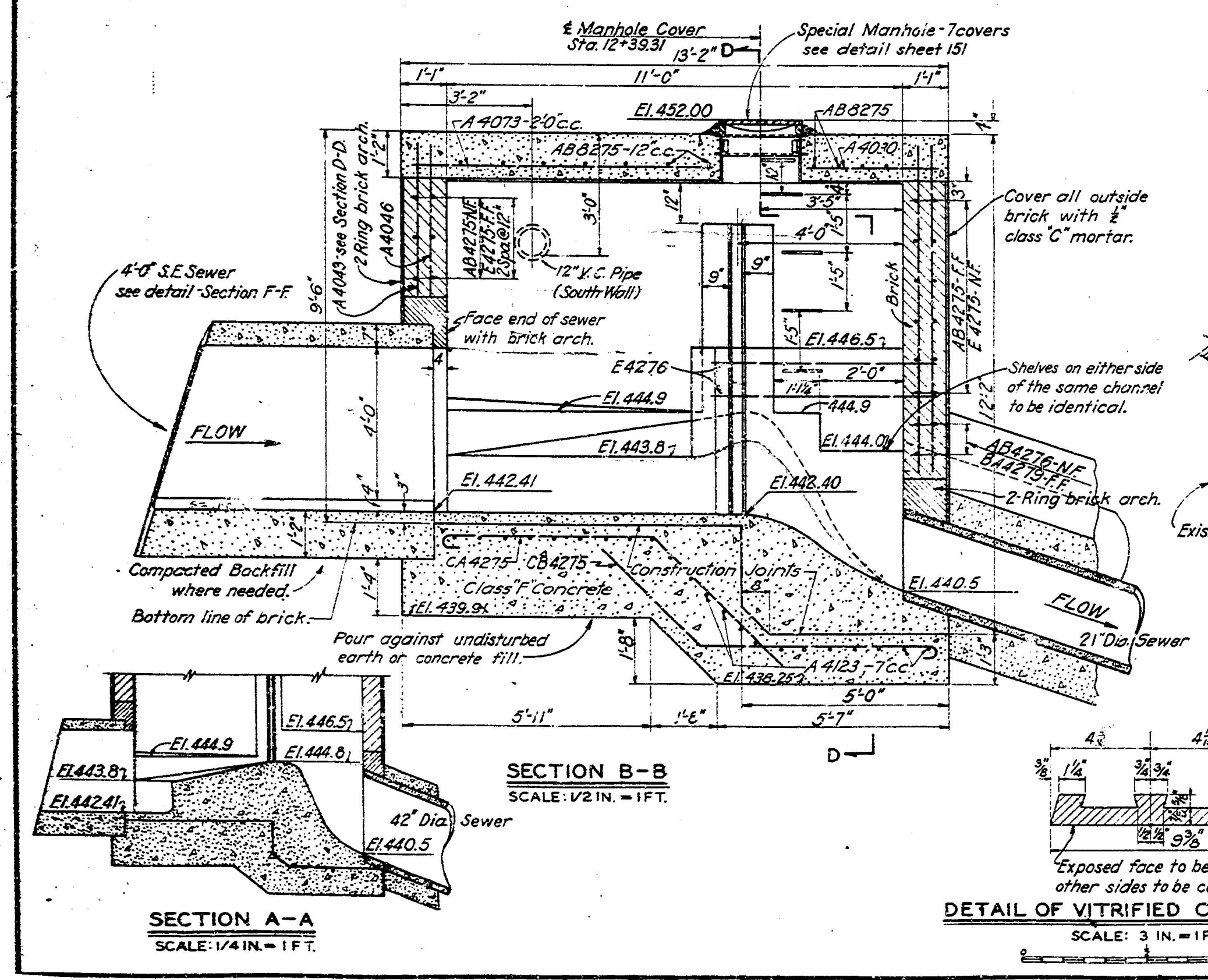
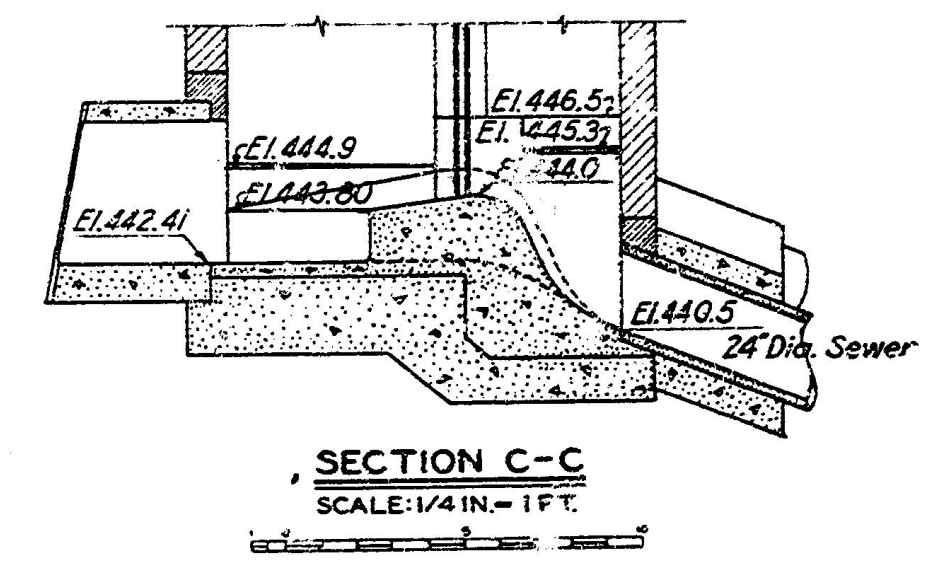
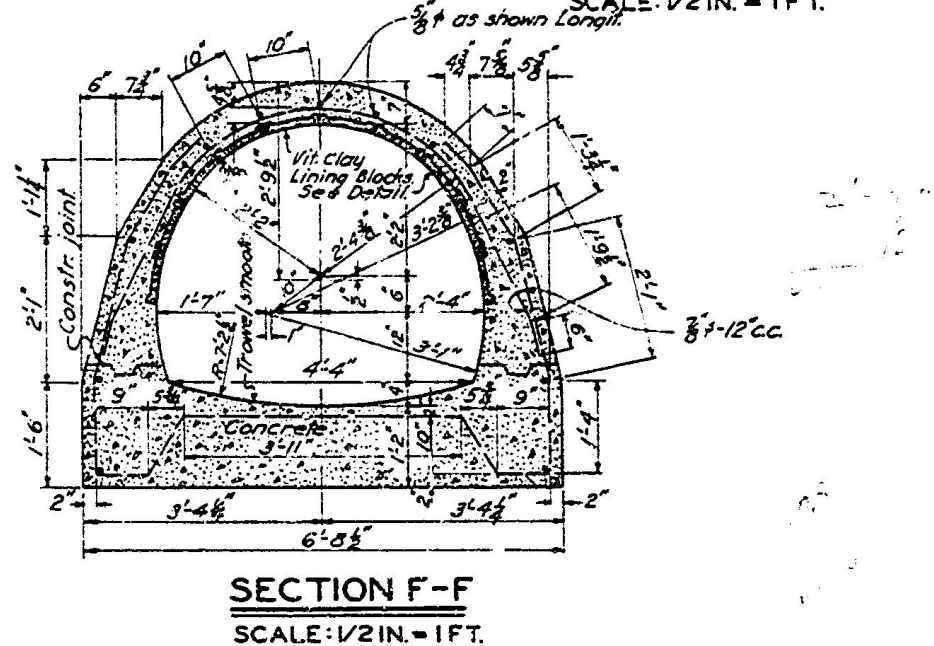
SHEET NAME  
**CU502**

SHEET 18 OF 51 SHEETS



Type	Mark	Size	No.	Q
A	A 4129	1/2"	9	
A	A 4030	1/2"	9	
A	A 4073	1/2"	9	
A	A 4090	1/2"	9	
A	A 4026	1/2"	9	
A	A 4043	1/2"	9	
A	A 4123	1/2"	9	
A	A 4063	1/2"	9	
A	A 4079	1/2"	9	
B	A 4275	1/2"	9	
B	A 4276	1/2"	9	
B	A 4277	1/2"	9	
B	A 4278	1/2"	9	
B	A 4279	1/2"	9	
B	A 4275	1/2"	9	
B	A 4276	1/2"	9	
B	A 4277	1/2"	9	
B	A 4278	1/2"	9	
B	A 4279	1/2"	9	
C	A 4275	1/2"	9	
C	A 4276	1/2"	9	
C	A 4277	1/2"	9	
C	A 4278	1/2"	9	
C	A 4279	1/2"	9	
E	A 4275	1/2"	9	
E	A 4276	1/2"	9	

Note: Make all bends or diameters of bar bearing. All reinforcement steel. Bar lengths shown are.



DATE	REVISION	REV.	CHK.	APP.
10-25-20	Added 8" VC Pipe in Sectional Plan			
10-25-20	Change 2' x 2' VC Pipe to 2' x 1.75' VC Pipe			

FILE NO: LAM/31

**BUREAU OF ENGINEERING**  
SHEET TITLE: SIPHON INLET DETAIL  
PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.  
ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

**DEPARTMENT OF PUBLIC WORKS**  
DATE: 10/22/24  
REVISIONS: 1  
REVISION TOTAL NUMBER OF SHEETS: 1

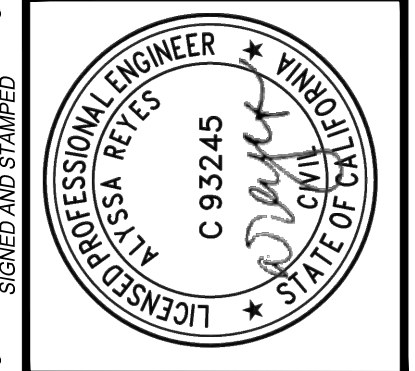
**CITY OF LOS ANGELES**  
CITY ENGINEER: TED ALLEN, P.E.  
DESIGN GROUP: AHMED AMARRAGY, EIT  
ENGINEER: AHMED AMARRAGY, EIT  
DESIGNED BY: ALYSSA REYES, P.E.  
DRAWN BY: NOEL LOPEZ  
CHECKED BY: MARY THOMAS, P.E.  
APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

WORK ORDER NO. SZC13947  
SHEET NAME: CU503  
SHEET 19 OF 51 SHEETS

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REVISION DATE (DESIGN STAGE ONLY)

FOR REFERENCE ONLY  
 REPRODUCED FROM W.O.  
 SZC12796 C-22 (D-34852)



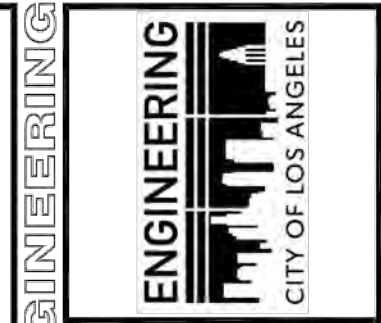
**BUREAU OF ENGINEERING**  
 DEPARTMENT OF PUBLIC WORKS  
 1100 S. GATEWAY BLVD. (RAMP 100)  
 LOS ANGELES, CA 90015  
 PHONE: (213) 473-1000  
 FAX: (213) 473-1001  
 PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR.  
 RIGHT-OF-WAY TO DORAN ST.  
 ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST.  
 LOS ANGELES, CA

**REVISIONS**

NO.	REVISIONS	DATE	BY
1	REVISE TOTAL NUMBER OF SHEETS	10/22/24	AR

**INDEX NO. C960**

**CITY OF LOS ANGELES**  
 DEPARTMENT OF PUBLIC WORKS  
 CITY ENGINEER: TED ALLEN, P.E.  
 DESIGN GROUP: AHMED AMARRAGY, EIT  
 ENGINEER: ALYSSA REYES, P.E.  
 DRAWN BY: NOEL LOPEZ  
 CHECKED BY: MARY THOMAS, P.E.  
 APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

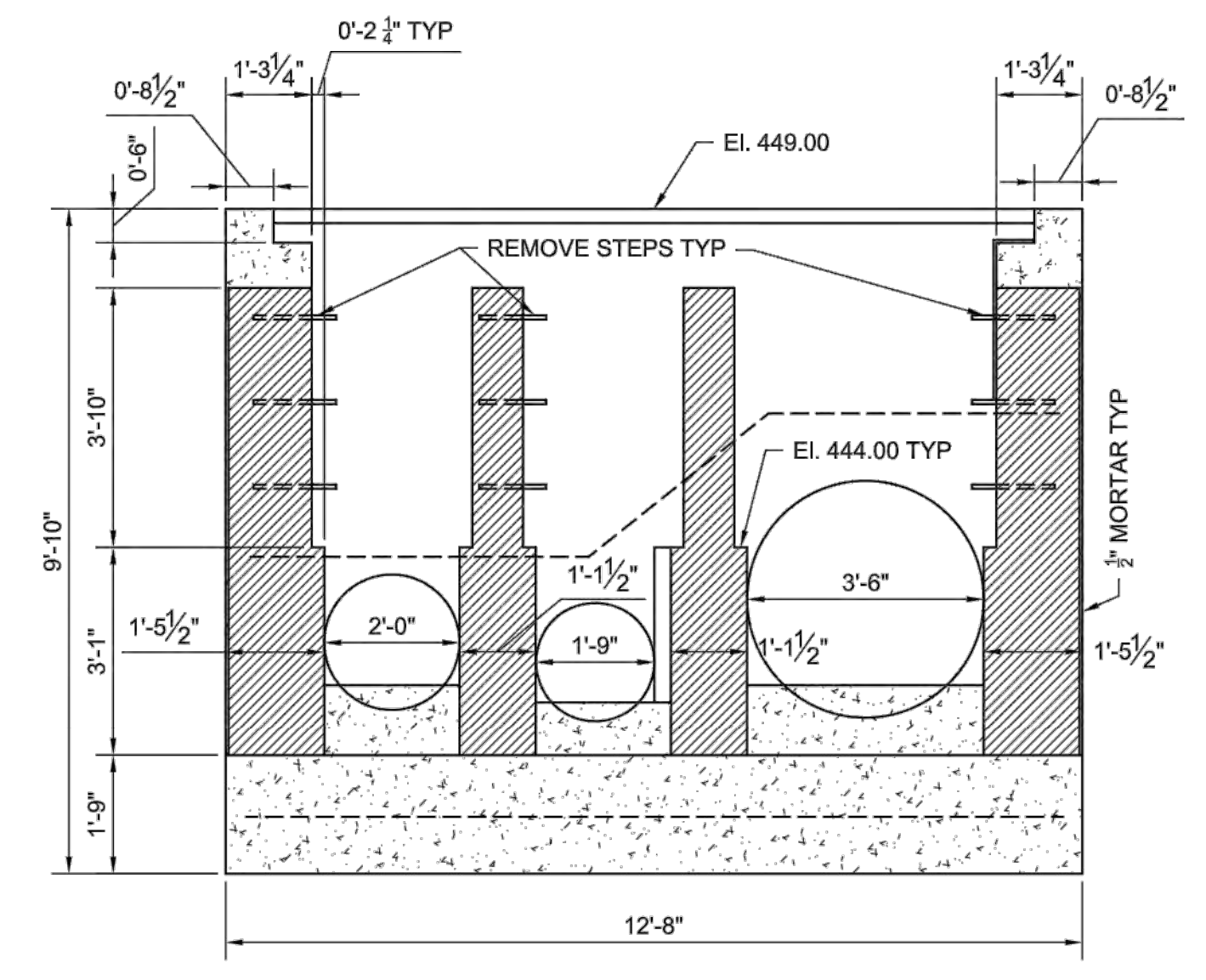
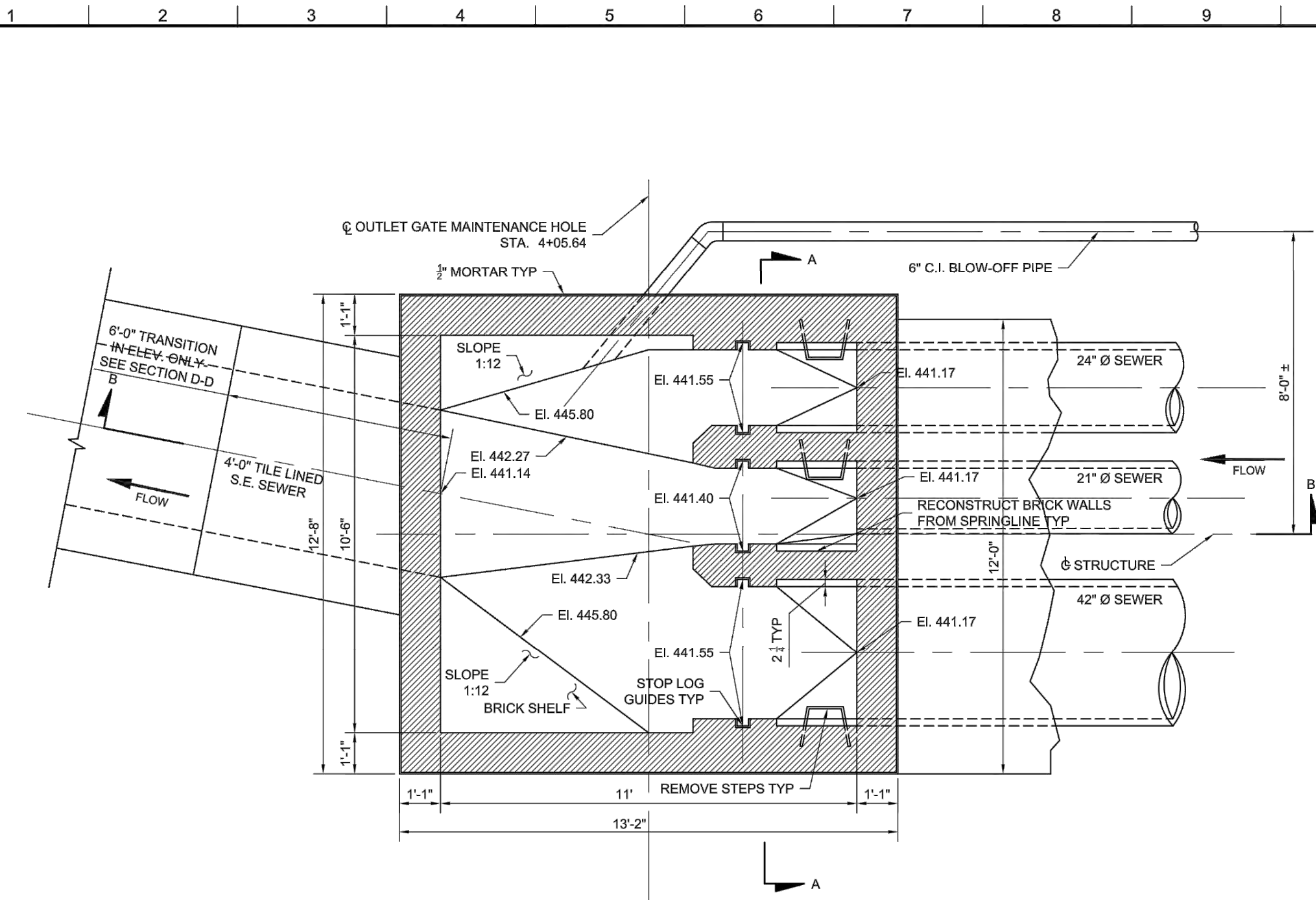


**BUREAU OF ENGINEERING**  
 DEPARTMENT OF PUBLIC WORKS  
 INDEX NO. **E-8978**  
 "AS-BUILT"

**DESIGNER**  
 GARY LEE MOORE, P.E., ENV. SP.  
 CITY ENGINEER  
 DESIGN GROUP  
 ENGINEER: Y. HAFEZ, A. REQUININ  
 DESIGNED BY: THEN GROCKER, P.E.  
 DRAWN BY: J. FLORANCE  
 CHECKED BY: MARY THOMAS, P.E.  
 APPROVED BY: BRADLEY W. JENSON, P.E.

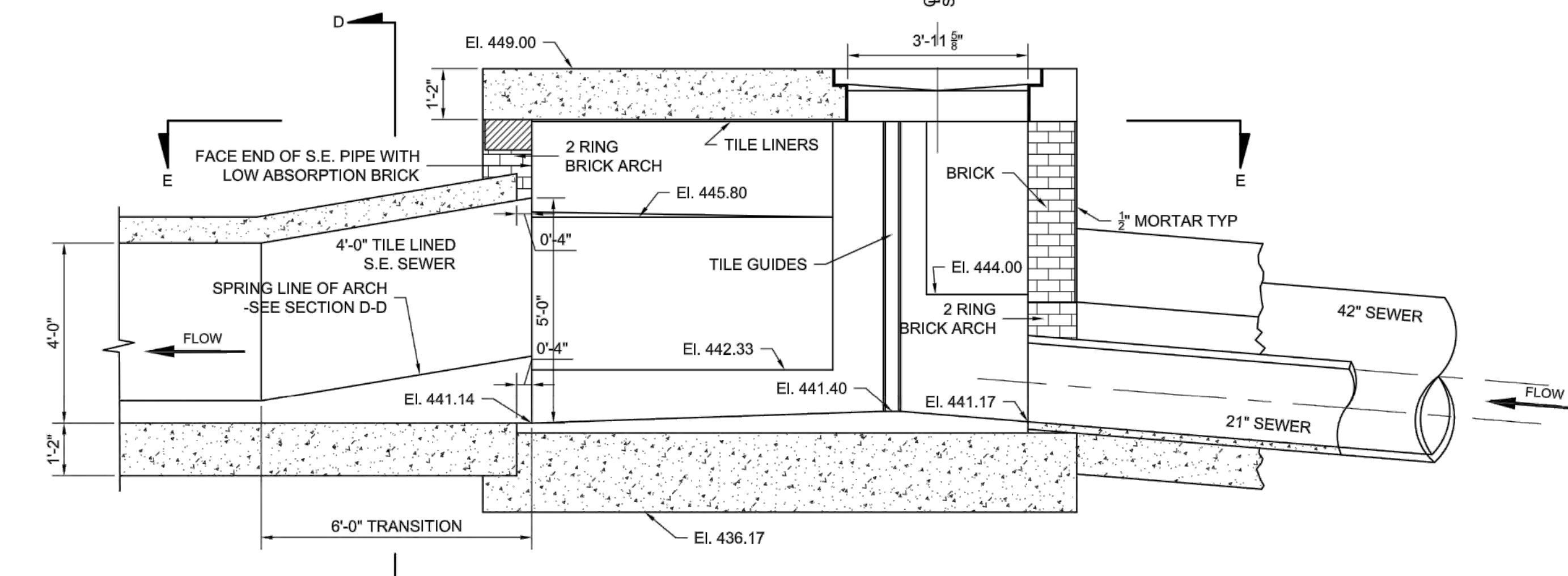
**EXISTING SIPHON OUTLET STRUCTURE**  
 PROJECT: NOS REHAB UNIT 18 - COLORADO TO DORAN  
 ADDRESS: COLORADO BLVD TO W. DORAN ST.

WORK ORDER NO. SZC12796  
 DRAWING NO. C-22  
 SHEET 27 OF SHEETS

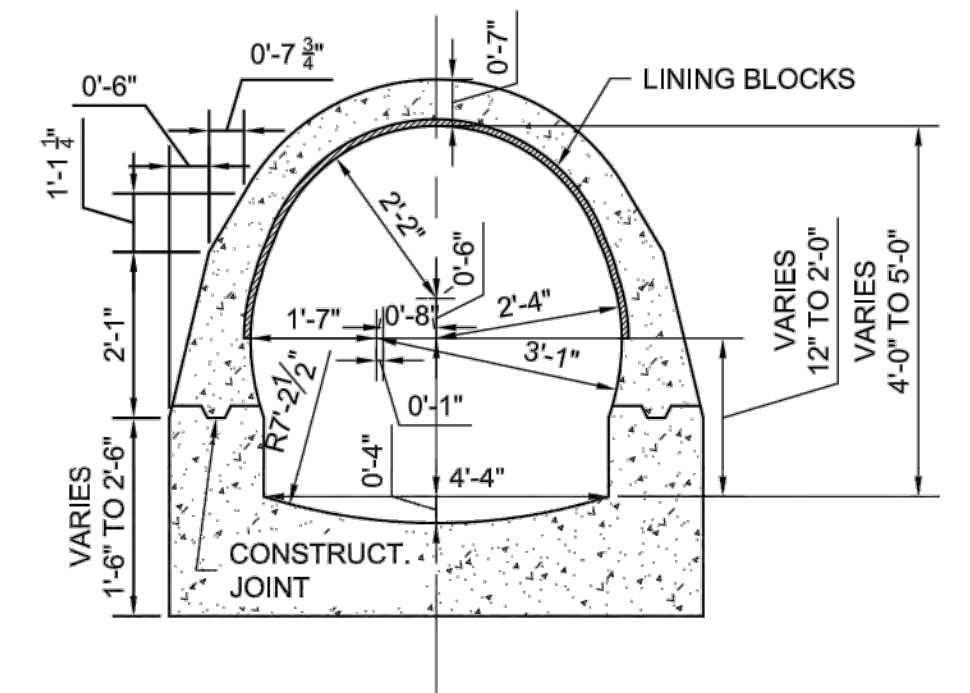


**SECTION A-A**  
 SCALE 1/2" = 1'

- NOTES:**
- REFER TO DL-1795 FOR AS-BUILT PLANS.
  - CONTRACTOR SHALL REMOVE EXISTING STEPS AND DO SURFACE PREPARATION PRIOR TO LINING THE STRUCTURE.
  - CONTRACTOR SHALL RECONSTRUCT THE WALLS (BARREL DIVIDERS) AND INSTALL LINER.
  - CONTRACTOR SHALL DESIGN THE STOP LOG GUIDE AND PURCHASE STOP LOGS OF CALIFORNIA REDWOOD MATERIAL.
  - BOE SHALL COORDINATE WITH WCSD FOR THE STORAGE OF STOP LOGS.
  - FOR THE TOP SLAB DESIGN, SEE STRUCTURAL DRAWINGS.
  - THE CONTRACTOR SHALL PREPARE A SUBMITTAL ON HOW HE/SHE PROPOSES TO REHABILITATE THE SIPHON STRUCTURE AND THE 6" TRANSITION. SUBMITTAL SHALL ALSO INCLUDE THE JOINT CLOSURE DETAIL WITH THE SPLITLINER. PROJECT SPECIFIC APPROVAL MAY BE OBTAINED FOR USE OF THE 'PREDL SYSTEM.'



**SECTION B-B**  
 SCALE 1/8" = 1'



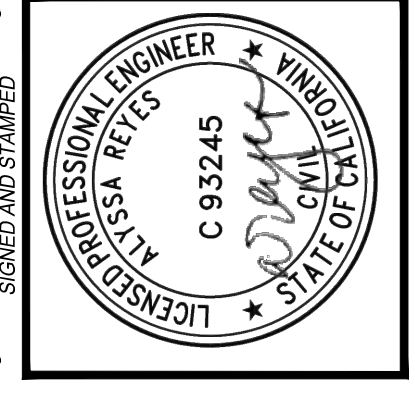
**SECTION D-D**  
 SCALE 1/2" = 1'

**FOR REFERENCE ONLY**

REVISION DATES (DESIGN STAGE ONLY)

Sheet Version 3.0  
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 3/24/2017 11:03 AM

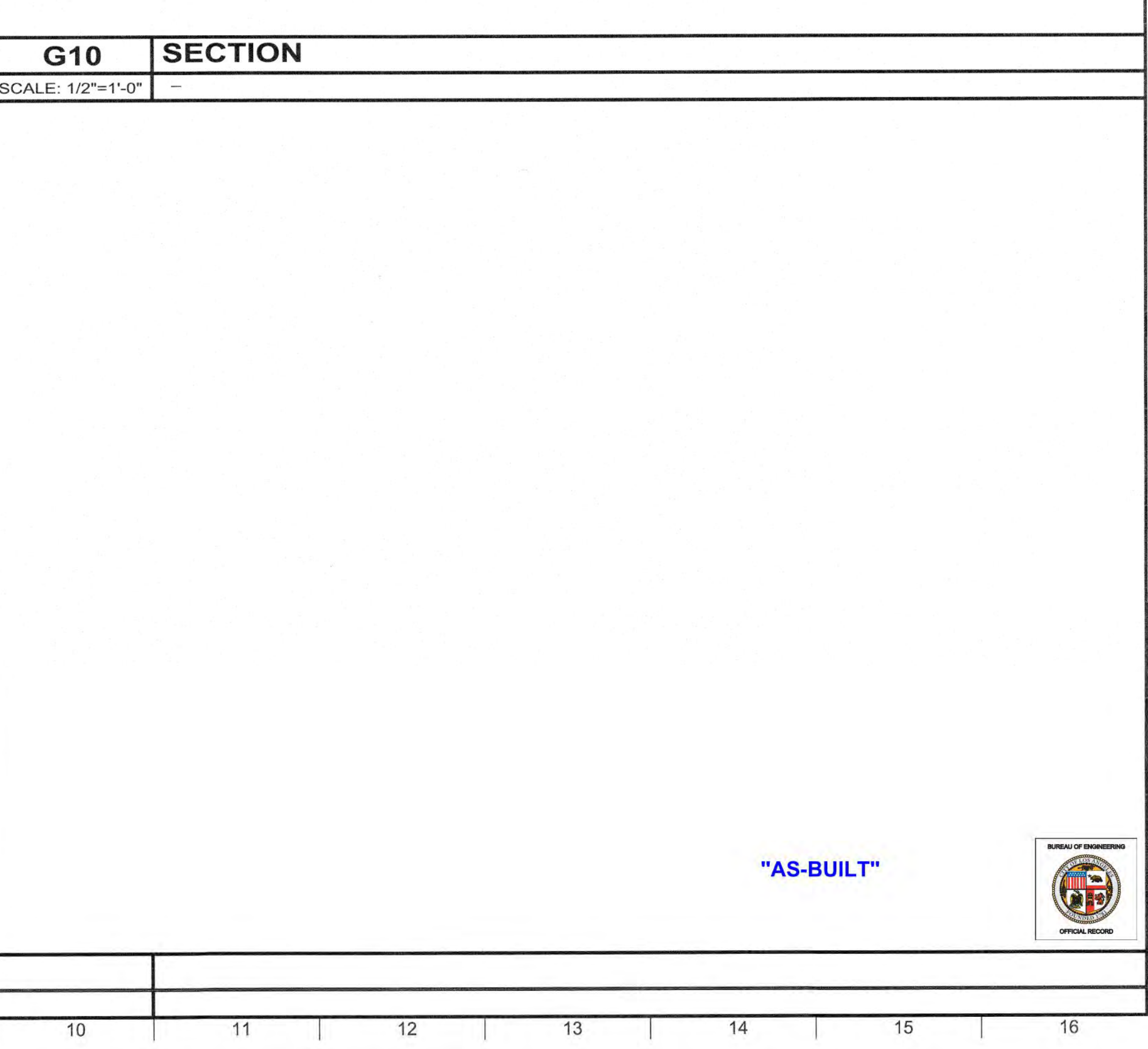
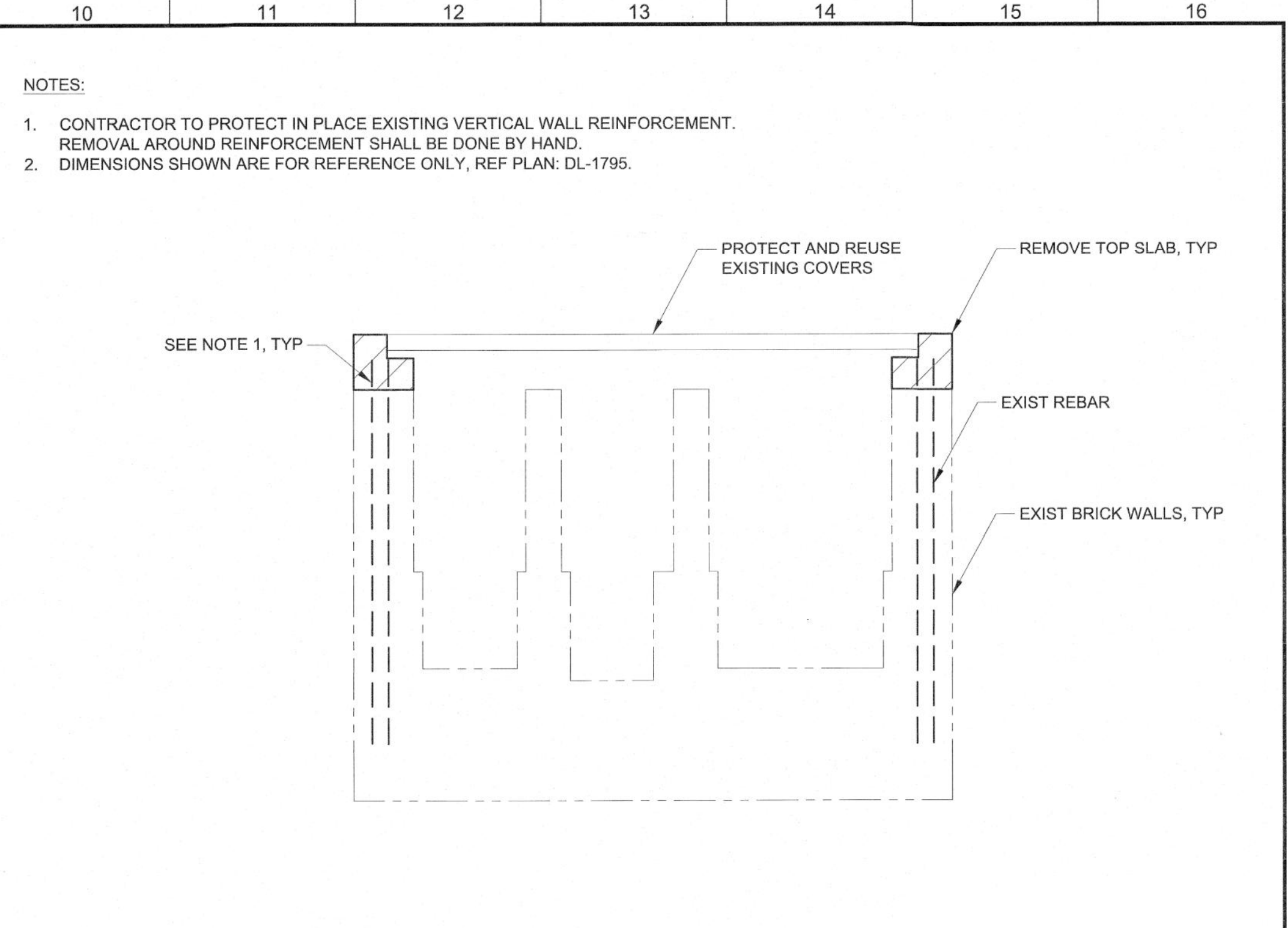
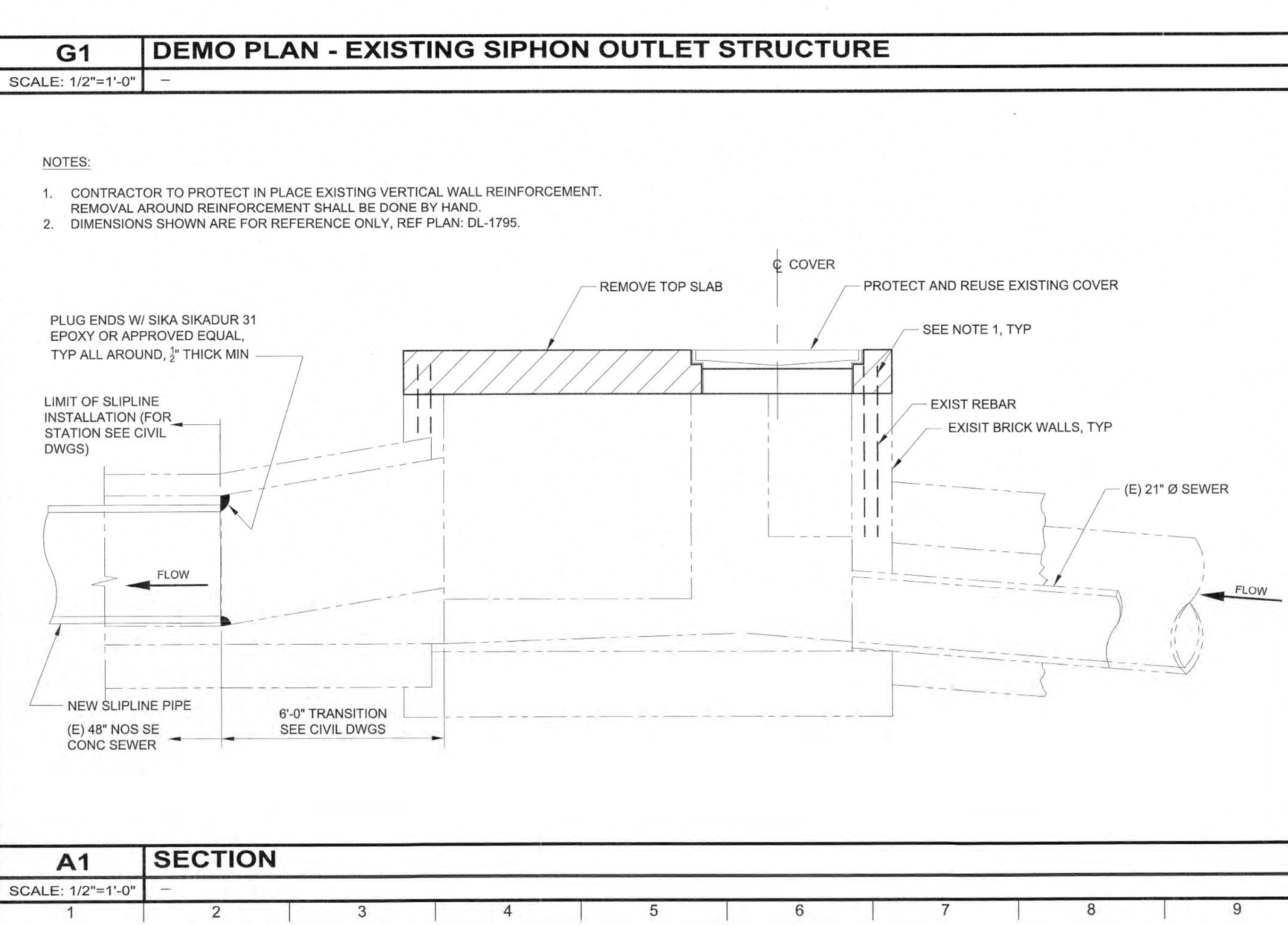
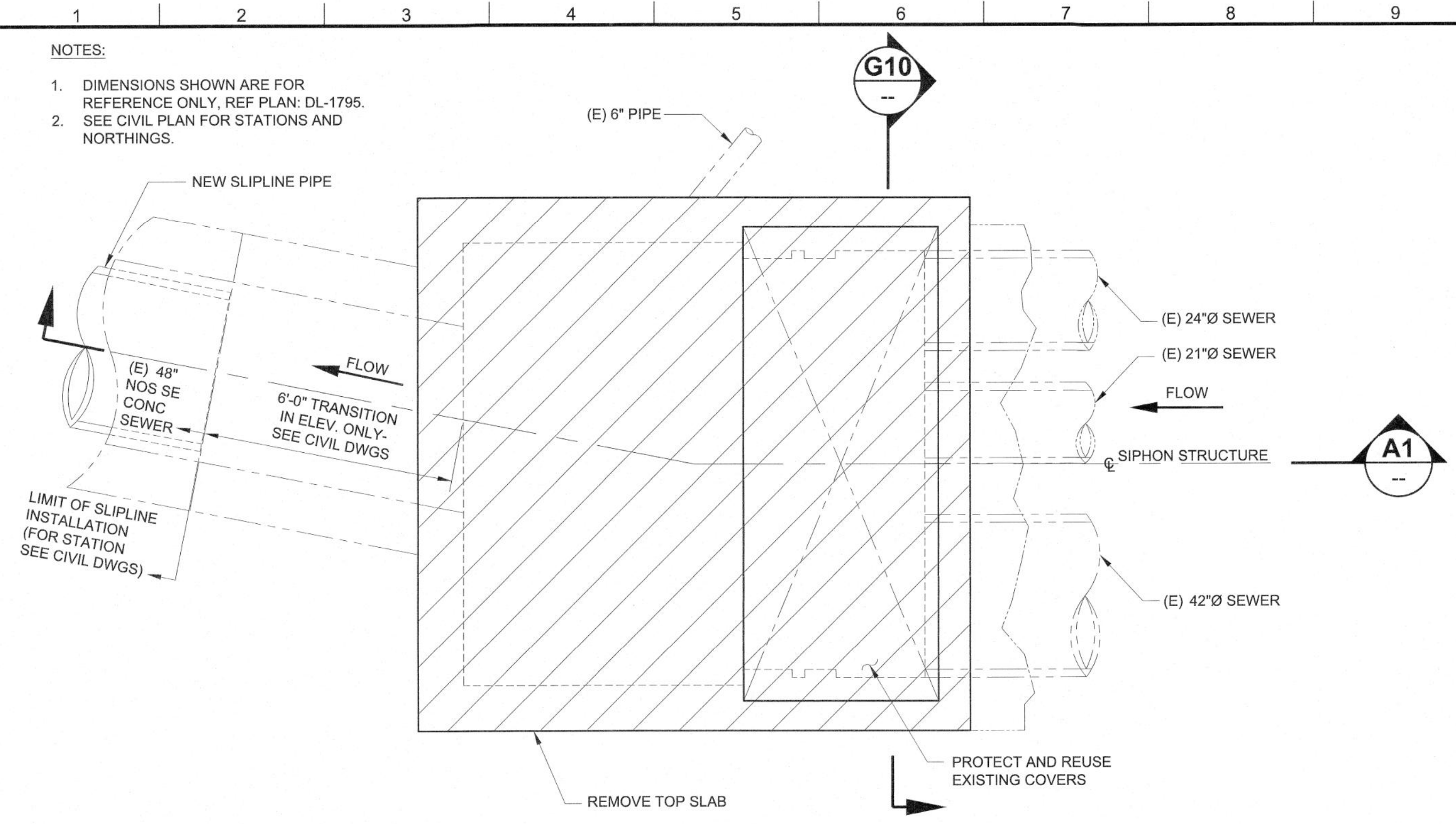
FOR REFERENCE ONLY  
 REPRODUCED FROM W.O.  
 SZC12796 S-20 (D-34852)



**BUREAU OF ENGINEERING**  
 VERTICAL CONTROL: NOS REHAB UNIT 20 & 21 (R&MS) (REV)  
 HORIZONTAL CONTROL: NAD83, EPOCH 1, 1983, FEB 1983, 197, PG 108 & 102  
 SHEET TITLE: SIPHON OUTLET DETAIL  
 PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.  
 ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

**DEPARTMENT OF PUBLIC WORKS**  
 DATE: 10/22/24 AR  
 REVISE TOTAL NUMBER OF SHEETS: 1  
 INDEX NO. C960  
 SHEET TYPE

**CITY OF LOS ANGELES**  
 WORK ORDER NO. SZC12796  
 DRAWING NO. S-20  
 SHEET 47 OF SHEETS  
 CITY ENGINEER: TED ALLEN, P.E.  
 DESIGN GROUP: AHMED AMARRAGY, EIT  
 ENGINEER: ALYSSA REYES, P.E.  
 DRAWN BY: NOEL LOPEZ  
 CHECKED BY: MARY THOMAS, P.E.  
 APPROVED BY: EDWARD ARRINGTON, S.E., ENV, SP  
 WORK ORDER NO. SZC13947  
 SHEET NAME: CU505  
 SHEET 21 OF 51 SHEETS



**BUREAU OF ENGINEERING**  
 ENGINEERING CITY OF LOS ANGELES  
 DATE: 10/22/24 AR  
 INDEX NO. E-8978  
 STRUCTURE NO. SWWW01047  
 CITY ENGINEER: GARY LEE MOORE, PE, ENV, SP  
 DESIGN GROUP: KAREN KEAL, SE, K  
 ENGINEER: KAREN KEAL, SE, K  
 LICENSE NO. 5-8348  
 DESIGNED BY: KAREN KEAL, SE / RENEALDO SALDIVAR, PE  
 DRAWN BY: MINA TADROS  
 CHECKED BY: JEFF FONTANILLAS, PE / A SCHMID, PE / S MISTRY, PE  
 APPROVED BY: SHAILESH SANNYPATEL, SE  
 SHEET TITLE: SIPHON OUTLET DETAIL  
 PROJECT: NOS REHABILITATION - UNIT 18  
 COLORADO TO DORAN  
 COLORADO BLVD. TO W. DORAN STREET  
 LOS ANGELES, CA  
 WORK ORDER NO. SZC12796  
 DRAWING NO. S-20  
 SHEET 47 OF SHEETS  
 CITY ENGINEER: TED ALLEN, P.E.  
 DESIGN GROUP: AHMED AMARRAGY, EIT  
 ENGINEER: ALYSSA REYES, P.E.  
 DRAWN BY: NOEL LOPEZ  
 CHECKED BY: MARY THOMAS, P.E.  
 APPROVED BY: EDWARD ARRINGTON, S.E., ENV, SP  
 WORK ORDER NO. SZC13947  
 SHEET NAME: CU505  
 SHEET 21 OF 51 SHEETS

REVISION DATES (DESIGN STAGE ONLY)  
 THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



FOR REFERENCE ONLY  
REPRODUCED FROM DL-1795

ENGINEERING  
CITY OF LOS ANGELES

**WCED**

PROFESSIONAL ENGINEER  
C 93245  
LOS ANGELES, CALIF.

**BUREAU OF ENGINEERING**

VERTICAL CONTROL: NAD83, EPOCH 1981.5 (ELEVATION 108.108 & 102)  
HORIZONTAL CONTROL: NAD83, EPOCH 1981.5 (ELEVATION 108.108 & 102)

SHEET TITLE: SIPHON CLEANOUT DETAIL  
PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.  
ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

**DEPARTMENT OF PUBLIC WORKS**

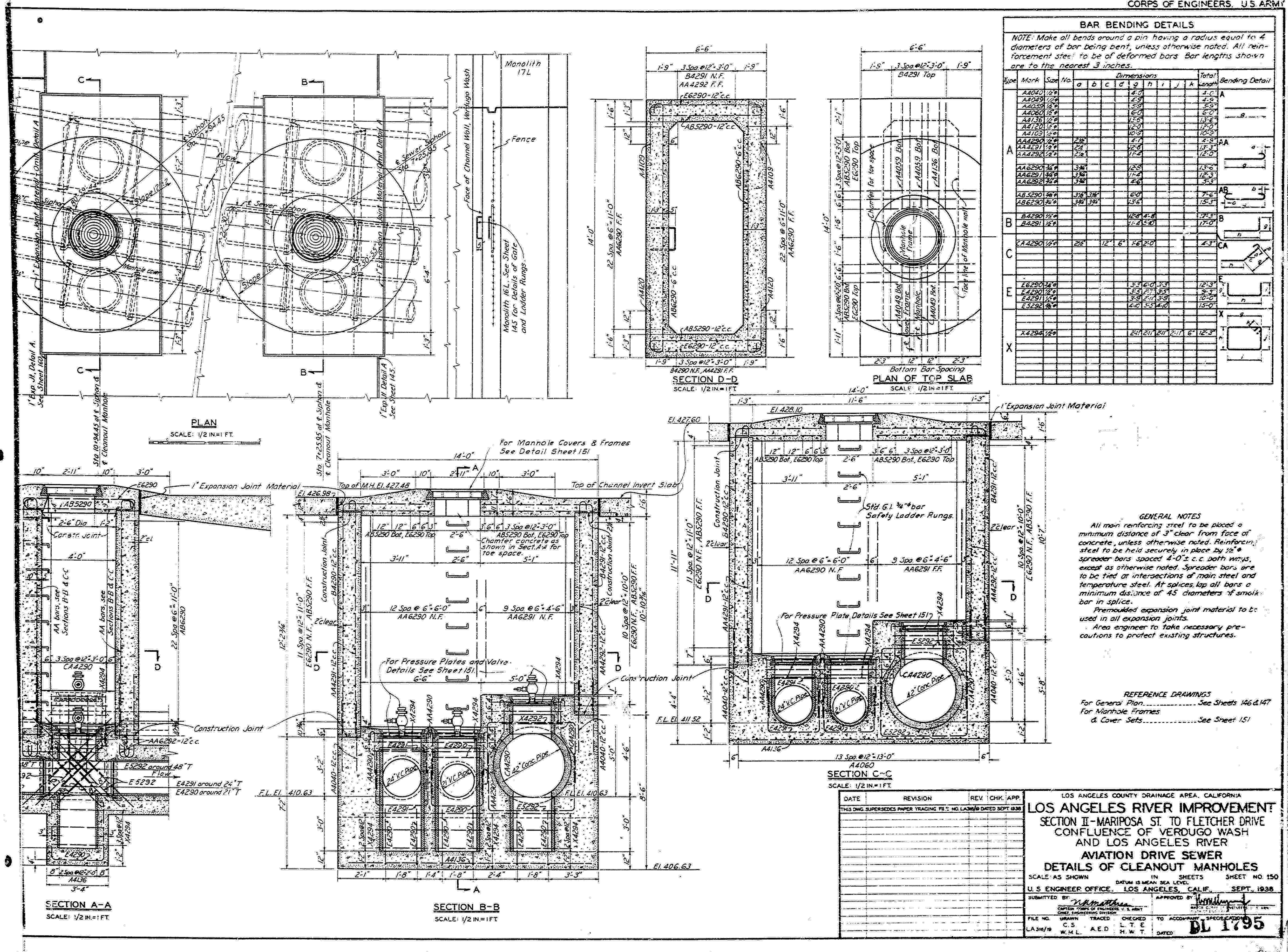
DATE: 10/22/24  
REVISE TOTAL NUMBER OF SHEETS: 1

INDEX NO. C960  
SHEET TYPE

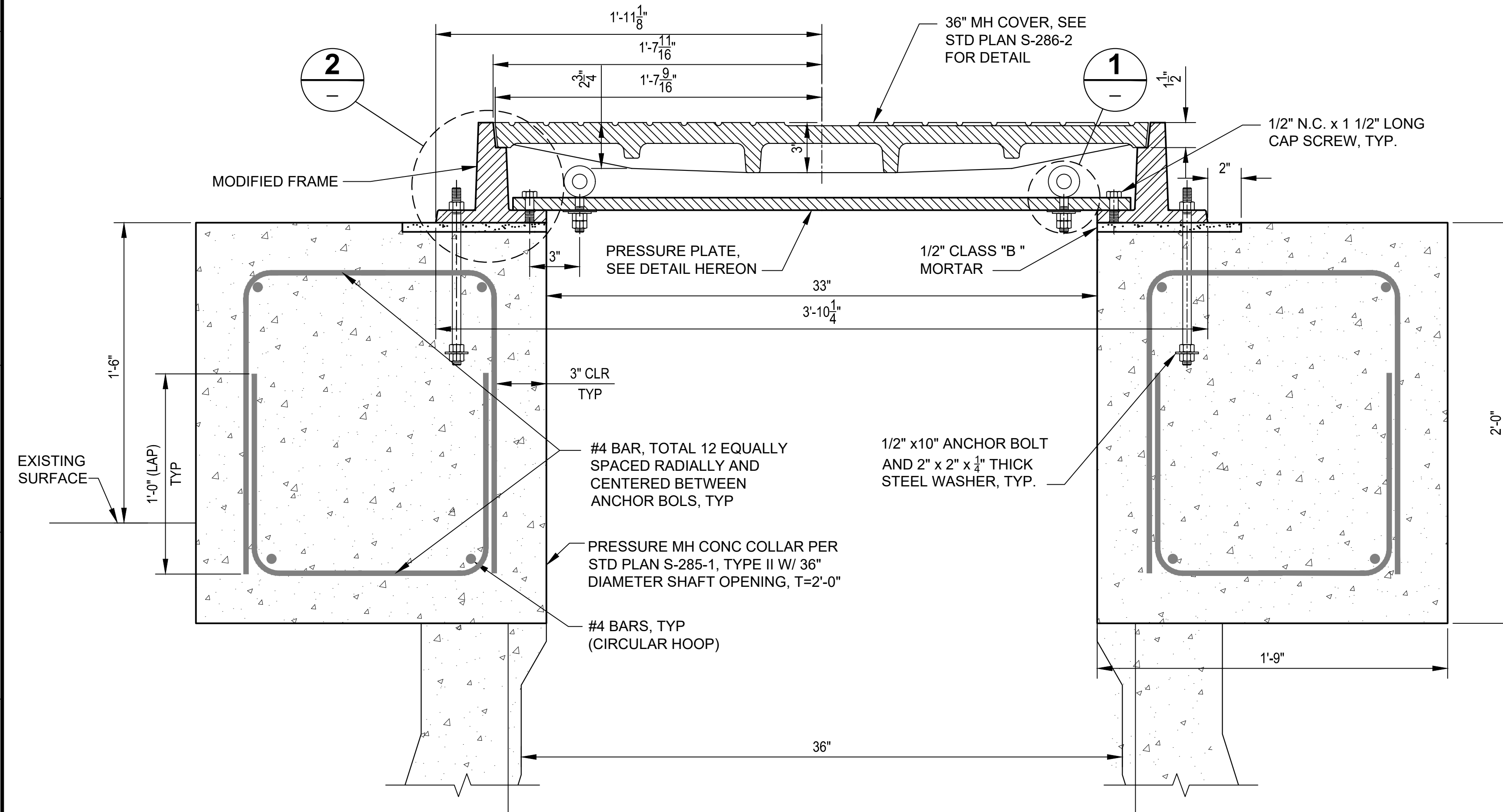
CITY ENGINEER: TED ALLEN, P.E.  
DESIGN GROUP: AHMED AMARRAGY, EIT  
ENGINEER: AHMED AMARRAGY, EIT  
DESIGNED BY: ALYSSA REYES, P.E.  
DRAWN BY: NOEL LOPEZ  
CHECKED BY: MARY THOMAS, P.E.  
APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

WORK ORDER NO. SZC13947  
SHEET NAME: CU506  
SHEET 22 OF 51 SHEETS

REVISION DATES ONLY (DESIGN STAGE ONLY)  
THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

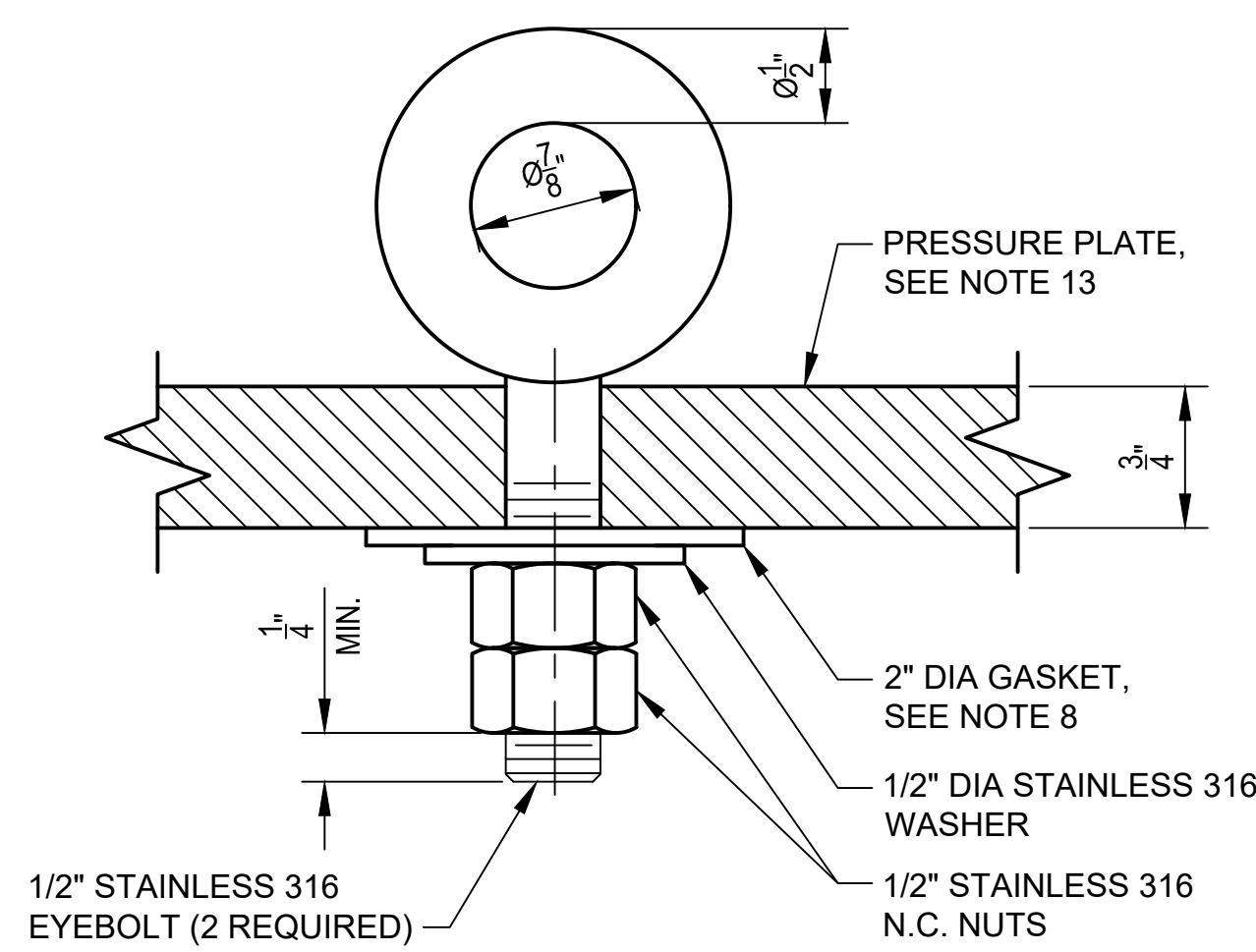


# MODIFIED 36"Ø PRESSURE MH FRAME AND COVER



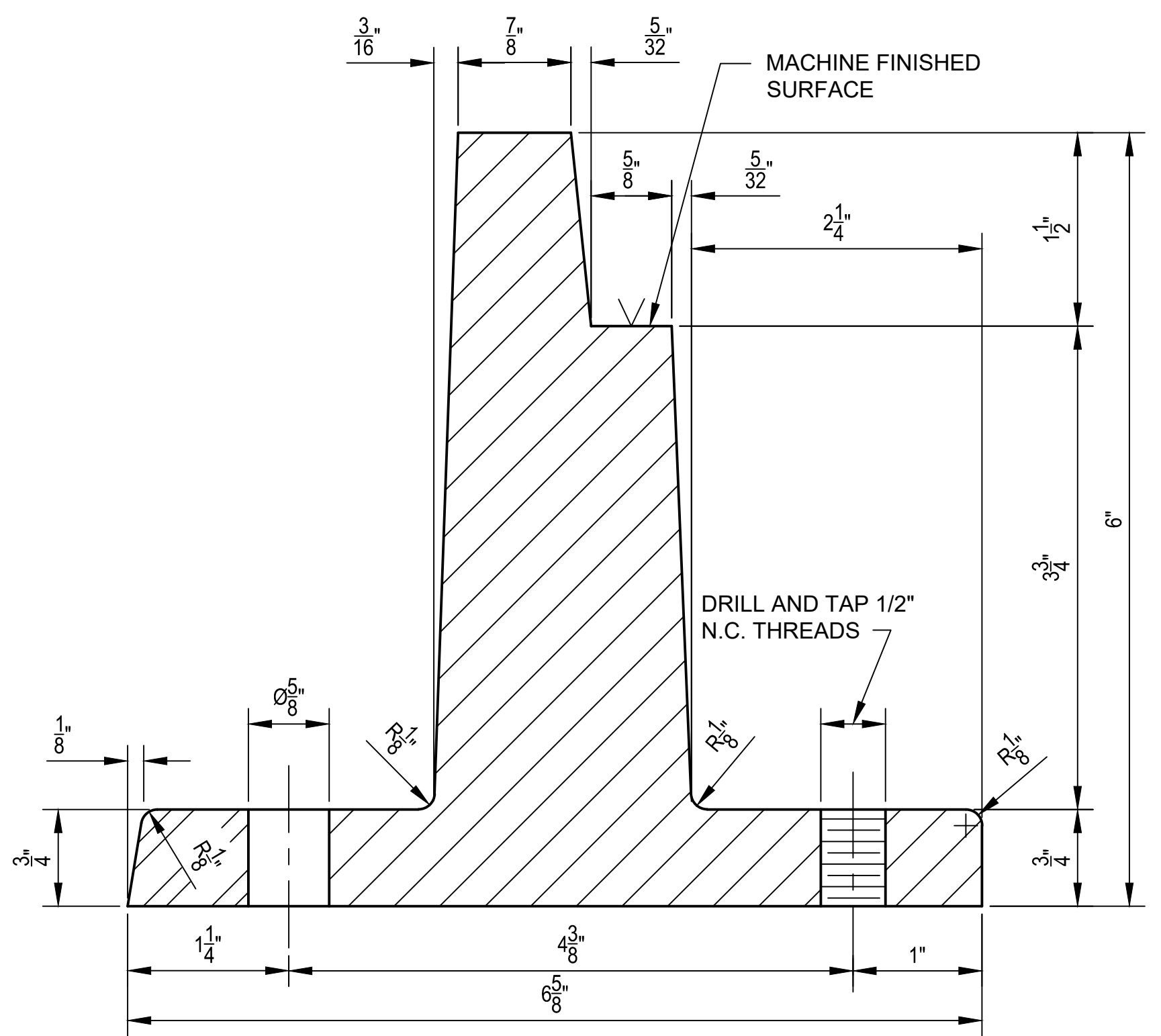
SECTION OF MODIFIED PRESSURE MH FRAME AND COVER

SCALE : 1:5



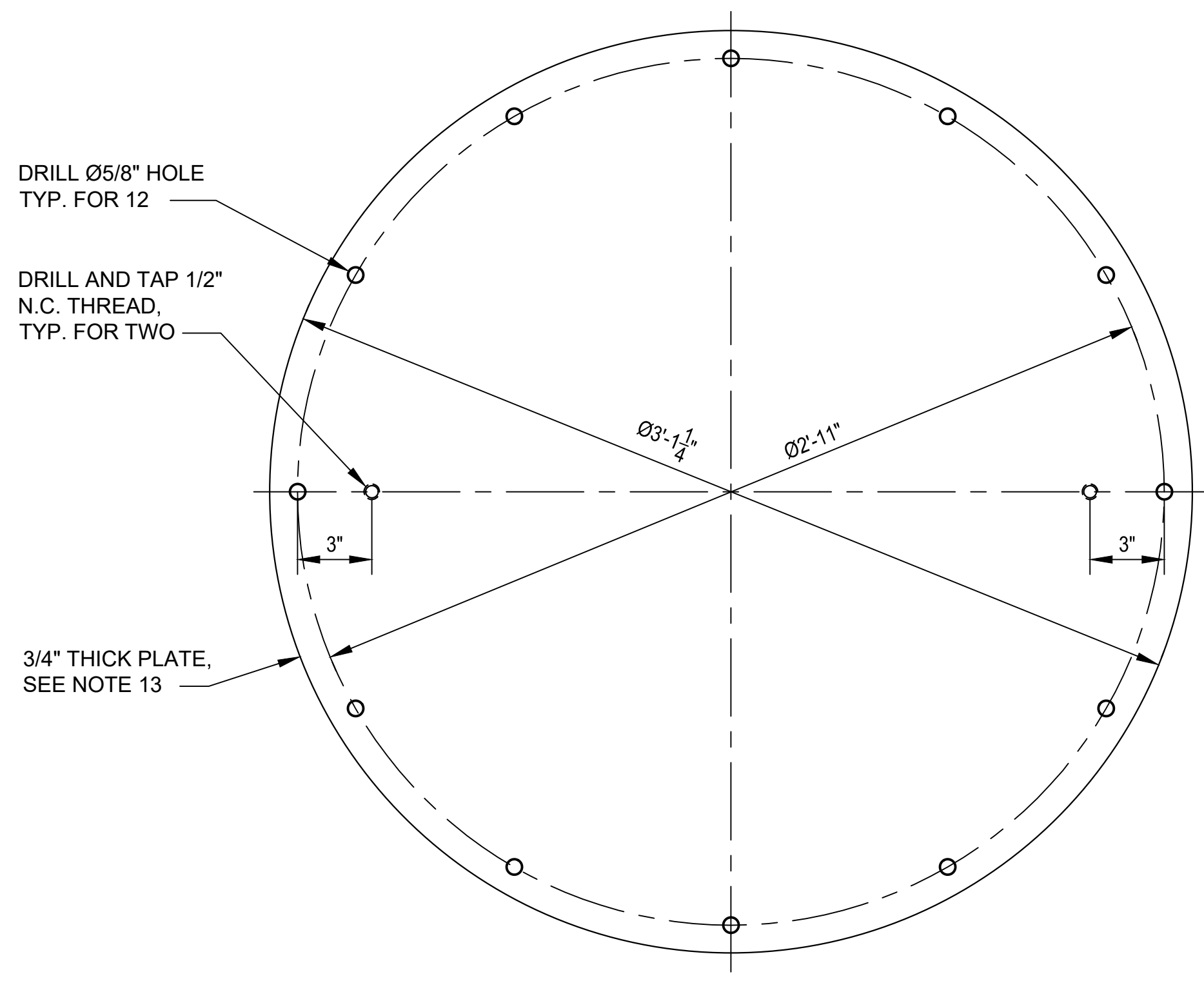
EYEBOLT DETAIL 1

SCALE : 1:1



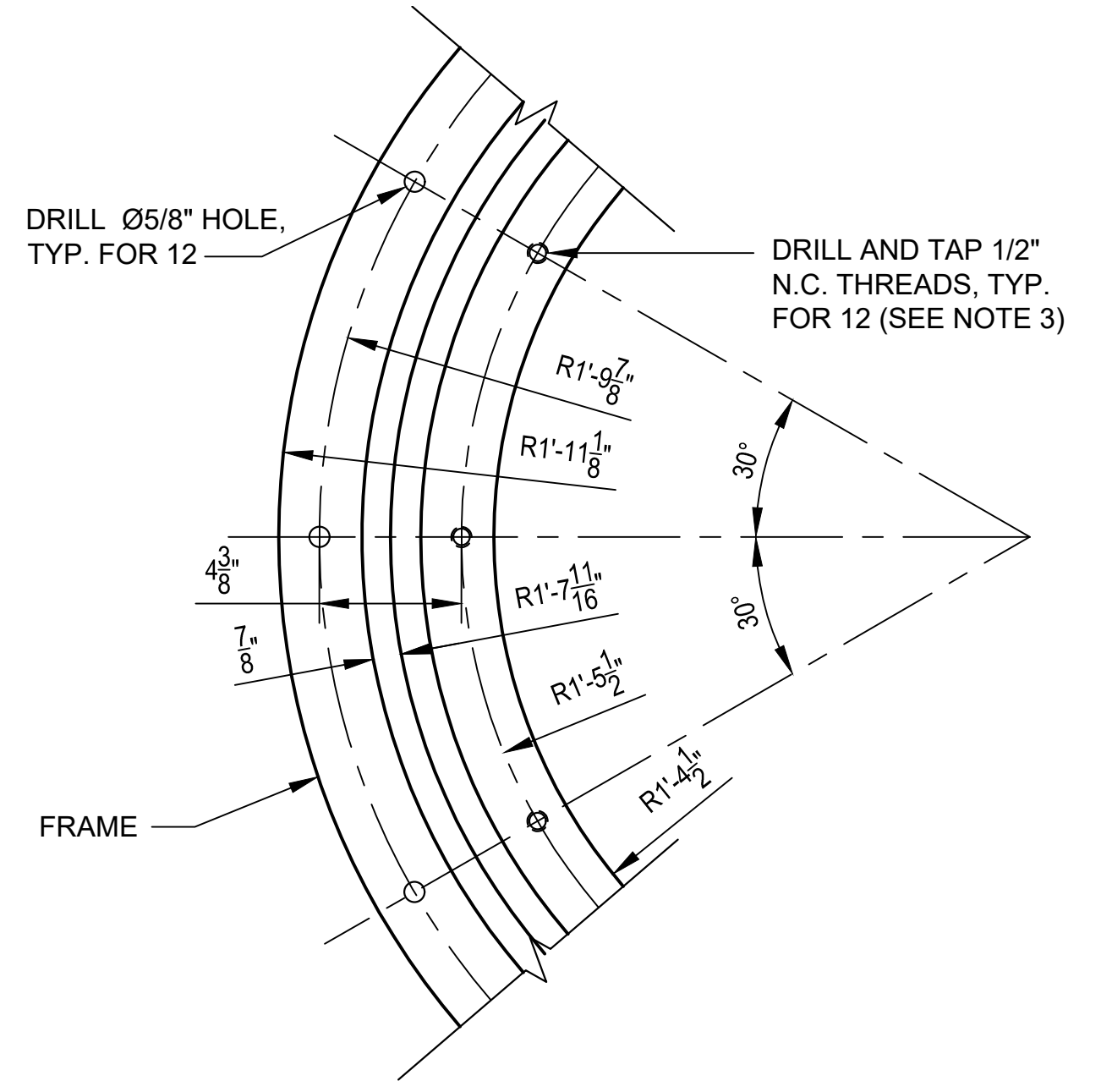
DETAIL OF MODIFIED FRAME 2

SCALE : 1:1



PRESSURE PLATE

SCALE : 1:5




PLAN - BOLT HOLE SPACING IN FRAME

SCALE : 1:5


## NOTES:

- EXCEPT AS OTHERWISE INDICATED HEREON, THE MAINTENANCE HOLE COVER ONLY CONFORM TO STANDARD PLAN S-286-2, MAINTENANCE HOLE FRAME AND COVER, 36-INCH. THE FRAME SHALL BE CUSTOM MADE PER DETAILS SHOWN ON THIS SHEET.
- MAINTENANCE HOLE FRAME AND COVER SHALL BE CAST IRON CONFORMING TO SECTION 206-3 OF THE STANDARD SPECIFICATIONS.
- CAP SCREWS AND EYEBOLTS, INCLUDING WASHERS AND NUTS ATTACHED THERETO, SHALL BE FABRICATED FROM ANY SERIES 300 STAINLESS STEEL.
- UNLESS OTHERWISE INDICATED, ALL STEEL HARDWARE SHALL CONFORM TO SECTION 206-1.2 OF THE STANDARD SPECIFICATIONS.
- ALL STEEL, EXCEPT STAINLESS STEEL SHALL BE GALVANIZED IN CONFORMANCE WITH SECTION 210-3 (OF THE STANDARD SPECIFICATIONS AFTER FABRICATION.
- ALL HOLES IN CAST IRON SHALL BE DRILLED AFTER CASTING OR PLUGGED PRIOR TO CASTING. THEY SHALL NOT BE P.N.C.HED.
- ALL IRON CASTINGS SHALL RECEIVE AN ASPHALTIC COATING AFTER FABRICATION, CONFORMING TO SECTION 206-3.6 OF THE STANDARD SPECIFICATIONS.
- GASKET MATERIAL SHALL BE 1/16-INCH THICK NEOPRENE RUBBER MEETING THE REQUIREMENTS OF SECTION 210-2.3.3 OF THE STANDARD SPECIFICATIONS.
- ALL NUTS AND BOLTS SHALL BE TIGHTENED TO A MINIMUM TORQUE OF 25 FOOT-POUNDS.
- MAINTENANCE HOLE FRAME AND COVER AND PRESSURE PLATE ASSEMBLY SHALL BE TESTED FOR ACCURATE FIT PRIOR TO DELIVERY TO JOBS SITE AND MARKED IN SETS.
- CONCRETE COLLAR SHALL BE CLASS 420-C-2000 PER SECTION 201 OF THE STANDARD SPECIFICATIONS.
- TYPE I COLLARS REQUIRING COATING AS INDICATED ON THE PROJECT PLANS AND TYPE II COLLARS CONSTRUCTED ON TOP OF CONCRETE MAINTENANCE HOLES REQUIRING PROTECTIVE COATINGS SHALL BE COATED ON ALL INTERIOR SURFACES WITH AN APPROVED COATING IN AN IDENTICAL MANNER AS THE MAINTENANCE HOLE. A LIST OF APPROVED COATINGS IS ON FILE IN THE OFFICE OF THE CITY ENGINEER.
- CITY APPROVED FIBERGLASS REINFORCED PLASTIC (FRP) INNER COVER USING CITY APPROVED MATERIALS INCLUDING VINYL ESTER RESIN. MAX. THICKNESS 3/4", 37.25" DIAMETER.
- CONTRACTOR IS ADVISED THAT THE CUSTOM FRAME AND INNER LID COVER TAKES MINIMUM 4 TO 6 MONTHS FOR PRODUCTION. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH SHOP FABRICATOR AND REPORT ANY DISCREPANCY TO THE ENGINEER.

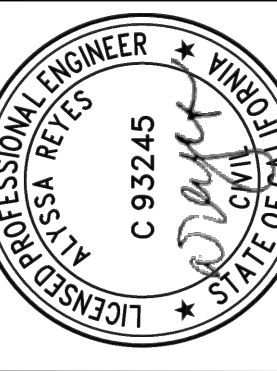
REVISION DATES (DESIGN STAGE ONLY) THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



ENGINEERING  
CITY OF LOS ANGELES



WCED



PROFESSIONAL ENGINEER  
ALYSSA REYES  
C 93245  
STATE OF CALIFORNIA

**BUREAU OF ENGINEERING**

VERTICAL CONTROL: N/A  
HORIZONTAL CONTROL: N/A  
SHEET TITLE: MODIFIED 36" PRESSURE MH FRAME & COVER  
PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR.  
ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

DATE: 10/22/24

REVISIONS:

NO.	REVISIONS	DATE	BY
1	REVISE TOTAL NUMBER OF SHEETS		AR

CITY ENGINEER: TED ALLEN, P.E.

DESIGN GROUP: AHMED AMARRAGY, EIT

ENGINEER: AHMED AMARRAGY, EIT

DESIGNED BY: ALYSSA REYES, P.E.

DRAWN BY: NOEL LOPEZ

CHECKED BY: MARY THOMAS, P.E.

APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

WORK ORDER NO. SZC13947

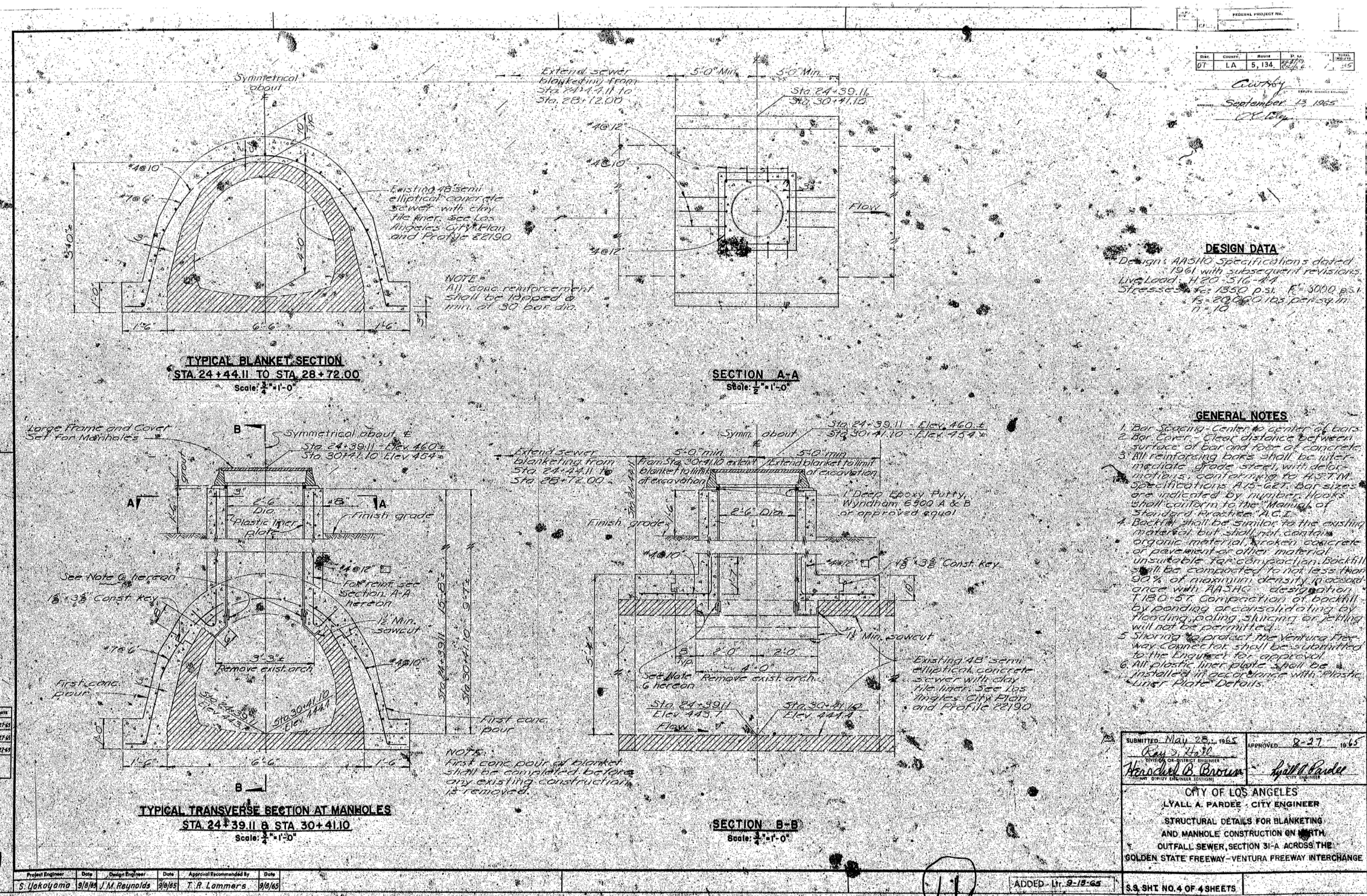
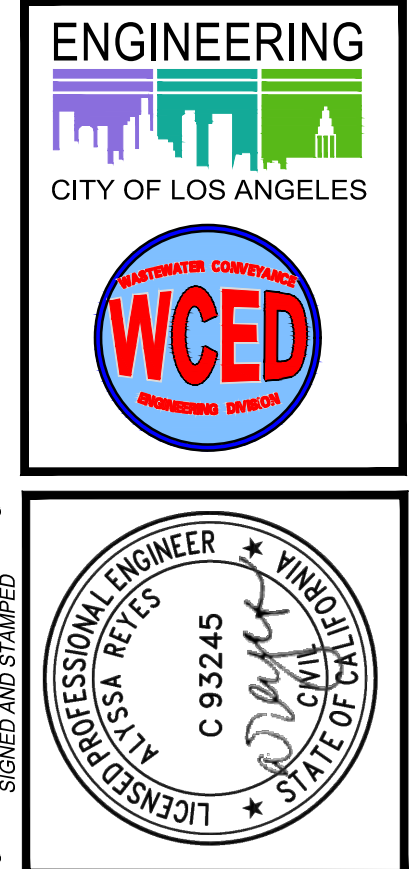
SHEET NAME: CU507

SHEET 23 OF 51 SHEETS

INDEX NO. C960

SHEET TYPE

FOR REFERENCE ONLY  
REPRODUCED FROM D-20515



DESIGN DATA  
Design: AASHTO Specifications dated 1961 with subsequent revisions.  
Live Load: H-20 S16-44  
Stresses:  $f_c = 1350$  p.s.i.  $f_s = 3000$  p.s.i.  
 $f_s = 20,000$  lbs. per sq. in.  
 $n = 10$

GENERAL NOTES  
1. Bar Spacing - Center to center of bars.  
2. Bar Cover - Clear distance between surface of bar and top of concrete.  
3. All reinforcing bars shall be inter-mediate of face steel, with details and bar configuration to AASHTO specifications A15-62. Bar sizes are indicated by numbers. Hooks shall conform to the "Manual of Standard Reinforcing A.C.I."  
4. Backfill shall be similar to the existing material, but shall not contain organic material, broken concrete or pavement or other material unsuitable for compaction. Backfill will be compacted to not less than 90% of maximum density in accordance with AASHTO designation T180-S1. Compaction of backfill by ponding or consolidating by flooding, pooling, skimming, or jacking will not be permitted.  
5. Sloping to protect the venting freeway connector shall be submitted to the Engineer for approval.  
6. All plastic liner plate shall be installed in accordance with "Plastic Liner Plate Details".

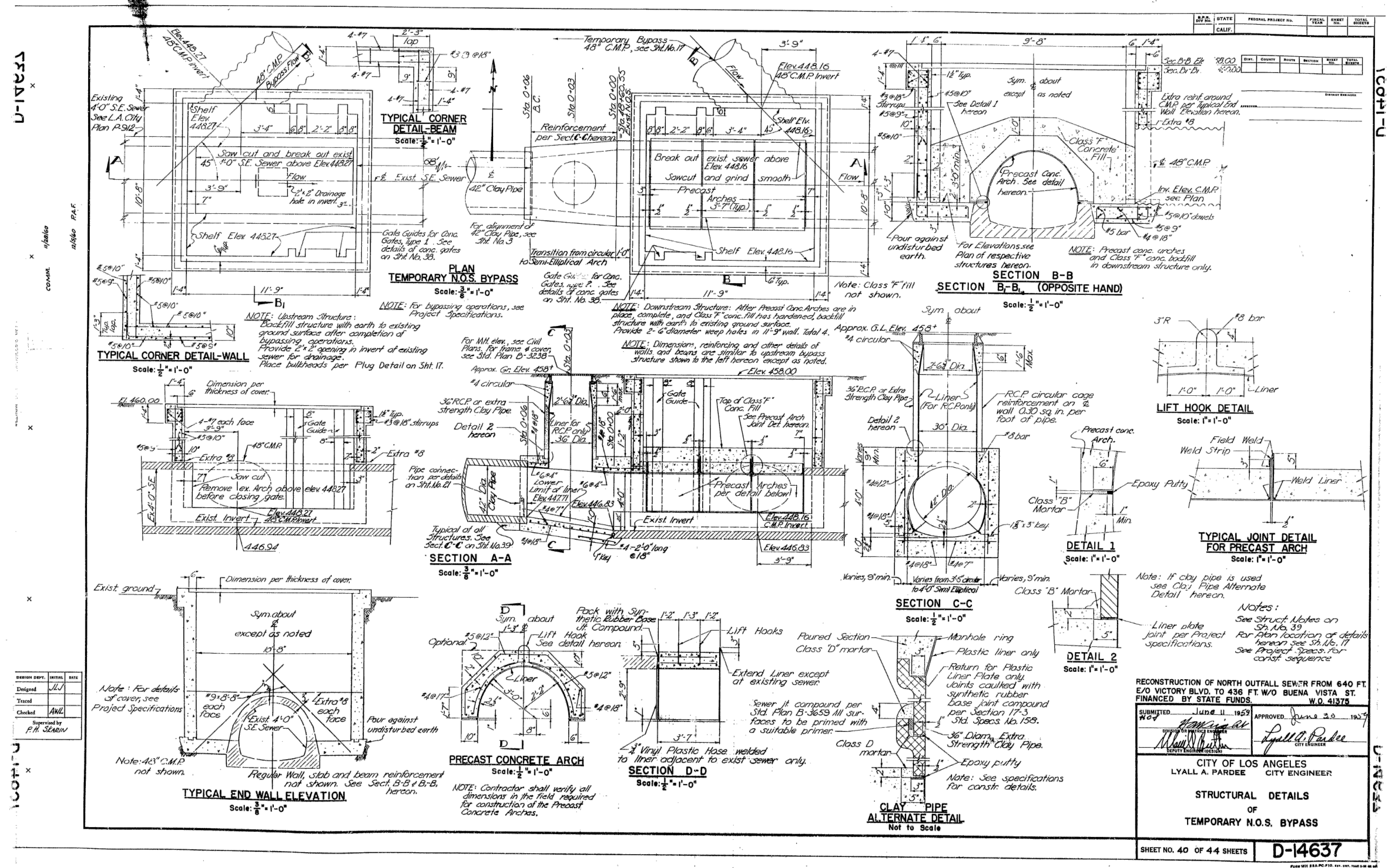
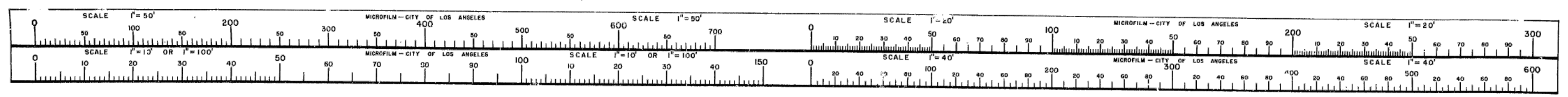
SUBMITTED: May 28, 1965  
APPROVED: 8-27-1965  
CITY OF LOS ANGELES  
LYALL A. PARDEE - CITY ENGINEER  
STRUCTURAL DETAILS FOR BLANKETING AND MANHOLE CONSTRUCTION ON NORTH OUTFALL SEWER, SECTION 31-A ACROSS THE GOLDEN STATE FREEWAY-VENTURA FREEWAY INTERCHANGE  
S.S. SHEET NO. 4 OF 4 SHEETS

REVISION DATES (DESIGN STAGE ONLY)  
THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
CITY ENGINEER: TED ALLEN, P.E.  
DESIGN GROUP: AHMED AMARRAGY, EIT  
DESIGNED BY: ALYSSA REYES, P.E.  
DRAWN BY: NOEL LOPEZ  
CHECKED BY: MARY THOMAS, P.E.  
APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.  
DATE: 10/22/24  
REVISE TOTAL NUMBER OF SHEETS: 1  
SHEET TITLE: CONCRETE ENCASED SEWER AND MH #445-01-006  
PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR.  
ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA  
INDEX NO.: C960  
SHEET TYPE: SHEET TYPE  
SHEET NO.: C960

D-20515

FOR REFERENCE ONLY  
REPRODUCED FROM D-14637



RECONSTRUCTION OF NORTH OUTFALL SEWER FROM 640 FT. E/O VICTORY BLVD. TO 436 FT. W/O BUENA VISTA ST. FINANCED BY STATE FUNDS. W.O. 41375

SUBMITTED: JUN 11 1959  
APPROVED: JUN 20 1959

TED ALLEN, P.E. DESIGN GROUP  
CITY ENGINEER

LYALL A. PARDEE CITY ENGINEER

**STRUCTURAL DETAILS OF TEMPORARY N.O.S. BYPASS**

SHEET NO. 40 OF 44 SHEETS  
**D-14637**

**D 1 4 6 3 7**

CERTIFICATE  
I hereby certify that this is a true and accurate copy of the official city record described herein, made in accordance with Section 13.0 of the Charter of the City of Los Angeles, and Section 100.0 of the Government Code.

City Clerk  
Date: 11/13/2024

REVISION DATES (DESIGN STAGE ONLY)  
THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

**ENGINEERING**  
CITY OF LOS ANGELES

**WCD**

**PROFESSIONAL ENGINEER**  
ALYSSA REYES  
C 93245  
LOS ANGELES, CALIF.

**BUREAU OF ENGINEERING**  
DESIGN CONTROL: N05028, 1952 ADD. (RANS. RECD.)  
HORIZONTAL CONTROL: N0483, EPOCH 1991.5 (E.P. 165-197 PG. 108 & 102)

**DEPARTMENT OF PUBLIC WORKS**

DATE: BY: 10/22/24 AR  
REVISE TOTAL NUMBER OF SHEETS

CITY ENGINEER: TED ALLEN, P.E.  
DESIGN GROUP: AHMED AMARRAGY, EIT  
ENGINEER: AHMED AMARRAGY, EIT  
DESIGNED BY: ALYSSA REYES, P.E.  
DRAWN BY: NOEL LOPEZ  
CHECKED BY: MARY THOMAS, P.E.  
APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

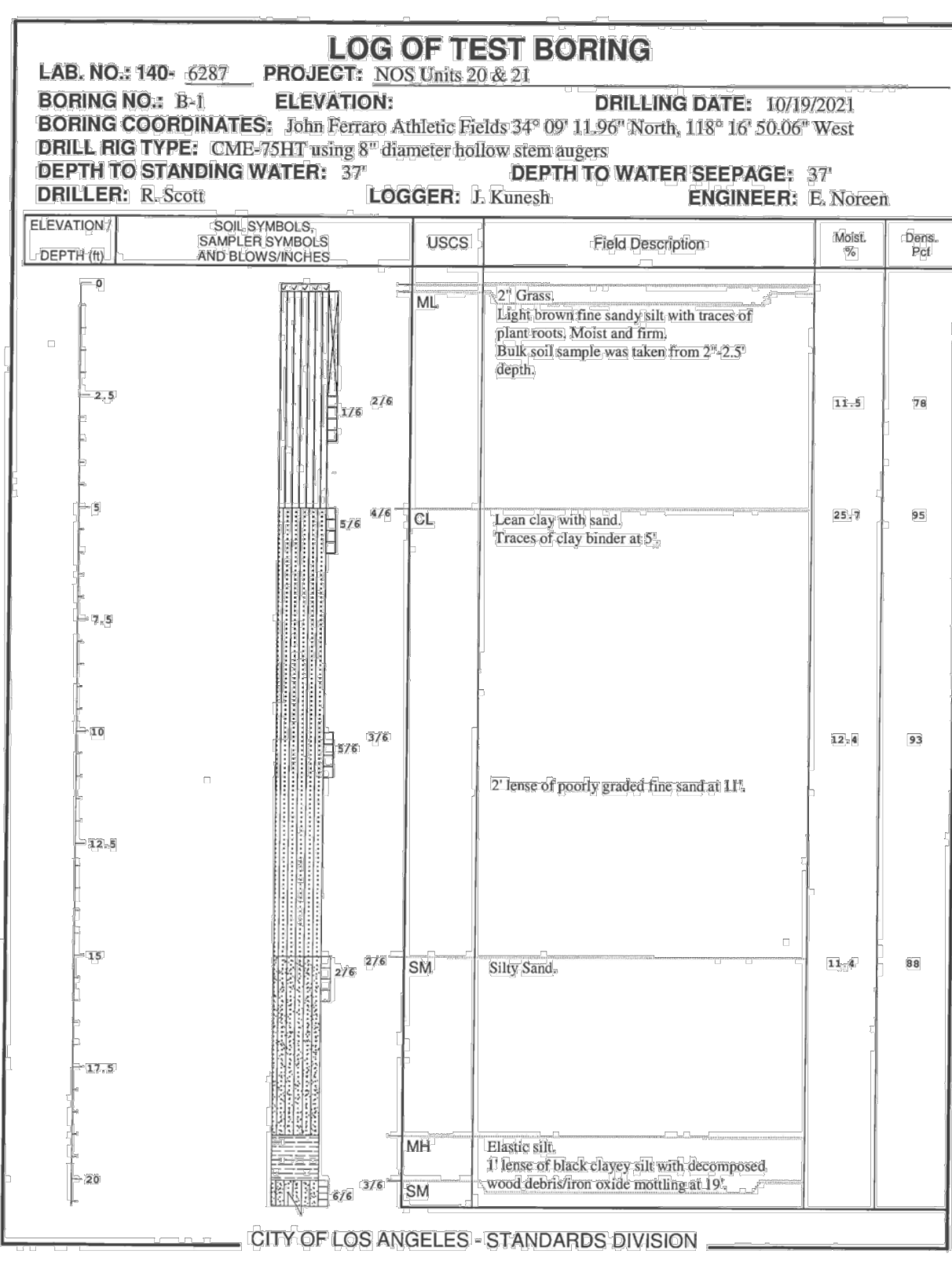
PROJECT: EX. BYPASS STRUCTURE AND MH #444-04-006  
NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.  
ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

SHEET TYPE: C960  
INDEX NO.

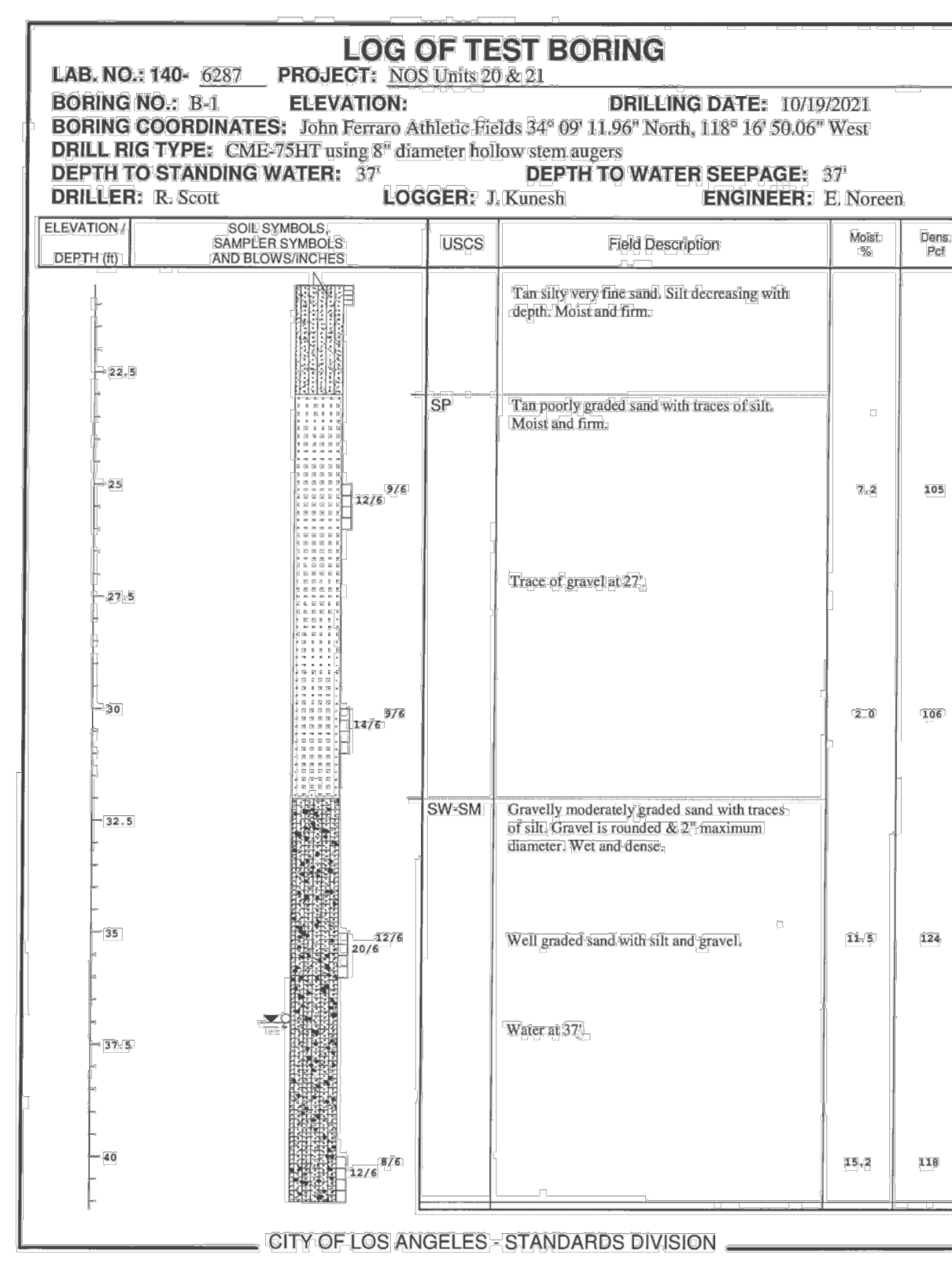
WORK ORDER NO. SZC13947  
SHEET NAME: CU509  
SHEET 25 OF 51 SHEETS

REVISION DATE (DATE IN USE) / DESIGN STAGE ONLY

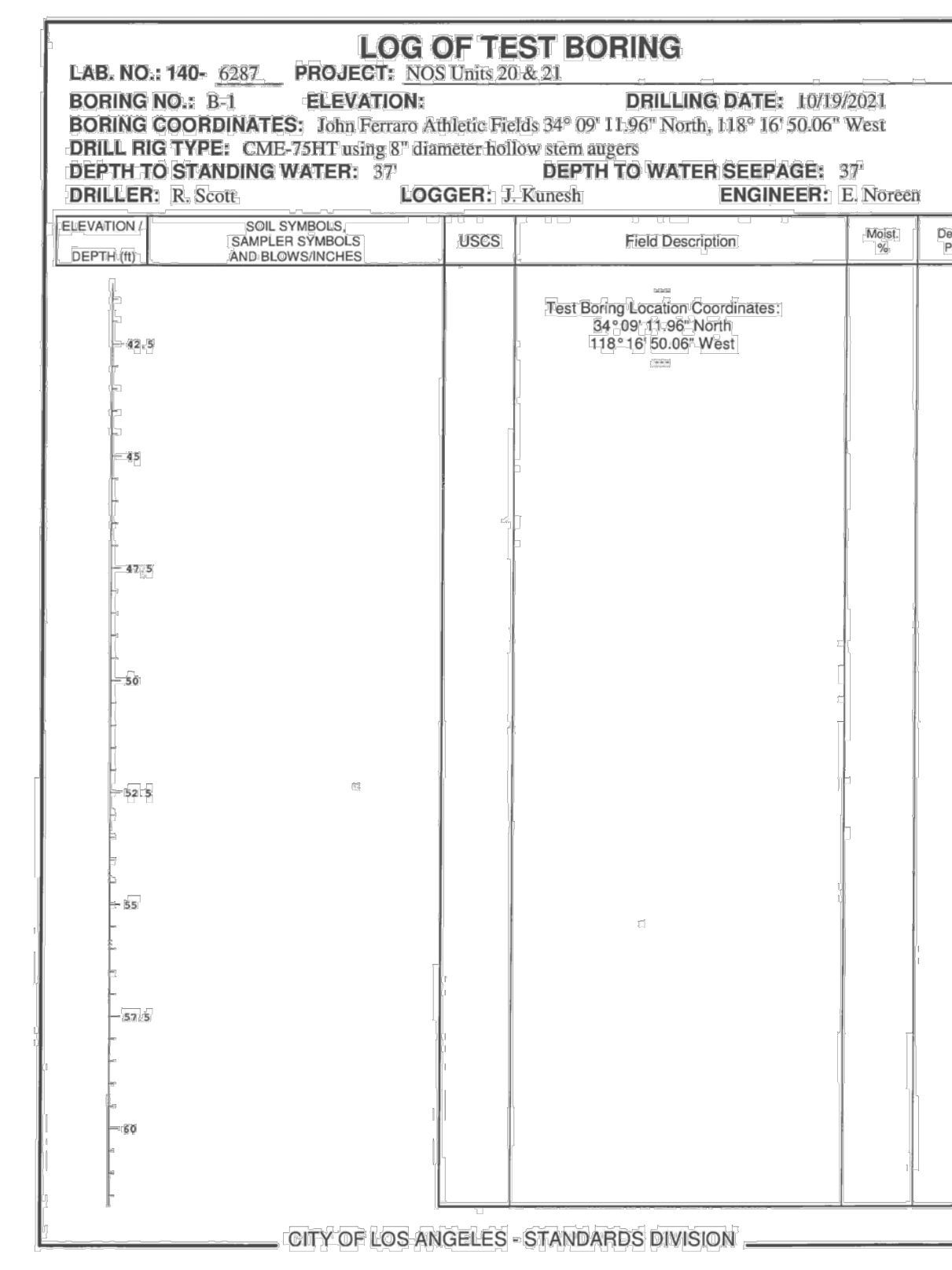
THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



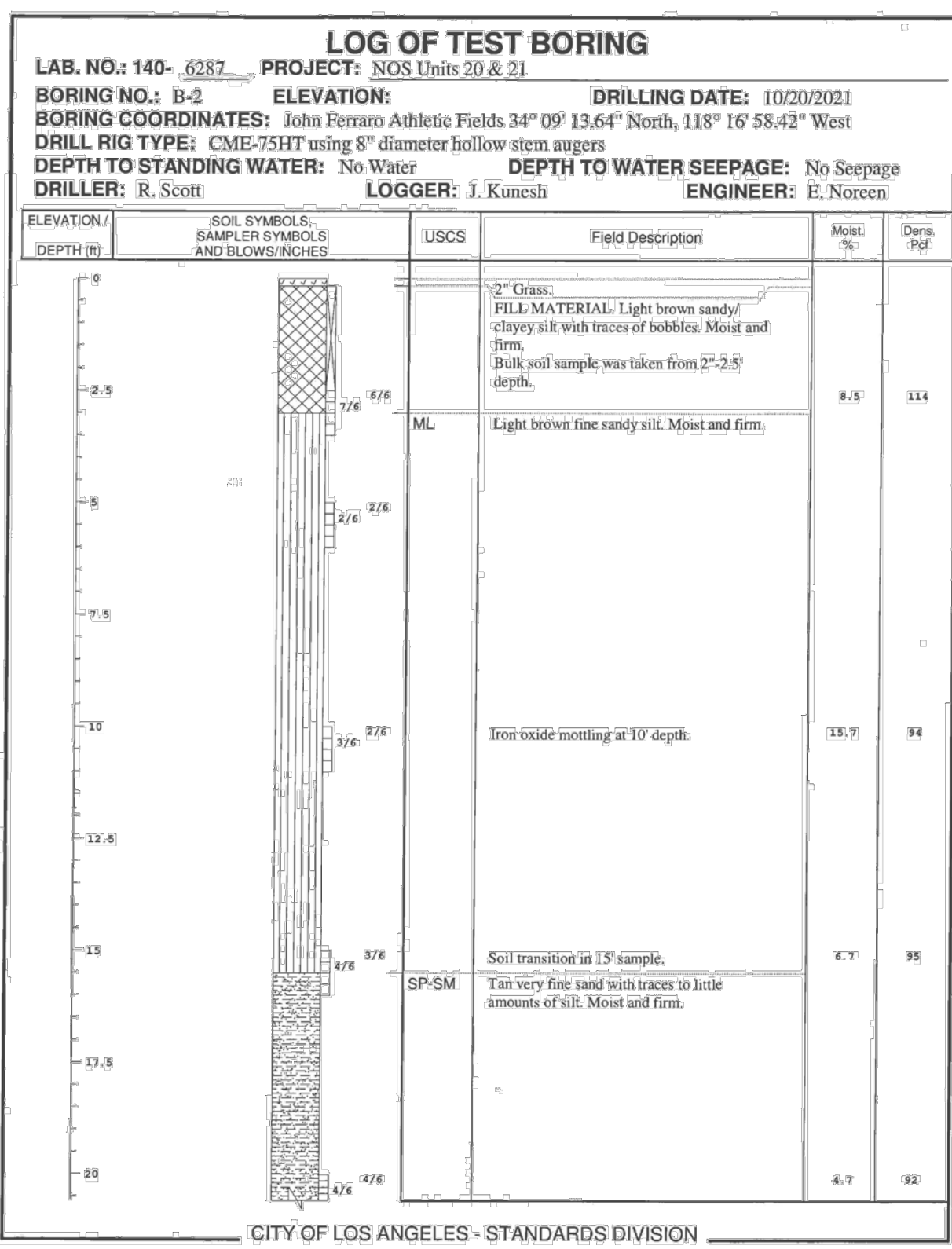
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BORING B-1



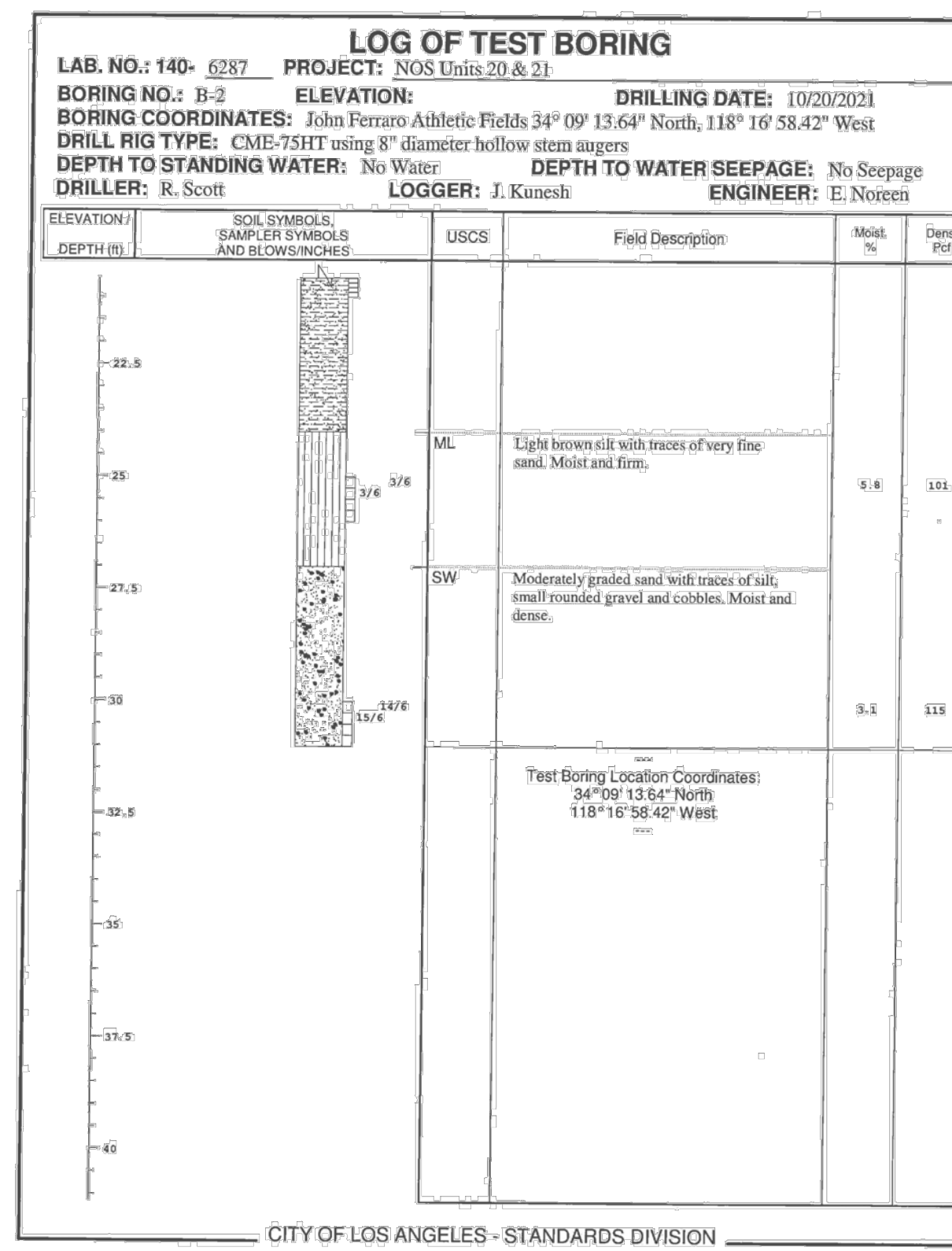
JOHN FERRARO ATHLETIC FIELDS  
BORING B-1



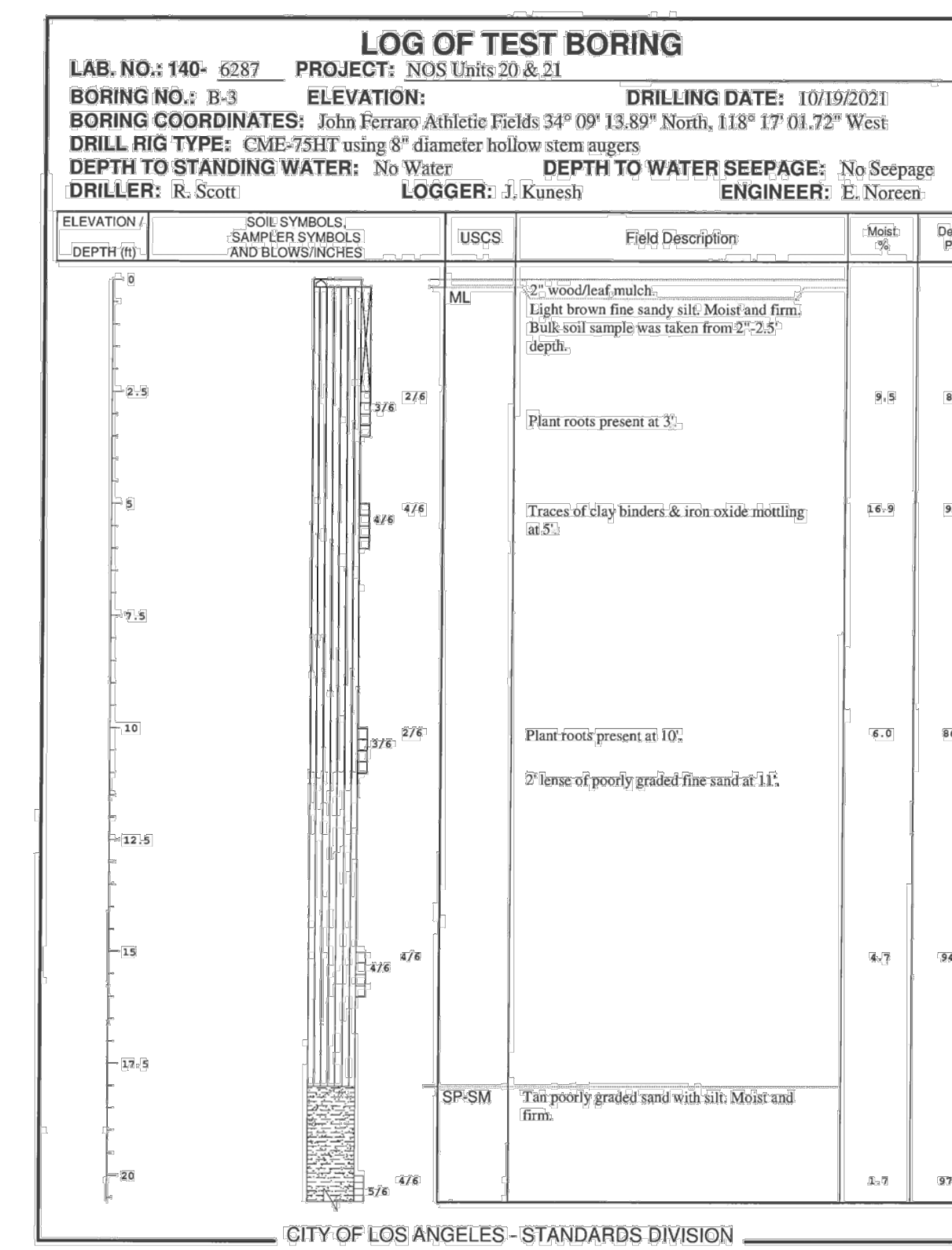
JOHN FERRARO ATHLETIC FIELDS  
BORING B-1



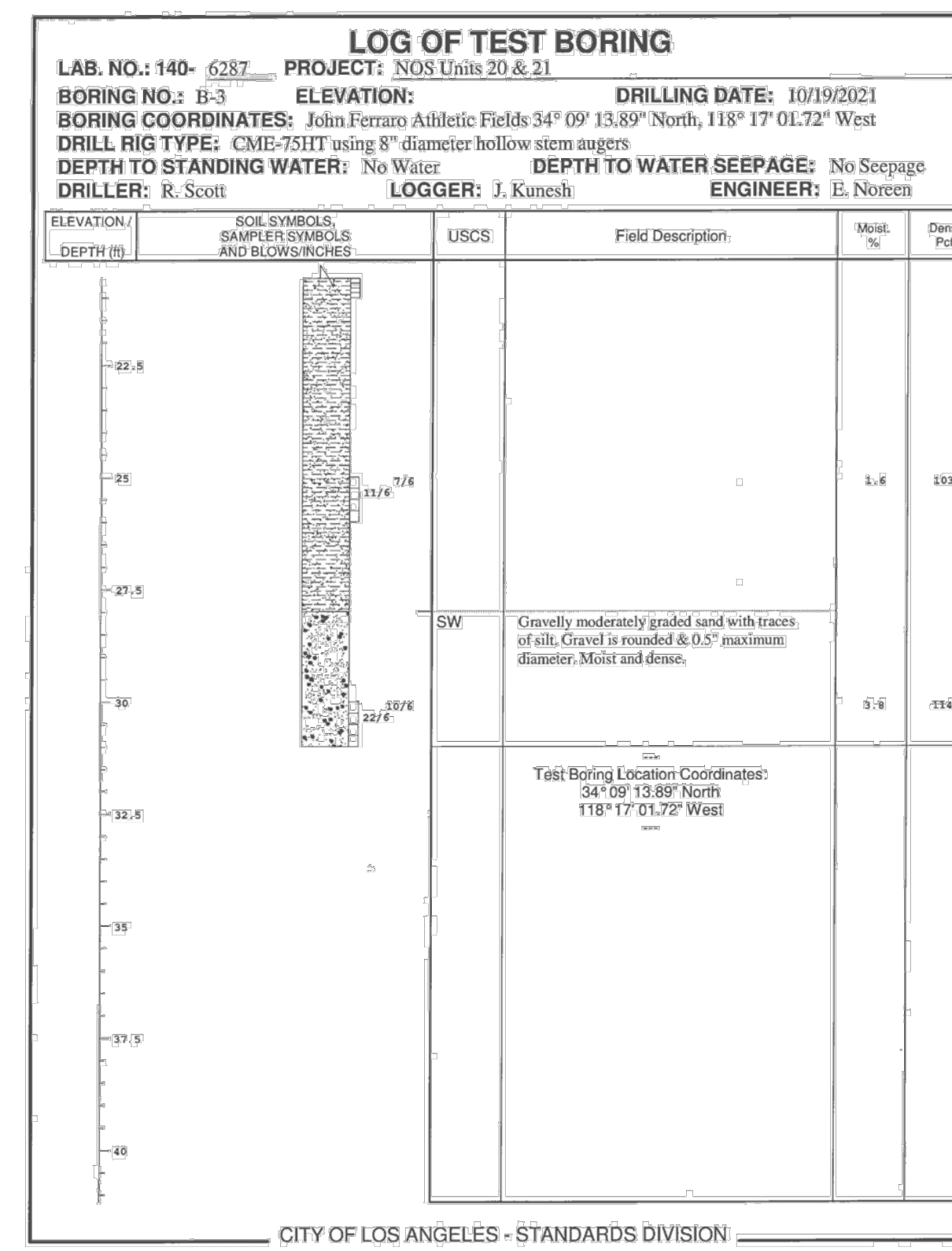
JOHN FERRARO ATHLETIC FIELDS  
BORING B-2



JOHN FERRARO ATHLETIC FIELDS  
BORING B-2



JOHN FERRARO ATHLETIC FIELDS  
BORING B-3



JOHN FERRARO ATHLETIC FIELDS  
BORING B-3



VERTICAL CONTROL: NOS 20 & 21 (RMS) (REV. 10/20) / HORIZONTAL CONTROL: NAD83, EPOCH 1 1983.5 (REV. 10/20) PG 108 & 102

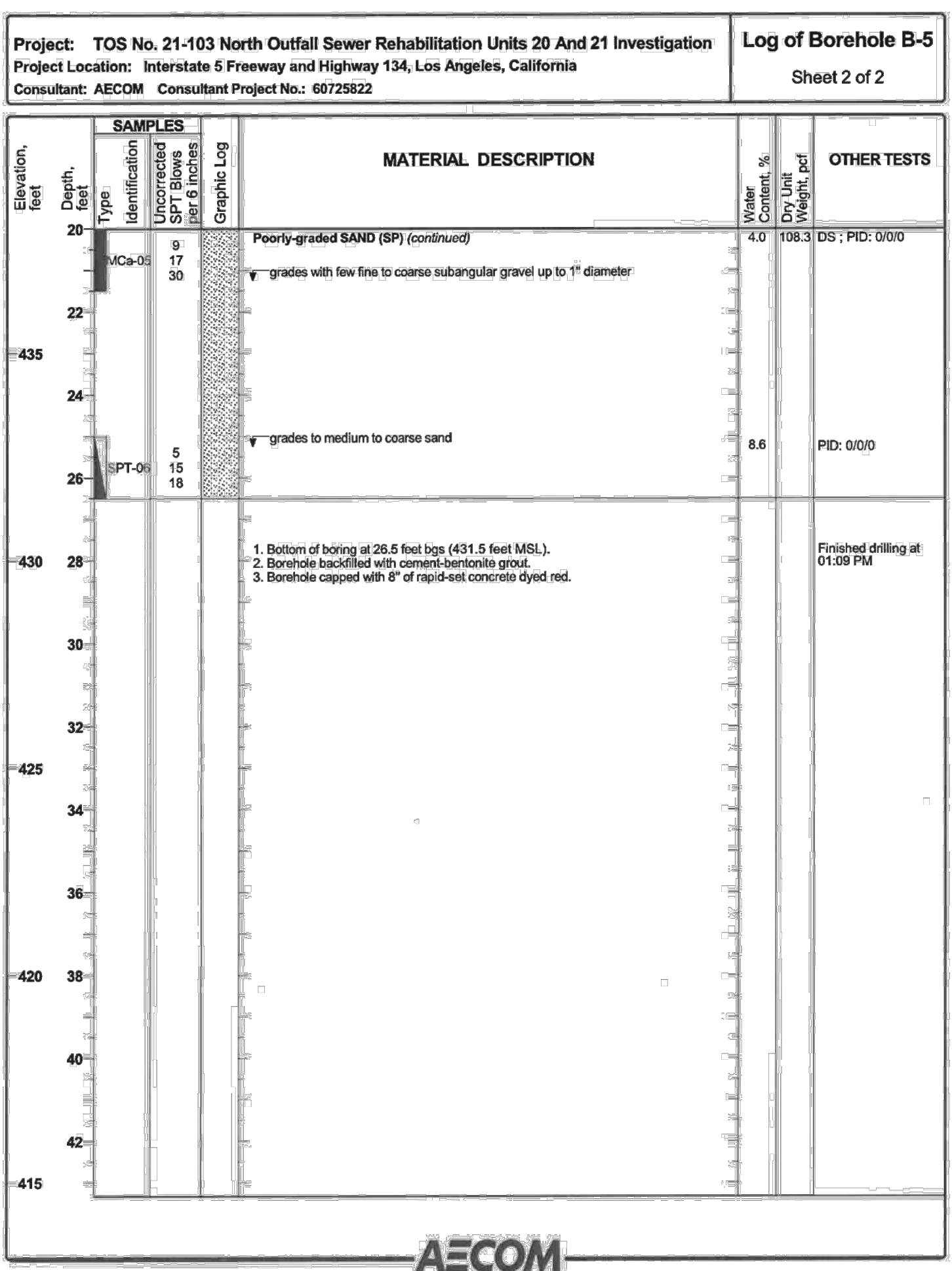
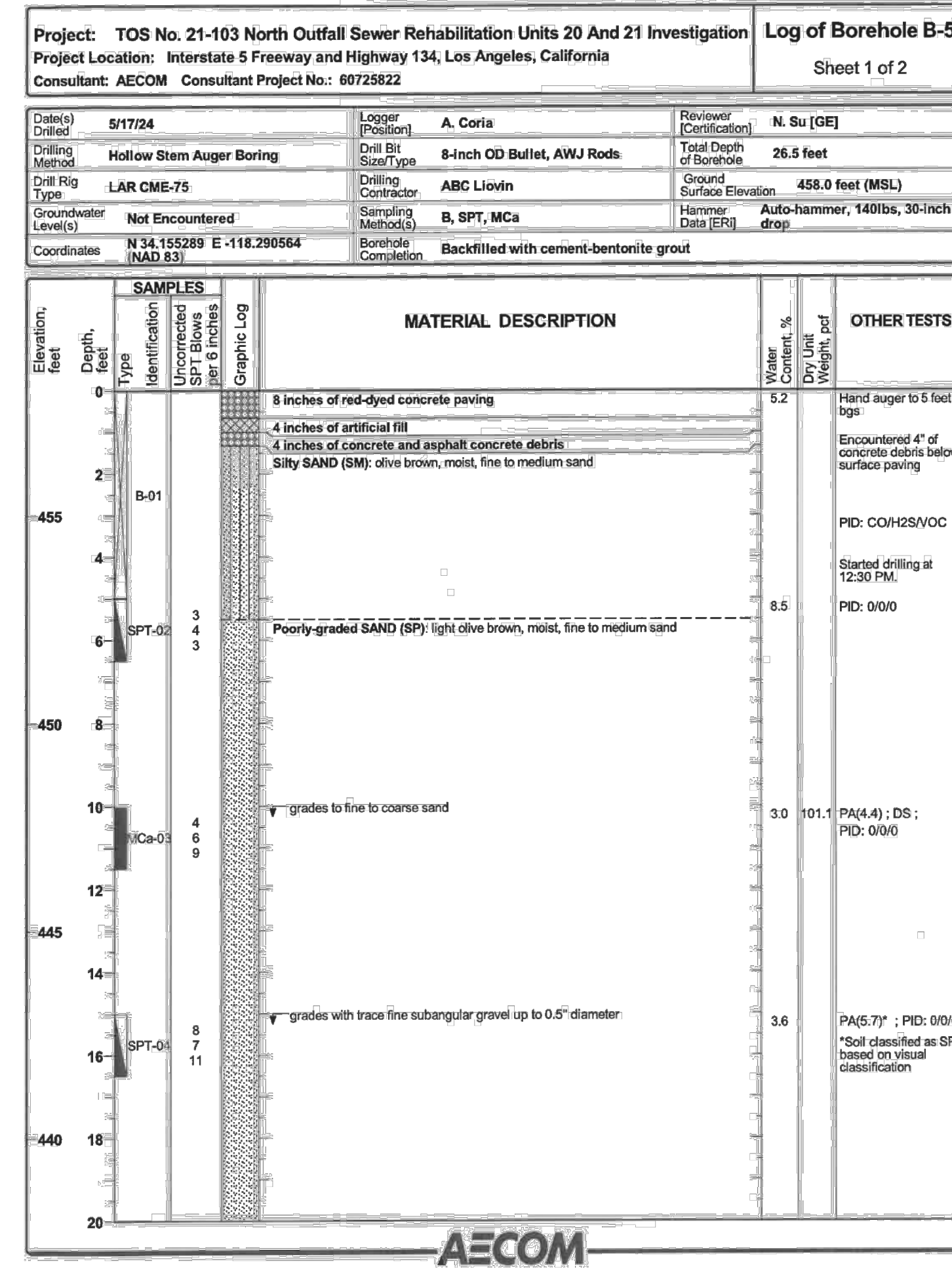
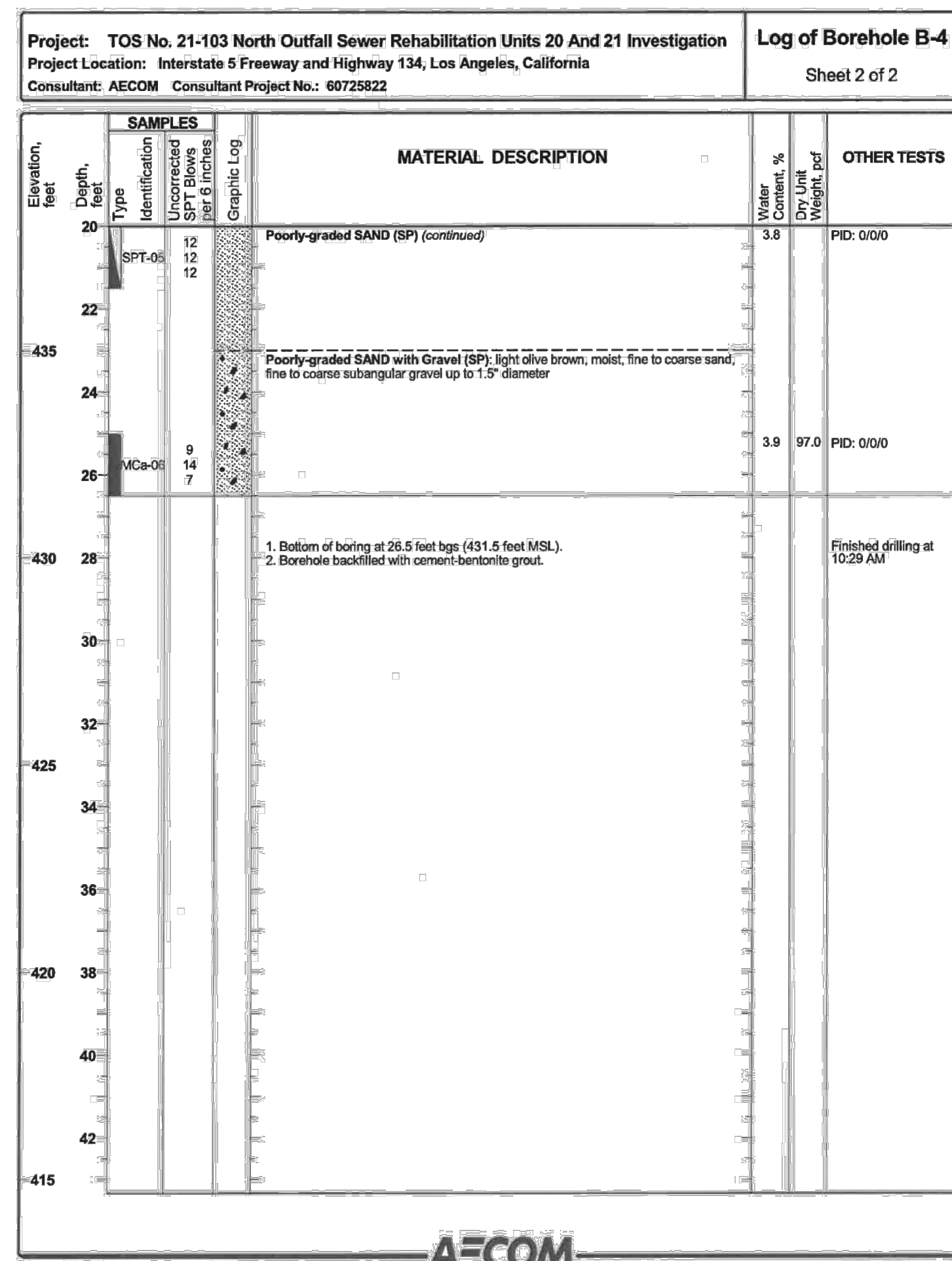
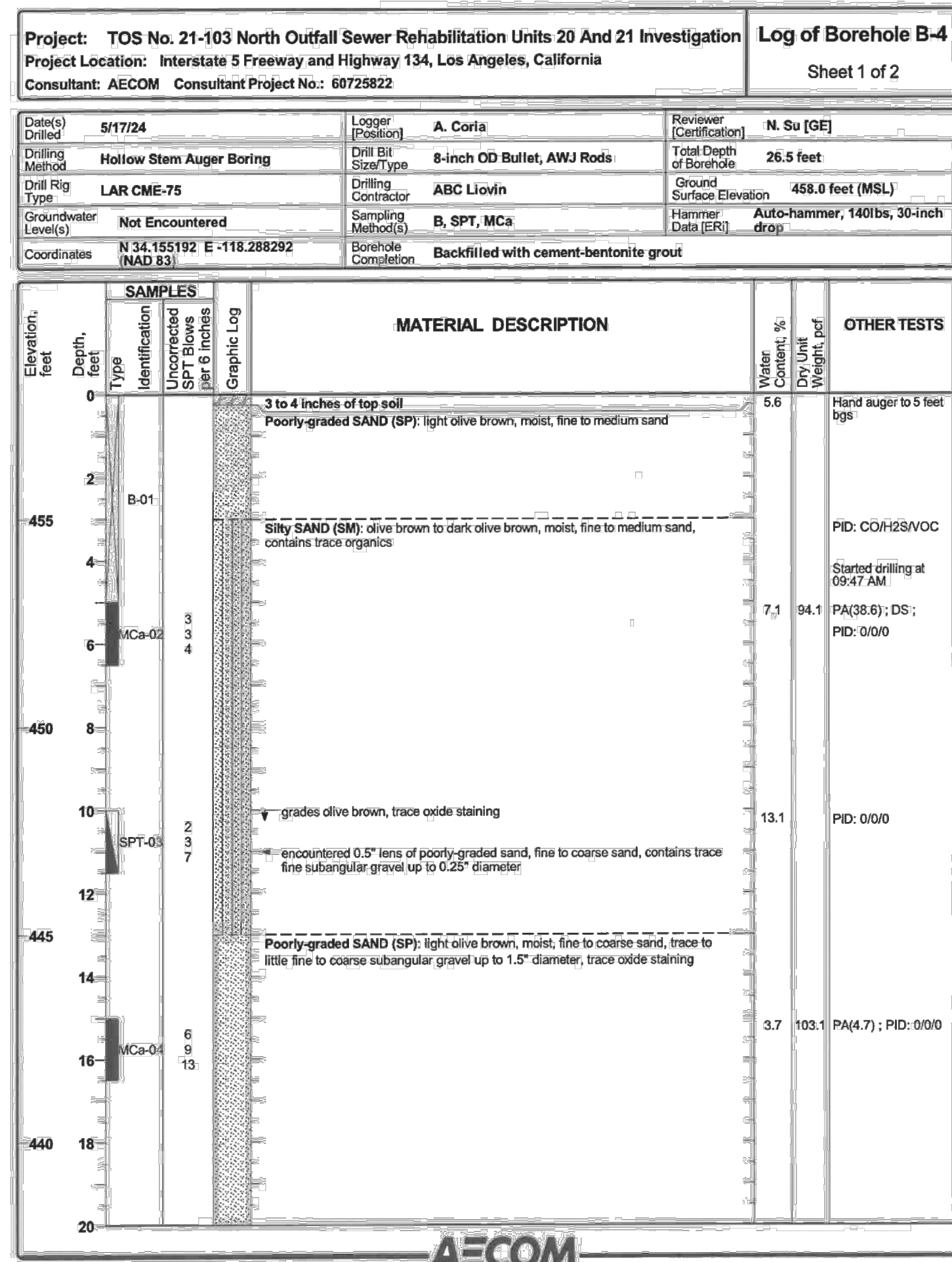
**BUREAU OF ENGINEERING**  
BORING LOGS  
PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.  
ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

DATE: 10/22/24  
REVISIONS: 1  
SHEET TITLE: BORING LOGS  
INDEX NO. C960

CITY ENGINEER: TED ALLEN, P.E.  
DESIGN GROUP: AHMED AMARRAGY, EIT  
DESIGNED BY: ALYSSA REYES, P.E.  
DRAWN BY: NOEL LOPEZ  
CHECKED BY: MARY THOMAS, P.E.  
APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

WORK ORDER NO. SZC13947

SHEET NAME: CU601  
SHEET 26 OF 51 SHEETS



**ENGINEERING**  
 CITY OF LOS ANGELES

**WCD**  
 WATER CONSTRUCTION DEPARTMENT

**PROFESSIONAL ENGINEER**  
 LICENSE NO. C 93245  
 STATE OF CALIFORNIA

**BUREAU OF ENGINEERING**  
 VERTICAL CONTROL: NOS 028, 102, ADU (RMS) (RSD)  
 HORIZONTAL CONTROL: NAD83, EPOCH 1, 1981.5 (EPOCH 1981.5) (EPOCH 1981.5) (EPOCH 1981.5) (EPOCH 1981.5)

**DEPARTMENT OF PUBLIC WORKS**

**CITY OF LOS ANGELES**  
 SHEET NO. **CU602**  
 SHEET 27 OF 51 SHEETS

**TED ALLEN, P.E.**  
 CITY ENGINEER  
 DATE: 10/22/24 AR

**AHMED AMARRAGY, EIT**  
 DESIGN GROUP

**ALYSSA REYES, P.E.**  
 ENGINEER

**NOEL LOPEZ**  
 DRAWN BY

**MARY THOMAS, P.E.**  
 CHECKED BY

**EDWARD ARRINGTON, S.E., ENV, SP**  
 APPROVED BY

**WORK ORDER NO. SZC13947**

**INDEX NO. C960**

**SHEET TYPE**

**DATE: 10/22/24 AR**

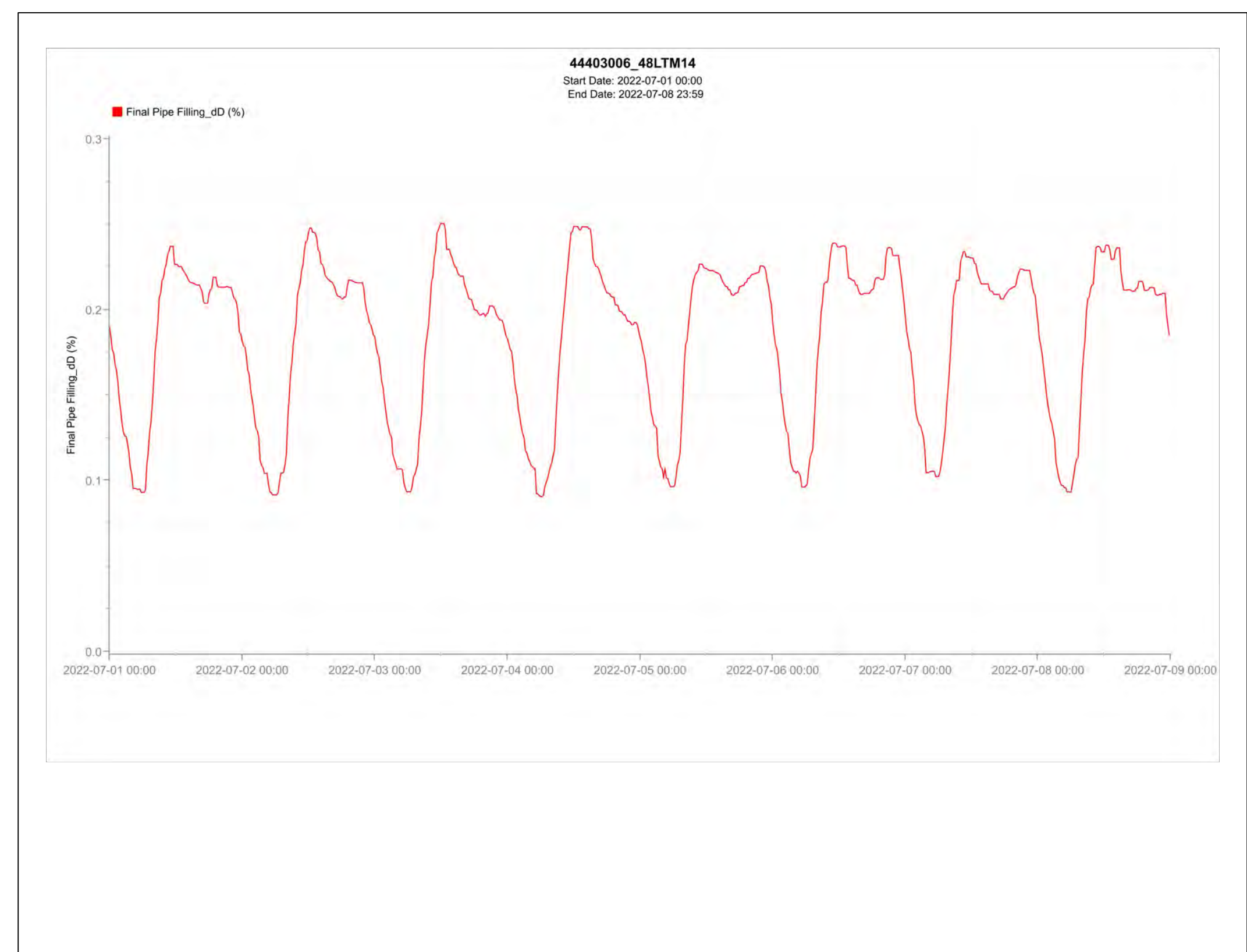
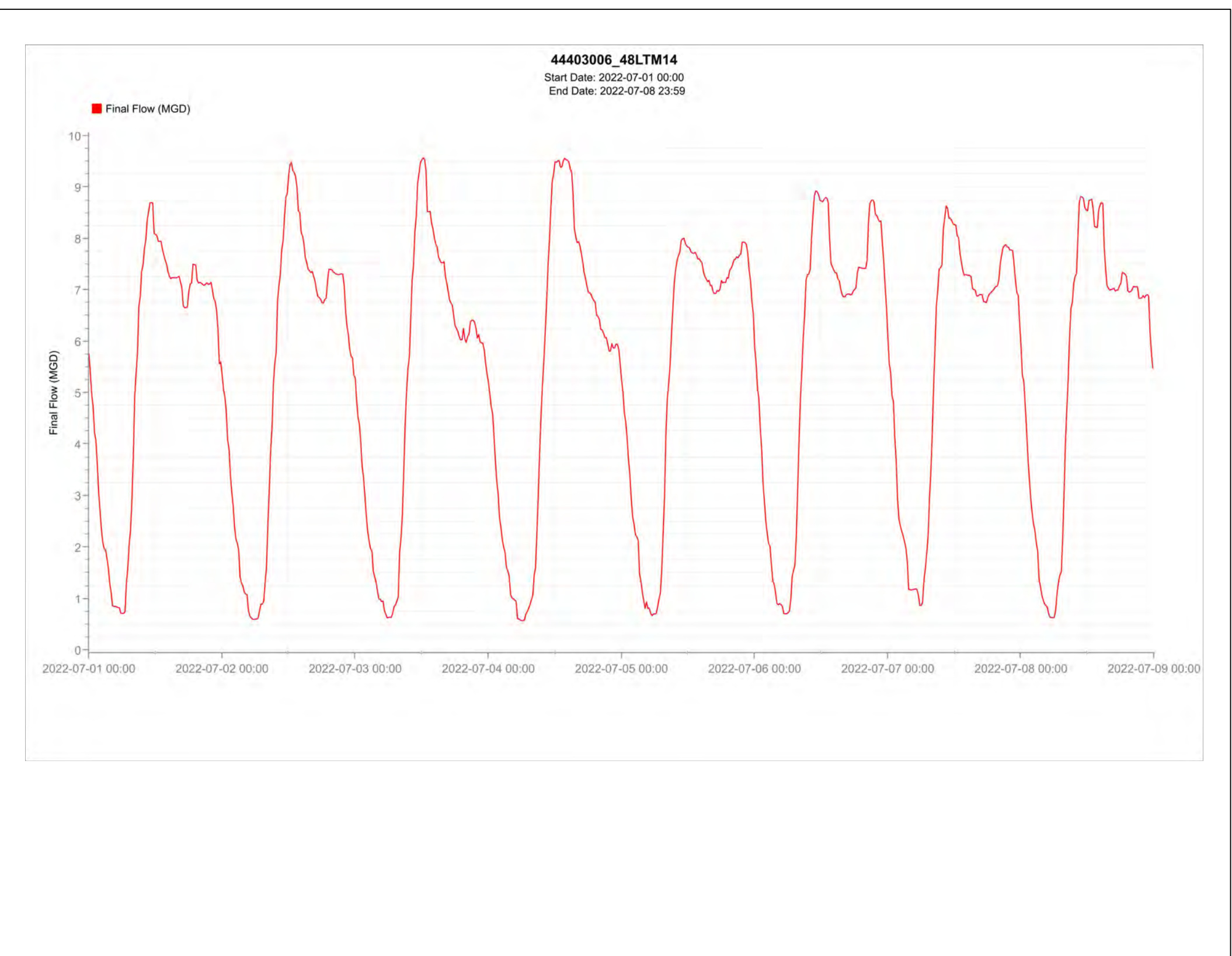
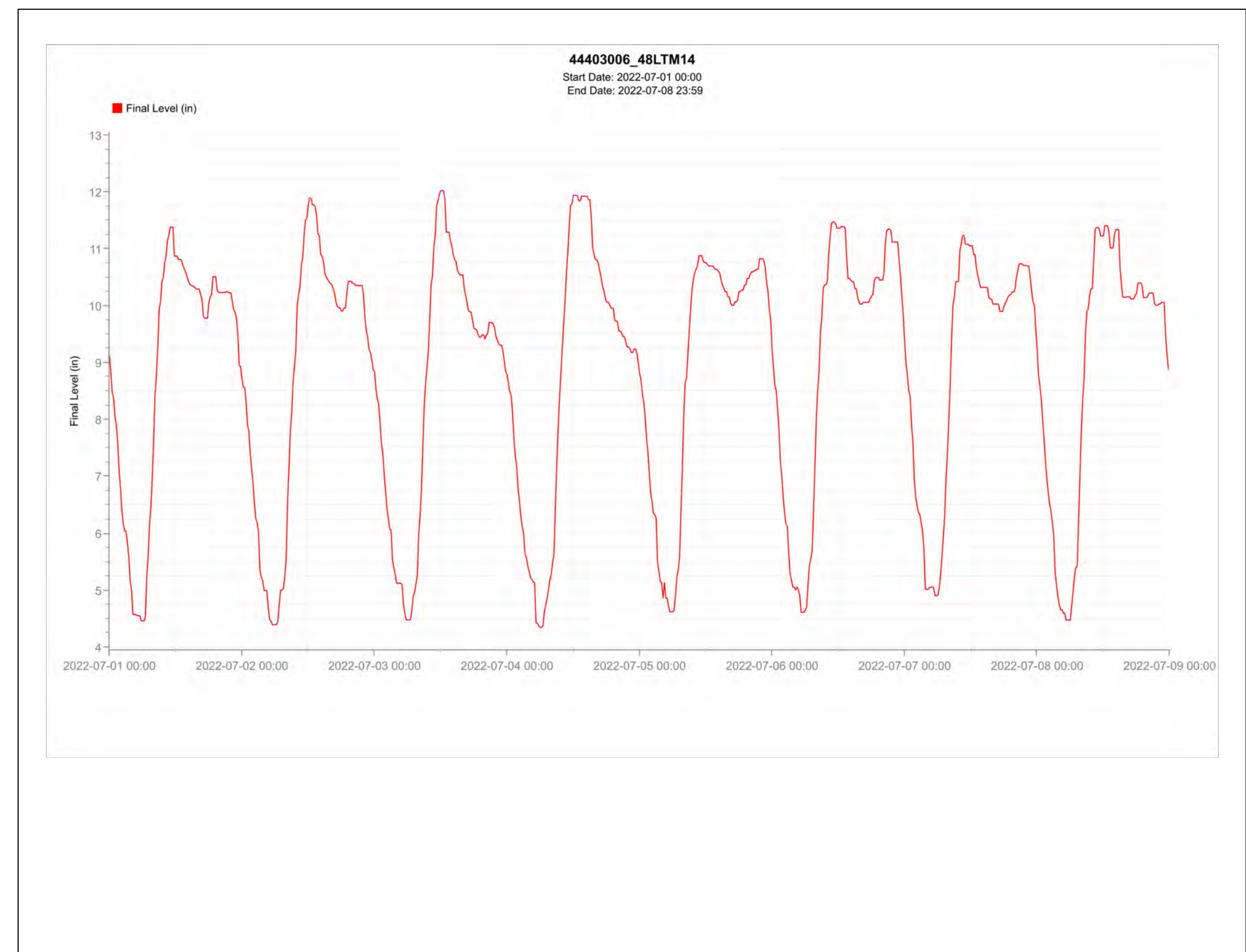
**REVISIONS:**  
 1. REVISE TOTAL NUMBER OF SHEETS

**PROJECT:** NOS REHAB UNIT 20 & 21 - ZOO DR.  
**ADDRESS:** ZOO DR. RIGHT-OF-WAY TO DORAN ST., LOS ANGELES, CA

REVISION DATES (DESIGN STAGE ONLY) THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

# HYDROGRAPHS

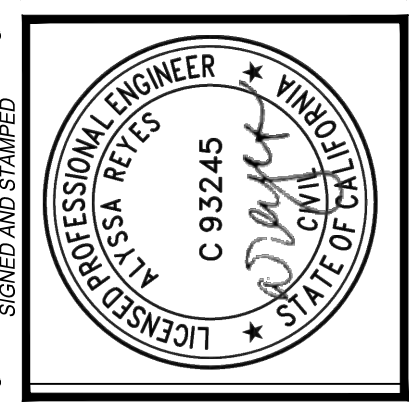
MH #444-03-006  
 START DATE: 2022-07-01 00:00  
 END DATE: 2022-07-08 23:59



### NOTES :

1. HYDROGRAPHS WERE TAKEN WITH DRY WEATHER CONDITIONS. PREVAILING RECORDS SHOW THAT DURING AND OR A PERIOD AFTER A STORM, THE FLOW OF SEWERAGE INCREASES CONSIDERABLY.
2. HYDROGRAPHS HERE INDICATE CONDITIONS ONLY ON THE DATES AND LOCATIONS INDICATED. CONTRACTORS ARE CAUTIONED THAT THE CITY IN NO WAY WARRANTS THAT SUCH INFORMATION REPRESENTATIVE OF CONDITIONS AT ANY OTHER LOCATION OR AT ANY OTHER TIME.
3. THE 24-HOUR CLOCK TIME KEEPING CONVENTION IS USED FOR THE HYDROGRAPH PLOTS, WHICH DEFINES MIDNIGHT (12:00 AM) AS 0.00.

REVISION DATES (DESIGN STAGE ONLY) THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



VERTICAL CONTROL:	NO. 1024 - 1024 ADJ. (MARS RECD)
HORIZONTAL CONTROL:	NO. 83. EPOCH 1991.5 FEB 165-197 PG 108 & 102
SHEET TITLE:	HYDROGRAPHS
PROJECT:	NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.
ADDRESS:	ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

DATE:	BY:
10/22/24	AR
NO. REVISIONS:	REVISION TOTAL NUMBER OF SHEETS
1	
INDEX NO.	SHEET TYPE
	C960

CITY ENGINEER	DATE:
TED ALLEN, P.E.	
DESIGN GROUP	
ENGINEER: AHMED AMARRAGY, EIT	
DESIGNED BY: ALYSSA REYES, P.E.	
DRAWN BY: NOEL LOPEZ	
CHECKED BY: MARY THOMAS, P.E.	
APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.	

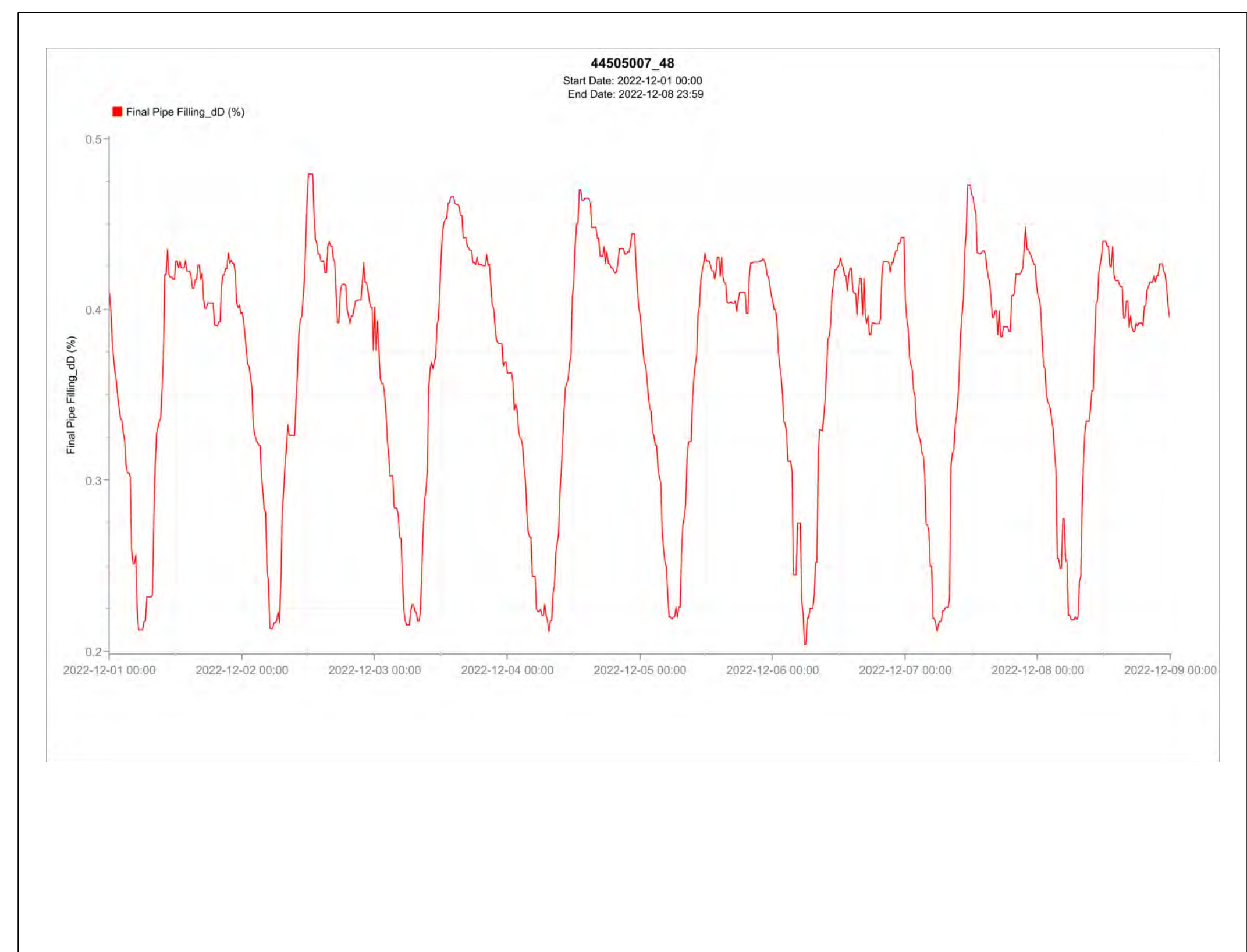
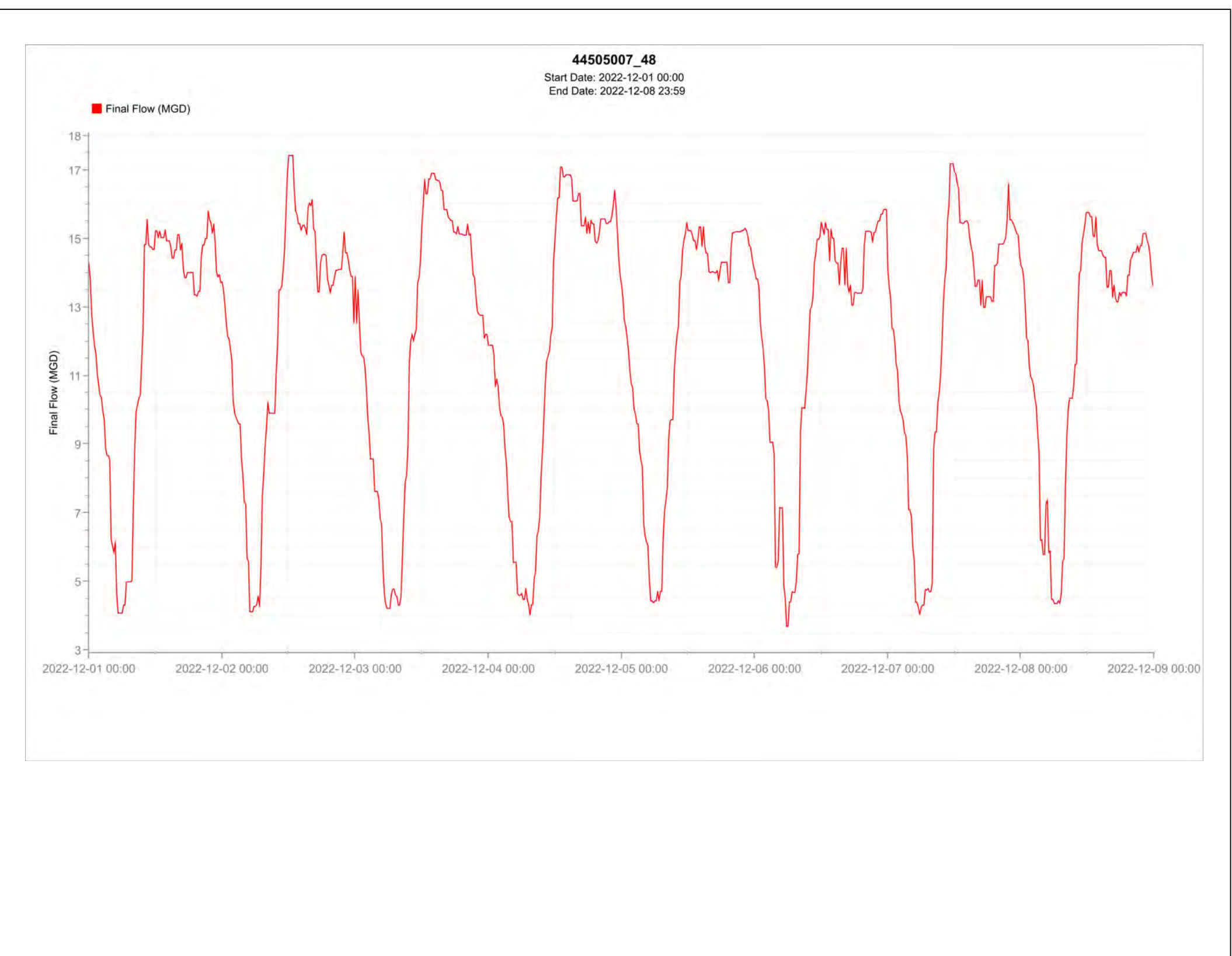
WORK ORDER NO.	SZC13947
SHEET NAME	CU603
SHEET	28 OF 51 SHEETS

REVISION DATES (DESIGN STAGE ONLY) THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

K J I H G F E D C B A

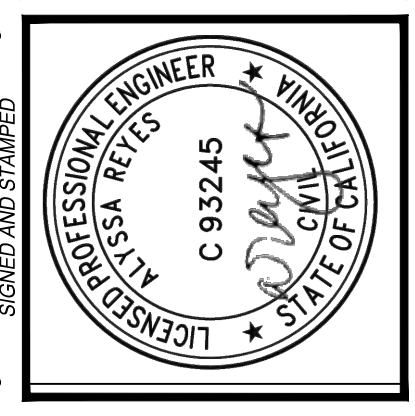
# HYDROGRAPHS

MH #445-05-007  
 START DATE: 2022-12-01 00:00  
 END DATE: 2022-12-08 23:59



### NOTES :

1. HYDROGRAPHS WERE TAKEN WITH WET WEATHER CONDITIONS. PREVAILING RECORDS SHOW THAT DURING AND OR A PERIOD AFTER A STORM, THE FLOW OF SEWERAGE INCREASES CONSIDERABLY.
2. HYDROGRAPHS HERE INDICATE CONDITIONS ONLY ON THE DATES AND LOCATIONS INDICATED. CONTRACTORS ARE CAUTIONED THAT THE CITY IN NO WAY WARRANTS THAT SUCH INFORMATION REPRESENTATIVE OF CONDITIONS AT ANY OTHER LOCATION OR AT ANY OTHER TIME.
3. THE 24-HOUR CLOCK TIME KEEPING CONVENTION IS USED FOR THE HYDROGRAPH PLOTS, WHICH DEFINES MIDNIGHT (12:00 AM) AS 0.00.



VERTICAL CONTROL:	NOV/2024 10/24/2024 (MARS/RE/D)
HORIZONTAL CONTROL:	NOV/2024 10/24/2024 (MARS/RE/D)
SHEET TITLE:	HYDROGRAPHS
PROJECT:	NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.
ADDRESS:	ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

NO. REVISIONS:	DATE:	BY:
1	10/22/24	AR
REVISION TOTAL NUMBER OF SHEETS		
1		
INDEX NO.	SHEET TYPE	CIP NO.
		C960

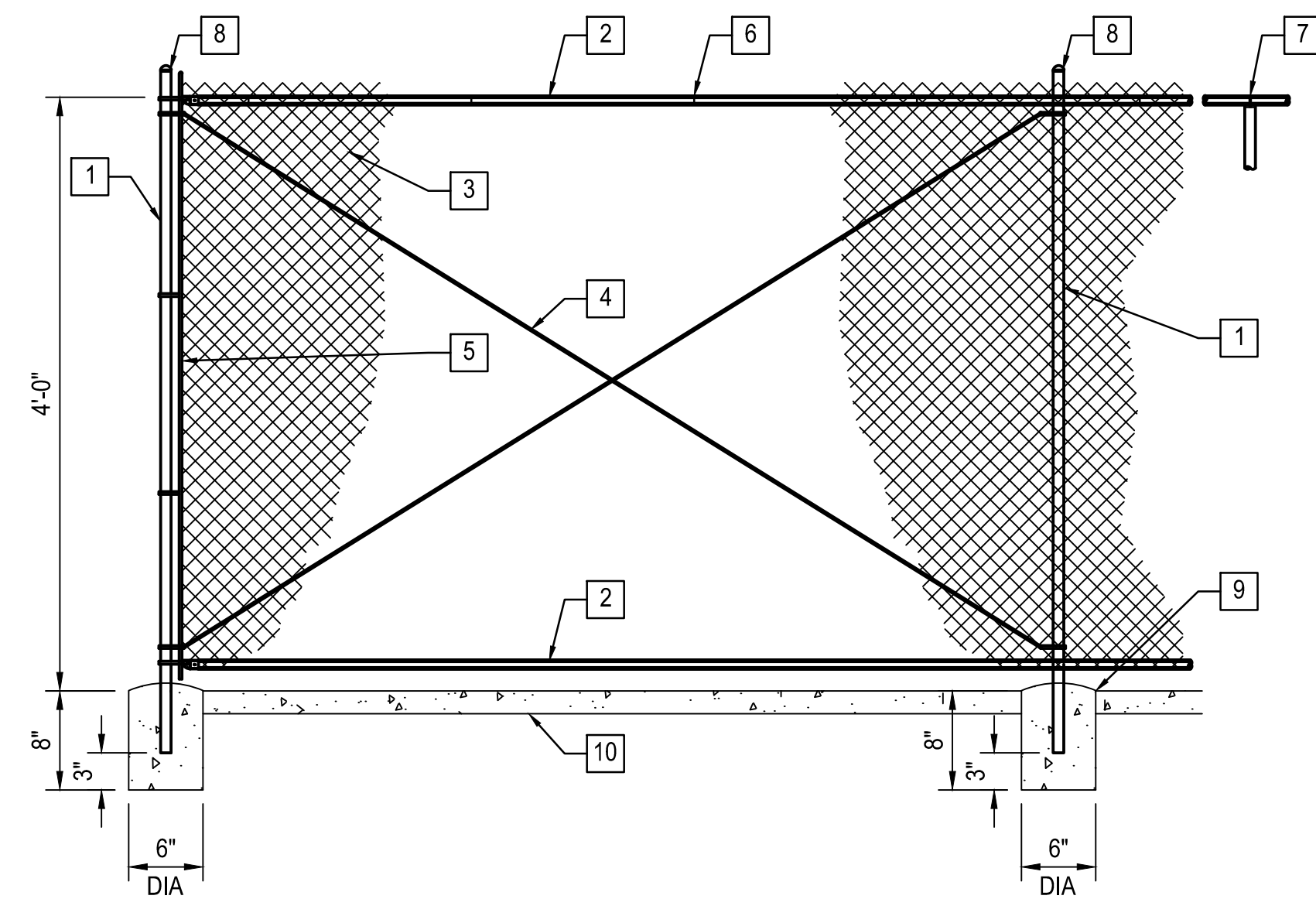
CITY ENGINEER	DATE:
TED ALLEN, P.E.	
DESIGN GROUP	
ENGINEER: AHMED AMARRAGY, EIT	
DESIGNED BY: ALYSSA REYES, P.E.	
DRAWN BY: NOEL LOPEZ	
CHECKED BY: MARY THOMAS, P.E.	
APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.	

WORK ORDER NO.	SZC13947
SHEET NAME	CU604
SHEET	29 OF 51 SHEETS



**OPTIONS (OPTIONS CHECKED SHALL PREVAIL :**

- VINYL COATED CHAIN LINK FABRIC SHALL BE AS SPECIFIED IN THE NOTICE TO CONTRACTORS. ALL FENCE MATERIALS SHALL BE INDICATED HEREON AND PAINTED PER NOTICE TO CONTRACTORS TO MATCH FABRIC COLOR. THE COLOR SHALL BE BLACK.
- ALL FENCING SHALL HAVE A STANDARD GALVANIZED FINISH.
- INSTALL CONCRETE MOW STRIP UNDER FENCE - SEE DETAIL 2, THIS SHEET.



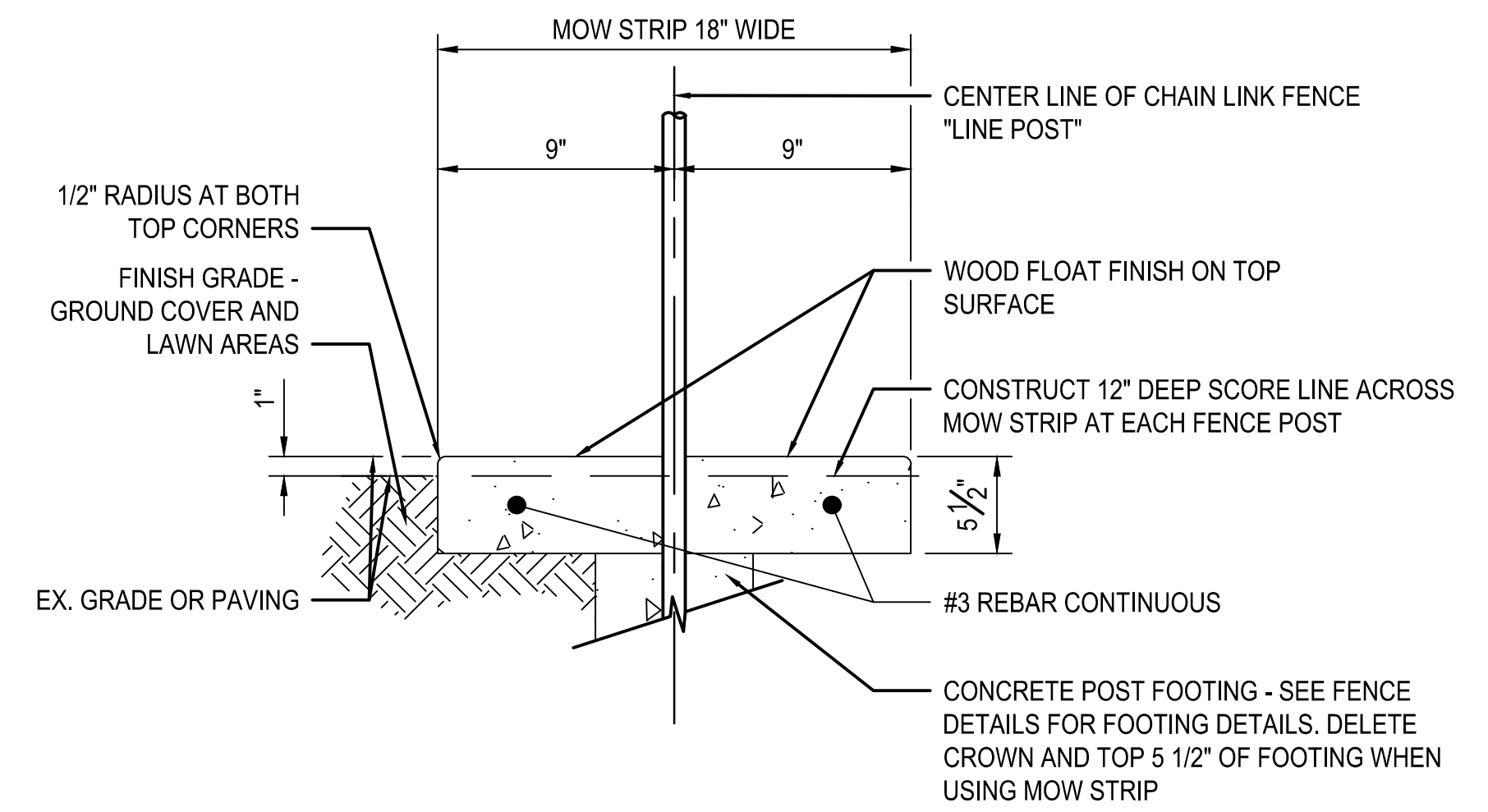
**DETAIL 1**  
SCALE: NTS

**FENCING MATERIALS :**

- 1 POSTS: END, CORNER AND SLOPE POST 2-7/8" O.D., LINE POSTS 2-3/8" O.D. POST SPACING TO BE 10'-0" MAX.
- 2 RAILS: TOP AND BOTTOM RAILS 1-5/8" O.D.
- 3 FABRIC: 9 GAUGE, 2" MESH, KNUCKLE TOP AND BOTTOM, PLACE ON ACTIVITY OR LAWN SIDE OF POSTS.
- 4 TRUSS ROD: 3/8" DIA THREADED AT BOTH ENDS AND TENSIONED WITH TWO INDUSTRIAL TRUSS TIGHTENERS SECURED TO RAIL ENDS. TRUSS PANEL SHALL BE LOCATED AT END AND CORNER PANELS OF 30' OR GREATER TURN AND AT INTERVALS NOT TO EXCEED 100'. GOG RING FABRIC TO RODS AT MAX 3'-0" O.C.
- 5 STRETCHER BAR: 3/16" x 3/4" with 1/8" TENSION BANDS AT 1'-0" O.C.
- 6 TIE WIRES: 11 GAUGE AT 1'-6" O.C. AT TOP, BOTTOM AND LINE POST.
- 7 LINE POST EYE TOPS & RAIL ENDS SHALL BE MALLEABLE IRON OR PRESSED STEEL. SECURE RAIL ENDS TO POSTS WITH 1/8 X 1 IN BRACE BANDS.
- 8 POST CAPS SHALL BE MALLEABLE IRON OR PRESSED STEEL.
- 9 PROVIDE A 1" CROWN AT TOP OF ALL POST FOOTINGS. (MODIFY FOR MOW STRIP OPTION).
- 10 INSTALL CONCRETE MOW STRIP IF CHECKED UNDER OPTION ABOVE.

**NOTES :**

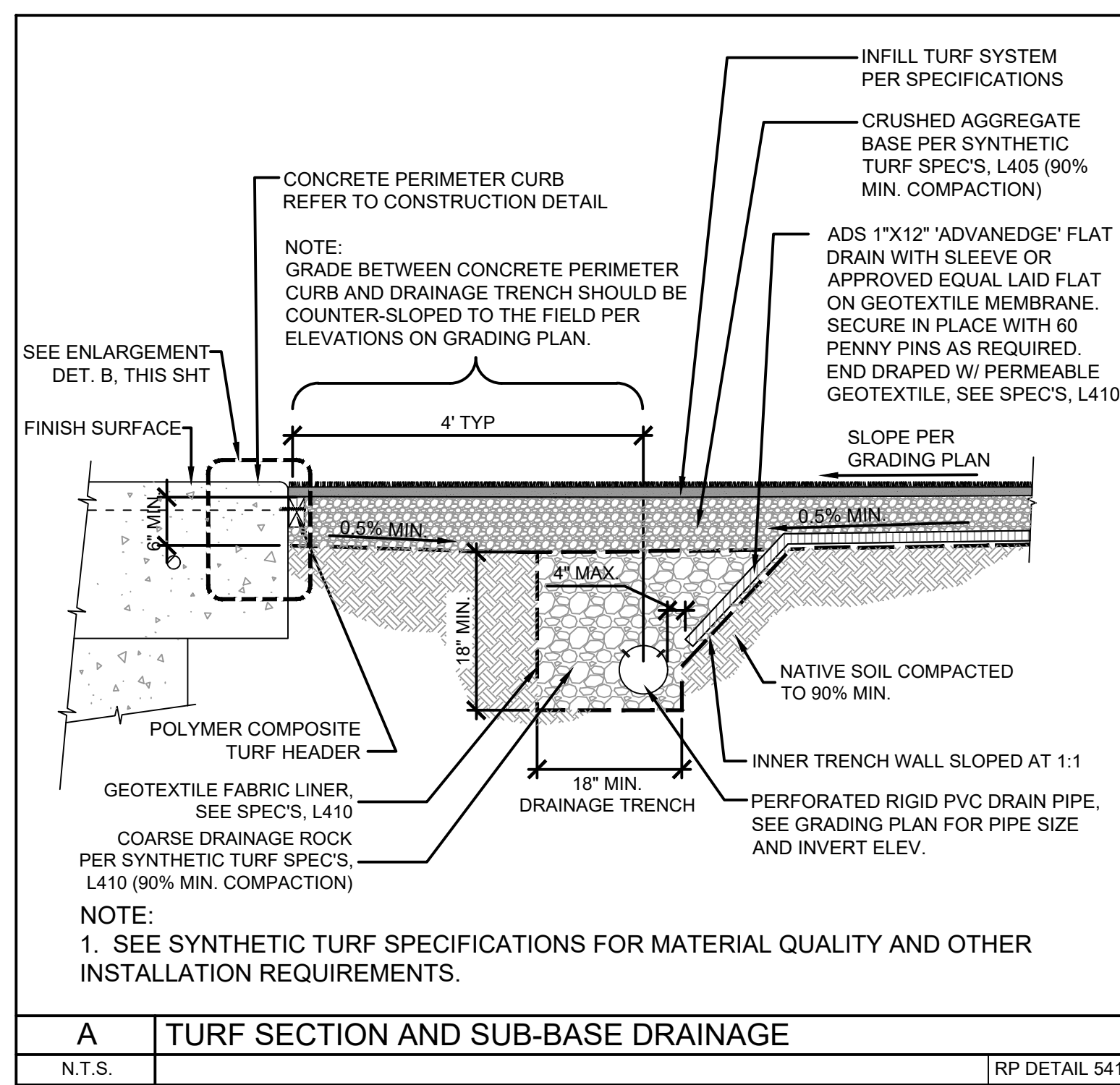
1. CHAIN LINK MATERIALS SHALL CONFORM TO CHAIN LINK FENCE MISCELLANEOUS METAL CONSTRUCTION SECTION OF THE NOTICE TO CONTRACTORS.
2. CONCRETE FOOTINGS SHALL BE ALLOWED TO SET FOR SEVEN (7) DAYS PRIOR TO INSTALLATION OF FABRIC OR HARDWARE.
3. THE BOTTOM FABRIC SHALL BE POSITIONED ONE INCH ABOVE FINISH GRADE.
4. TOP AND BOTTOM RAILS SHALL BE CONTINUOUS. CONNECTORS MAY BE USED ONLY AT END, CORNER, AND WHERE NEEDED AT LINE POSTS.



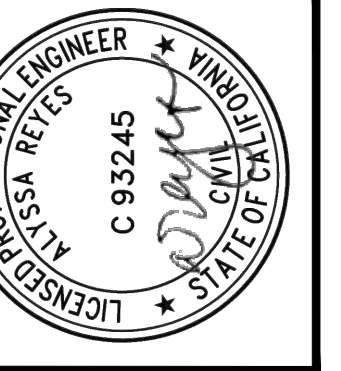
**NOTES :**

1. PLACE PLASTIC CONTROL JOINT AT ALL CHANGES IN DIRECTION.
2. WHEN MOW STRIP IS INSTALLED ADJACENT TO EX. A.C.C. PAVING, THE A.C. PAVING SHALL BE SAW CUT 12" FROM THE EDGE OF MOW STRIP AND NEW ASPHALT CONCRETE IS PLACE AFTER MOW STRIP IS IN PLACE.

**DETAIL 2**  
SCALE: NTS



**DETAIL 3**  
SCALE: NTS



VERTICAL CONTROL: NAD83, EPOCH 1983 (FEET)	PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.
HORIZONTAL CONTROL: NAD83, EPOCH 1983 (FEET)	ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA
SHEET TITLE: RAP STANDARD DETAILS FOR CONSTRUCTION	

DATE: 10/22/24	BY: AR
REVISIONS:	
1	RE-ARRANGE DETAILS
CIP NO.	C960
SHEET TYPE	

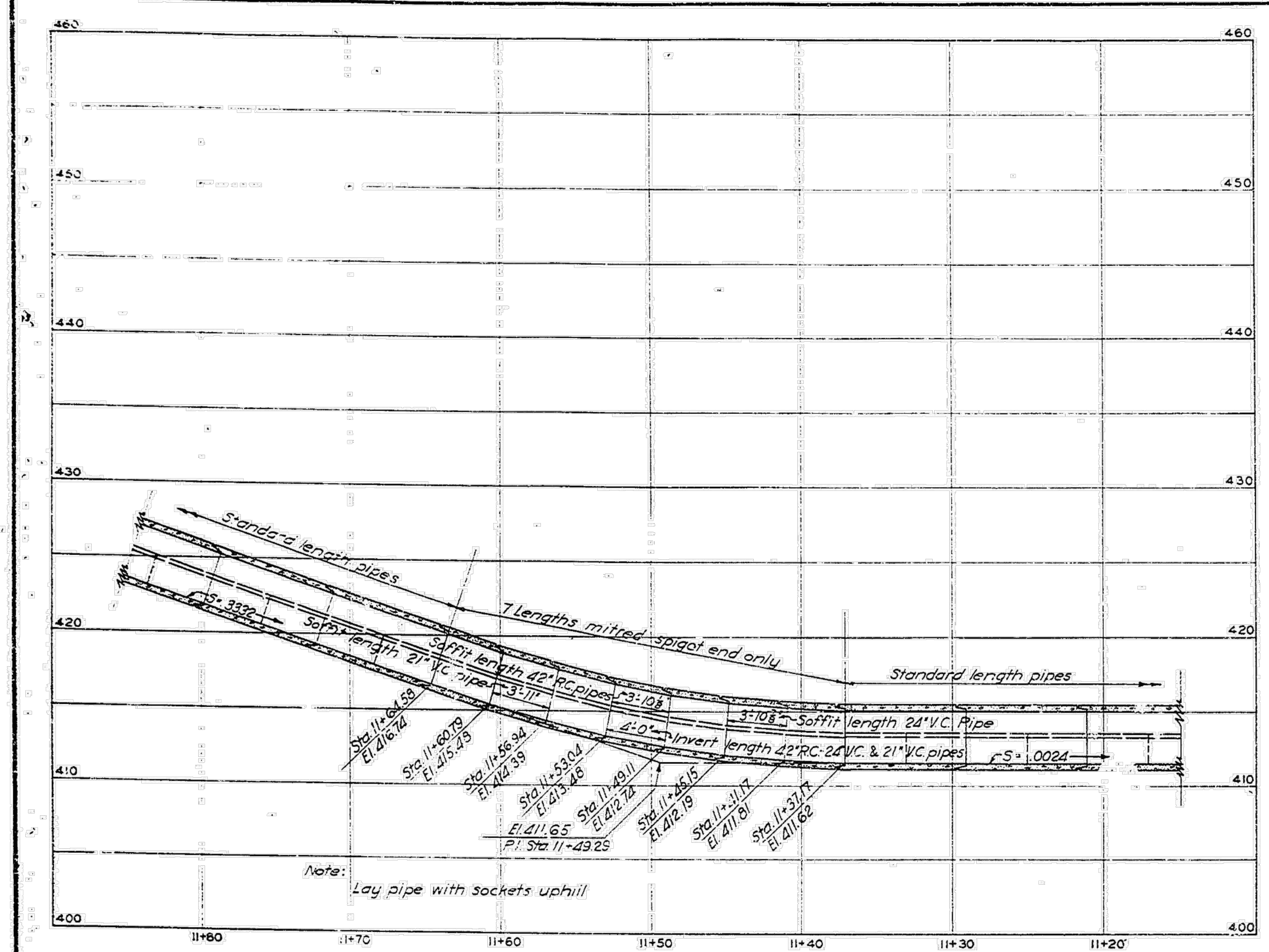
CITY ENGINEER: TED ALLEN, P.E.	DATE:
DESIGN GROUP:	
ENGINEER: AHMED AMARRAGY, EIT	
DESIGNED BY: ALYSSA REYES, P.E.	
DRAWN BY: NOEL LOPEZ	
CHECKED BY: MARY THOMAS, P.E.	
APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.	

WORK ORDER NO. SZC13947

SHEET NAME: CU605  
SHEET 30 OF 51 SHEETS

REVISION DATES (DESIGN STAGE ONLY) THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

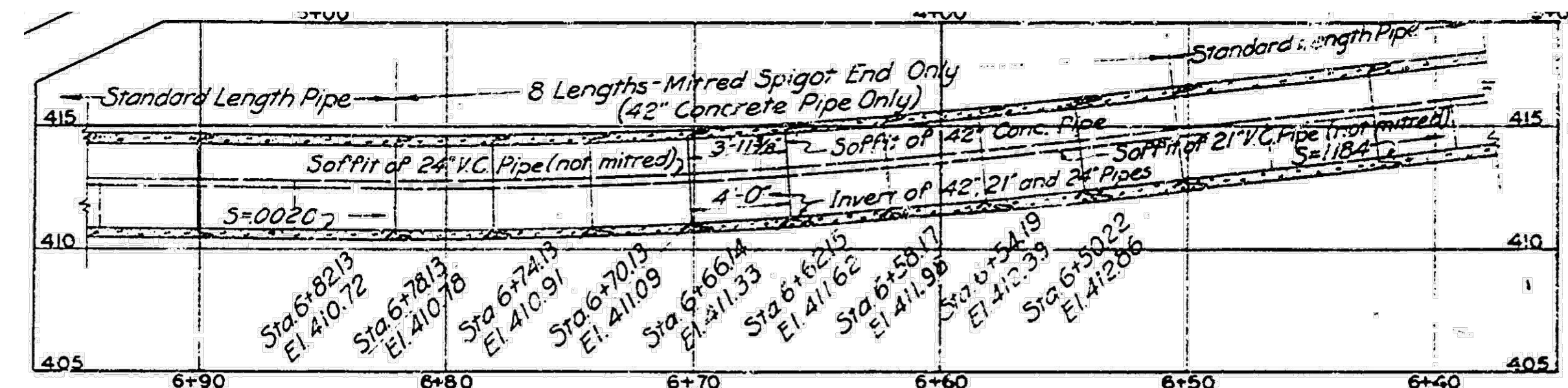
WAR DEPARTMENT



DETAIL OF VERTICAL CURVE NO.2

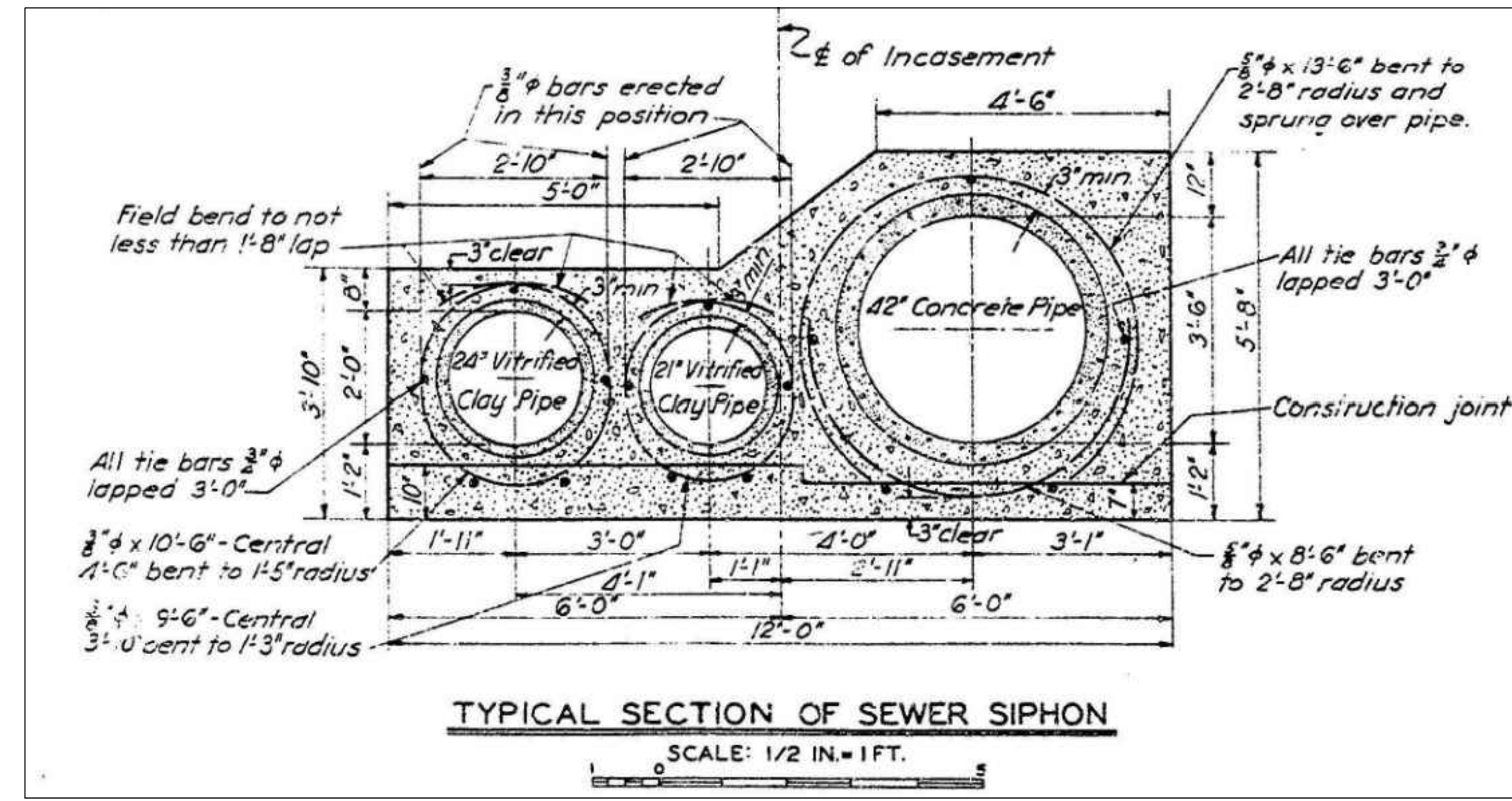
SCALES: HOR. 1IN.=5 FT.  
VERT. 1IN.=5 FT.

Note: All stations on 42", 21" and 24" pipes refer to center line of siphon incasement.



DETAIL OF VERTICAL CURVE NO.1

SCALES: HOR. 1IN.=5 FT.  
VERT. 1IN.=5 FT.



TYPICAL SECTION OF SEWER SIPHON

SCALE: 1/2 IN.=1 FT.

NOTES:

- FLOW DIVERSION:
1. THE TRIPLE-BARREL SIPHON SHALL BE REHABILITATED THROUGH TRADITIONAL CIPP
  2. THE CONTRACTOR SHALL IMPLEMENT FLOW DIVERSION OF THE TRIPLE-BARREL SIPHON BY CLOSING THE 42-INCH BARREL PIPE TO FACILITATE CIPP REHABILITATION, THEN SUBSEQUENTLY CLOSING THE 21-INCH PIPE FOR REHABILITATION AFTER REOPENING THE REHABILITATED 42-INCH PIPE, AND FINALLY CLOSING THE 24-INCH PIPE FOR REHABILITATION.
  3. DETAILS REFER FROM ASBUILT DL-1795

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REVISION DATE (DESIGN STAGE ONLY)

ENGINEERING  
CITY OF LOS ANGELES

PROFESSIONAL ENGINEER  
ALYSSA REYES  
C 93245  
STATE OF CALIFORNIA

BUREAU OF ENGINEERING

VERTICAL CONTROL: NOS 1028 & 1028 ADD (RANOS 1028)  
HORIZONTAL CONTROL: NAD83, EPOCH 1985.5 (EPOCH 1985-197 PG 108 & 102)

SHEET TITLE: SIPHON CURVE DETAILS AND DIVERSION  
PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.  
ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

DEPARTMENT OF PUBLIC WORKS

DATE: 10/22/24  
BY: AR

REVISIONS:  
1 RE-ARRANGE DETAILS

INDEX NO. C960  
SHEET TYPE

CITY ENGINEER: TED ALLEN, P.E.  
DESIGN GROUP: AHMED AMARRAGY, EIT  
ENGINEER: AHMED AMARRAGY, EIT  
DESIGNED BY: ALYSSA REYES, P.E.  
DRAWN BY: NOEL LOPEZ  
CHECKED BY: MARY THOMAS, P.E.  
APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

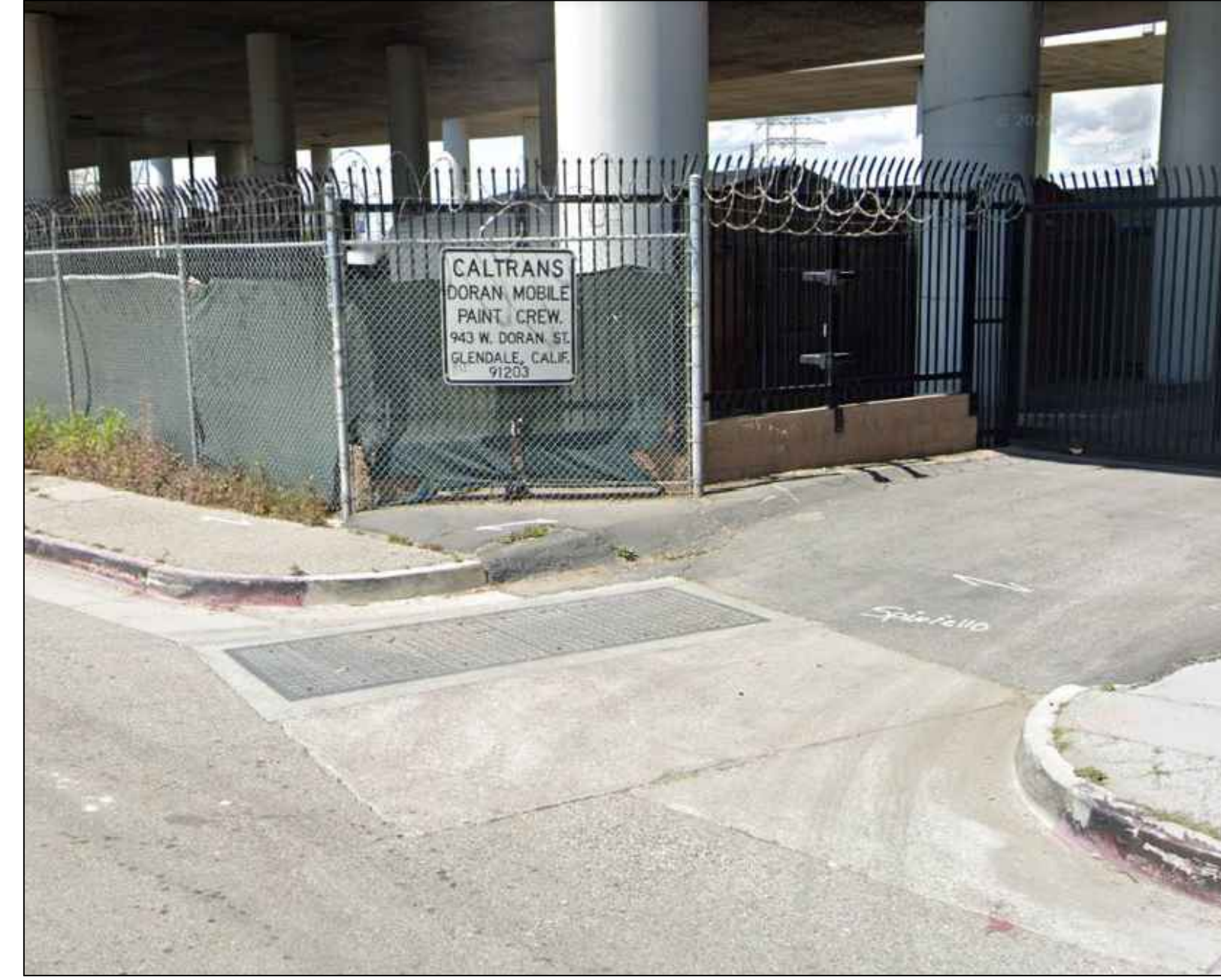
WORK ORDER NO. SZC13947  
SHEET NAME: CU606  
SHEET 31 OF 51 SHEETS



SIPHON OUTLET WITHOUT LID



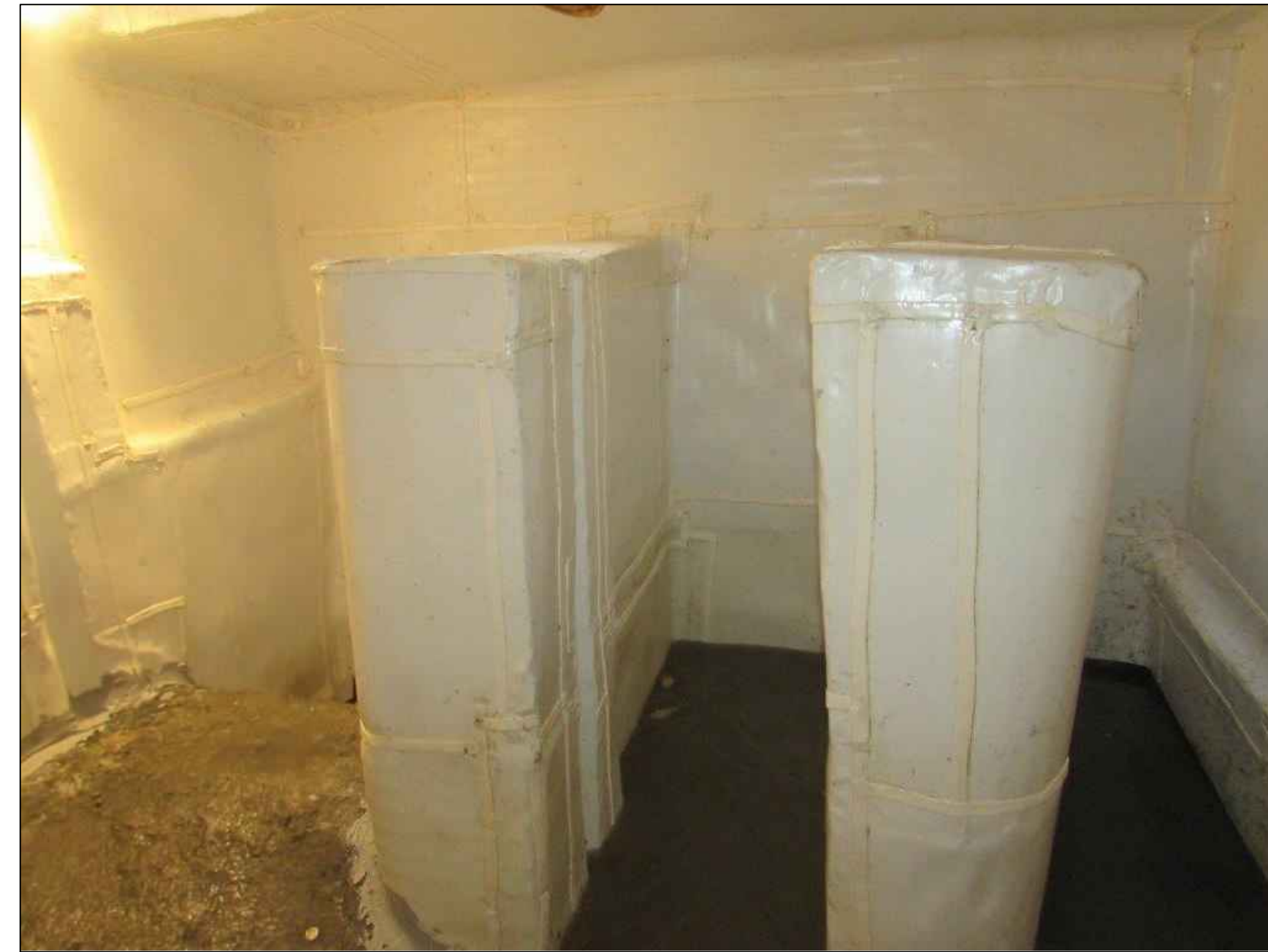
SIPHON OUTLET WITH LID



LOCATION OF SIPHON OUTLET



SIPHON INLET (48" SE PIPE)



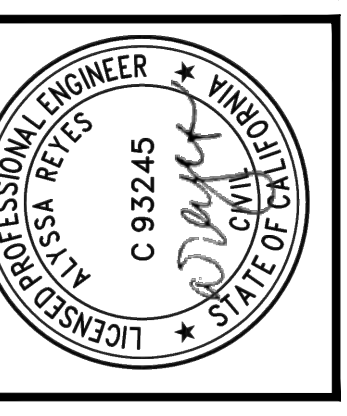
SIPHON INLET (3 BARRELS)



LOCATION OF SIPHON INLET



SIPHON CLEANOUT #445-05-038



**BUREAU OF ENGINEERING**

VERTICAL CONTROL: NOV/2024 10/25/2024 (AMBS REVD)  
 HORIZONTAL CONTROL: NADEB.ERSCHE 10/15/2024 (FEB 165-197 PG 108 & 102)

SHEET TITLE: SITE PHOTOS

PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.

ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

**DEPARTMENT OF PUBLIC WORKS**

DATE: 10/22/24 AR

REVISIONS:

NO	REVISIONS	DATE	BY
1	REVISE TOTAL NUMBER OF SHEETS		

INDEX NO. SHEET TYPE CIP NO. C960

**CITY OF LOS ANGELES**

CITY ENGINEER: TED ALLEN, P.E.

DESIGN GROUP: AHMED AMARRAGY, EIT

ENGINEER: AHMED AMARRAGY, EIT

DESIGNED BY: ALYSSA REYES, P.E.

DRAWN BY: NOEL LOPEZ

CHECKED BY: MARY THOMAS, P.E.

APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

WORK ORDER NO. SZC13947

SHEET NAME: CU701

SHEET 32 OF 51 SHEETS



MH #445-01-001 AND TWO ADJACENT MHS



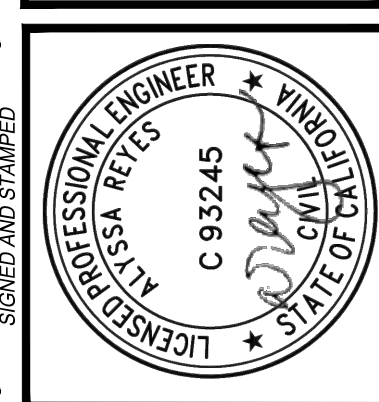
MH #445-01-002 (BURIED)



MH #445-01-006



MH #445-01-007



**BUREAU OF ENGINEERING**  
 VERTICAL CONTROL: NOS REHAB UNIT 20 & 21 (RAMP REED)  
 HORIZONTAL CONTROL: NAD83, EPOCH 1981.5 (FEB 168-197 PG 108 & 102)  
 SHEET TITLE: SITE PHOTOS  
 PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.  
 ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

**DEPARTMENT OF PUBLIC WORKS**

NO	REVISIONS	DATE	BY
1	REVISE TOTAL NUMBER OF SHEETS	10/22/24	AR

INDEX NO. SHEET TYPE  
 C960

**CITY OF LOS ANGELES**

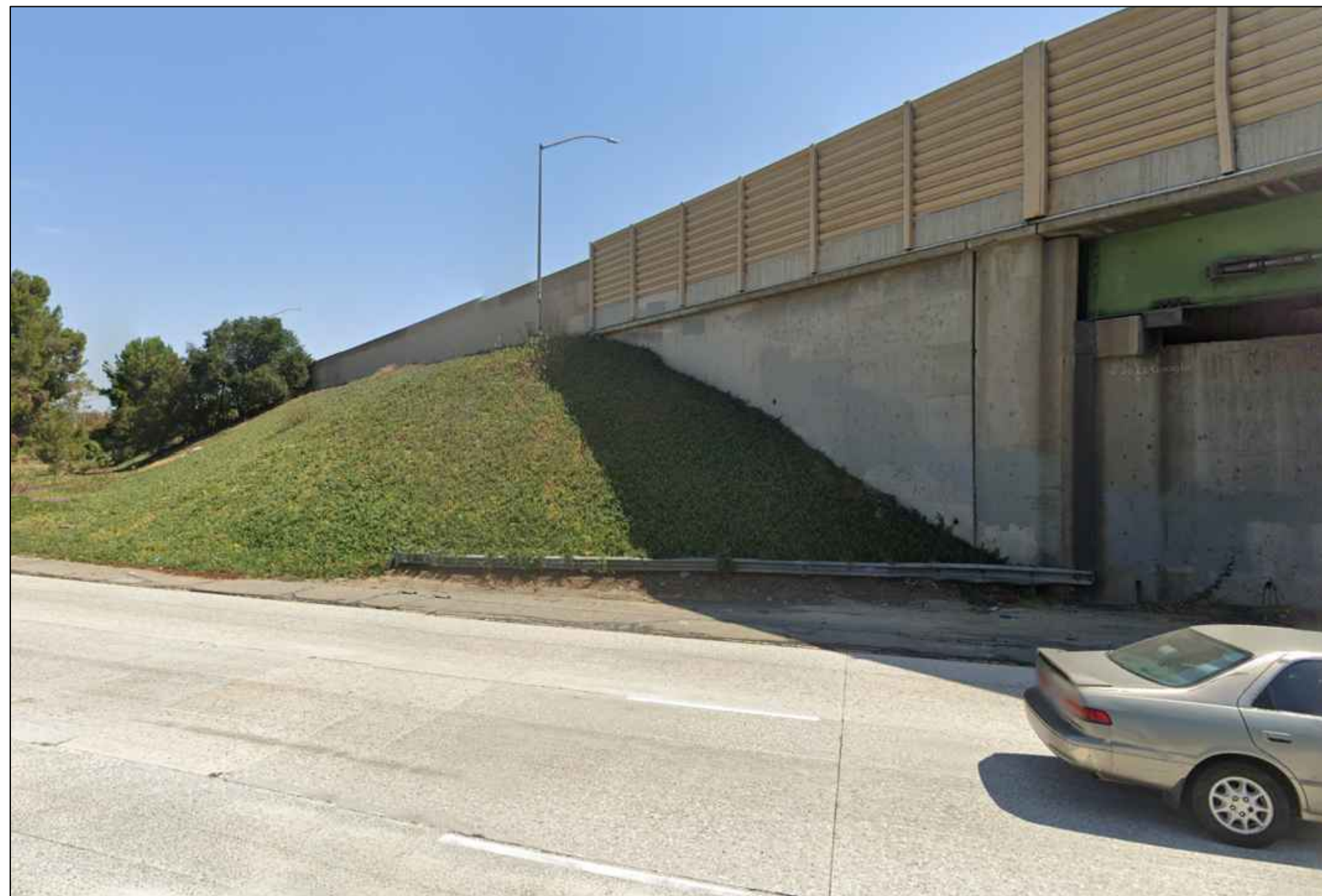
CITY ENGINEER: TED ALLEN, P.E.  
 DESIGNER: AHMED AMARRAGY, EIT  
 DESIGNED BY: ALYSSA REYES, P.E.  
 DRAWN BY: NOEL LOPEZ  
 CHECKED BY: MARY THOMAS, P.E.  
 APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

WORK ORDER NO. SZC13947  
 SHEET NAME: CU702  
 SHEET 33 OF 51 SHEETS

REVISION DATES (DESIGN STAGE ONLY)



APPROXIMATE LOCATION OF PIT #4



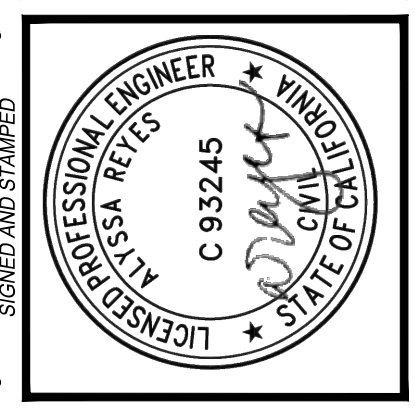
APPROXIMATE LOCATION OF PIT #6



MH #444-04-006

REVISION DATES (DESIGN STAGE ONLY)

Sheet Version 4.0



**BUREAU OF ENGINEERING**  
 VERTICAL CONTROL: NOS REHAB UNIT 20 & 21 (RANS REH)  
 HORIZONTAL CONTROL: NOS REHAB UNIT 20 & 21 (RANS REH)  
 SHEET TITLE: SITE PHOTOS  
 PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.  
 ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

**DEPARTMENT OF PUBLIC WORKS**

NO	REVISIONS	DATE	BY
1	REVISE TOTAL NUMBER OF SHEETS	10/22/24	AR

INDEX NO. \_\_\_\_\_ SHEET TYPE \_\_\_\_\_ CIP NO. C960

**CITY OF LOS ANGELES**

TED ALLEN, P.E.  
 CITY ENGINEER  
 DESIGNER: AHMED AMARRAGY, EIT  
 ENGINEER: AHMED AMARRAGY, EIT  
 DESIGNED BY: ALYSSA REYES, P.E.  
 DRAWN BY: NOEL LOPEZ  
 CHECKED BY: MARY THOMAS, P.E.  
 APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.

WORK ORDER NO. SZC13947  
 SHEET NAME CU703  
 SHEET 34 OF 51 SHEETS

THIS PLAN WAS ELECTRONICALLY SIGNED AND SEALED

# ABBREVIATIONS

(SEE SSPWC & BUREAU OF ENGINEERING MANUAL OF STRUCTURAL DESIGN FOR ADDITIONAL ABBREVIATIONS)

AB	ANCHOR BOLT	DIM	DIMENSION	INFO	INFORMATION	NPS	NOMINAL PIPE SIZE	STAG	SANITARY SEWER
ADDL	ADDITIONAL	DIST	DISTANCE	INT	INTERIOR	NS	NEAR SIDE	STL	STAGGERED
ADJ	ADJACENT	DL	DEAD LOAD	INT'L	INTERNATIONAL	NTS	NOT TO SCALE	SYM	SYMMETRICAL
AGG	AGGREGATE	DN	DOWN	INTER	INTERMEDIATE	OC	ON CENTER	TBD	TO BE DETERMINED
ALLOW	ALLOWABLE	DWG	DRAWING	INV	INVERT	OH	OVERHEAD	t	THICKNESS
ALUM	ALUMINUM	E	EXIST	JT	JOINT	OPP	OPPOSITE	T&B	TOP AND BOTTOM
@	AT	ECCL	ECCENTRIC LOAD	JUNC	JUNCTION	OPP/SIM	OPPOSITE SIDE SIMILAR	TEMP	TEMPORARY
APROX	APPROXIMATE	EF	EACH FACE	JS	JUNCTION STRUCTURE	OSL	OUTSTANDING LEG	T	TENSION OR TENSILE
ARCH	ARCHITECT(URAL)	EI	STIFFNESS FACTOR	K	KIPS	PAR	PARALLEL	THD	THREADED
BET	BETWEEN	ELECT	ELECTRICAL	KD	KILN DRIED	PCCP	PRESTRESS CONCRETE	THK	THICK OR THICKNESS
BLDG	BUILDING	ENCL	ENCLOSURE OR ENCLOSED	KSI	KIPS PER SQUARE INCH	PCF	POUNDS PER CUBIC FOOT	TL	TOTAL LOAD
BLK	BLOCK	ENG	ENGINEER(ING)	KM	KILOMETER	PERM	PERIMETER	TOC	TOP OF CONCRETE
BM	BURNS-MCDONNELL	EQ	EQUAL OR EARTHQUAKE	LABC	LOS ANGELES BUILDING CODE	PFB	PREFABRICATE(D)	TOF	TOP OF FOOTING
BOT	BOTTOM	EQUIP	EQUIPMENT	LARR	LOS ANGELES RESEARCH REPORT	PL	PLATE OR PROPERTY LINE	TOG	TOP OF GRATING OR GROUT
BP	BASE PLATE	ES	EACH SIDE	LC	LOAD COMBINATION	PLF	POUNDS PER LINEAR FOOT	TOL	TOP OF LEDGER
BS	BOTH SIDES	EST	ESTIMATE(D)	Ld	DEVELOPMENT LENGTH	PJP	PARTIAL JOINT	TOW	TOP OF WALL
B&S	L.A. DEPARTMENT OF BUILDING & SAFETY	EW	EACH WAY	LG	LARGE	PP	POWER POLE	TS	TUBE STEEL OR TRAFFIC SIGNAL OR TRANSITION STRUCTURE
BSMT	BASEMENT	EXIST	EXISTING	LLBB	LONG LEG BACK TO BACK	PR	PAIR	TYP	TYPICAL
CE	CIVIL ENGINEER	EXP	EXPANSION	LLH	LONG LEGS HORIZONTAL	PROJ	PROJECTION	UBC	UNIFORM BUILDING CODE
CHKD	CHECKED	EXT	EXTENSION OR EXTERIOR	LLV	LONG LEGS VERTICAL	PS	PIPE STIFFNESS	UNF	UNFINISHED
CHKD	CHECKED	FF	FINISH FLOOR	LOC	LOCATION	PSF	POUNDS PER SQUARE FOOT	UNO	UNLESS NOTED OTHERWISE
CIP	CAST-IN-PLACE	FIG(S)	FIGURE(S)	LT	LEFT	PT	POINT	VAR	VARIES
CIPP	CURED IN PLACE PIPE	FIN	FINISHE(D)	LVL	LEVEL(ING)	QTY	QUANTITY	VB	VAPOR BARRIER OR VALVE BOX
CJ	CONSTRUCTION OR CONTROL JOINT	FGR	FINISHED GRADE	m	SLOPE	RECT	RECTANGULAR	VIF	VERIFY IN FIELD
CJP	COMPLETE JOINT PENETRATION	FP	FULL PENETRATION	MAT	MATERIAL	REBAR	REINFORCEMENT BAR	W	WEST OR WIDTH
CL	CENTER LINE	FS	FAR SIDE	MB	MACHINE BOLT OR METAL BEAM	REF PT	REFERENCE POINT	WF	WIDE FLANGE
CLR	CLEAR/CLEARANCE	FT	FOOT OR FEET	MC	MOVEMENT CONNECTION OR MISCELLANEOUS CHANNEL	REINF	REINFORCEMENT	W/	WITH
CLG	CEILING	GEN	GENERAL	MECH	MECHANICAL	REQ'D	REQUIRED	W/O	WITHOUT
COLA	CITY OF LOS ANGELES	GW	GROUND WATER	MEZZ	MEZZANINE	REV	REVISION	WO	WORK ORDER
CONC	CONCRETE	GWB	GYPSTUM WALL BOARD	MFR	MANUFACTURE(R)(ED)	RPMP	REINFORCED POLYMER MORTAR PIPE	WP	WORK POINT
CONF	CONFEDERATION	HDPE	HIGH DENSITY POLYETHYLENE	MID	MIDDLE	RT	RIGHT	WT	WEIGHT
CONT	CONTINUOUS OR CONTINUATION	HS	HEADED STUD	MIN	MINIMUM	S	SOUTH	W/W	WALL TO WALL
CONTR	CONTRACTOR	HSA	HEADED STUD ANCHOR	N	NORTH	SD	SUPERIMPOSED DEAD LOAD	XSTG	EXTRA STRONG
CTR	CENTER	HSB	HIGH STRENGTH BOLT	NA	NOT APPLICABLE	SE	STRUCTURAL ENGINEER OR SEMI-ELLIPTICAL SHEET	YD	YARD
CU	CUBIC	HSS	HOLLOW STRUCTURE SEC	NIC	NOT IN CONTRACT	SHT	SHEET		
DEFL	DEFLECTION	HT	HEIGHT	NO.(#)	NUMBER OR (POUNDS)	SIM	SIMILAR		
DEG	DEGREE	HVAC	HEATING/VENTILATING/AIR CONDITIONING	NOM	NOMINAL	SOG	SLAB ON GRADE		
DEMO	DEMOLISH OR DEMOLITION	ICBO	INT'L CONFERENCE OF BUILDING OFFICIALS			SPC(S)	SPACE(S)		
DEPT	DEPARTMENT	IN	INCH			SQ	SQUARE		
DET	DETAIL					SS	STAINLESS STEEL OR		
DIAG	DIAGONAL OR DIAGRAM								
DIAPH	DIAPHRAGM								

# DESIGN DATA

## DESIGN CODES:

ACI 318-14, ACI 350-06 (MODIFIED)  
ANSI / AISC 15TH EDITION  
AASHTO LRFD WITH CALTRANS AMENDMENTS (LOADS ONLY)  
WITH REVISIONS & MODIFICATIONS PER STRUCTURAL ENGINEERING DIVISION STANDARDS

## SOILS DESIGN PARAMETERS:

- ALLOW VERTICAL BEARING PRESSURE ..... 1,500 PSF
- ALLOW LATERAL PASSIVE PRESSURE ..... 250 PSF/FT, 2,500 PSF MAX
- ANGLE OF INTERNAL FRICTION ..... 34 DEGREES
- ANGLE OF INTERNAL FRICTION (SIPHON)..... 36 DEGREES
- COEFFICIENT OF FRICTION ..... 0.3
- SOIL MODULUS ..... 1,000 PSI
- SOIL MODULUS (PER GED'S SUPPLEMENTAL MEMO FOR 42" CONC, 21" & 24" VCP SIPHON PIPES) ..... 1,600 PSI
- POISSON'S RATIO ..... 0.3
- RADIAL AND TANGENTIAL SPRING STIFFNESS FOR USE IN FEA MODELING OF THE RPMP PIPE SYSTEM SHALL BE PER THE ENGINEERING MANUAL, "TUNNELS AND SHAFTS IN ROCK", EM1110-2-2901, OF THE U.S. ARMY CORPS OF ENGINEERS, DATED MAY 30, 1997 OR APPROVED ALTERNATIVE METHOD.

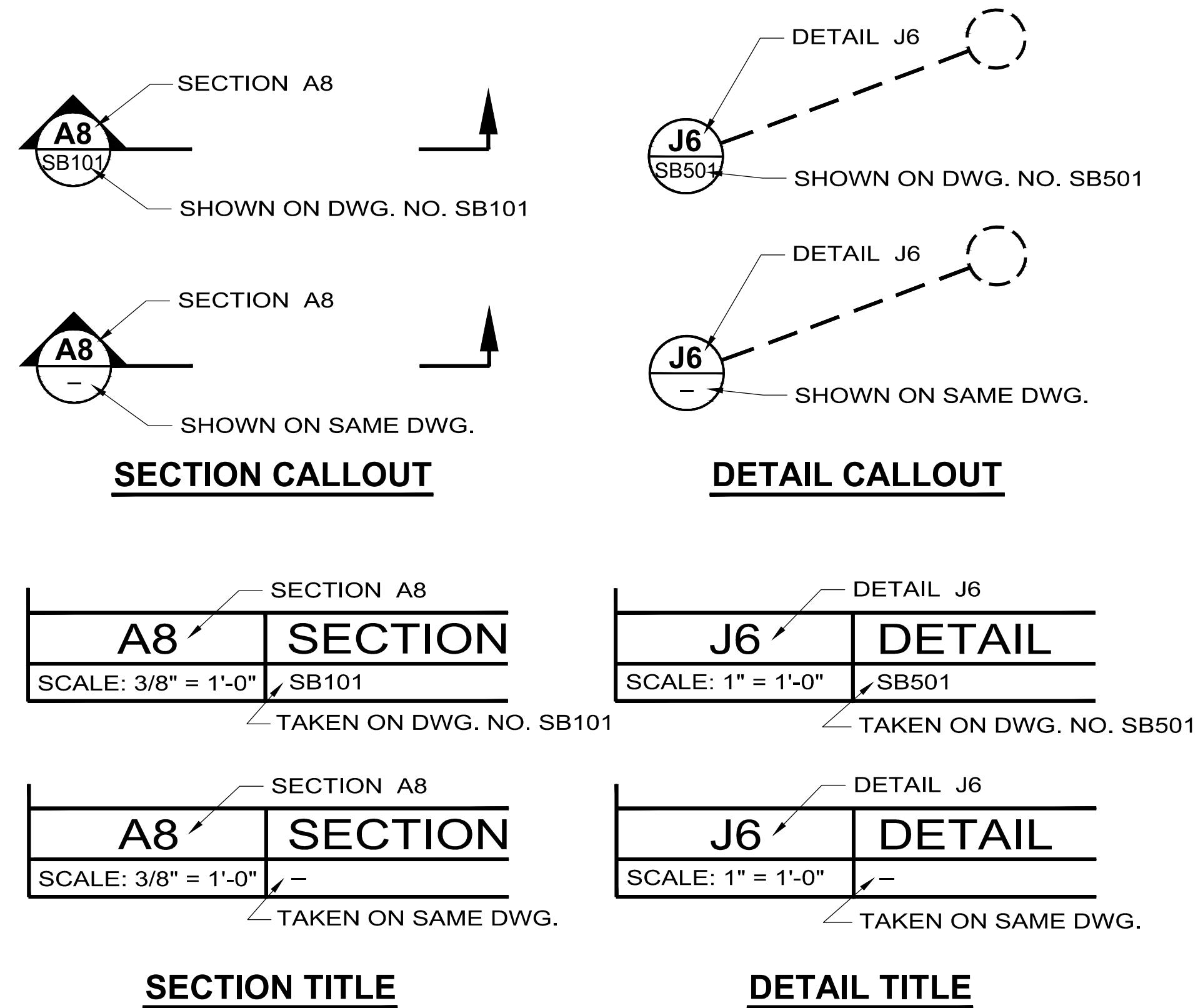
## REINFORCED CONCRETE DESIGN:

ULTIMATE STRENGTH DESIGN  
CONCRETE .....  $f_c = 4,000$  PSI  
STEEL REINFORCEMENT .....  $f_y = 60,000$  PSI

## DESIGN LOADS:

- STRUCTURE LOADS - VERTICAL:
  - DEAD LOADS ..... CALCULATED (PLUS ACTUAL WEIGHT OF EQUIP)
  - LIVE LOADS W/ VEHICULAR TRAFFIC ..... HL-93
  - EARTH LOADS  
 DRY SOIL DENSITY,  $\delta_s$  ..... 110 PCF  
 SATURATED SOIL DENSITY,  $\delta_s$  ..... 152.4 PCF
  - EARTH LOADS FOR SIPHON PIPES  
 DRY SOIL DENSITY,  $\delta_s$  ..... 125 PCF  
 SATURATED SOIL DENSITY,  $\delta_s$  ..... 142.4 PCF
  - GROUNDWATER  
 GW TABLE MAY VARY FROM A DEPTH OF 10' BELOW GROUND SURFACE TO BELOW THE INVERT OF THE PIPE. (SEE EXCEPTION PER ITEM 4 BELOW).  
 FOR SIPHON PIPES: GW TABLE MAY VARY FROM A DEPTH OF 20' BELOW GROUND SURFACE TO A DEPTH OF 50' BELOW GROUND SURFACE.
- STRUCTURE LOADS - LATERAL:
  - EARTH PRESSURE ..... 65H PSF (UNIFORM)  
100 PSF (APPLIED TO UPPER 10 FT) IF LIGHT VEHICULAR TRAFFIC IS WITHIN 0.7 x HEIGHT OF MH WALLS
  - LIVE LOAD SURCHARGE ..... 100 PSF (APPLIED TO MH WALLS) IF HL-93 VEHICLE LOADING IS WITHIN 0.7 x HEIGHT OF MH WALLS  
100 PSF (APPLIED TO UPPER 20 FT) IF HEAVY TRAFFIC LOADING SUCH AS FREEWAY IS WITHIN 20FT OF MH WALLS.  
200 PSF (APPLIED TO UPPER 10 FT) IF HEAVY TRAFFIC LOADING SUCH AS FREEWAY IS WITHIN 10FT OF MH WALLS.  
62.4 PSF/FT (SEWAGE)
- 48" SEMI-ELLIPTICAL CONCRETE PIPE REHABILITATION (REHAB SYSTEM DESIGNED FOR LOAD SHARING APPROACH)
  - DEPTH OF EARTH COVER (FT), H ..... VARIES 8 FT TO 19 FT (SEE ITEM 4 FOR  $H_{eff}$ )
  - VERTICAL LOAD  
 DEAD LOAD, D ..... CALCULATED  
 SOIL LOAD, V .....  $1.3H \delta_s$  (FH)  
 LIVE LOAD, LLV ..... [HL-93] (FV)  
 VERTICAL SCALE FACTOR, FV ..... 1.4
  - LATERAL LOAD  
 SOIL LOAD (UNIFORM), L1 .....  $0.46V$  (FH)  
 SOIL LOAD (UNIFORM), L2 .....  $0.31V$  (FH)  
 LIVE LOAD, LL ..... [0.6(HL-93)] (FH)  
 HORIZONTAL SCALE FACTOR, FH ..... 1.26
  - LOAD COMBINATIONS  
 $[D + LL + (V + L1)] \times RF$   
 $[D + LL + (V + L2)] \times RF$   
 REDUCTION FACTOR (RF)  
 SLIPLINE RPMP LINER (STA. 46+00 TO STA 48+60.55)...1.0  
 SLIPLINE RPMP LINER (STA. 38+00 TO STA 40+00).....0.8  
 SLIPLINE RPMP LINER (OTHER)..... 0.8
- AT THE POST-INSTALLED EMBANKMENT AREA FROM STA. 38.00 TO STA. 40+00 (SEE SHEET CU104), THE FOLLOWING CONDITIONS APPLY (PER GED CORRESPONDENCE DATED 12/8/22):
  - EFFECTIVE DEPTH OF EARTH COVER,  $H_{eff} = 18'$
  - GROUNDWATER TABLE MAY VARY FROM A DEPTH OF 16' BELOW GROUND SURFACE TO BELOW THE INVERT OF THE PIPE.

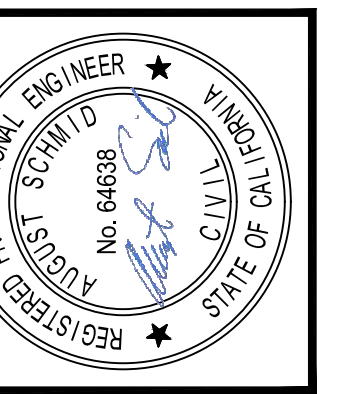
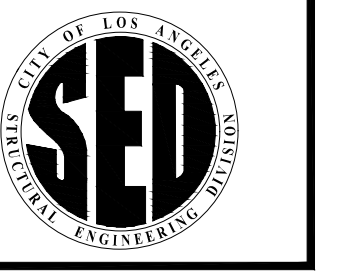
# LEGEND



EXIST STRUCTURE TO BE REMOVED      NEW CAST-IN-PLACE OR PRECAST CONCRETE      BUNDLED BARS

# ENGINEERING

CITY OF LOS ANGELES



**BUREAU OF ENGINEERING**

VERTICAL CONTROL: \_\_\_\_\_  
HORIZONTAL CONTROL: \_\_\_\_\_

SHEET TITLE: ABBREVIATIONS, LEGEND, & DESIGN DATA

PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.

ADDRESS: 700 DR. RAW TO DORAN ST. LOS ANGELES, CA

CIP NO. 960

INDEX NO. D-35839

NO.	REVISIONS	DATE	BY
1	REVISE TOTAL NUMBER OF SHEETS	10/22/24	JN

CITY ENGINEER	DATE	DESIGN GROUP	LIC. NO.
TAL SHEMEN, PE	07/21/23	AUGUST SCHMID, PE	C-64638
ENGINEER	DESIGNED BY	DESIGNED BY	DESIGNED BY
06/30/23	TAL SHEMEN, PE	CHIH-YUN SUN	CHIH-YUN SUN
06/30/23	06/30/23	06/30/23	06/30/23
06/30/23	06/30/23	06/30/23	06/30/23
06/30/23	06/30/23	06/30/23	06/30/23
CHECKED BY: MARIAM YOUSSEF, PE / SHIRISH MISTRY, SE	CHECKED BY: MARIAM YOUSSEF, PE / SHIRISH MISTRY, SE	CHECKED BY: MARIAM YOUSSEF, PE / SHIRISH MISTRY, SE	CHECKED BY: MARIAM YOUSSEF, PE / SHIRISH MISTRY, SE
APPROVED BY: SHALESH "SUNNY" PATEL, SE	APPROVED BY: SHALESH "SUNNY" PATEL, SE	APPROVED BY: SHALESH "SUNNY" PATEL, SE	APPROVED BY: SHALESH "SUNNY" PATEL, SE

WORK ORDER NO. SZC13947

SHEET NAME SG001

SHEET 35 OF 51 SHEETS

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

# STRUCTURAL NOTES

## GENERAL

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD BEFORE STARTING WORK. NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCY.
2. THE CONTRACTOR SHALL CONTACT THE GEOTECHNICAL ENGINEERING DIVISION, AT LEAST TWO WORKING DAYS IN ADVANCE OF REQUIRED OBSERVATIONS OR INSPECTIONS BY THE GEOTECHNICAL ENGINEER.
3. PIPES OR SLEEVES FOR MECHANICAL OR PLUMBING TRADES SHALL NOT PASS THROUGH STRUCTURAL MEMBERS UNLESS OTHERWISE SHOWN ON STRUCTURAL DRAWINGS, OR APPROVED BY THE ENGINEER.
4. SEWER, DRAINAGE AND UTILITY LINES ARE NOT SHOWN ON STRUCTURAL DRAWINGS. REFER TO CIVIL, PLUMBING AND ELECTRICAL DRAWINGS FOR THEIR LOCATION PROFILES AND DETAILS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF SEWER AND UTILITY LINES WITH FOUNDATIONS SHOWN ON STRUCTURAL DRAWINGS, ANY INTERFERENCE WITH SEWER, DRAINAGE AND UTILITY LINES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING FURTHER WITH THE CONSTRUCTION.
5. THE DESIGN SHOWN DEPICTS MINIMUM REQUIREMENTS FOR AN IN-PLACE CONDITION UNDER THIS PROJECT FOR NON-STANDARD PRECAST CONCRETE ELEMENTS. THE CONTRACTOR SHALL SUPPLEMENT MINIMUM REQUIREMENTS AS NECESSARY TO ENSURE THE STRESSES AND DEFLECTIONS RESULTING FROM THE CONTRACTOR'S HANDLING, INSTALLATION, AND CONSTRUCTION LOADS LEADING UP TO THE FINAL IN-PLACE CONDITION CAN BE ADEQUATELY SUSTAINED BY THE ACTUAL ELEMENTS PROVIDED. THIS SHALL INCLUDE LOADS RESULTING FROM TRANSPORTATION, LIFTING, AND GROUTING. PROVIDE CALCULATIONS TO VERIFY THIS REQUIREMENT HAS BEEN FULFILLED FOR REVIEW AND ACCEPTANCE BY THE ENGINEER. ALL CALCULATIONS AND PLANS SHALL BE SIGNED AND SEALED BY A CIVIL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA.

## SUBMITTALS

1. SUBMIT THE FOLLOWING FOR REVIEW AND APPROVAL BY THE ENGINEER:
  - a. CONSTRUCTION SEQUENCE.
  - b. EXISTING SEWER CLEANING METHODS (PER NOTE 2).
  - c. REHABILITATION METHOD USED, ALL MATERIALS, PROCEDURES, SEWER REACH WHERE USED, SPECIAL SAFETY REQUIREMENTS, ALL EQUIPMENTS USED AND PROCEDURES.
  - d. PROTECTIVE LINING SYSTEMS. INCLUDE DETAILS FOR SEAMS, LINER TERMINATIONS, CURING TIMES, GROUT SET TIME, RATE OF INSTALLATION AND ALL DETAILS OF LINING CONSTRUCTION (PER NOTE 2).
  - e. MISCELLANEOUS SEWER REHABILITATION ITEMS: GROUT BULKHEADS, MH BLOCKOUTS, BLOCKOUT ATTACHMENTS, GROUT PORTS & ATTACHMENTS, PROPOSED CONSTRUCTION JOINTS, ETC. (PER NOTE 2).
  - f. SHORING FOR EXCAVATION OR BRACING OF EXISTING STRUCTURE (PER NOTE 2).
  - g. CONCRETE MIX DESIGNS (PER NOTE 2).
  - h. REINFORCING STEEL PLACING PLAN.
  - i. MORTAR MIX DESIGNS (PER NOTE 2).
  - j. USE OF ADMIXTURES AND/OR CURING COMPOUNDS IN CONCRETE/GROUT MIX DESIGNS (PER NOTE 2).
  - k. METHOD OF CURING CONCRETE ELEMENTS.
  - l. PRECAST CONCRETE DESIGN AND CALCULATIONS TO VERIFY ADEQUACY OF PRECAST MEMBERS TO WITHSTAND HANDLING, TRANSPORTATION, GROUTING, LIFTING LOADS, AND INSTALLATION LOADS, IN ADDITION TO DESIGN LOAD (PER NOTE 2).
  - m. PRECAST CONCRETE DETAILS OF JOINTS, REINFORCEMENT, PIECE MARKS, INSTALLATION SEQUENCE, ALIGNMENT PINS, INSERTS, ETC. (PER NOTE 2).
  - n. PIPE DESIGN AND CALCULATIONS TO VERIFY ADEQUACY TO WITHSTAND HANDLING, GROUTING, TRANSPORTATION, BEDDING, JACKING AND INSTALLATION LOADS, IN ADDITION TO DESIGN LOADS (PER NOTE 2).
  - o. PIPE JOINTS AND CONNECTION DETAILS (PER NOTE 2).
  - p. PIPE JOINT QUALIFICATION TEST REPORTS (PER NOTE 2).
  - q. PIPE LAYING SCHEDULE USING PROJECT SPECIFIC COORDINATE SYSTEM.
  - r. RAILING SYSTEM (PER NOTE 2).
  - s. EPOXY SPECIFICATIONS.
  - t. SS LINER FABRICATION, INSTALLATION METHOD AND SUPPORTING FALSEWORK (PER NOTE 2).
  - u. AS REQUESTED BY THE ENGINEER, OR REQUIRED BY THE CONTRACT, AT NO ADDITIONAL COST TO THE CITY.
2. THE SUBMITTAL ITEMS REFERRING TO THIS NOTE SHALL BE DESIGNED AND PREPARED BY A CALIFORNIA REGISTERED CIVIL OR STRUCTURAL ENGINEER.

## BRICK AND MORTAR REMOVAL

1. BRICK & MORTAR MATERIAL/STRUCTURES SHALL BE REMOVED AT THE LOCATIONS SHOWN ON THE PLANS IN A CONTROLLED METHOD WHERE NECESSARY TO PERFORM THE WORK OR WHERE DIRECTED BY THE ENGINEER. REMOVAL SHALL BE TO THE LIMITS SHOWN, SPECIFIED, OR DETERMINED BY THE ENGINEER. CARE SHALL BE TAKEN IN REMOVING THE BRICK TO PREVENT INJURY OR DAMAGE AND ENSURE AN UNSTABLE OR DANGEROUS CONDITION IS NOT CREATED.
2. BRICK REMOVAL OPERATIONS SHALL BE PERFORMED WITHOUT DAMAGE TO ANY PORTION THAT IS TO REMAIN IN PLACE. ANY DAMAGE TO THE EXISTING BRICKWORK, WHICH IS TO REMAIN IN PLACE, SHALL BE REPAIRED, AT NO ADDITIONAL COST TO THE CITY, TO AN "AS-NEW" CONDITION AND IS SUBJECT TO APPROVAL BY THE ENGINEER.
3. BEFORE COMMENCING REMOVAL OF A PORTION OF THE BRICK STRUCTURE, A SAWCUT APPROXIMATELY 1 INCH DEEP SHALL BE MADE TO A TRUE LINE ALONG THE LIMITS OF REMOVAL ON ALL FACES OF THE ELEMENT AS THEY BECOME EXPOSED. IN CASES WHERE THE SAWCUT MAY UNDERMINE THE STABILITY OF THE STRUCTURE OR PORTIONS THEREOF, THE CONTRACTOR MAY REMOVE A PORTION OF THE STRUCTURE IN BETWEEN THE REMOVAL LIMITS TO INSTALL INTERNAL BRACES PRIOR TO SAWCUTTING, PROVIDED IT CAN BE PERFORMED IN A SAFE AND PROGRESSIVE MANNER.
4. BEFORE ANY BRICK & MORTAR MATERIAL/STRUCTURE REMOVAL OPERATION, CONTRACTOR SHALL SUBMIT A PROPOSED METHOD OF SHORING THE EXISTING STRUCTURE AS WELL AS A SEQUENCE OF REMOVAL FOR THE ENGINEER'S REVIEW AND ACCEPTANCE. THE CONTRACTOR'S SUBMITTAL SHALL BE PREPARED, STAMPED AND SIGNED BY A CALIFORNIA REGISTERED PROFESSIONAL CIVIL OR STRUCTURAL ENGINEER.
5. WHEN PERFORMING THE WORK IN AN ACTIVE SEWER LINE, THE CONTRACTOR SHALL INSTALL AN INTERNAL SHIELD WITHIN THE BRICK STRUCTURE TO PREVENT DEBRIS MATERIAL FROM ENTERING THE LINE.

## CONCRETE REMOVAL

1. CONCRETE SHALL BE REMOVED AT THE LOCATIONS SHOWN ON THE PLANS WHERE NECESSARY TO PERFORM THE WORK OR WHERE DIRECTED BY THE ENGINEER. REMOVAL SHALL BE TO THE LIMITS SHOWN, SPECIFIED, OR DETERMINED BY THE ENGINEER. CARE SHALL BE TAKEN IN REMOVING THE CONCRETE TO PROVIDE CLEAN AND SOUND PLANES AS INDICATED ON THE PLANS.
2. CONCRETE REMOVAL OPERATIONS SHALL BE PERFORMED WITHOUT DAMAGE TO ANY PORTION THAT IS TO REMAIN IN PLACE. ANY DAMAGE TO THE EXISTING CONCRETE, WHICH IS TO REMAIN IN PLACE SHALL BE REPAIRED, AT NO ADDITIONAL COST TO THE CITY, TO A CONDITION EQUAL TO THAT EXISTING PRIOR TO BEGINNING REMOVAL OPERATIONS AND IS SUBJECT TO APPROVAL BY THE ENGINEER.
3. BEFORE BEGINNING CONCRETE REMOVAL OPERATIONS INVOLVING THE REMOVAL OF A PORTION OF A MONOLITHIC CONCRETE ELEMENT, A SAWCUT APPROXIMATELY 1 INCH DEEP SHALL BE MADE TO A TRUE LINE ALONG THE LIMITS OF REMOVAL ON ALL FACES OF THE ELEMENT WHICH WILL BE VISIBLE IN THE COMPLETED WORK.
4. WHERE SAWCUTTING IS REQUIRED AND WHERE THE REINFORCING MUST REMAIN INTACT, MAKE A SAWCUT ONE-INCH DEEP AT THE REMOVAL LINE(S). THE SAWCUT SHALL NOT EXTEND BEYOND THE REMOVAL LIMITS. ADJACENT TO THE SAWCUT ON THE SIDE TO BE REMOVED, CUT A GROOVE IN THE CONCRETE TO THE DEPTH OF THE SAWCUT WITH A CHIPPING HAMMER. AT CORNERS AND AREAS NOT ACCESSIBLE TO SAWCUTTING, CUT A ONE-INCH DEEP GROOVE IN THE CONCRETE AT THE REMOVAL LINE WITH A CHIPPING HAMMER. REMOVE THE REMAINING CONCRETE WITH HAND OPERATED EQUIPMENT IN A CAREFUL MANNER LEAVING A CLEAN PLANE SURFACE. CARE SHALL BE TAKEN NOT TO DAMAGE THE REINFORCEMENT TO BE RETAINED. REINFORCING STEEL CUT THAT WAS SHOWN TO BE RETAINED SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE CITY. REPAIR METHOD SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
5. REINFORCING STEEL CUT DURING THE SAWCUTTING OPERATION SHALL BE REMOVED TO A DEPTH OF 1 INCH FROM THE PLANE SURFACE. COAT BAR AND FILL REMAINING CONCRETE VOID WITH NON-SHRINK, CORROSION INHIBITING POLYMER MODIFIED GROUT.
6. BEFORE ANY CONCRETE REMOVAL OPERATION, THE CONTRACTOR SHALL SUBMIT A PROPOSED METHOD OF SHORING THE EXISTING STRUCTURE FOR THE ENGINEER'S REVIEW AND ACCEPTANCE. THE CONTRACTOR'S SUBMITTAL SHALL BE PREPARED, STAMPED AND SIGNED BY A CALIFORNIA REGISTERED PROFESSIONAL CIVIL OR STRUCTURAL ENGINEER.

## CONCRETE

1. CONCRETE SHALL BE CLASS 650-CW-4000 OR 660-CW-4000P, UNLESS OTHERWISE SPECIFIED. CEMENT SHALL BE ASTM C150, TYPE II.
2. FOR CONSTRUCTION BELOW GRADE AND IN AREAS IN CONTACT WITH LIQUIDS, ALL HOLES AND FORM TIE HOLES SHALL BE FILLED WITH AN APPROVED WATERPROOF EPOXY GROUT OR NON-SHRINK GROUT, UNO. HOLES SHALL BE FILLED AFTER THE REMOVAL OF ALL FORM CLAMPS, BOLTS AND OTHER HARDWARE.
3. EXPOSED EDGES AND CORNERS SHALL BE CHAMFERED 3/4 INCH.
4. THE LOCATION OF ALL CONSTRUCTION AND OTHER TYPES OF JOINTS, OTHER THAN THOSE SPECIFIED OR SHOWN ON THE PLANS, SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACING CONCRETE.
5. ALL EXISTING CONCRETE SURFACES IN CONTACT WITH NEW CONCRETE AND ALL CONSTRUCTION JOINTS SHALL BE ROUGHENED TO MINIMUM 1/4 INCH AMPLITUDE.
6. INSTALL 4 INCH OR 6 INCH FILLETS IN THE INTERIORS OF ALL CAST-IN-PLACE CONCRETE UNDERGROUND STRUCTURES, UNLESS SPECIFICALLY INSTRUCTED TO OMIT. PROVIDE THE FILLETS AT WALL-TO-WALL, INVERT-TO-WALL, AND SOFFIT-TO-WALL INTERSECTIONS.
7. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DIMENSIONS OF PADS, SLEEVES, PIPES, OPENINGS, EMBEDDED OR ATTACHED ITEMS, ETC., ON THE CIVIL, ELECTRICAL, MECHANICAL, ARCHITECTURAL AND STRUCTURAL PLANS AS WELL AS ON APPROVED SHOP DRAWINGS. ALL SLEEVES AND PIPES WITH WATERSTOP COLLARS SHALL BE CAST IN PLACE. BLOCKOUTS FOR THE PURPOSE OF INSTALLING THESE ITEMS AT A LATER DATE SHALL NOT BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.
8. NEOPRENE BEARING PADS SHALL BE TYPE 2, GRADE 2CI, PER ASTM D1056.

## CONTROLLED LOW STRENGTH MATERIAL

1. USE CONTROLLED LOW STRENGTH MATERIAL (CLSM) CONFORMING TO SECTION 201-6.1.1 OF THE SSPWC.
2. SUBMIT A MIX DESIGN, PREPARED, SIGNED, AND SEALED BY A CIVIL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA AND ASSOCIATED TEST DATA FOR REVIEW AND ACCEPTANCE. THE TEST DATA AND MIX DESIGN SHALL PROVIDE FOR THE FOLLOWING:
  - a. A 28-DAY COMPRESSIVE STRENGTH BETWEEN 100 psi AND 140 psi. COMPRESSIVE STRENGTH SHALL BE DETERMINED IN CONFORMANCE WITH ASTM D4832. "PREPARATION OF TESTING OF SOIL-CEMENT SLURRY TEST CYLINDERS".
  - b. CHEMICAL ADMIXTURES CONTAINING CHLORIDES AS CI IN EXCESS OF ONE PERCENT BY MASS OF ADMIXTURE, AS DETERMINED IN CONFORMANCE WITH THE REQUIREMENTS OF CALIFORNIA TEST 415, SHALL NOT BE USED. IF AN AIR-ENTRAINING ADMIXTURE IS USED, THE MAXIMUM AIR CONTENT SHALL BE LIMITED TO 20 PERCENT.
  - c. SET TIME INFORMATION (INITIAL AND FINAL) IN ACCORDANCE WITH ASTM C403.
  - d. FLOWABILITY DATA IN ACCORDANCE WITH ASTM D6103, SHOWING A MINIMUM SPREAD DIAMETER OF 8 INCHES OR MORE WITH NO NOTICEABLE SEGREGATION.
3. MATERIALS FOR CONTROLLED LOW STRENGTH MATERIAL SHALL BE THOROUGHLY MACHINE-MIXED. MIXING SHALL CONTINUE UNTIL THE CEMENTITIOUS MATERIAL AND WATER ARE THOROUGHLY DISPERSED THROUGHOUT THE MATERIAL.
4. PLACE IN A UNIFORM MANNER THAT WILL PREVENT VOIDS IN, OR SEGREGATION OF THE CLSM BACKFILL, AND TO PREVENT FLOATING OR SHIFTING THE PIPE. REMOVE ALL FOREIGN MATERIAL FROM WALLS OF THE EXCAVATION PRIOR TO PLACING CLSM. LIFT HEIGHT SHALL BE LIMITED TO 5 FEET UNLESS APPROVED BY THE ENGINEER. ASSUME MAXIMUM INSTALLED HEIGHT OF 20 FT FOR THIS PURPOSE. PROVIDE A POUR PLAN PROCEDURE FOR REVIEW AND ACCEPTANCE.
5. CLSM SHALL ACHIEVE A MAXIMUM INDENTATION DIAMETER OF 3 INCHES PRIOR TO COVERING AND OPENING TO PUBLIC TRAFFIC. PENETRATION RESISTANCE SHALL BE MEASURED IN CONFORMANCE WITH THE REQUIREMENTS IN ASTM 06024, STANDARD TEST FOR BALL DROP ON CONTROLLED LOW STRENGTH MATERIAL TO DETERMINE SUITABILITY FOR LOAD APPLICATION.

## CONCRETE FINISH

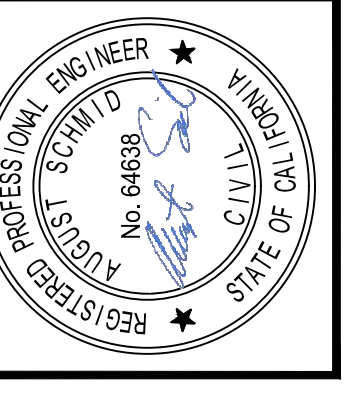
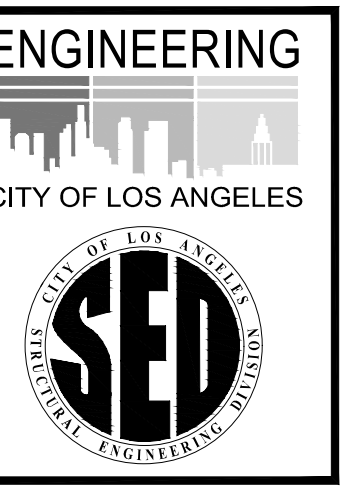
1. TOP SLABS EXPOSED TO VEHICULAR TRAFFIC SHALL RECEIVE A BROOM FINISH. FOR ALL OTHER REQUIREMENTS, SEE SSPWC.

## REINFORCING STEEL

1. BAR REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615, GRADE 60 INCLUDING ALL CURRENT REVISIONS.
2. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 OR ASTM A497.
3. DIMENSIONS TO REINFORCING BARS ARE TO BAR CENTERLINES, UNLESS NOTED OTHERWISE. BAR COVER IS CLEAR DISTANCE BETWEEN BAR AND THE CONCRETE SURFACE. PROVIDE BAR COVER AS LISTED HEREON UNLESS NOTED OTHERWISE.
4. DEVELOPMENT LENGTHS AND SPLICING OF BAR REINFORCEMENT SHALL BE AS LISTED ON TABLE HEREON UNLESS NOTED OTHERWISE. DEVELOPMENT LENGTHS AND SPLICES FOR WELDED WIRE FABRIC SHALL BE PER THE LATEST ACI 350.
5. UNLESS OTHERWISE DETAILED OR APPROVED BY THE ENGINEER:
  - a. BARS MAY BE CONTINUOUS IN LIEU OF SPLICING.
  - b. BARS SHOWN SPLICED SHALL BE CONTINUOUS AT ALL OTHER LOCATIONS. BARS SHOWN CONTINUOUS AND LONGER THAN 60 FEET MAY BE SPLICED AT 60-FOOT LENGTHS AT LOCATIONS DETERMINED BY THE CONTRACTOR SUBJECT TO APPROVAL BY THE ENGINEER.
  - c. SPLICES IN ADJACENT BARS SHALL BE STAGGERED AT LEAST ONE SPLICE LENGTH. MEASURE SPLICE CENTER TO CENTER.
  - d. HOOKED BARS SHALL BE STANDARD HOOKS PER THE ACI BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
  - e. ALL BARS SHALL BE CLEAN OF RUST, GREASE AND OTHER MATERIALS LIKELY TO IMPAIR BOND.
  - f. ALL BENDS SHALL BE MADE COLD.
6. DOWELS SHALL BE OF SAME SIZE AND AT THE SAME SPACING AS THE REINFORCING STEEL TO WHICH THEY ARE SPLICED, AND SHALL HAVE A MINIMUM LAP AND/OR SPLICE LENGTH PER THE "REBAR DEVELOPMENT LENGTHS & LAP SPLICES" TABLE UNLESS DETAILED OTHERWISE OR APPROVED BY THE ENGINEER.
7. POST-INSTALLED ANCHORS AND REINFORCING STEEL SHALL BE INSTALLED PER MANUFACTURER'S AND CALTRANS RECOMMENDATIONS USING BONDING AGENT CONFORMING TO ONE OF THE FOLLOWING CALTRANS APPROVED EPOXY MATERIALS OR AN APPROVED EQUAL:
  - a. "HIT - RE 500-SD" - HILTI
  - b. "SET - XP" - SIMPSON STRONG TIE
  - c. "ULTRABOND (ANCHOR - IT) - HS200" ADHESIVE TECH CORP
8. WELDING OF REINFORCING BARS IS NOT PERMITTED, UNLESS APPROVAL IS OBTAINED FROM THE ENGINEER.

REVISION DATES (DESIGN STAGE ONLY) SHEET NO. 36 OF 51 SHEETS

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\* THIS PLAN WAS ELECTRONICALLY SIGNED AND SEALED \*

### BUREAU OF ENGINEERING

VERTICAL CONTROL	DATE: BY:
HORIZONTAL CONTROL	10/22/24 JN
SHEET TITLE	STRUCTURAL NOTES (1)
PROJECT	NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.
ADDRESS	ZOO DR. RW TO DORAN ST. LOS ANGELES, CA

### DEPARTMENT OF PUBLIC WORKS

V. NO.	REVISIONS	DATE	BY
1	REVISE TOTAL NUMBER OF SHEETS	10/22/24	JN
INDEX NO.		CIP NO.	
D-35839		960	

CITY ENGINEER	DESIGN GROUP	DATE
TED ALLEN, P.E.	AUGUST SCHMID, PE	07/21/23
ENGINEER	LIC. NO. C-64638	06/30/23
DESIGNED BY:	TAL SHEVEN, PE	06/30/23
DRAWN BY:	CHIH-YUN SUN	06/30/23
CHECKED BY:	MARIAM YOUSSEF, PE / SHIRISH MISTRY, SE	06/30/23
APPROVED BY:	SHAILESH "SUNNY" PATEL, SE	07/21/23



WORK ORDER NO. SZC13947

SHEET NAME: SG002

**CONCRETE COVER FOR REINFORCEMENT**

**CAST-IN-PLACE CONCRETE**

- a. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.....3"
- b. SURFACE EXPOSED TO EARTH, WEATHER, GASES OR LIQUIDS (WITH PROTECTIVE LINER FOR WASTEWATER ENVIRONMENT)
  - 1. SLABS, JOISTS, WALLS AND FOOTINGS .....2"
  - 2. BEAMS & COLUMNS - MAIN BARS .....2 -1/2"
- c. INVERT SLABS EXPOSED TO LIQUIDS -TOP BARS
  - 1. FOR  $V < 10$  fps .....2 -1/2"
  - 2. FOR  $10 \leq V \leq 40$  fps .....3"
  - 3. BOTTOM BARS .....3"
- d. OTHER CONDITIONS
  - 1. SLABS, JOIST, AND WALLS - #11 BARS AND SMALLER .....3/4"
  - 2. SLABS, JOIST, AND WALLS - #14 AND #18 BARS .....1-1/2"
  - 3. BEAMS AND COLUMNS -MAIN BARS .....2"

**PRECAST CONCRETE**

- a. CONCRETE EXPOSED TO EARTH, LIQUID, WASTEWATER, OR WEATHER (WITH PROTECTIVE LINER FOR WASTEWATER ENVIRONMENT)
  - 1. SLABS, JOISTS AND WALLS .....1-1/2"
  - 2. BEAMS AND COLUMNS -MAIN BARS .....2"
- b. OTHER CONDITIONS
  - 1. SLABS, JOIST, AND WALLS - #11 BARS AND SMALLER .....3/4"
  - 2. SLABS, JOIST, AND WALLS - #14 AND #18 BARS .....1-1/2"
  - 3. BEAMS AND COLUMNS -MAIN BARS .....1-1/2"
  - 4. TIES, STIRRUPS, SPIRALS .....1"

**REBAR DEVELOPMENT LENGTHS AND LAP SPLICES - IN TENSION**

REBAR DEVELOPMENT LENGTHS AND SPLICES - IN TENSION (INCHES)								
STRENGTH	BAR SIZE	BAR DIA (INCHES)	DEVELOPMENT LENGTH			LAP SPLICE LENGTH		
			TOP BARS	OTHERS	HOOKED	TOP BARS	OTHERS	
f <sub>c</sub> = 3,250 f <sub>y</sub> = 60,000	#3	0.375	13	12	8	17	16	
	#4	0.500	17	13	11	23	17	
	#5	0.625	21	16	14	28	21	
	#6	0.750	25	19	16	33	25	
	#7	0.875	36	28	19	47	37	
	#8	1.000	42	32	22	55	42	
	#9	1.128	47	36	24	62	47	
	#10	1.270	53	41	27	69	54	
	#11	1.410	58	45	30	76	59	
	f <sub>c</sub> = 4,000 f <sub>y</sub> = 60,000	#3	0.375	12	12	8	16	16
		#4	0.500	15	12	10	20	16
#5		0.625	19	15	12	25	20	
#6		0.750	23	18	15	30	24	
#7		0.875	33	25	17	43	33	
#8		1.000	37	29	19	49	38	
#9		1.128	42	33	22	55	43	
#10		1.270	47	37	25	62	49	
#11		1.410	53	41	27	69	54	

**NOTES :**

1. EXCEPT FOR HOOKED BARS, LENGTHS SHOWN TO BE USED WHEN :
  - a. CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN 4 x BAR DIAMETER, AND CLEAR COVER NOT LESS THAN 2 x BAR DIAMETER.
  - b. FOR CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED BETWEEN 2 TO 4 x BAR DIAMETER, AND CLEAR COVER BETWEEN 1 TO 2 x BAR DIAMETER MULTIPLY LENGTHS SHOWN BY 1.7.
  - c. FOR OTHER CASES, LENGTHS SHOWN SHALL BE MULTIPLIED BY 2.5.
2. LENGTHS ARE FOR NORMAL WEIGHT CONCRETE. FOR LIGHTWEIGHT CONCRETE MULTIPLY THE LENGTHS BY 1.3 OR BY  $6.7 (f'c^{1/2} / f_{ct})$  NOT LESS THAN 1, WHEN  $f_{ct}$  IS USED.
3. LENGTHS ARE UNCOATED BARS. FOR EPOXY UNCOATED BARS, MULTIPLY THE LENGTH BY 1.2. (1.5 WHEN THE COVER IS LESS THAN 3 x BAR DIAMETER, OR CLEAR SPACING IS LESS THAN 6 x BAR DIAMETER).
4. TOP BARS ARE HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBERS BELOW.
5. APPLICABLE MULTIPLICATION FACTORS ARE TO BE APPLIED CUMULATIVELY.
6. TABLE VALUES ARE BASED ON ACI 350-06/ACI 318-11 SECTIONS 12.5.2 AND 12.15.1.

**SOILS AND FOUNDATIONS**

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SOILS REPORT PREPARED BY LOS ANGELES CITY DEPARTMENT OF PUBLIC WORKS, GEOTECHNICAL ENGINEERING DIVISION, (18-023) DATED, MARCH 8, 2018, AND ALL SUPPLEMENTS THERETO. THE ABOVE REFERENCED SOILS REPORT AND RECOMMENDATIONS CONTAINED THEREIN ARE TO BE FOLLOWED AND SHOULD BE CONSIDERED MINIMUM REQUIREMENTS, UNLESS MORE STRINGENT REQUIREMENTS ARE PRESENTED IN SPECIFICATIONS OR CONTAINED HEREIN.
2. ALL FOUNDATIONS SHALL BE POURED AGAINST COMPETENT NATIVE SOILS OR COMPACTED FILL. FILL SHALL BE MOISTURE-CONDITIONED TO OR SLIGHTLY ABOVE OPTIMUM MOISTURE CONTENT AND COMPACTED TO AT LEAST 90% OF THE MAXIMUM DRY DENSITY OBTAINABLE BY ASTM D1557. COMPACTED FILL SHALL EXTEND BEYOND APPROVED FOUNDATION A MINIMUM DISTANCE EQUAL TO THE DEPTH OF FILL BELOW THE FOUNDATION.
3. THE GEOTECHNICAL ENGINEERING DIVISION SHALL INSPECT AND APPROVE ALL EXCAVATIONS, PRIOR TO INSTALLATION OF REINFORCING STEEL OR POURING OF CONCRETE, SHORING INSTALLATIONS, BACKFILL MATERIALS, AND BACKFILLING PROCEDURES. CALL THE GEOTECHNICAL ENGINEERING DIVISION FOR ALL NECESSARY INSPECTIONS AT (213) 847-0469 AT LEAST TWO WORKING DAYS PRIOR TO THE REQUIRED INSPECTION.
4. THE CONTRACTOR SHALL SUBMIT DEWATERING PLANS AND DETAILS FOR THE GEOTECHNICAL ENGINEER'S APPROVAL IN ACCORDANCE WITH THE SPECIFICATIONS. THE PLANS AND DETAILS SHALL BE SUBMITTED WITH DETAILED CALCULATIONS, AND PREPARED, SIGNED, AND SEALED BY A CALIFORNIA REGISTERED CIVIL ENGINEER.
5. THE CONTRACTOR SHALL SUBMIT DETAILED PLANS AND CALCULATIONS FOR ANY UNDERPINNING FOR REVIEW AND ACCEPTANCE BY THE ENGINEER AND THE GEOTECHNICAL ENGINEERING DIVISION. THE PLANS AND DETAILS SHALL BE SUBMITTED WITH CALCULATIONS, AND PREPARED, SIGNED, AND SEALED BY A CALIFORNIA REGISTERED CIVIL OR STRUCTURAL ENGINEER.
6. UNLESS NOTED OTHERWISE, BACKFILL SHALL NOT BE PLACED AGAINST THE WALLS OF UNDERGROUND STRUCTURES UNTIL THE TOP SLAB HAS BEEN PLACED IN ITS ENTIRETY AND CONCRETE HAS REACHED DESIGN STRENGTH.

**PROTECTIVE LININGS AND COATINGS**

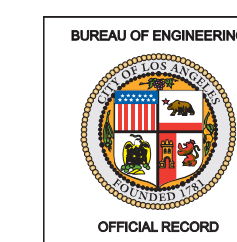
1. GENERAL: PROVIDE AN APPROVED PROTECTIVE LINING SYSTEM TO ISOLATE SEWAGE AND SEWER GASES FROM CONTACT WITH CONCRETE AND CONCRETE PIPE. CONFORMING TO THE FOLLOWING REQUIREMENTS:
  - a. PIPES: UNLESS NOTED OTHERWISE, INSTALL LINING AS SHOWN ON CIVIL DRAWINGS. CAST-IN -PLACE LINING AND WEEPERS PER STANDARD PLAN S-121-1.
  - b. STRUCTURES: INSTALL LINING AT WALLS, SOFFITS, STUBOUTS, LATERALS, ETC. OMIT LINING AT HORIZONTAL INVERT SLABS AND SHELVES, UNO.
  - c. MAINTENANCE HOLES: INSTALL LINING CONTINUOUSLY FOR 360 DEGREES.
  - d. FIELD SPARK TEST: NO PINHOLES AT 20,000 VOLTS.
  - e. INSTALLATION: PER MANUFACTURER'S RECOMMENDATIONS, UNO.
  - f. CAULKS: EPOXY OR POLYURETHANE BASED, SULFIDE RESISTANT, MOISTURE - CURED. USE ONLY WHERE PERMITTED BY THE ENGINEER.
  - g. GASKET: SSPWC SECTION 208 FOR SANITARY SEWERS.
  - h. THE CONTRACTOR SHALL MITIGATE CHEMICALS, EXHAUST, FOREIGN SUBSTANCES, AND SOLVENTS INTRODUCED DURING THE COATING AND LINING OPERATIONS. DISCHARGE INTO THE SEWER SYSTEM IS NOT PERMITTED, UNLESS APPROVED IN WRITING BY THE BUREAU OF SANITATION, CITY OF LOS ANGELES AND APPROPRIATE PERMITS ARE SECURED.
  - i. EACH ELEMENT OF THE PROTECTIVE LINING SYSTEM (LINING, CONCRETE, GROUT, COATING, ETC ) SHALL BE FULLY BONDED TO THE PIPE/STRUCTURE AND TO EACH OTHER.
2. APPROVED PROTECTIVE LINING SYSTEMS: USE ONE OR COMBINATION OF THE FOLLOWING TYPE 1 CAST-IN-PLACE LINING SYSTEMS, UNLESS NOTED OTHERWISE:
  - a. AGRU SURE-GRIP (ULTRA-GRIP, TYPE 562) CIP LINER (ORANGE/YELLOW COLORED, FORMULATED FROM HIGH DENSITY POLYETHYLENE, AS SUBMITTED TO THE CITY OF LOS ANGELES FOR APPROVAL. SURE-GRIP LINER SHALL COMPLY WITH THE ABOVE PROVISIONS, SSPWC SECTION 210-2, BROWNBOOK, AND STANDARD PLAN S-121. IN ADDITION, THE LINER SHALL MEET THE FOLLOWING CONDITIONS:
    - 1. ADHESIVES MAY NOT BE USED. ALL SEAMS, JOINTS, AND SHEETS SHALL BE FULL THICKNESS EXTRUSION WELDED TO PROVIDE A CONTINUOUS LINER. WELDER MUST BE CERTIFIED BY AGRU.
    - 2. MINIMUM LINER THICKNESS: 2 MM
    - 3. MINIMUM ANCHOR HEIGHT: 13 MM
  - b. PREDL CORPROTECT CIP LINER (YELLOW) FORMULATED FROM POLYPROPYLENE, AS SUBMITTED TO THE CITY OF LOS ANGELES FOR APPROVAL. PREDL CORPROTECT SHALL COMPLY WITH THE ABOVE PROVISIONS, SSPWC SECTION 210-2, BROWNBOOK, AND STANDARD PLAN S-121. IN ADDITION, THE LINER SHALL MEET THE FOLLOWING CONDITIONS:
    - 1. ADHESIVES MAY NOT BE USED. ALL SEAMS, JOINTS AND SHEETS SHALL BE FULL THICKNESS EXTRUSION WELDED TO PROVIDE A CONTINUOUS LINER. WELDER MUST BE CERTIFIED BY AGRU.
    - 2. MINIMUM LINER THICKNESS: 2 MM
    - 3. MINIMUM ANCHOR HEIGHT: 13 MM
3. FOR MAINTENANCE HOLE (MH) SHAFT REHABILITATION, NEW MH, OR EXTENSIONS AND PARTIAL REPLACEMENT, USE ONE OF THE FOLLOWING CITY OF LA APPROVED TYPE I PROTECTIVE LINING SYSTEM.
  - a. ALTERNATIVE LINING TECHNOLOGIES ALTLINER CIPM.

**SEALANTS**

1. WHERE LISTED, PROVIDE ONE OR MORE OF THE FOLLOWING PRODUCTS:
  - a. SIKA SIKAFLEX 1A OR SIKADUR 51 NS POLYURETHANE
  - b. SIKA SIKADUR 31 EPOXY
  - c. APPROVED EQUAL

**STRUCTURAL OBSERVATION**

1. GENERAL CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD AT STRUCTURAL ENGINEERING DIVISION WHEN EACH ITEM LISTED BELOW IS READY FOR OBSERVATION A MINIMUM OF A THREE (3) DAYS IN ADVANCE VISUAL OBSERVATION BY SED SHALL NOT BE CONSIDERED A SUBSTITUTE FOR THE INSPECTION PROVIDED BY THE BUREAU OF CONTRACT ADMINSTRATION OR THE EQUIPMENTS OF CONTRACT.
  - a. PLACEMENT OF THE REINFORCEMENT FOR ALL JUNCTION/ TRANSITION STRUCTURES PRIOR TO CASTING OF CONCRETE.
  - b. PLACEMENT OF REINFORCEMENT FOR PRECAST LID AND STARTER WALL PRIOR TO CASTING OF CONCRETE.



REVISION DATES (DESIGN STAGE ONLY) SHEET NO. 37 OF 51 SHEETS

K  
J  
I  
H  
G  
F  
E  
D  
C  
B  
A

**ENGINEERING**  
CITY OF LOS ANGELES

**DEPARTMENT OF PUBLIC WORKS**

CITY ENGINEER  
TED ALLEN, P.E.

DESIGN GROUP  
AUGUST SCHMID, PE

ENGINEER  
TAL SHEMEN, PE

DRAWN BY  
CHIH-YUN SUN

CHECKED BY  
MARIAM YOUSSEF, PE / SHIRISH MISTRY, SE

APPROVED BY  
SHAILESH "SUNNY" PATEL, SE

**BUREAU OF ENGINEERING**

VERTICAL CONTROL  
10/22/24 JN

HORIZONTAL CONTROL

SHEET TITLE  
STRUCTURAL NOTES (2)

PROJECT  
NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.

ADDRESS  
ZOO DR. RW TO DORAN ST. LOS ANGELES, CA

DATE: BY:  
10/22/24 JN

REVISIONS:  
1 REVISE TOTAL NUMBER OF SHEETS

CIP NO.  
960

INDEX NO.  
D-35839

WORK ORDER NO.  
SZC13947

SHEET NAME  
SG003

SHEET  
37 OF 51 SHEETS



PIPES

- 1. THE REQUIRED PIPES UNDER THIS CONTRACT HAVE BEEN DESIGNED BASED ON FINAL IN-PLACE CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE REQUIRED PIPES CAN ACCOMMODATE TEMPORARY HANDLING, TRANSPORTATION AND CONSTRUCTION LOADS.
2. INCREASE PIPE STRENGTH AS NECESSARY FOR STRESSES INDUCED BY LOADS FROM CONSTRUCTION ACTIVITIES SUCH AS INSTALLATION, BEDDING, GROUTING, JACKING, HANDLING, TRANSPORTATION, ETC.
3. ALL PIPE JOINT SYSTEMS SHALL BE CAPABLE OF WITHSTANDING EXTERNAL WATER PRESSURES AS REQUIRED BY THE "DESIGN HYDROSTATIC HEAD". WHEN NO HEIGHT IS LISTED, REFER TO THE CONTRACT DOCUMENTS FOR INFORMATION. THE GREATER HEIGHT LISTED SHALL GOVERN. FIELD TEST ALL JOINTS OCCURRING BELOW GROUNDWATER TABLE IN ACCORDANCE WITH ASTM C1103 (PRECAST CONCRETE PIPE), OR APPROVED EQUAL.
4. JOINTS:
a. TYPE FOR RCP: "STEEL RING TONGUE & GROOVE" OR "FLUSH STEEL COUPLER" GASKETED WITH O-RING.
b. TYPE FOR OTHERS: AS SHOWN ON CONTRACT DOCUMENTS OR AS APPROVED BY THE ENGINEER.
c. PRIOR TO PIPE FABRICATION, SUBMIT JOINT DETAILS, LISTING NORMAL CLOSURE GAP WIDTH, INCLUDING MAXIMUM WIDTH FOR PULLED JOINT. MAXIMUM GAP WIDTH SHALL CONFORM TO THE LIMITS OF THE DEPARTMENT OF PUBLIC WORKS "BROWN BOOK", LATEST EDITION.
d. CONDUCT FIELD TESTING OF PIPELINE IN ACCORDANCE WITH SSPWC SECTION 306-1.4 (NOT APPLICABLE TO SLIPLINE PIPES).
e. SEE CIVIL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
f. ALL PIPE JOINT SYSTEMS AND JOINT QUALIFICATION TEST REQUIREMENTS SHALL BE IN CONFORMANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS (SSPWC) AND MANUFACTURER'S RECOMMENDATION.
g. APPLY APPROVED CORROSION INHIBITOR TO EXPOSED SURFACE OF STEEL RINGS WHEN USED.
5. RCP JOINT QUALIFICATION TEST:
a. PRIOR TO PIPE FABRICATION, SUBMIT TEST REPORTS THAT DEMONSTRATE JOINT INTEGRITY FROM APPROVED TEST LABORATORY USING FULLY ASSEMBLED JOINTS.
b. TEST JOINTS PER ASTM C-443 FOR RCP.
6. PIPE CONNECTION AT STRUCTURES:
a. PROVIDE CONNECTOR PIPE WITH FLEXIBLE JOINT AT ALL STRUCTURES. LENGTH SHALL BE NO LESS THAN 18-INCHES NOR GREATER THAN 30-INCHES, UNO. SEE REQUIREMENTS ABOVE FOR JOINTS REQUIRED TO SUSTAIN A DESIGN HYDROSTATIC HEIGHT.
b. RCP: USE INTEGRALLY CAST BELL-END OR SPIGOT-END COUPLINGS WITH FLEXIBLE JOINTS APPROVED BY THE ENGINEER. APPROVED FORMED VERSIONS MAY ALSO BE CONSIDERED.
c. VCP: SEE STANDARD PLANS FOR TYPICAL CONDITIONS, UNO.
7. VCP PIPE PER SSPWC 207-8, EXTRA STRENGTH CLASS PIPE, UNO.
8. JOINTING OF PIPES DISSIMILAR IN SIZE OR MATERIAL SHALL BE ACCOMPLISHED EITHER BY USE OF A JUNCTION STRUCTURE OR BY THE USE OF SPECIAL ADAPTERS OR COUPLINGS AS INDICATED BY THE ENGINEER FOR SUCH USE. ALL FIELD-CUT PIPE SHALL BE ACCOMPLISHED BY METHODS AND EQUIPMENT RECOMMENDED BY THE PIPE MANUFACTURER. NO HAMMER AND CHISEL CUTS WILL BE PERMITTED.
9. THE CONTRACTOR SHALL IMPLEMENT ACTIVE CONTINUOUS CONTROLS TO MITIGATE ANY IMPACT DUE TO THE HEAT OF HYDRATION CAUSED BY CEMENTITIOUS BACKFILL/GROUTING, SUCH AS THE USE OF MULTIPLE LIFTS, TEMPERATURE CONTROL OF THE GROUT COMPONENTS PRIOR TO MIXING, MAINTAINING THE UPPER BOUND OF THE GROUT COMPRESSIVE STRENGTH WITHIN THE SPECIFIED VALUE, ETC.
10. THE CONTRACTOR SHALL INSTALL CASE 5 BEDDING IN LIEU OF THE BEDDING DESIGNATED ON THE PLANS WHEN ANY PORTION OF THE PROPOSED SEWER FALLS WITHIN A TUNNEL/MICROTUNNEL/JACKING SHAFT AREA. FOR WIDE PORTIONS OF A TRENCH EXCAVATION WHICH EXCEED THE STANDARD MAXIMUM TRENCH WIDTH, PERMITTED BY "TABLE A" OF STANDARD PLAN S-251, THE CASE BEDDING SHALL BE INCREASED PER "TABLE B" OF STANDARD PLAN S-251. PROVIDE 1" THICK PREFORMED BITUMINOUS EXPANSION JOINT FILLER EXTENDING THE ENTIRE WIDTH AND HEIGHT OF ENCASMENT PER STANDARD PLAN S-140.
11. PROVIDE THE REQUIRED TESTING DATA AS STIPULATED UNDER SSPWC 207-17 THROUGH 207-22 AND SECTION 500 FOR PIPE ACCEPTANCE EXCEPT AS MODIFIED BY THE BROWN BOOK, LATEST EDITION AND THE FOLLOWING:
a. DELIVERY OF PIPE SHALL NOT COMMENCE UNTIL ALL THE REQUIRED VERIFICATION DATA HAS BEEN SUBMITTED AND APPROVED.
b. TESTING DATA SHALL BE FOR THE PARTICULAR PIPE BEING PROVIDED AND NOT ARCHIVED DATA UP TO 24 MONTHS OLD. IT SHALL BE SUBMITTED AS A FORMAL DOCUMENT WITH RESULTS FROM EACH TEST ON A SEPARATE SHEET(S). INCLUDE LABORATORY INFORMATION ALONG WITH SIGNED STATEMENT OF CERTIFICATION FROM AUTHORIZED INSPECTOR THAT WITNESSED THE TESTS. PROVIDE CONTACT INFORMATION OF THIRD PARTY INSPECTOR WHEN ONE IS USED.
c. RESULTS FROM PARALLEL PLATE TEST PER D2412 MAY BE USED TO FULFILL ITEM (2), "INITIAL FLEXURAL MODULUS (D790)", OF THE TESTING DATA REQUIREMENTS OF 207-20, 207-22 PER THE BROWN BOOK. REPORT AT 5% DEFLECTION.
d. RESULTS FROM BARCOL IMPRESSOR PER D2583 MAY BE USED TO FULFILL ITEM (4), "IMPACT STRENGTH (ASTM D256) OR SHORE D HARDNESS (ASTM D2240)", OF THE TESTING DATA REQUIREMENTS OF 207-20, 207-22 PER THE BROWN BOOK.
e. RESULTS FROM HOOP & AXIAL COMPRESSION TESTING IN ACCORDANCE WITH D695.



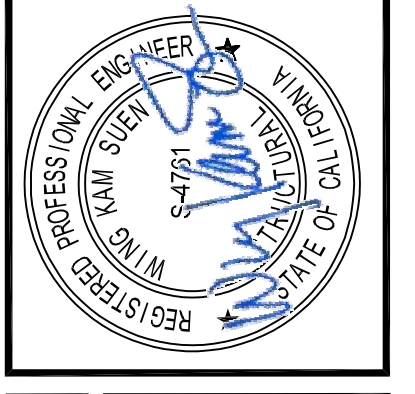
- 12. SHORING DESIGN ASSUMPTIONS SHALL BE CLEARLY INDICATED AND REFERENCED ON THE SUBMITTAL.
13. FOR STEEL CONNECTIONS OF SHORING SYSTEM, THE SHORING ENGINEER OF RECORD SHALL PROVIDE DETAILS SHOWING EXACT LOCATION OF WELD PLACEMENT, INCLUDING APPROPRIATE WELD SYMBOLS PER AWS. CALLOUTS SIMPLY INDICATING TOTAL LENGTH WELD AT A CONNECTION IS NOT ACCEPTABLE.
14. UNLESS A MORE STRINGENT LIMIT IS REQUIRED BY THE PROJECT GEOTECHNICAL ENGINEER OF RECORD, THE MAXIMUM ALLOWABLE HORIZONTAL DEFLECTION FOR CANTILEVERED SHORING SYSTEMS, LAGGING PANELS SPANNING MORE THAN 9.5 FEET, OR CANTILEVERED PORTIONS OF ALL SHORING SYSTEMS SHALL BE 1/2 INCH. HORIZONTAL DEFLECTIONS EXCEEDING 1/2 INCH SHALL BE APPROVED BY GED.
15. SHORING DESIGN USING 1/3 ALLOWABLE STRESS INCREASE SHALL ONLY BE APPLIED FOR SHORING SYSTEMS EXPECTED TO BE IN-PLACE FOR A MAXIMUM OF 90 DAYS.
16. LAGGING DESIGN SHALL CONFORM TO THE PROJECT GEOTECHNICAL REPORT AND CALTRANS "TRENCH & SHORING MANUAL". UNLESS SPECIFICALLY ALLOWED BY THE PROJECT GEOTECHNICAL REPORT, THE SOIL ARCHING REDUCTION FACTOR SHALL NOT BE APPLIED TO THE SURCHARGED LOAD.
17. THE USE OF SHEETING PER CAL/OSHA CONSTRUCTION SAFETY ORDERS - ARTICLE 6: EXCAVATION, SECTION 1541.1 APPENDIX D, NOTE (G) USED WITH ALUMINUM HYDRAULIC SHORES IN TYPE C OR UNSTABLE TYPE B SOILS IS NOT PERMITTED UNLESS THE FOLLOWING CONDITIONS ARE MET:
a. THE GEOTECHNICAL ENGINEER OF RECORD HAS PROVIDED SITE SPECIFIC RECOMMENDATIONS FOR DESIGN OF THIS SHORING SYSTEM AND PERMIT THE USE OF THIS SHEETING.
b. CALCULATIONS ARE PROVIDED SHOWING ITS INTEGRITY.
18. THE USE OF TRENCH SHIELDS AS THE BASIS FOR SUPPORTING SOIL AND ACT AS THE SHORING SYSTEM IS NOT PERMITTED.
19. UNLESS APPROVED BY THE GEOTECHNICAL ENGINEER OF RECORD, IF 2-SACK PORTLAND CEMENT SLURRY IS USED AS BACKFILL BELOW THE PROPOSED DEPTH OF EXCAVATION, THEN THE EFFECTIVE WIDTH OF THE PILE FOR THE PURPOSE OF CALCULATING PASSIVE RESISTANCE SHALL BE TAKEN AS THE WIDTH OF THE STEEL BEAM. IF STRUCTURAL CONCRETE IS USED THEN THE EFFECTIVE WIDTH OF THE BEAM FOR THE PURPOSE OF CALCULATING THE PASSIVE RESISTANCE SHALL BE TAKEN AS THE WIDTH OF THE DRILLED HOLE. TO ACCOUNT FOR THE EFFECT OF "PASSIVE ARCHING" THE EFFECTIVE WIDTH IS PERMITTED TO BE DOUBLED WHERE THE BEAMS ARE SPACED A MINIMUM OF 2.5 TIMES THE DRILLED DIAMETER.
20. A POSITIVE CONNECTION SHALL BE PROVIDED AT BOTH ENDS OF STRUTS TO ENSURE THAT A MINIMUM OF 400 LBS LOAD APPLIED AT MID-SPAN, IN ADDITION TO ANY ASSOCIATED DEAD AND LIVE LOAD CAN BE SUSTAINED.
21. SHORING SHALL BE SELF-SUPPORTING. IT SHALL NOT RELY ON EXISTING IMPROVEMENTS SUCH AS MAINTENANCE HOLES, BRIDGE ABUTMENTS, OR UNDERGROUND STRUCTURES FOR SUPPORT OR STABILITY, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
22. SHORING SYSTEM SHALL COMPLY WITH THE CONTRACT DOCUMENTS AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.

Table with 4 columns: PIPE REHABILITATION METHOD, LINE/CASE NO., A (CONC), B (VCP), C (VCP). Includes sections for CURED-IN-PLACE PIPE LINER SYSTEM and ULTRAVIOLET-CURED FIBERGLASS-REINFORCED CURED-IN-PLACE PIPE SYSTEMS.

\* WORST CASE BASED ON GEOTECHNICAL RECOMMENDATIONS OF GROUNDWATER TABLE RANGING FROM 20 TO 50 FEET BELOW GROUND SURFACE.

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REVISION DATES (DESIGN STAGE ONLY)

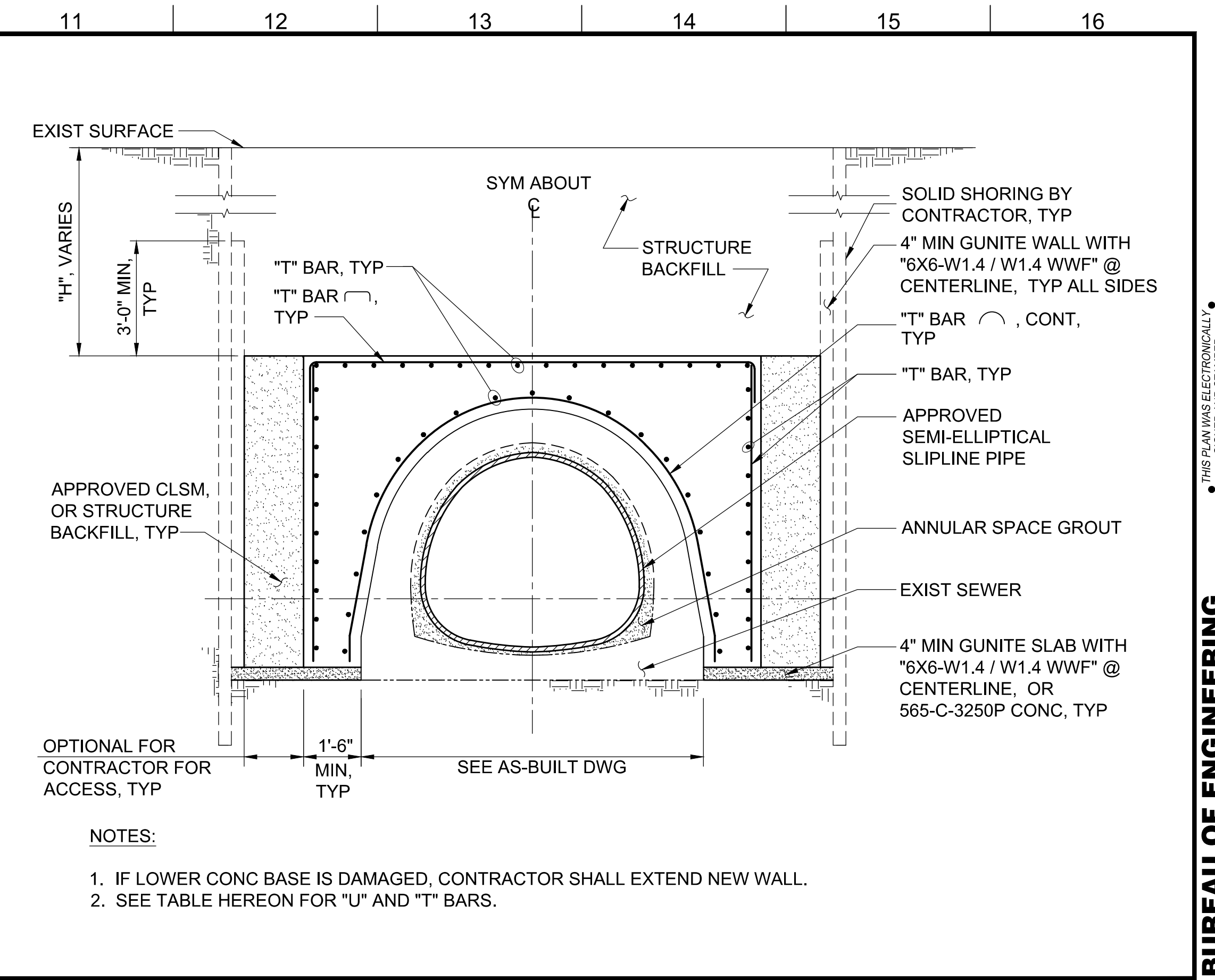
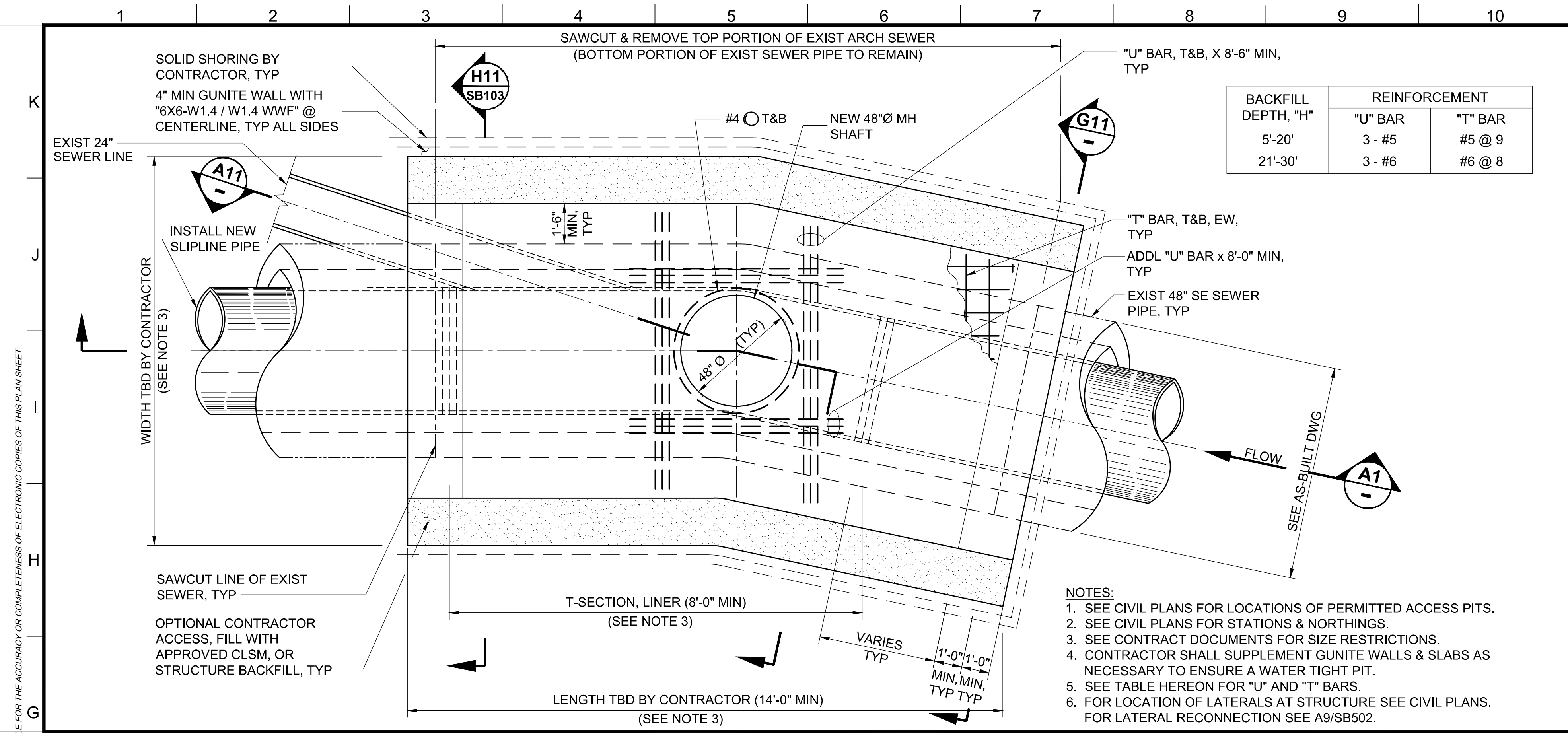


Vertical control information: SHEET TITLE: STRUCTURAL NOTES (3); PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR.; ADDRESS: ZOO DR. RW TO DORAN ST. LOS ANGELES, CA

Department of Public Works information: DATE: 07/01/24; REVISE TOTAL NUMBER OF SHEETS: 2; CIP NO.: 960; INDEX NO.: D-35839

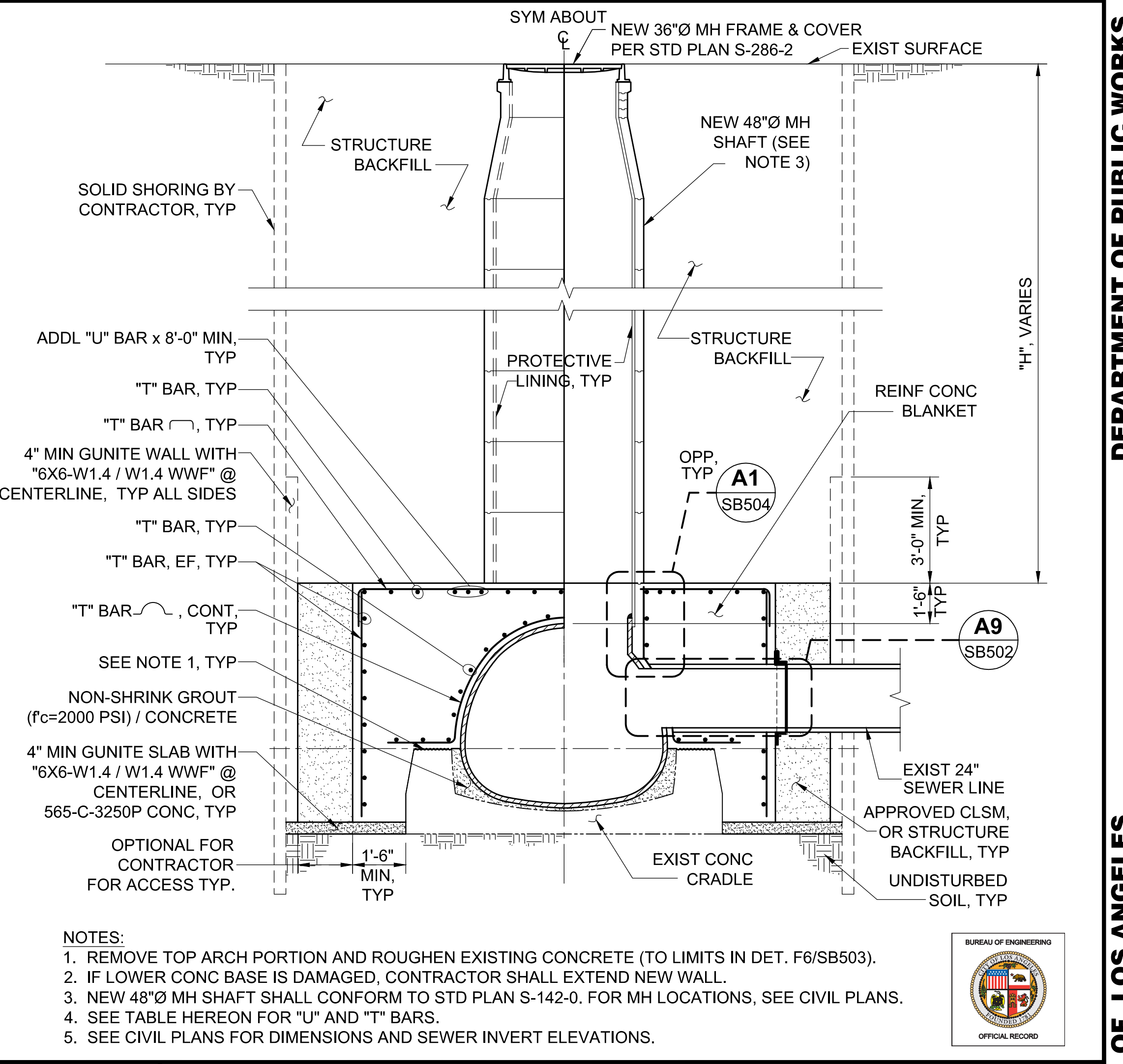
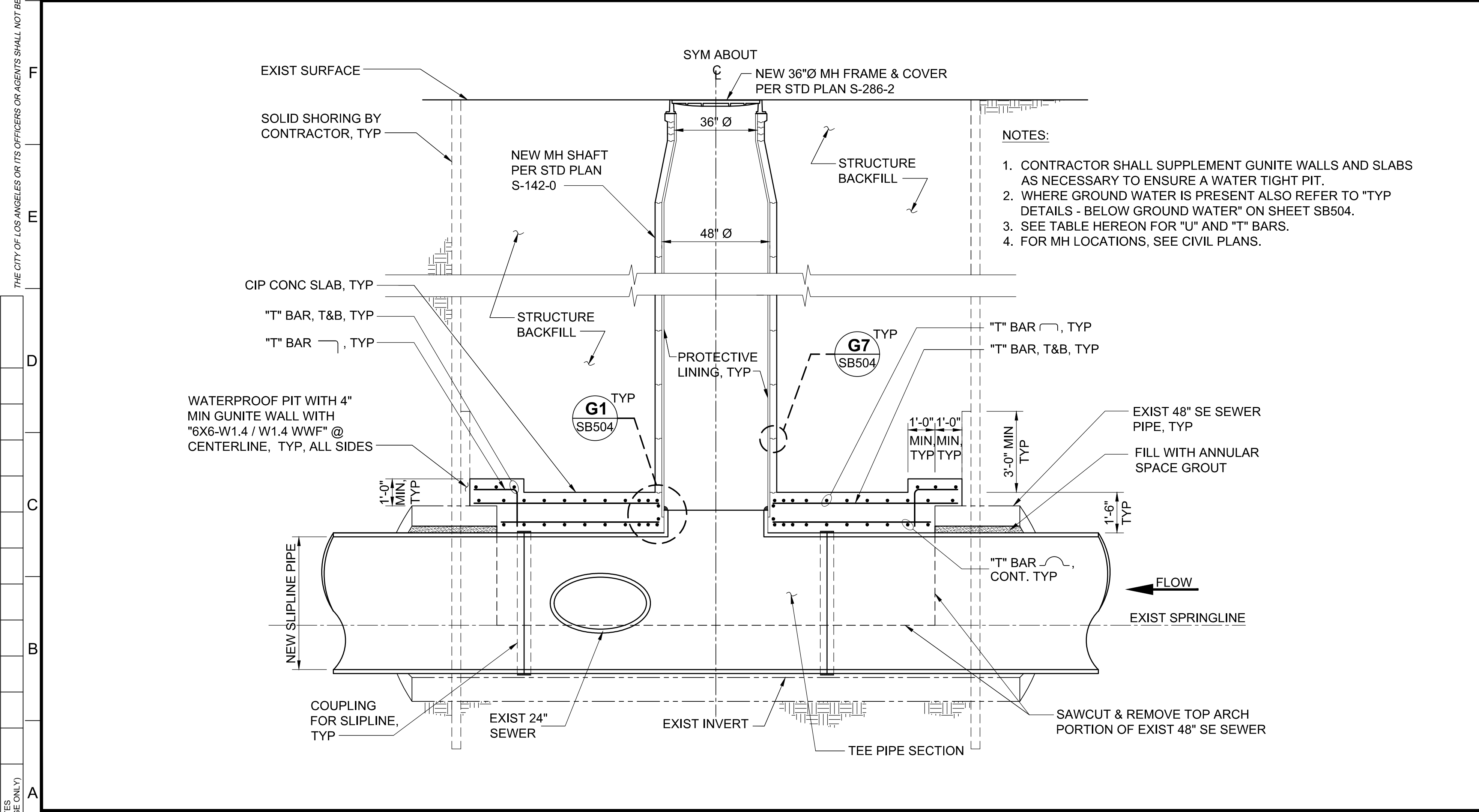
City Engineer information: CITY ENGINEER: TED ALLEN, P.E.; DESIGNER: WING KAM SUEN, SE; LIC. NO. S-4781; DESIGNED BY: PIYONIK HAKOPIAN, PE / RHEA OSORIO; DRAWN BY: JOYCE BATEBELEZA, PE; CHECKED BY: MARIAM YOUSSEF, PE / SHIRISH MISTRY, SE; APPROVED BY: SHAILESH "SUNNY" PATEL, SE

Work Order and Sheet Information: WORK ORDER NO. SZC13947; SHEET NAME: SG004; SHEET 38 OF 51 SHEETS



**G1 PLAN - ACCESS PIT #1 STRUCTURE - 48" SE NOS SLIPLINE RPMP SYSTEM**

**G11 SECTION**



**A1 SECTION - ACCESS PIT #1 STRUCTURE - 48" SE NOS SLIPLINE RPMP SYSTEM**

**A11 SECTION - ACCESS PIT #1 STRUCTURE**

**ENGINEERING**  
CITY OF LOS ANGELES

**SEI**  
STRUCTURAL ENGINEERING

**REGISTERED PROFESSIONAL ENGINEER**  
AUGUST SCHMID, PE  
No. 64638  
STATE OF CALIFORNIA

**BUREAU OF ENGINEERING**

VERTICAL CONTROL: [ ]  
HORIZONTAL CONTROL: [ ]

SHEET TITLE: ACCESS PIT #1 STRUCTURE  
PLAN & SECTIONS - 48" SE

PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR.  
RIGHT-OF-WAY TO DORAN ST.

ADDRESS: ZOO DR. R/W TO DORAN ST.  
LOS ANGELES, CA

DATE: 10/22/24  
BY: JIN

REVISIONS:  
1. REVISE TOTAL NUMBER OF SHEETS

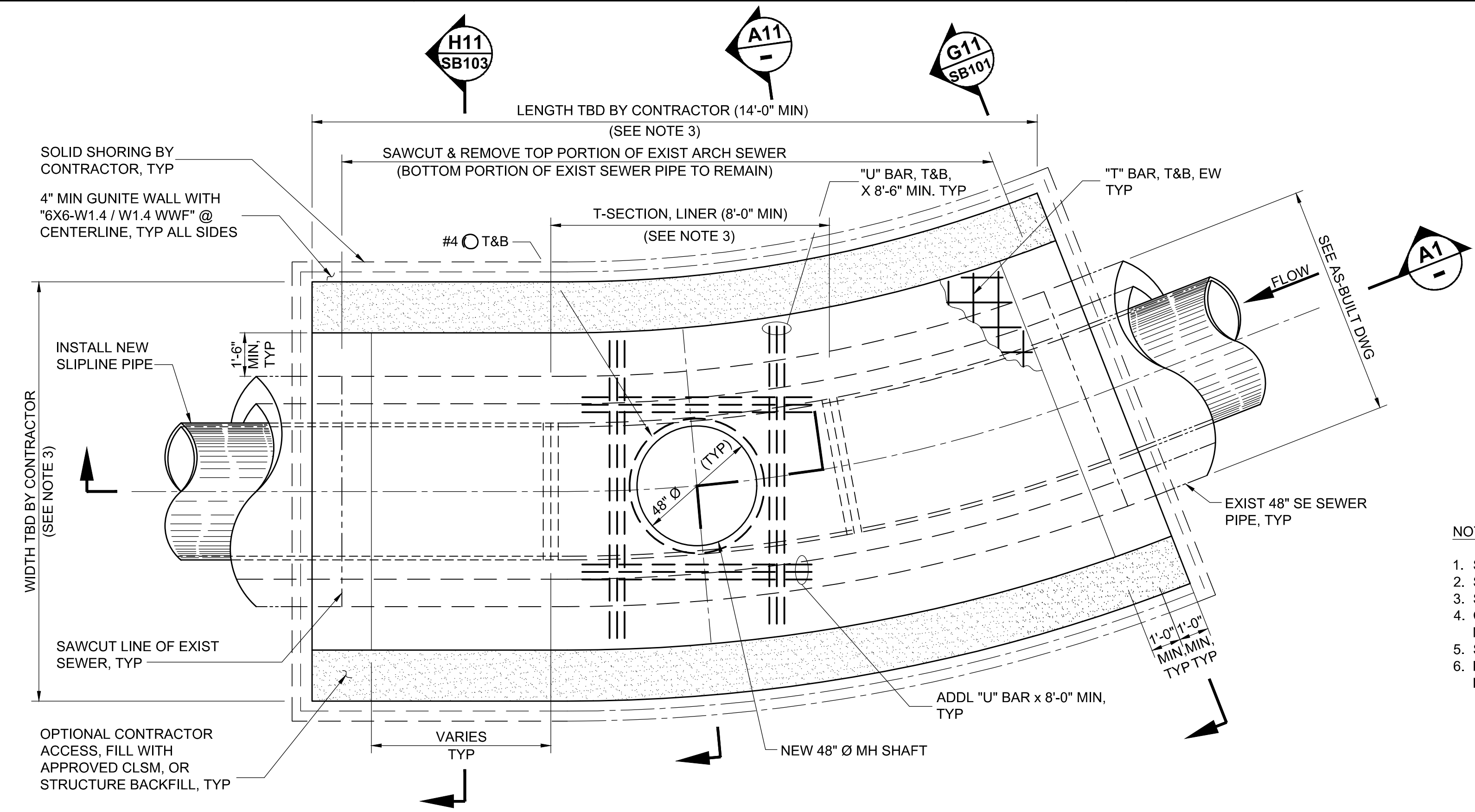
CITY ENGINEER: TED ALLEN, P.E.  
DESIGN GROUP: AUGUST SCHMID, PE  
DESIGNED BY: TAL SHERMAN, PE  
DRAWN BY: CHH-YUN SUN  
CHECKED BY: MARIAM YOUSSEF, PE / SHRISH MISTRY, SE  
APPROVED BY: SHAILESH 'SUNNY' PATEL, SE

INDEX NO. D-35839  
CIP NO. 960

WORK ORDER NO. SZC13947

**CITY OF LOS ANGELES**  
**BUREAU OF ENGINEERING**

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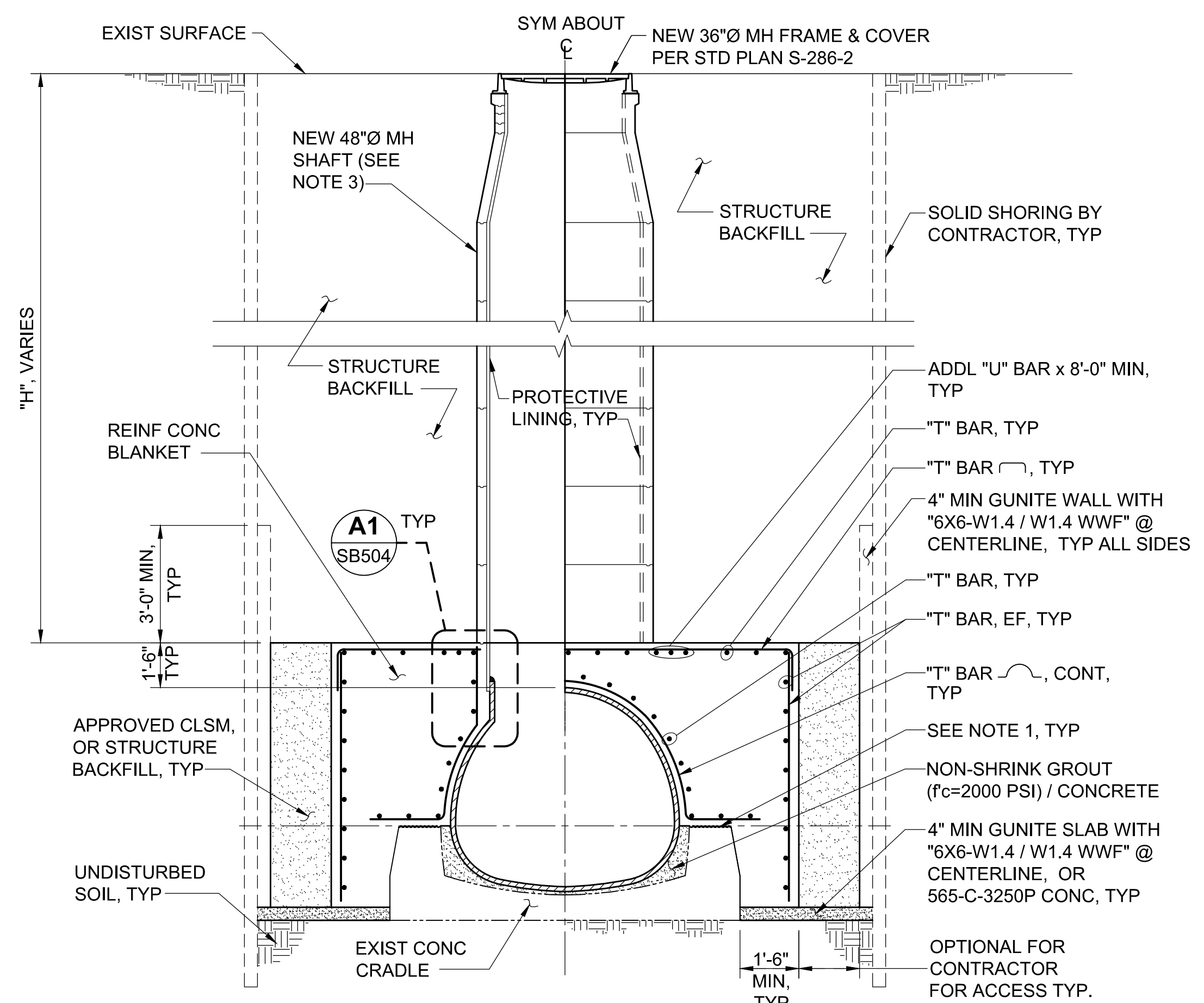
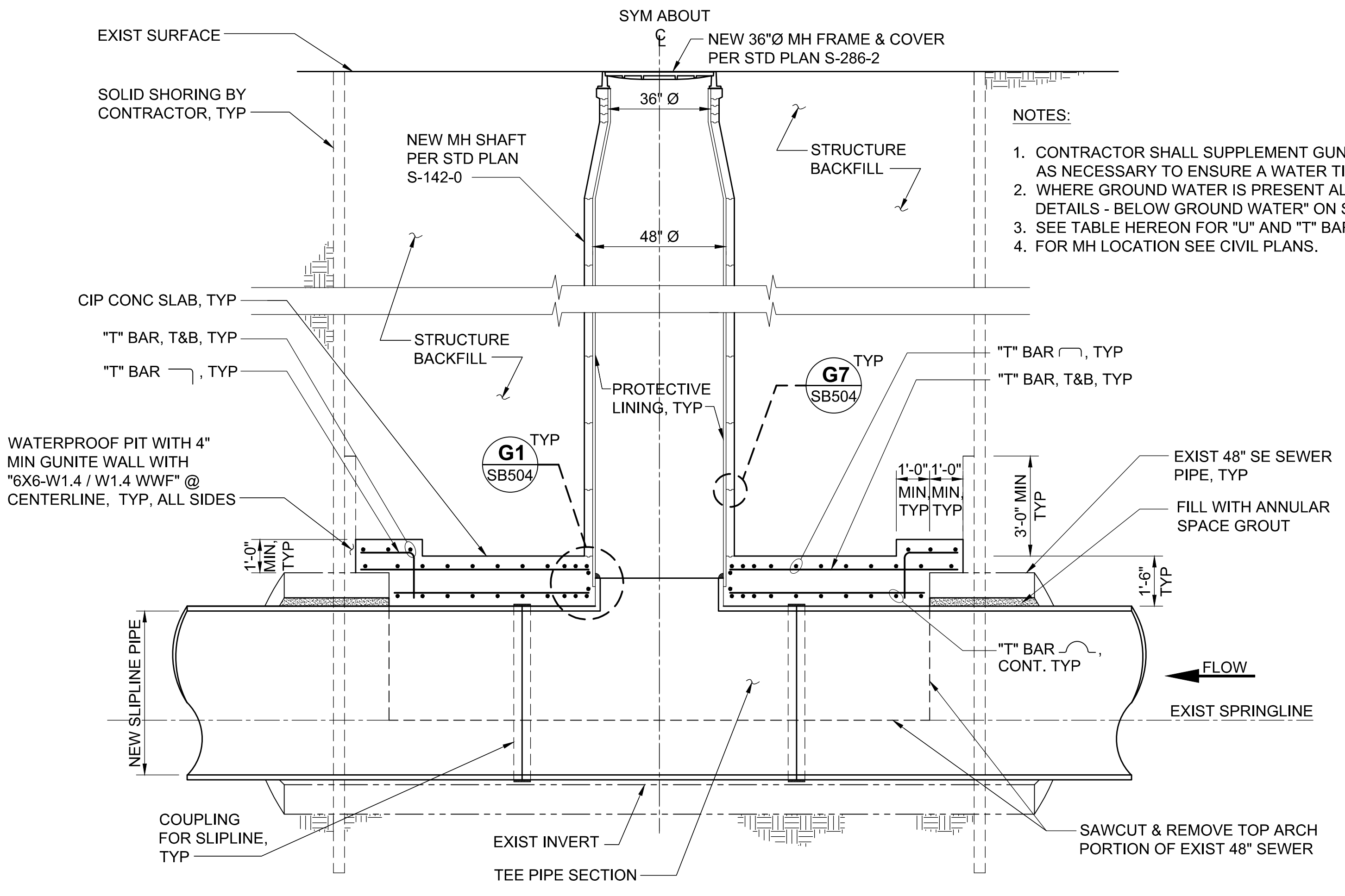


BACKFILL DEPTH, "H"	REINFORCEMENT	
	"U" BAR	"T" BAR
5'-20'	3 - #5	#5 @ 9
21'-30'	3 - #6	#6 @ 8

- NOTES:
- SEE CIVIL PLANS FOR LOCATIONS OF PERMITTED ACCESS PITS.
  - SEE CIVIL PLANS FOR STATIONS & NORTHINGS.
  - SEE CONTRACT DOCUMENTS FOR SIZE RESTRICTIONS.
  - CONTRACTOR SHALL SUPPLEMENT GUNITE WALLS & SLABS AS NECESSARY TO ENSURE A WATER TIGHT PIT.
  - SEE TABLE HEREON FOR "U" AND "T" BARS.
  - FOR LOCATION OF LATERALS AT STRUCTURE SEE CIVIL PLANS. FOR LATERAL RECONNECTION SEE A9/SB502.

**G1 PLAN - ACCESS PIT #6 STRUCTURE - 48" SE NOS SLIPLINE RPMP SYSTEM**

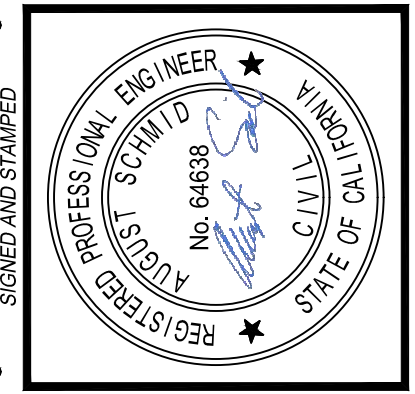
NTS -



- NOTES:
- REMOVE TOP ARCH PORTION AND ROUGHEN EXISTING CONCRETE (TO LIMITS IN DET. F6/SB503).
  - IF LOWER CONC BASE IS DAMAGED, CONTRACTOR SHALL EXTEND NEW WALL.
  - NEW 48" Ø MH SHAFT SHALL CONFORM TO STD PLAN S-142-0. FOR MH LOCATIONS, SEE CIVIL PLANS.
  - SEE TABLE HEREON FOR "U" AND "T" BARS.
  - SEE CIVIL PLANS FOR DIMENSIONS AND SEWER INVERT ELEVATIONS

**A11 SECTION - ACCESS PIT #6 STRUCTURE**

NTS -



**BUREAU OF ENGINEERING**

VERTICAL CONTROL: \_\_\_\_\_

HORIZONTAL CONTROL: \_\_\_\_\_

DATE: 10/22/24 JN

REVISIONS:

NO.	REVISIONS	DATE	BY
1	REVISE TOTAL NUMBER OF SHEETS		JN

SHEET TITLE: ACCESS PIT #6 STRUCTURE PLAN & SECTIONS - 48" SE

PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.

ADDRESS: ZOO DR. R/W TO DORAN ST. LOS ANGELES, CA

**DEPARTMENT OF PUBLIC WORKS**

CITY ENGINEER: \_\_\_\_\_

DESIGN GROUP: \_\_\_\_\_

ENGINEER: AUGUST SCHMID, PE

DESIGNED BY: TAL SHEMEN, PE

DRAWN BY: CHI-HYUN SUN

CHECKED BY: MARIAM YOUSSEF, PE / SHRISH MISTRY, SE

APPROVED BY: SHAIKESH "SUNNY" PATEL, SE

DATE: 07/21/23

LIC. NO. C-64638

06/30/23

06/30/23

06/30/23

07/27/23

DATE: 10/22/24 JN

REVISE TOTAL NUMBER OF SHEETS

INDEX NO. D-35839

CIP NO. 960

**CITY OF LOS ANGELES**

TED ALLEN, P.E.

DATE: 07/21/23

LIC. NO. C-64638

DESIGNED BY: TAL SHEMEN, PE

DRAWN BY: CHI-HYUN SUN

CHECKED BY: MARIAM YOUSSEF, PE / SHRISH MISTRY, SE

APPROVED BY: SHAIKESH "SUNNY" PATEL, SE

DATE: 06/30/23

06/30/23

06/30/23

07/27/23

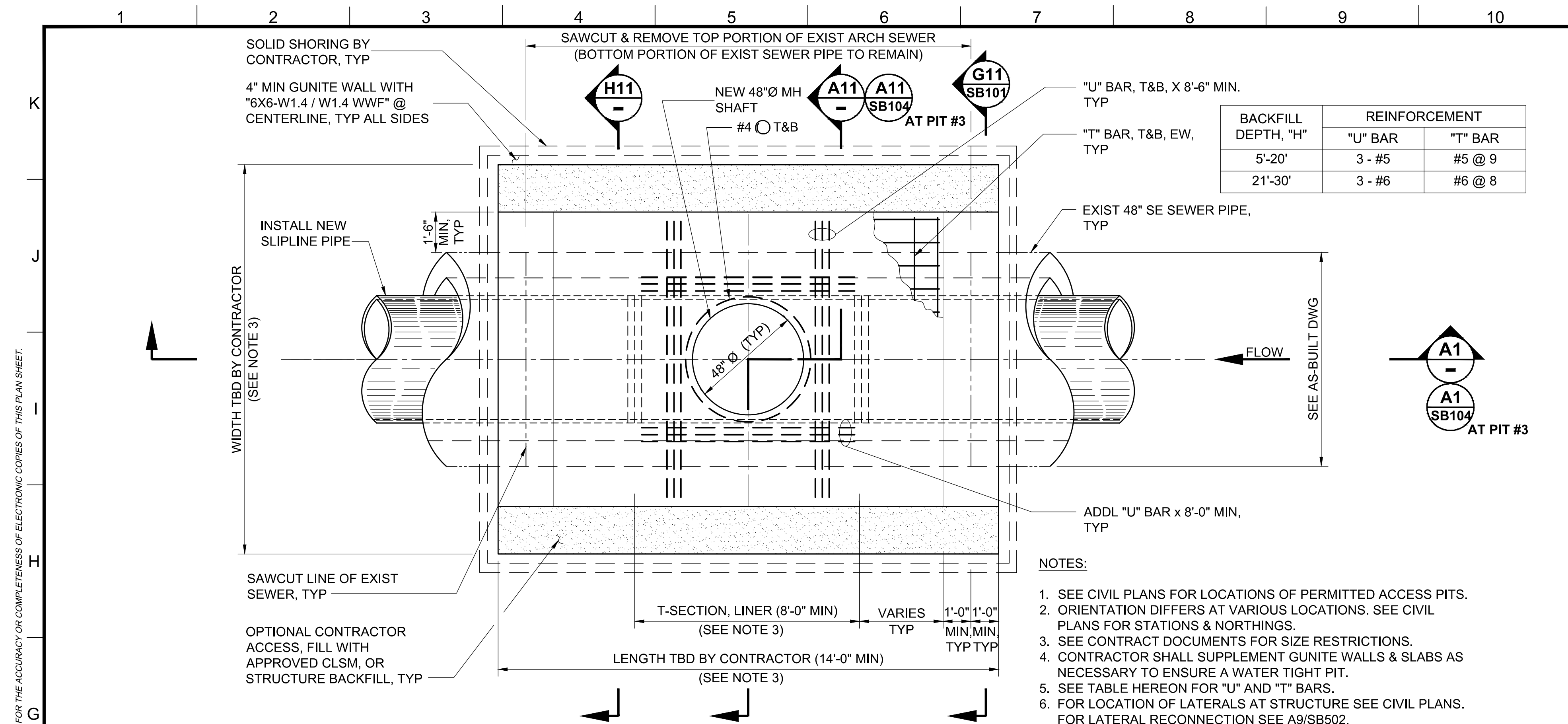
WORK ORDER NO. SZC13947

**A1 SECTION - ACCESS PIT #6 STRUCTURE - 48" SE NOS SLIPLINE RPMP SYSTEM**

NTS -

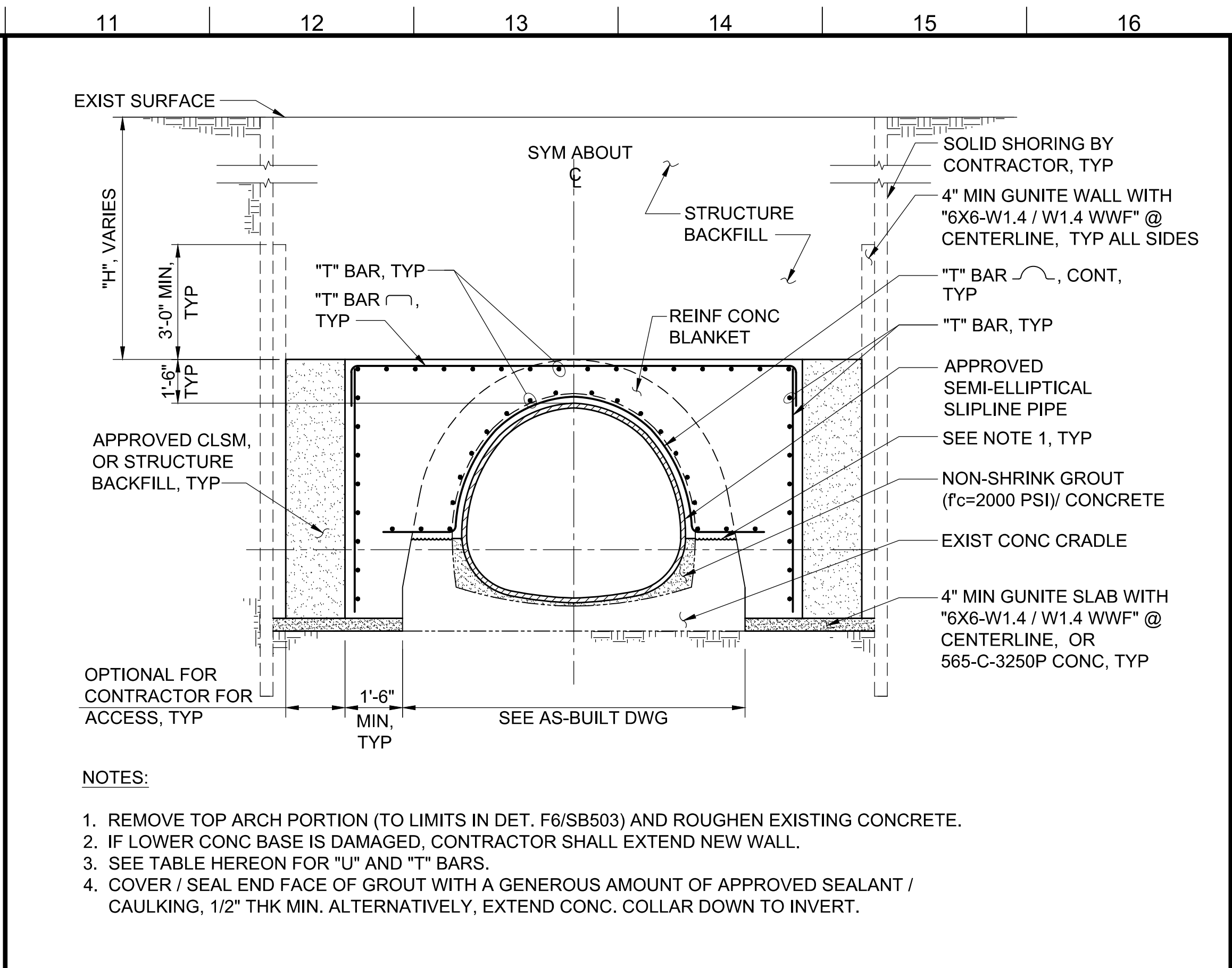
SHEET NAME: SB102

SHEET 40 OF 51 SHEETS



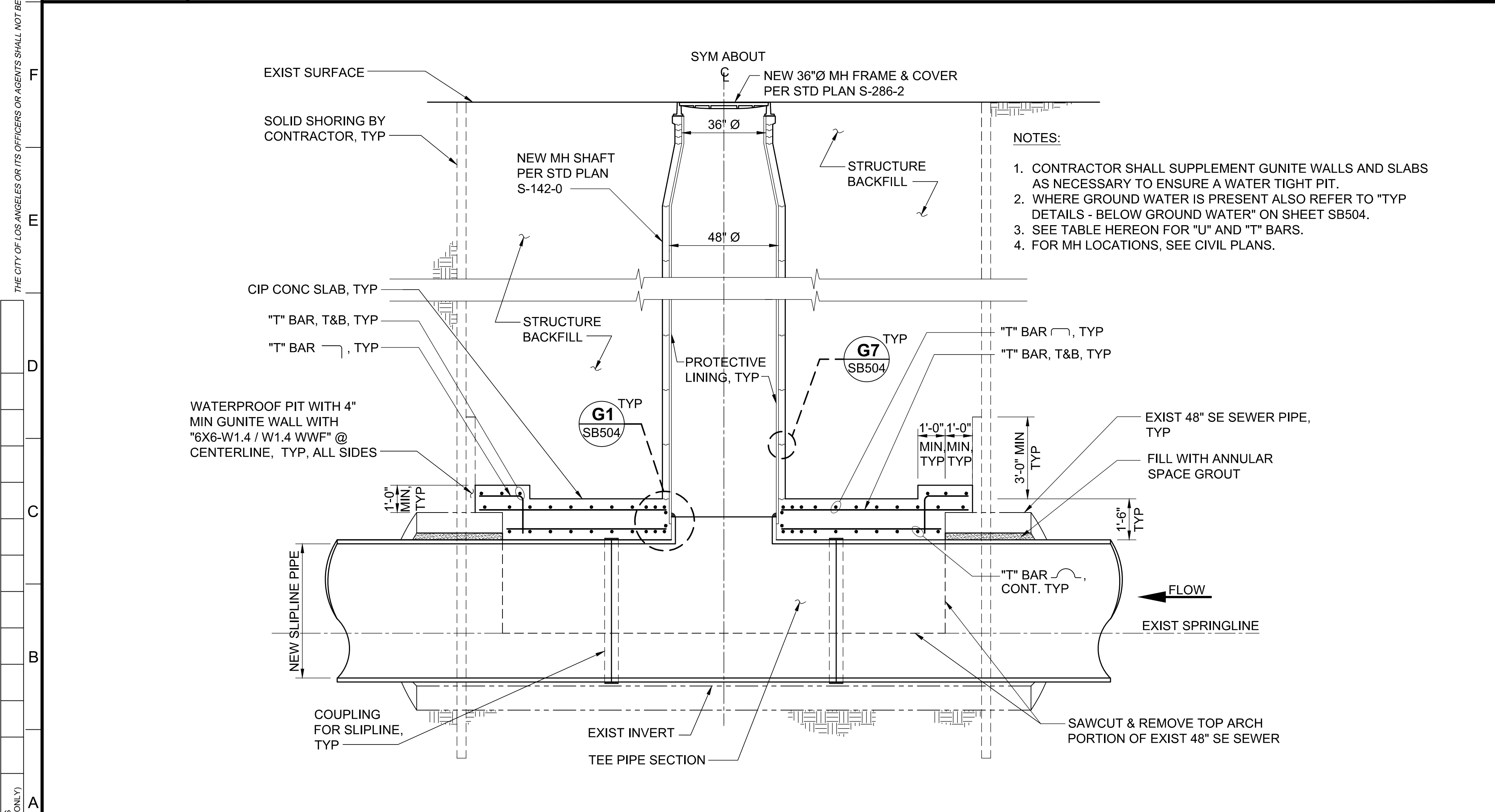
**G1 PLAN - ACCESS PIT #2, #3 & #4 STRUCTURE - 48" SE NOS SLIPLINE RPMP SYSTEM**

NTS -



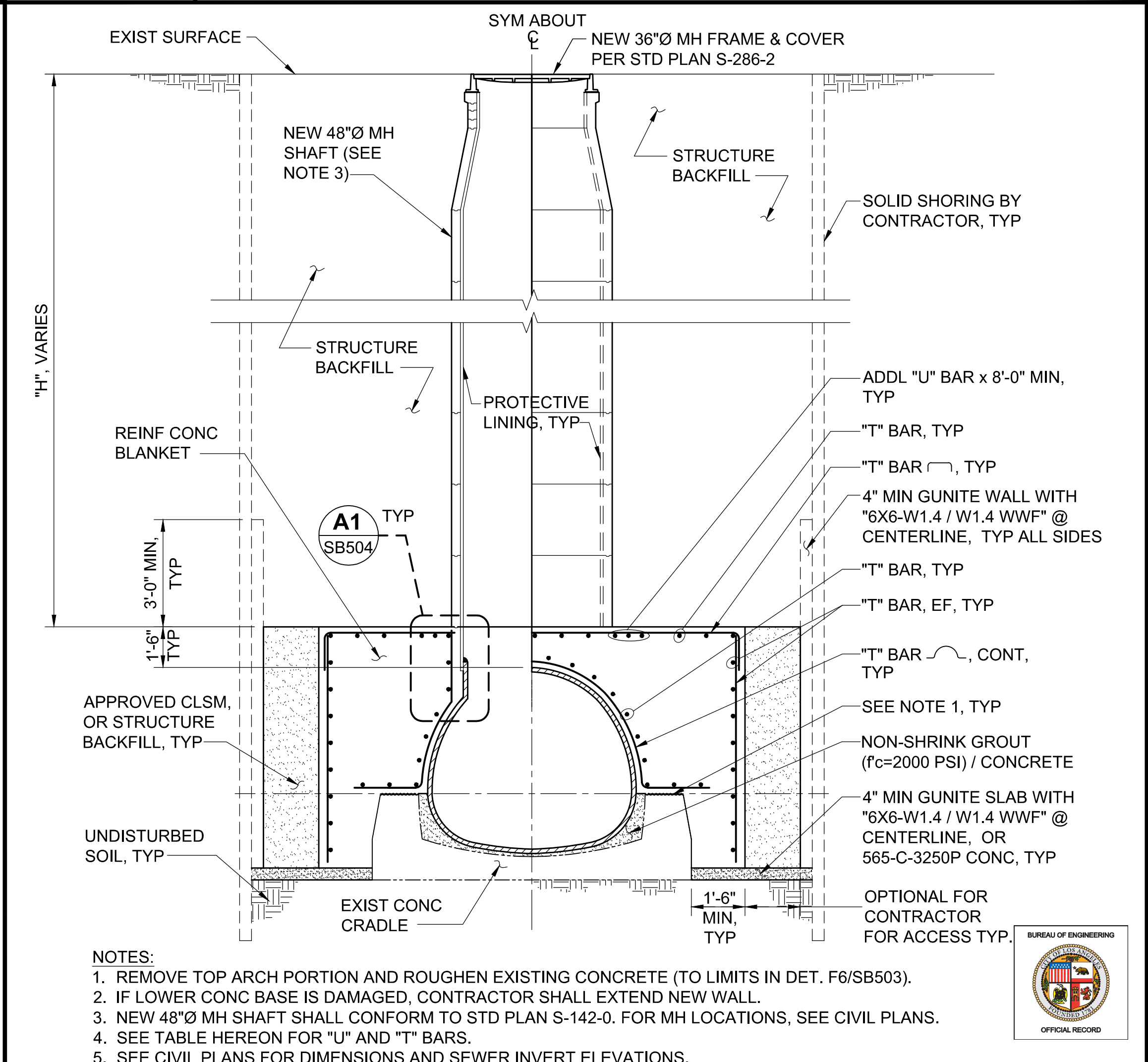
**H11 SECTION, TYP**

NTS SB101, SB102



**A1 SECTION - ACCESS PIT #2 & #4 STRUCTURE - 48" SE NOS SLIPLINE RPMP SYSTEM**

NTS -



**A11 SECTION - ACCESS PIT #2 & #4 STRUCTURE**

NTS -

**ENGINEERING**  
CITY OF LOS ANGELES

**BUREAU OF ENGINEERING**

REGISTERED PROFESSIONAL ENGINEER  
No. 64638  
STATE OF CALIFORNIA

VERTICAL CONTROL: HORIZONTAL CONTROL:  
REVISIONS: 1  
DATE: 10/22/24 JN  
SHEET TITLE: ACCESS PIT #2, #3 & #4 STRUCTURE  
PLAN & SECTIONS - 48" SE  
PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR.  
RIGHT-OF-WAY TO DORAN ST.  
ADDRESS: ZOO DR. RW TO DORAN ST.  
LOS ANGELES, CA

INDEX NO. 960  
D-35839

**DEPARTMENT OF PUBLIC WORKS**

**CITY OF LOS ANGELES**

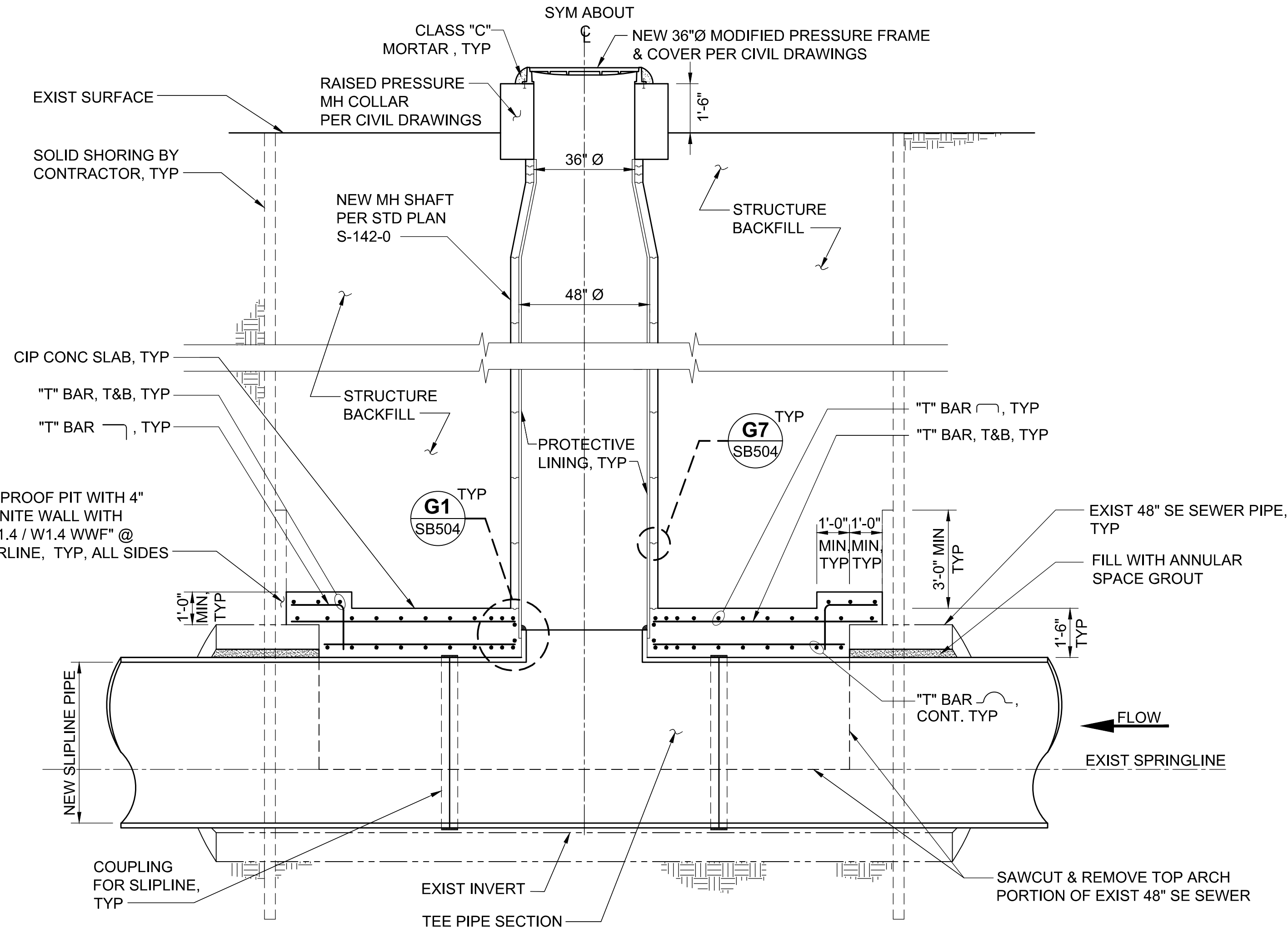
TED ALLEN, P.E.  
CITY ENGINEER  
DATE: 07/21/23  
LIC. NO. C-64638  
DESIGNED BY: TAL SHEMEN, PE  
DRAWN BY: CHI-YUN SUN  
CHECKED BY: MARIAM YOUSSEF, PE / SHRISH MISTRY, SE  
APPROVED BY: SHALESH "SUNNY" PATEL, SE

WORK ORDER NO. SZC13947

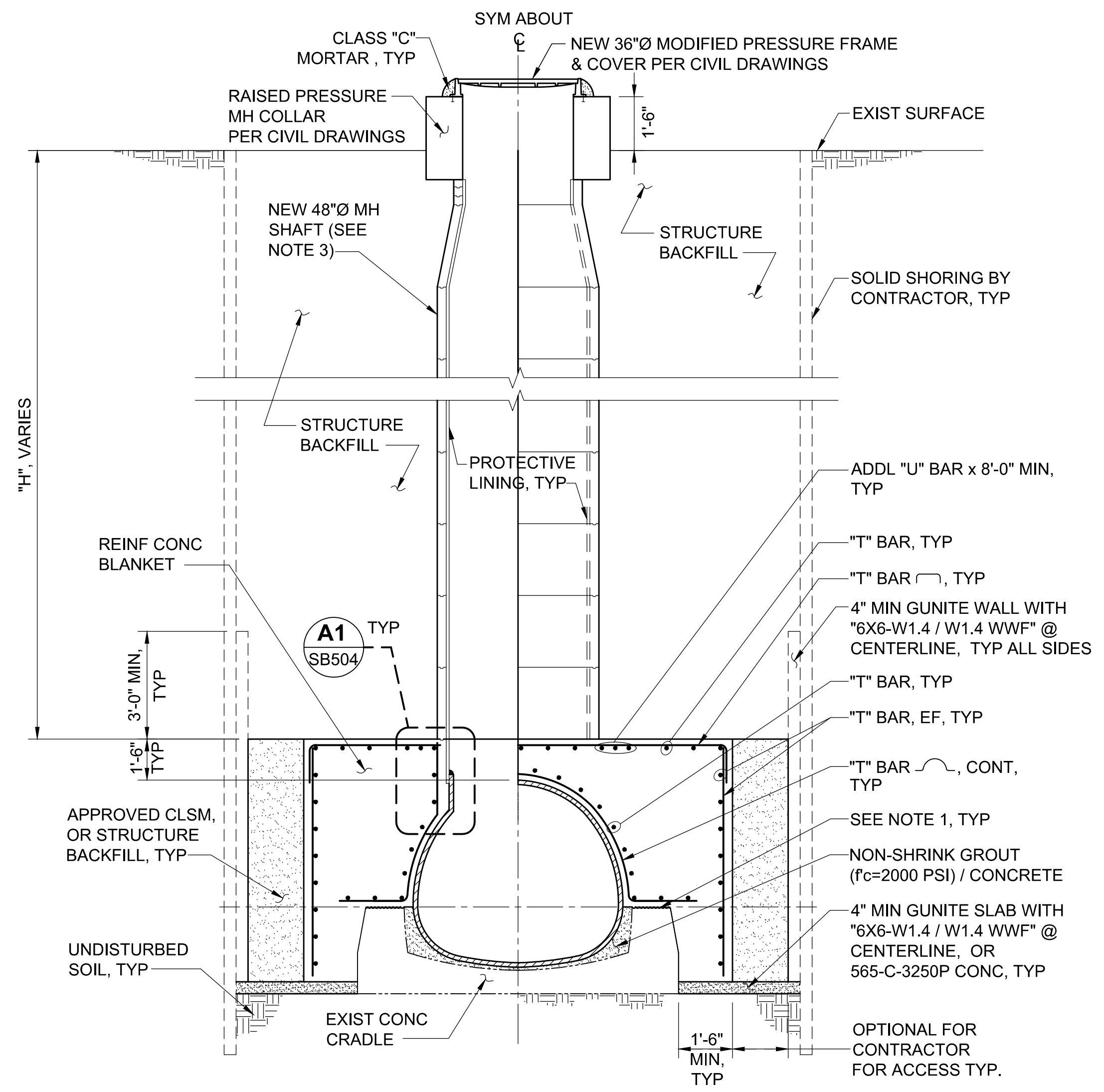
SHEET NAME SB103  
SHEET 41 OF 51 SHEETS

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

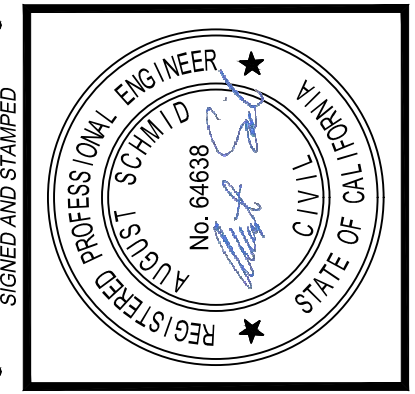
BACKFILL DEPTH, "H"	REINFORCEMENT	
	"U" BAR	"T" BAR
5'-20"	3 - #5	#5 @ 9
21'-30"	3 - #6	#6 @ 8



- NOTES:**
1. CONTRACTOR SHALL SUPPLEMENT GUNITE WALLS AND SLABS AS NECESSARY TO ENSURE A WATER TIGHT PIT.
  2. WHERE GROUND WATER IS PRESENT ALSO REFER TO "TYP" DETAILS - BELOW GROUND WATER" ON SHEET SB504.
  3. SEE TABLE HEREON FOR "U" AND "T" BARS.
  4. FOR MH LOCATIONS, SEE CIVIL PLANS.



- NOTES:**
1. REMOVE TOP ARCH PORTION AND ROUGHEN EXISTING CONCRETE (TO LIMITS IN DET. F6/SB503).
  2. IF LOWER CONC BASE IS DAMAGED, CONTRACTOR SHALL EXTEND NEW WALL.
  3. NEW 48"Ø MH SHAFT SHALL CONFORM TO STD PLAN S-142-0. FOR MH LOCATIONS, SEE CIVIL PLANS.
  4. SEE TABLE HEREON FOR "U" AND "T" BARS.
  5. SEE CIVIL PLANS FOR DIMENSIONS AND SEWER INVERT ELEVATIONS.



**BUREAU OF ENGINEERING**

VERTICAL CONTROL: \_\_\_\_\_  
 HORIZONTAL CONTROL: \_\_\_\_\_

SHEET TITLE: ACCESS PIT #3 & MH 445-01-007 STRUCTURE  
 SECTIONS - 48" SE

PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.

ADDRESS: ZOO DR. R/W TO DORAN ST. LOS ANGELES, CA

**DEPARTMENT OF PUBLIC WORKS**

NO.	REVISIONS	DATE	BY
1	REVISE TOTAL NUMBER OF SHEETS	10/22/24	JN

CIP NO. 960

INDEX NO. D-35839

**CITY OF LOS ANGELES**

TED ALLEN, P.E.

DESIGN GROUP: \_\_\_\_\_

ENGINEER: AUGUST SCHMID, PE LIC. NO. C-64638

DESIGNED BY: TAL SHEMEN, PE

DRAWN BY: CHI-HYUN SUN

CHECKED BY: MARIAM YOUSSEF, PE / SHRISH MISTRY, SE

APPROVED BY: SHALESH "SUNNY" PATEL, SE

DATE: 07/21/23

LIC. NO. C-64638

06/30/23

06/30/23

06/30/23

07/27/23

WORK ORDER NO. SZC13947

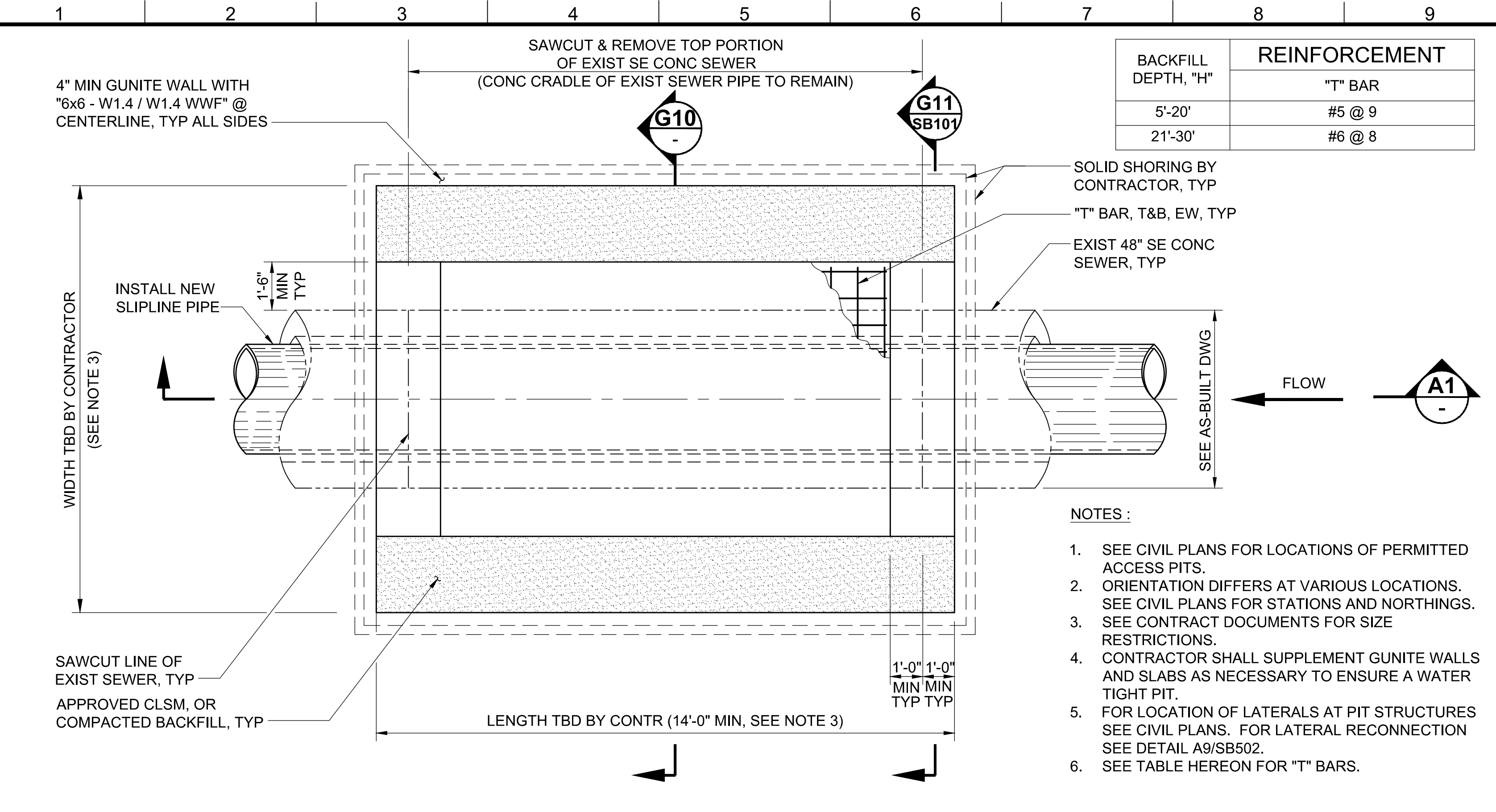
SHEET NAME SB104

SHEET 42 OF 53 SHEETS

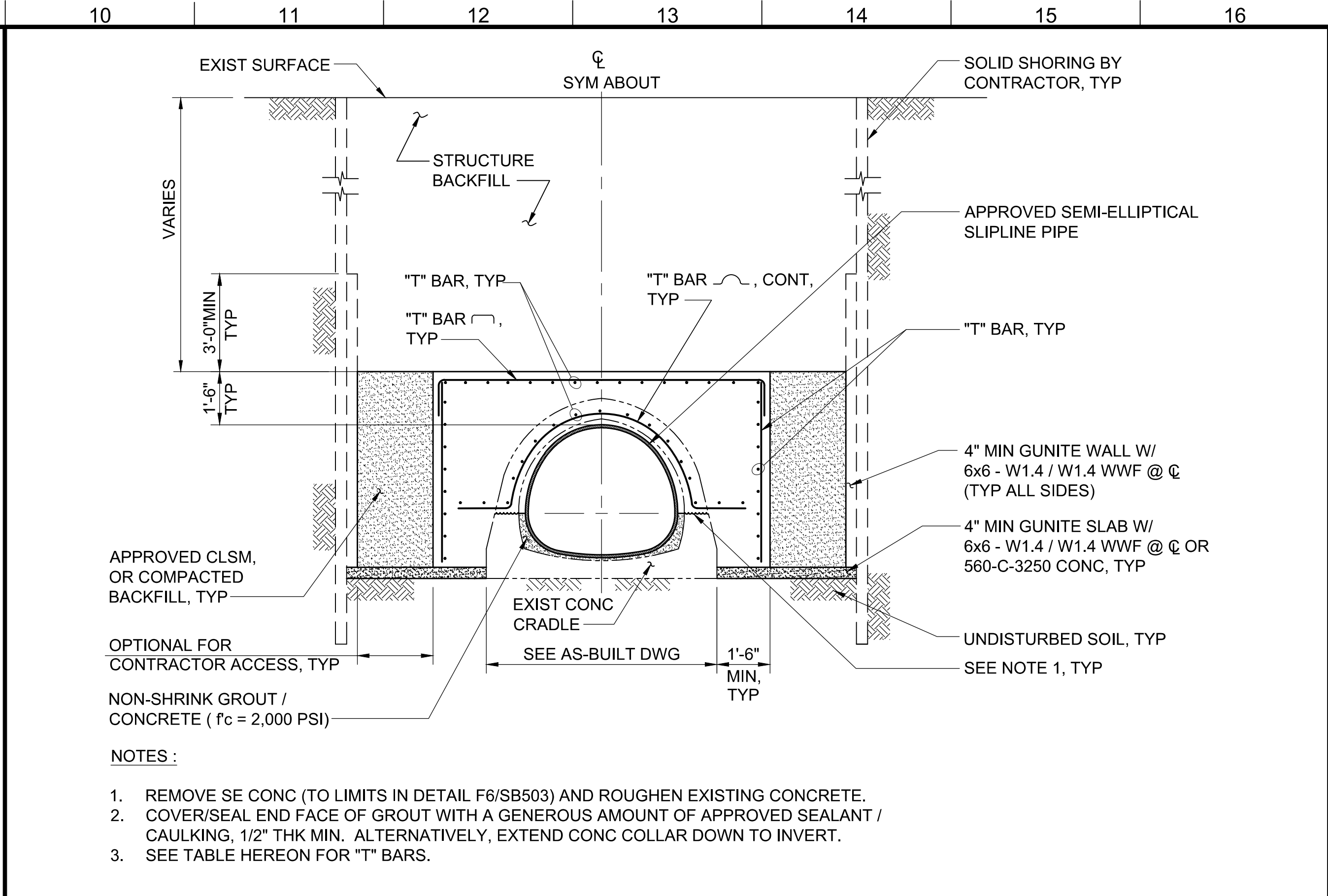
REVISION DATES (DESIGN STAGE ONLY)

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

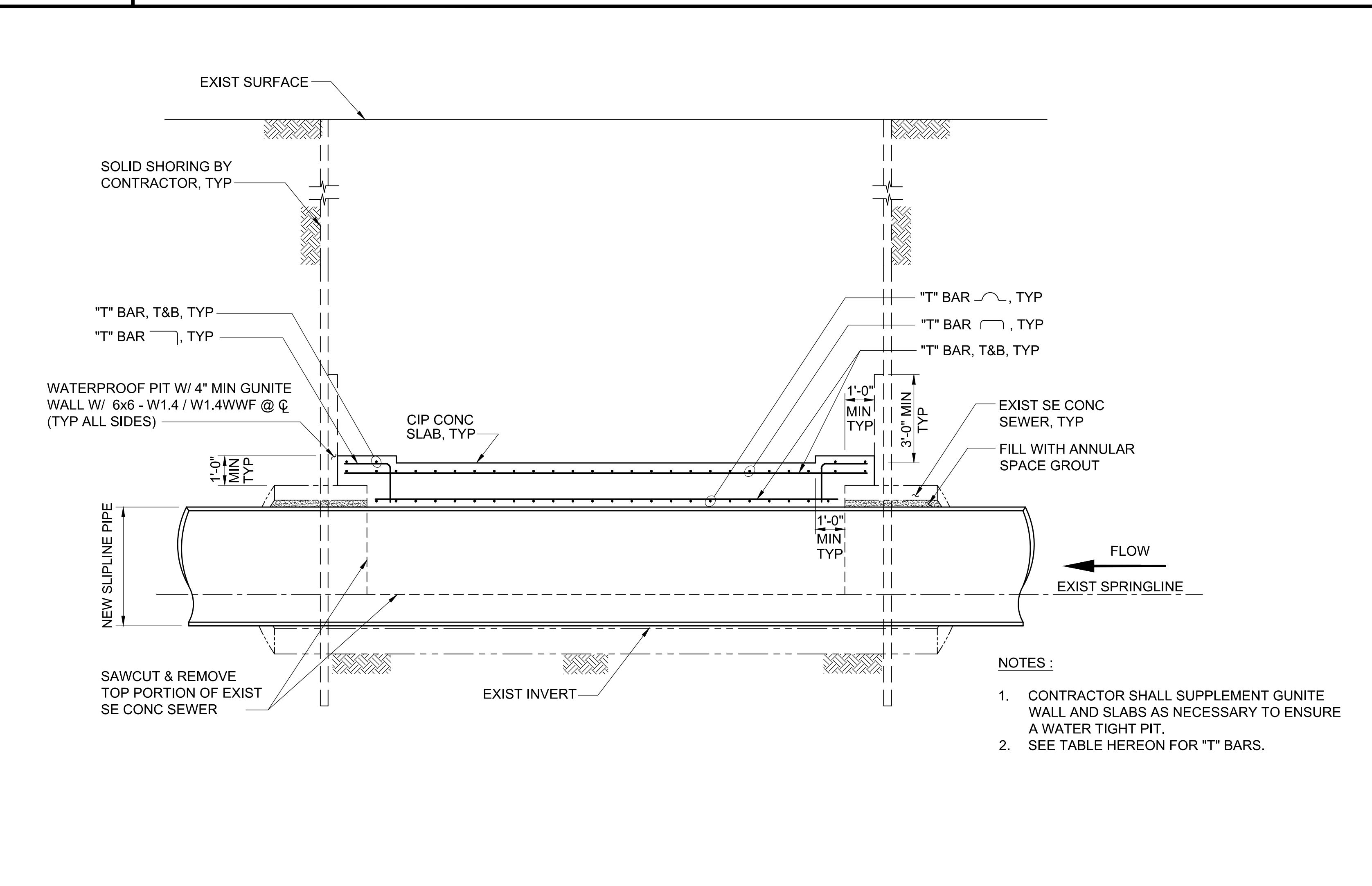
Sheet Version 4.0



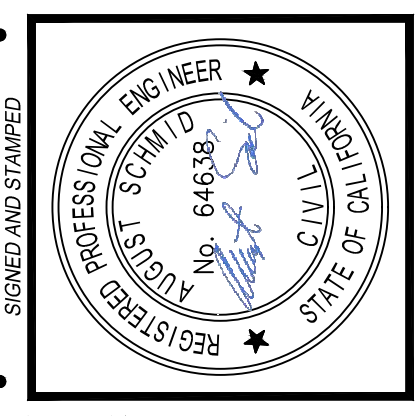
**G1** PLAN - ACCESS PIT #5 & #7 STRUCTURE - 48" SE NOS SLIPLINE RPMP SYSTEM



**G10** SECTION



**A1** SECTION - ACCESS PIT #5 & #7 STRUCTURE - 48" SE NOS SLIPLINE RPMP SYSTEM



**BUREAU OF ENGINEERING**

VERTICAL CONTROL: \_\_\_\_\_

HORIZONTAL CONTROL: \_\_\_\_\_

SHEET TITLE: ACCESS PIT #5 & #7 STRUCTURE PLAN & SECTIONS - 48" SE

PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.

ADDRESS: ZOO DR. R/W TO DORAN ST. LOS ANGELES, CA

**DEPARTMENT OF PUBLIC WORKS**

CITY ENGINEER: \_\_\_\_\_

DATE: 11/13/24

REVISIONS:

NO.	REVISIONS	DATE	BY
1	REVISE TOTAL NUMBER OF SHEETS	11/13/24	JN

INDEX NO. D-35839

CIP NO. 960

**CITY OF LOS ANGELES**

TED ALLEN, P.E.

DESIGN GROUP: \_\_\_\_\_

ENGINEER: AUGUST SCHMID, PE

DESIGNED BY: TAL SHEMEN, PE

DRAWN BY: CHIH-YUN SUN

CHECKED BY: MARIAM YOUSSEF, PE / SHIRISH MISTRY, SE

APPROVED BY: SHAILESH "SUNNY" PATEL, SE

DATE: 07/27/23

LIC. NO. C-64638

06/30/23

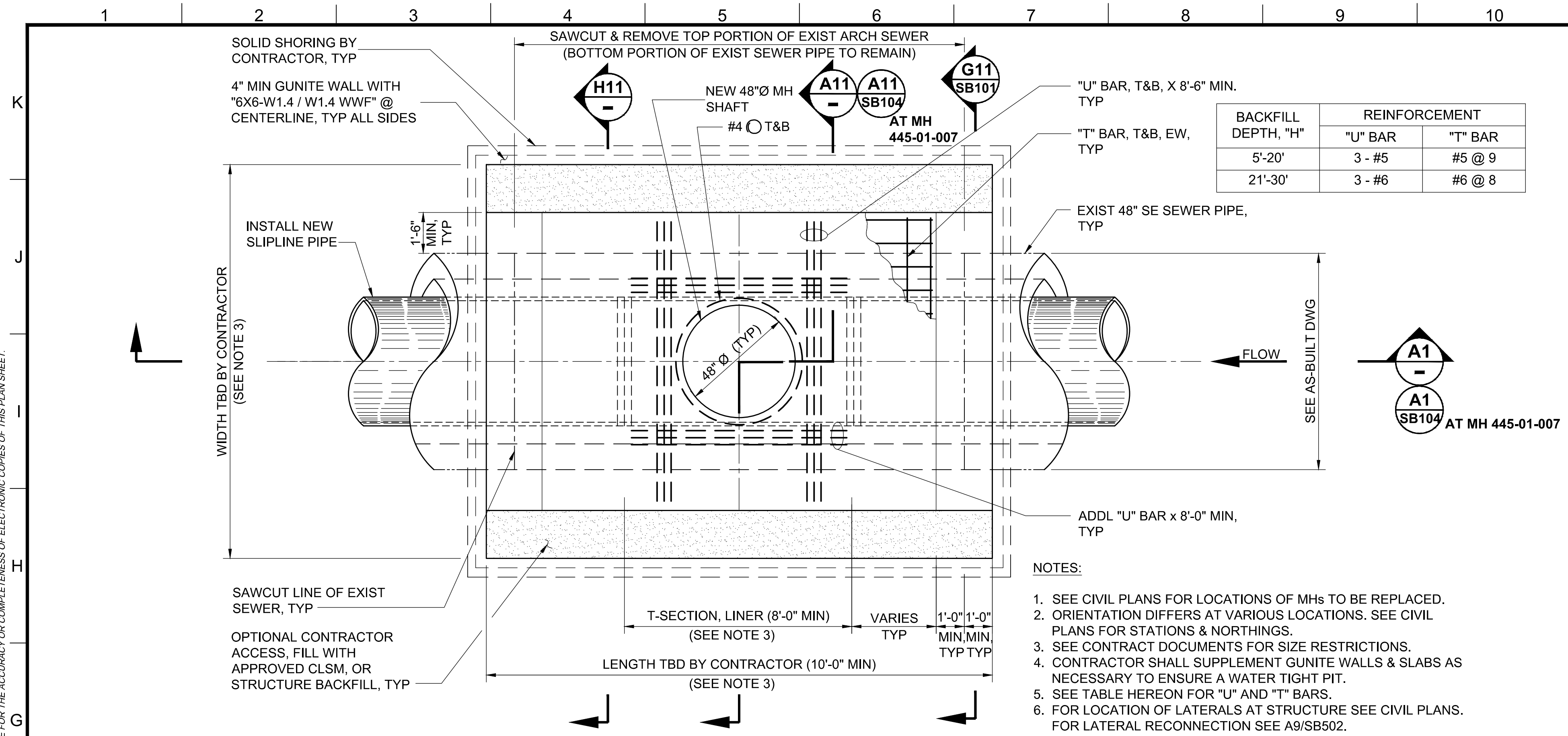
06/30/23

07/27/23

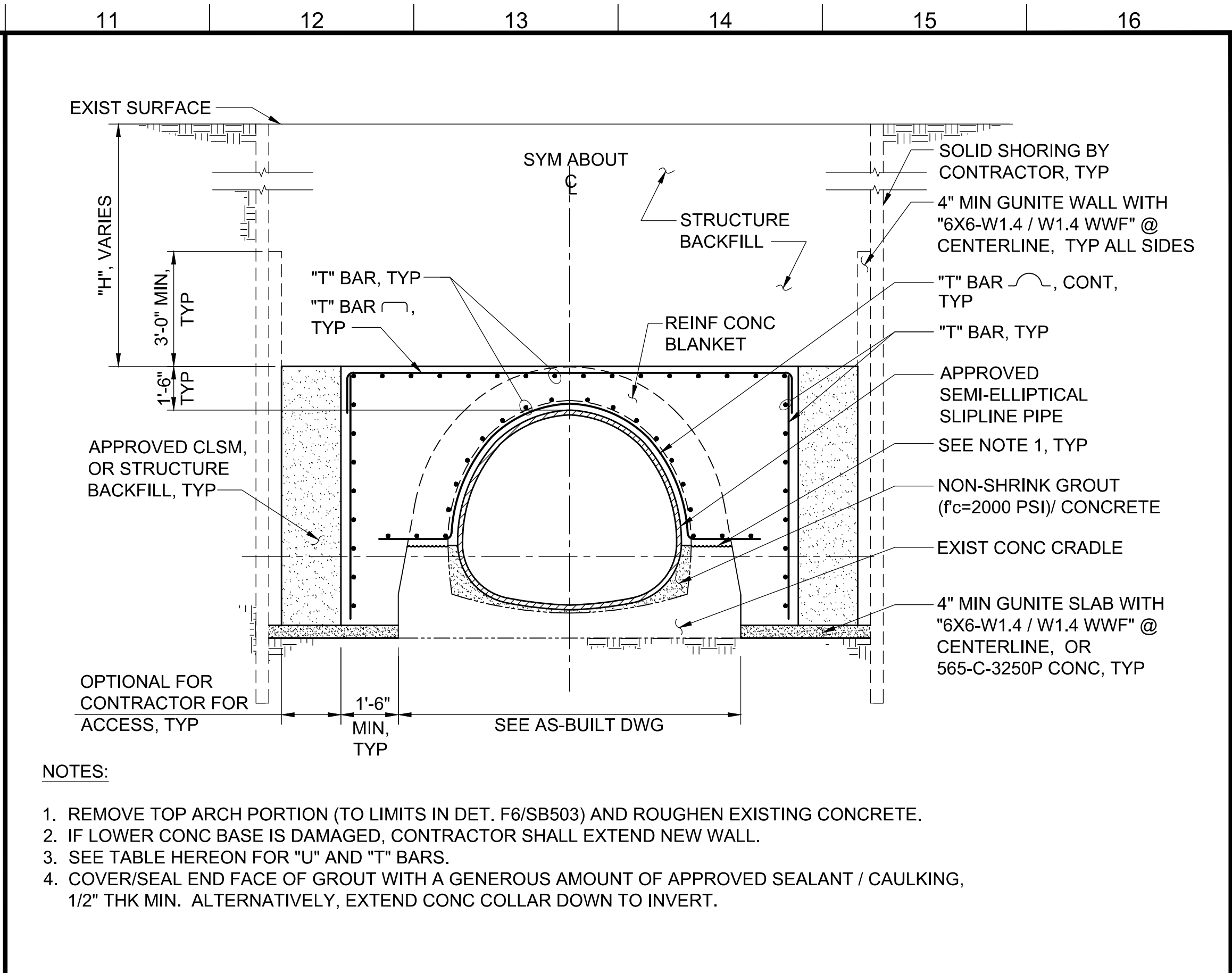
WORK ORDER NO. SZC13947

SHEET NAME: SB105

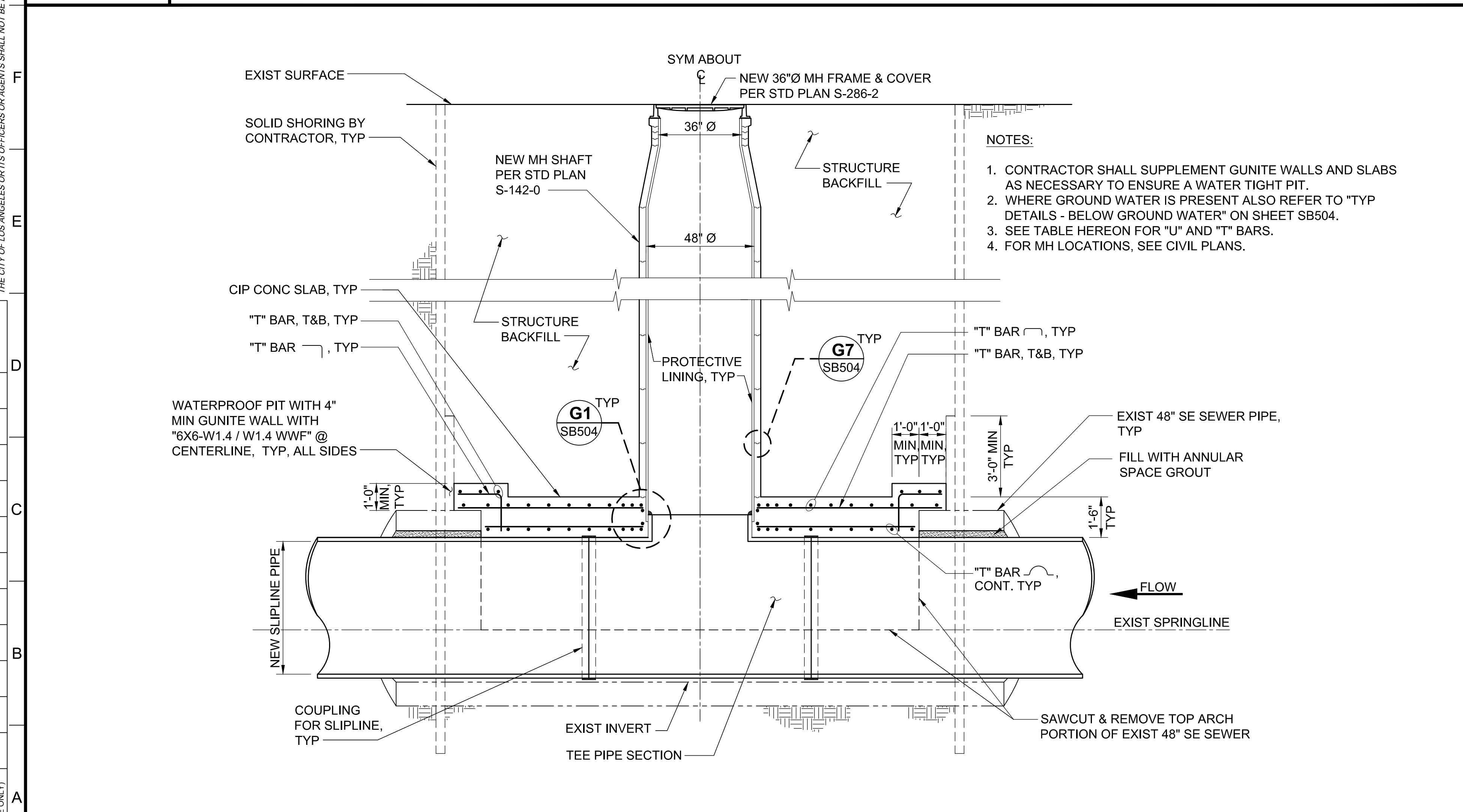
SHEET 43 OF 51 SHEETS



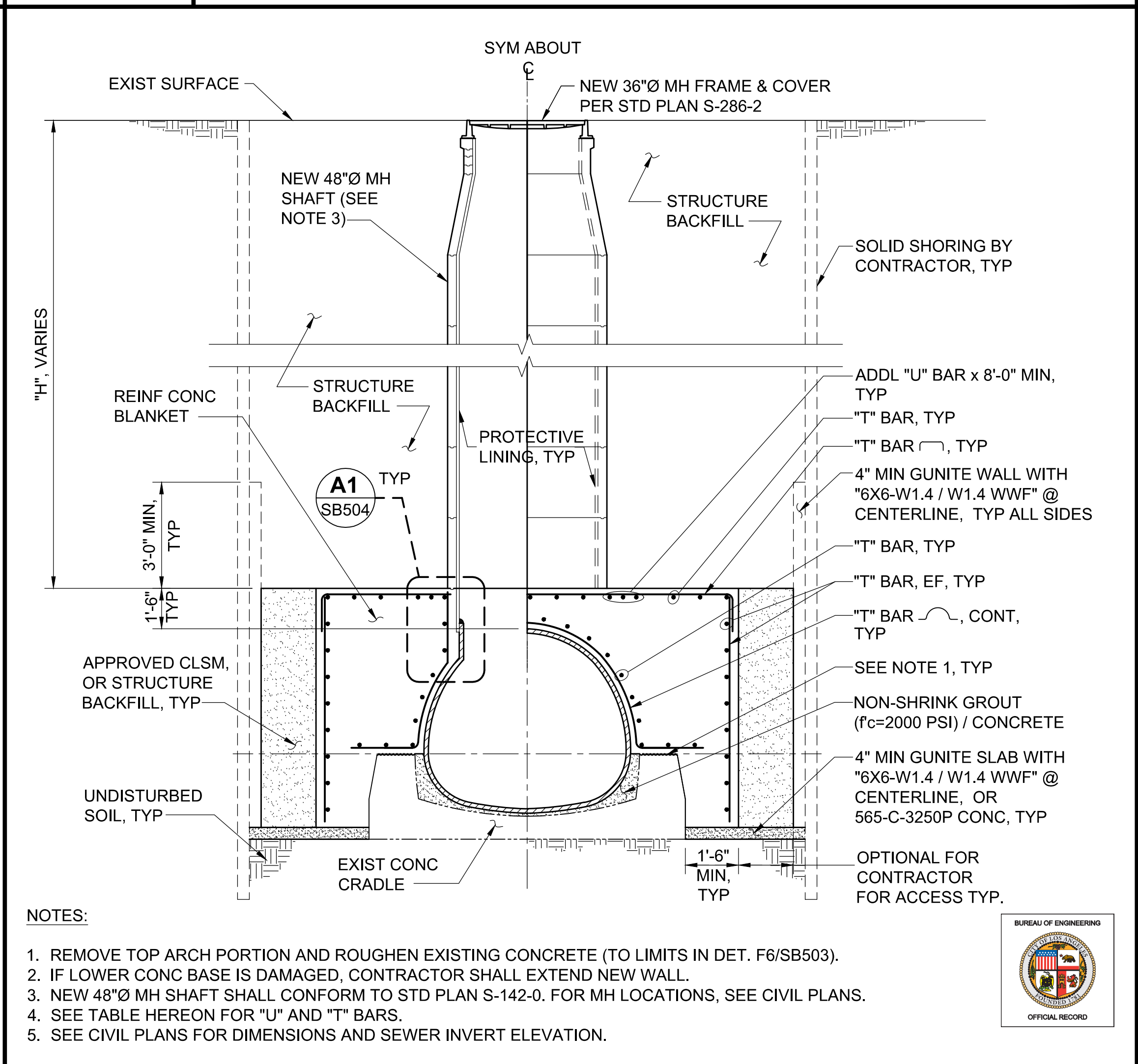
**G1 PLAN - MH 445-01-002 & MH 445-01-007 STRUCTURE (PRESSURIZED FRAME AND COVER)**



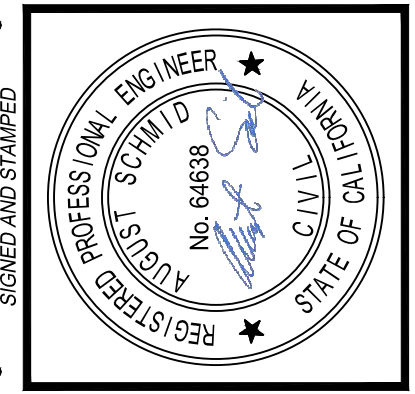
**H11 SECTION, TYP**



**A1 SECTION - MH 445-01-002 STRUCTURE**



**A11 SECTION - MH 445-01-002 STRUCTURE**



**BUREAU OF ENGINEERING**  
 VERTICAL CONTROL: —  
 HORIZONTAL CONTROL: —  
 SHEET TITLE: MH 445-01-002 & MH 445-01-007 STRUCTURE  
 PLAN & SECTIONS - 48" SE  
 PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR.  
 RIGHT-OF-WAY TO DORAN ST.  
 ADDRESS: ZOO DR. RW TO DORAN ST.  
 LOS ANGELES, CA

**DEPARTMENT OF PUBLIC WORKS**

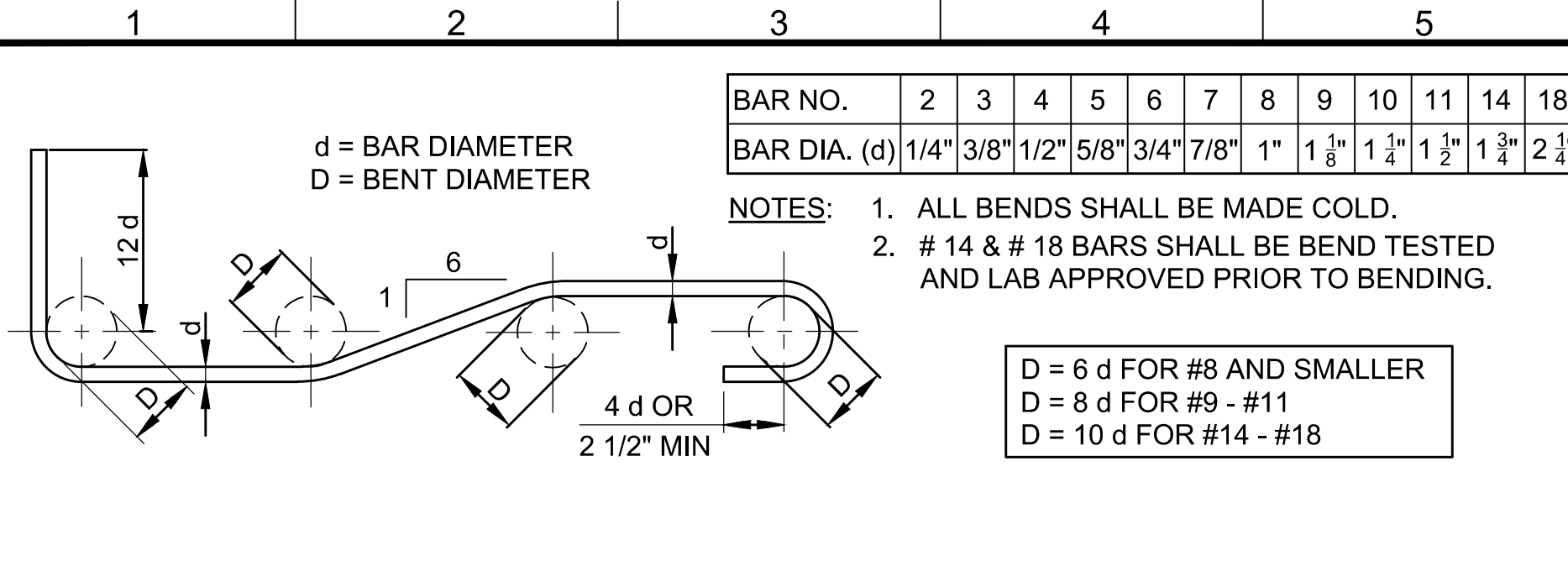
NO.	REVISIONS	DATE	BY
1	REVISE TOTAL NUMBER OF SHEETS	10/22/24	JN

CITY ENGINEER: —  
 DESIGN GROUP: —  
 LIC. NO. C-64638  
 ENGINEER: AUGUST SCHMID, PE  
 DESIGNED BY: TAL SHEMEN, PE  
 DRAWN BY: CHI-HYUN SUN  
 CHECKED BY: MARIAM YOUSSEF, PE / SHRISH MISTRY, SE  
 APPROVED BY: SHAIKESH "SUNNY" PATEL, SE

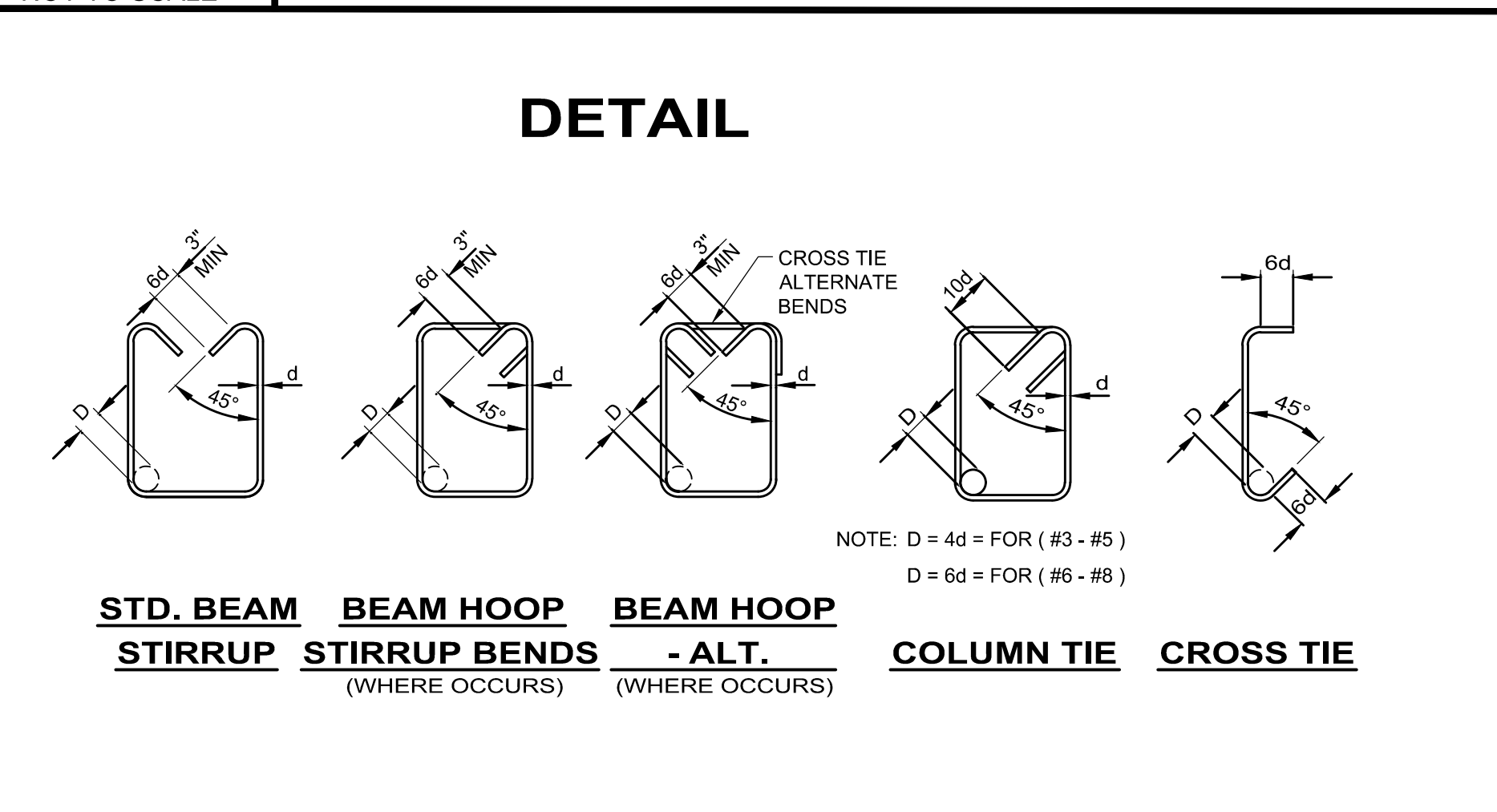
INDEX NO. **D-35839**  
 SHEET NO. **960**

**CITY OF LOS ANGELES**  
 WORK ORDER NO. **SZC13947**  
 SHEET NAME **SB106**  
 SHEET 44 OF 51 SHEETS

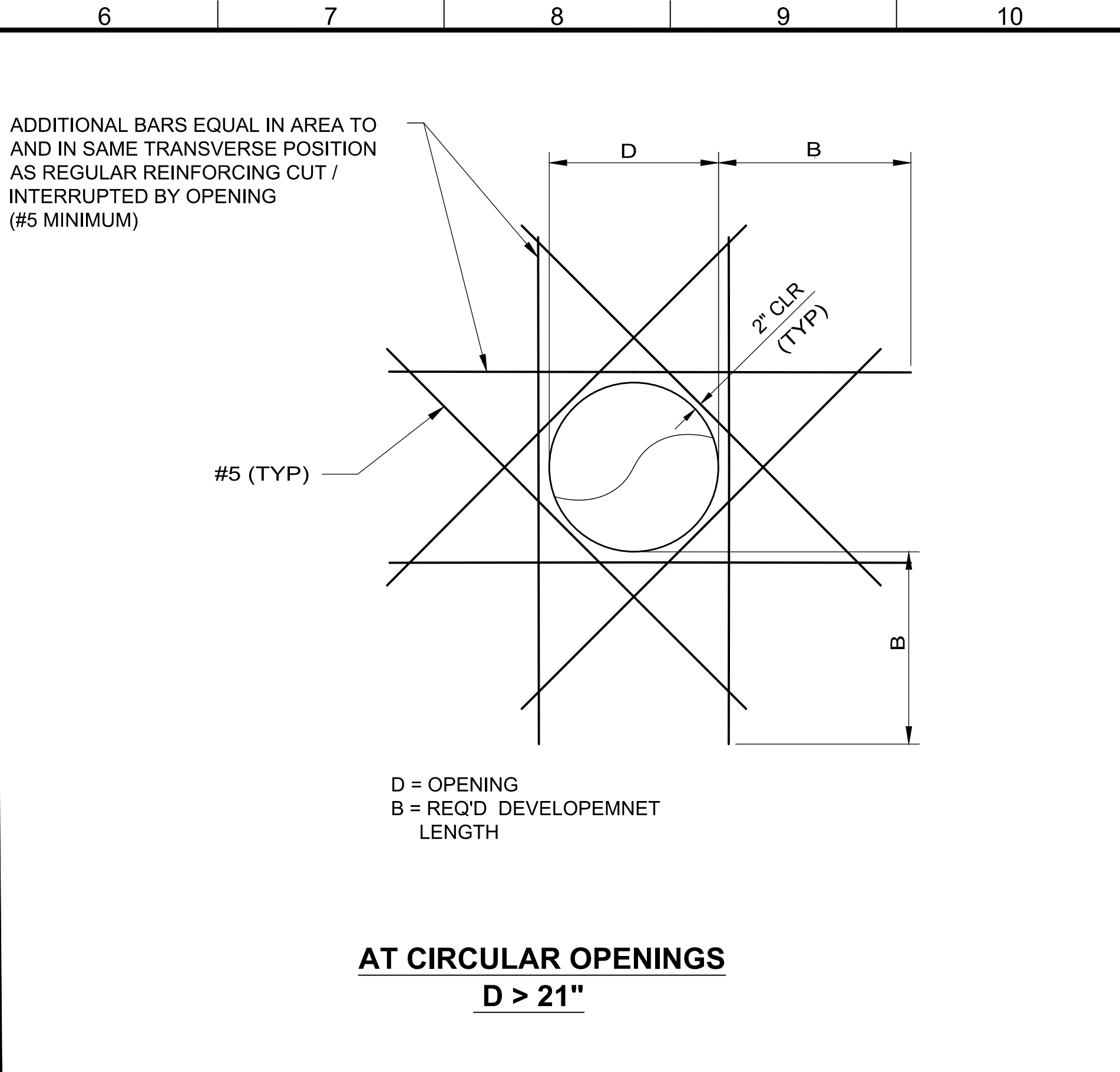
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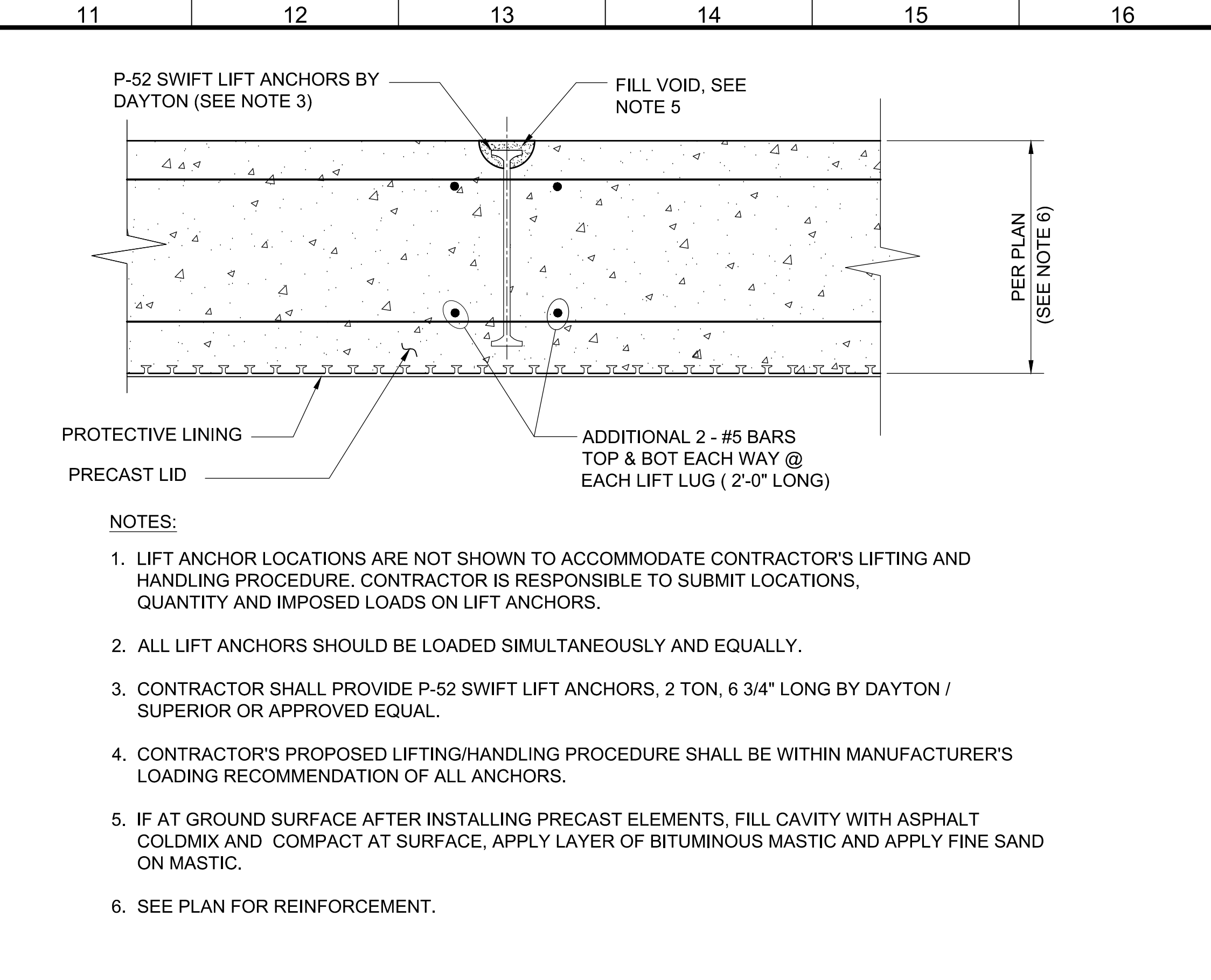
**J1** TYPICAL REINFORCING BAR BENDS  
 NOT TO SCALE



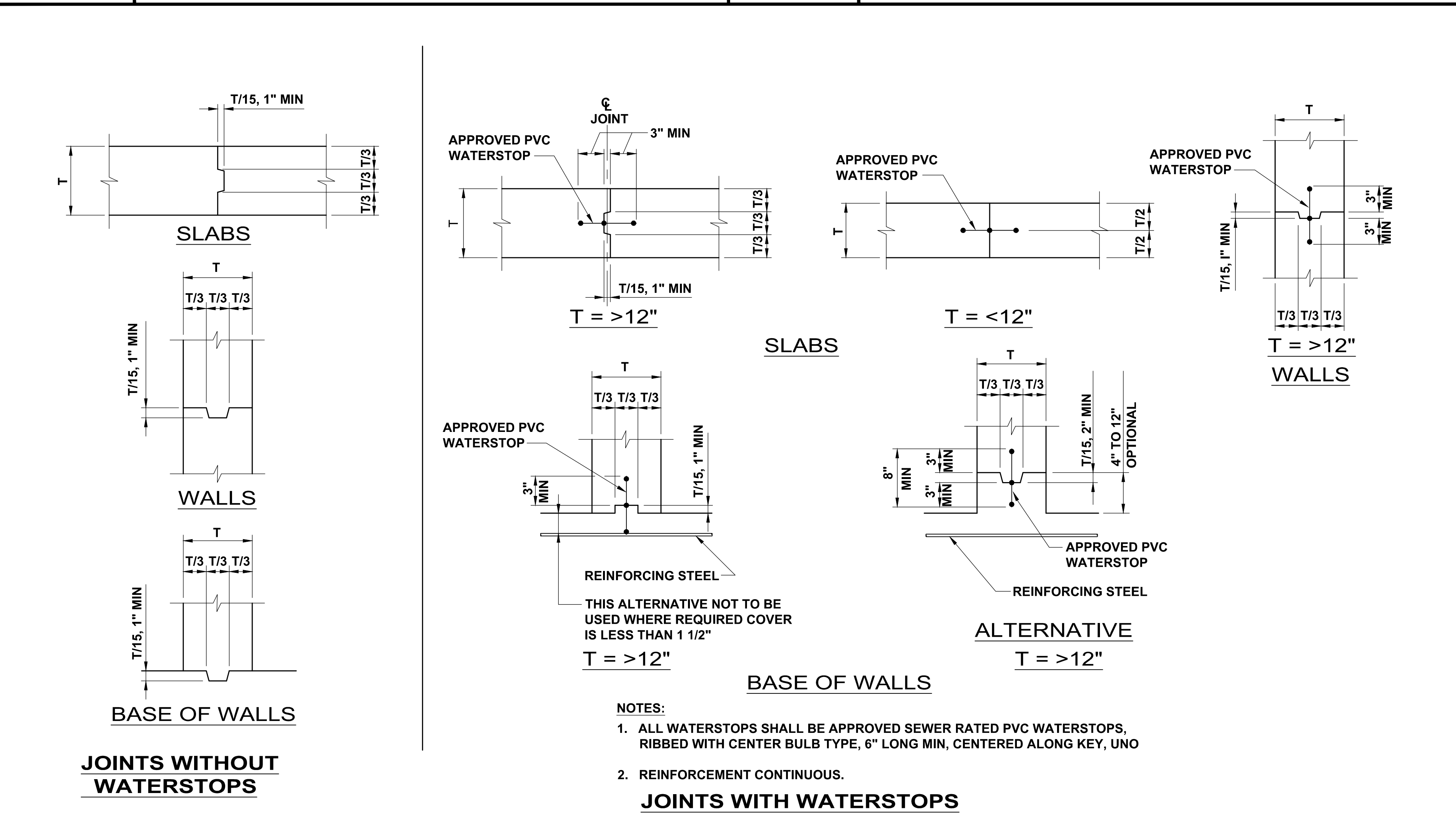
**G1** TYP STIRRUP, HOOP & TIE BENDS DETAIL  
 NOT TO SCALE



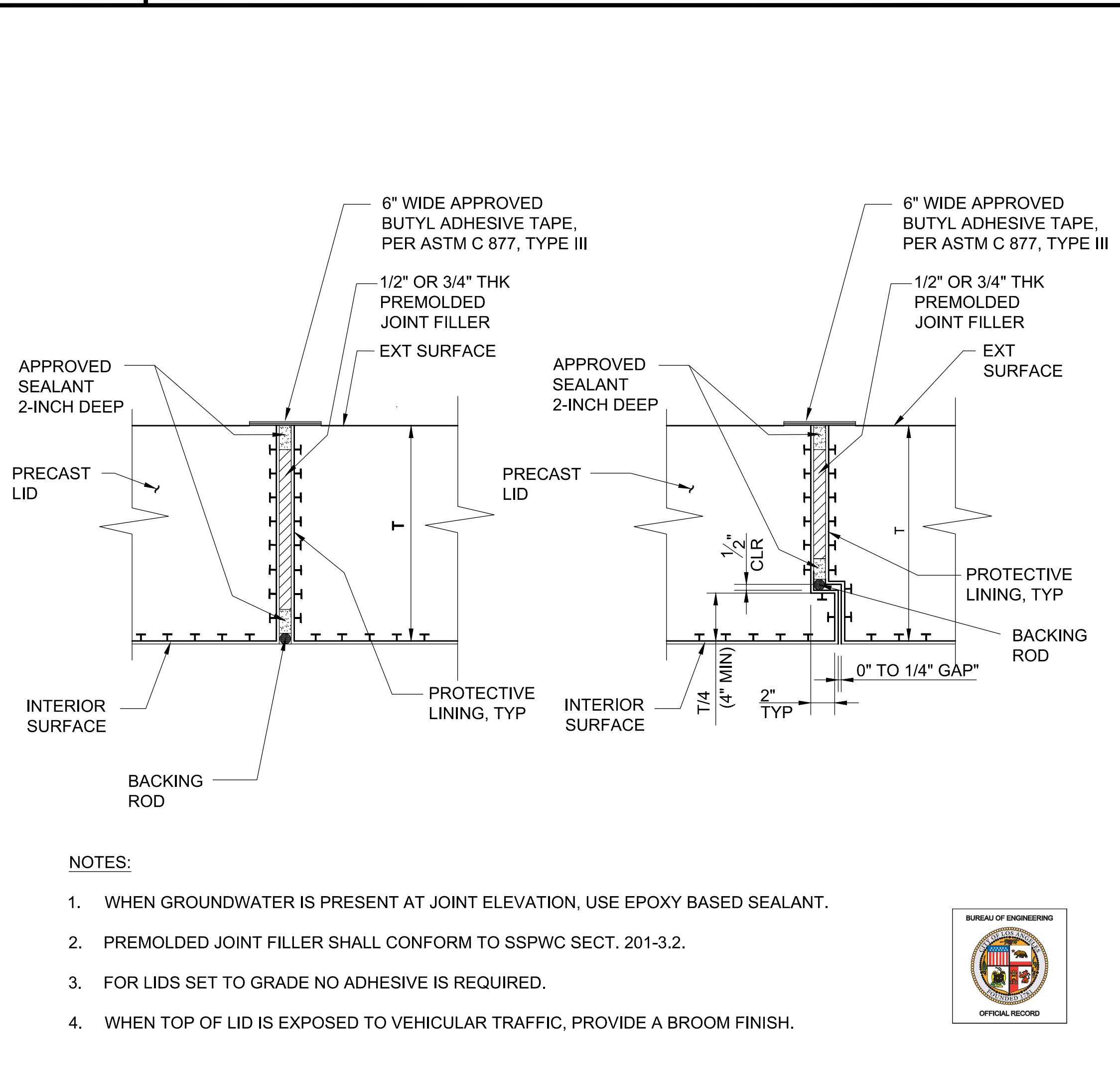
**G6** TYP ADDL REINFORCEMENT AT OPENINGS  
 NOT TO SCALE



**G11** TYPICAL LIFT ANCHOR DETAIL  
 NOT TO SCALE

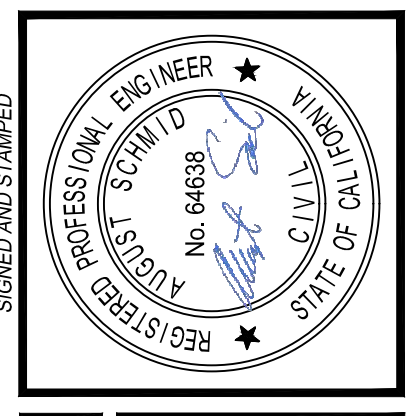


**A1** TYPICAL CONSTRUCTION JOINTS DETAIL  
 NOT TO SCALE



**A11** TYPICAL PRECAST JOINT DETAIL  
 NOT TO SCALE

REVISION DATES (FOR USER USE ONLY)  
 THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



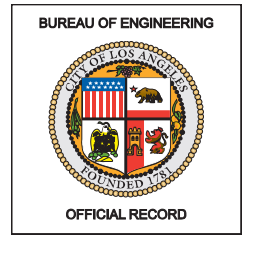
**BUREAU OF ENGINEERING**  
 HORIZONTAL CONTROL:  
 SHEET TITLE: TYPICAL STRUCTURAL DETAILS (1)  
 PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.  
 ADDRESS: 700 DR. RAW TO DORAN ST. LOS ANGELES, CA

NO.	REVISIONS	DATE	BY
1	REVISE TOTAL NUMBER OF SHEETS	10/22/24	JN

INDEX NO. D-35839  
 CIP NO. 960

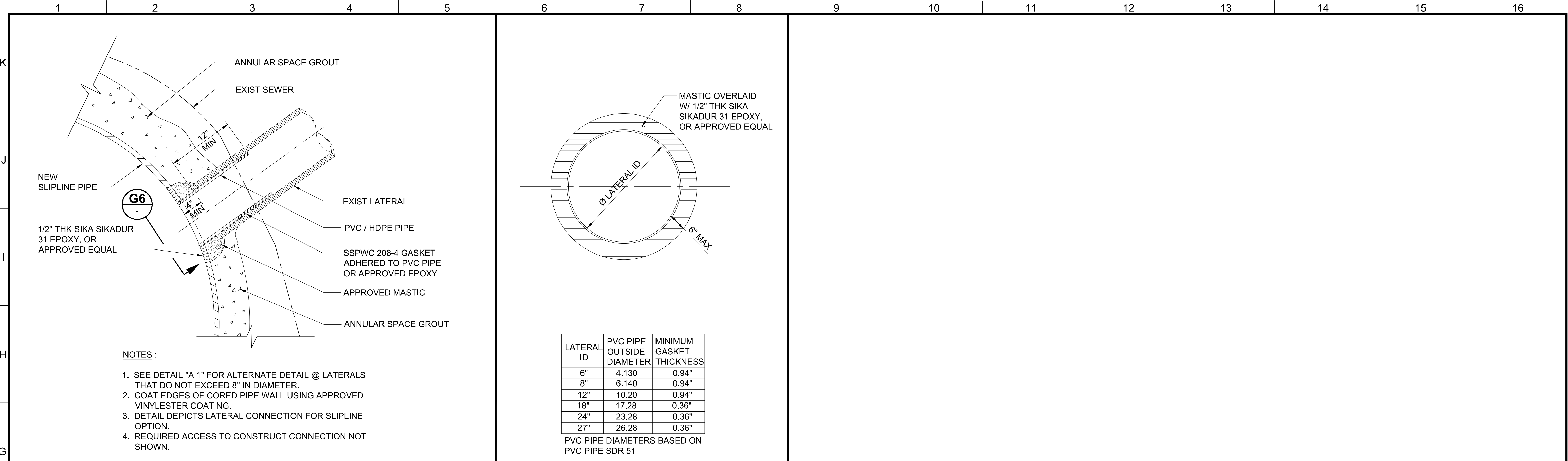
CITY ENGINEER	TED ALLEN, P.E.
DESIGN GROUP	AUGUST SCHMID, PE
DESIGNED BY	TAL SHEMEN, PE
DRAWN BY	CHH-YUN SUN
CHECKED BY	MARAM YOUSSEF, PE / SHIRISH MISTRY, SE
APPROVED BY	SHAILESH "SUNNY" PATEL, SE
DATE	07/21/23
LIC. NO.	C-64638
DATE	06/30/23
DATE	06/30/23
DATE	06/30/23

WORK ORDER NO. SZC13947  
 SHEET NAME SB501  
 SHEET 45 OF 51 SHEETS





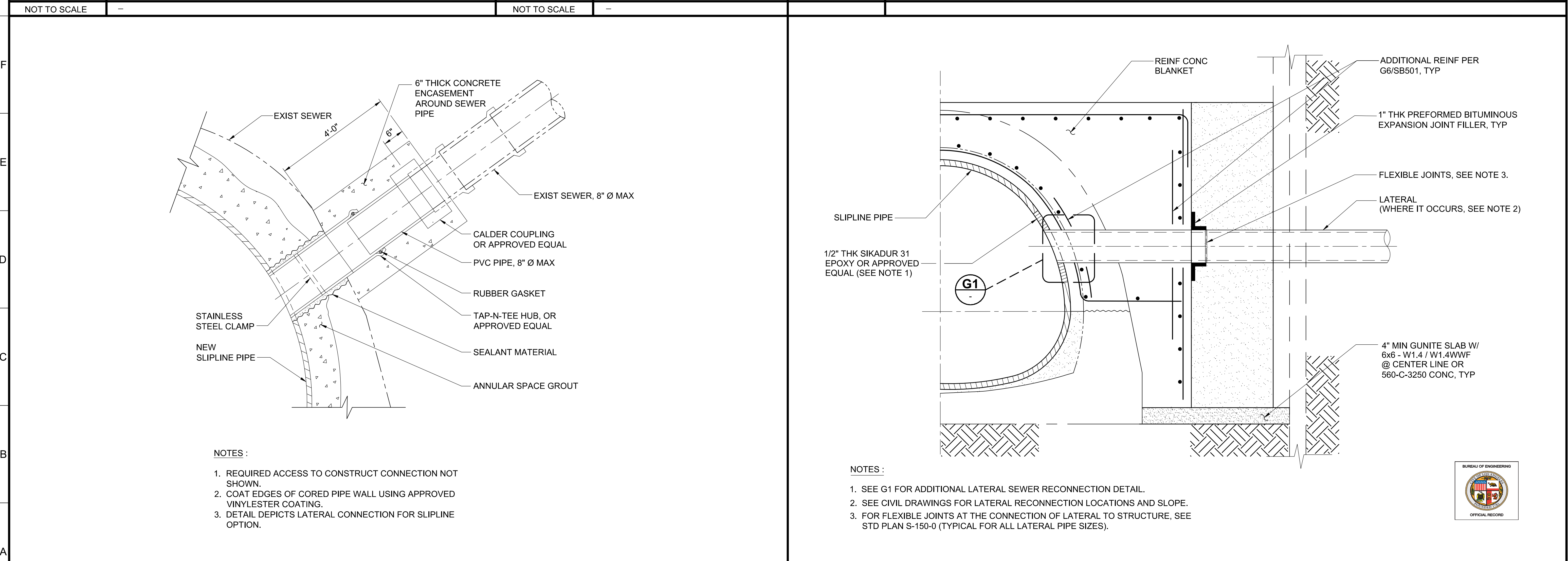
REVISION DATES (USING STAGE ONLY) SHEET NO. 4 OF 8 SHEETS



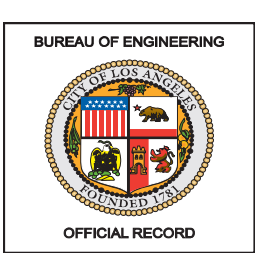
- NOTES :
- SEE DETAIL "A 1" FOR ALTERNATE DETAIL @ LATERALS THAT DO NOT EXCEED 8" IN DIAMETER.
  - COAT EDGES OF CORED PIPE WALL USING APPROVED VINYLESTER COATING.
  - DETAIL DEPICTS LATERAL CONNECTION FOR SLIPLINE OPTION.
  - REQUIRED ACCESS TO CONSTRUCT CONNECTION NOT SHOWN.

**G6** DETAIL

**G1** DETAIL - @ SLIPLINE PIPE

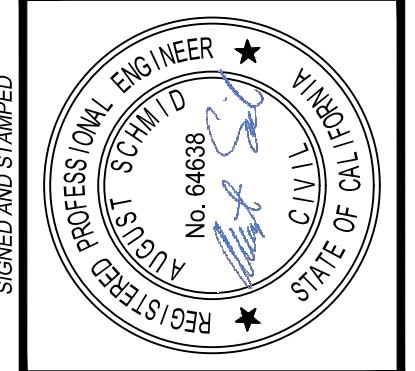
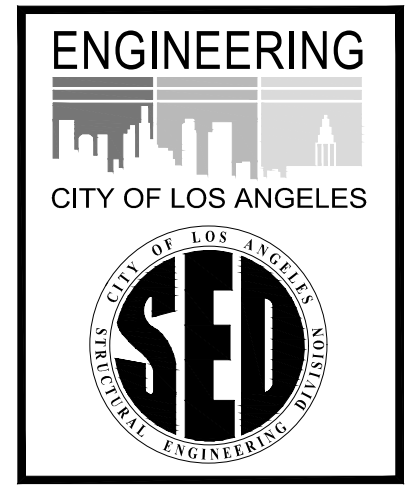


- NOTES :
- SEE G1 FOR ADDITIONAL LATERAL SEWER RECONNECTION DETAIL.
  - SEE CIVIL DRAWINGS FOR LATERAL RECONNECTION LOCATIONS AND SLOPE.
  - FOR FLEXIBLE JOINTS AT THE CONNECTION OF LATERAL TO STRUCTURE, SEE STD PLAN S-150-0 (TYPICAL FOR ALL LATERAL PIPE SIZES).



**A9** DETAIL - LATERAL AT CONCRETE STRUCTURE FOR SLIPLINE

**A1** DETAIL (ALT) - @ SLIPLINE PIPE



**BUREAU OF ENGINEERING**  
 DEPARTMENT OF PUBLIC WORKS  
 CITY OF LOS ANGELES  
 PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.  
 ADDRESS: ZOO DR. R/W TO DORAN ST. LOS ANGELES, CA  
 SHEET TITLE: TYPICAL STRUCTURAL DETAILS (2)  
 SHEET NO. 4 OF 8 SHEETS

NO.	REVISIONS	DATE	BY
1	REVISE TOTAL NUMBER OF SHEETS	10/22/24	JN

INDEX NO. **D-35839**  
 CIP NO. **960**

**CITY ENGINEER**  
 TED ALLEN, P.E.  
 DESIGN GROUP: AUGUST SCHMID, PE  
 LIC. NO. C-64638  
 DESIGNED BY: TAL SHEMEN, PE  
 DRAWN BY: CHH-YUN SUN  
 CHECKED BY: MARIAM YOUSSEF, PE / SHIRISH MISTRY, SE  
 APPROVED BY: SHAILESH "SUNNY" PATEL, SE

WORK ORDER NO. **SZC13947**

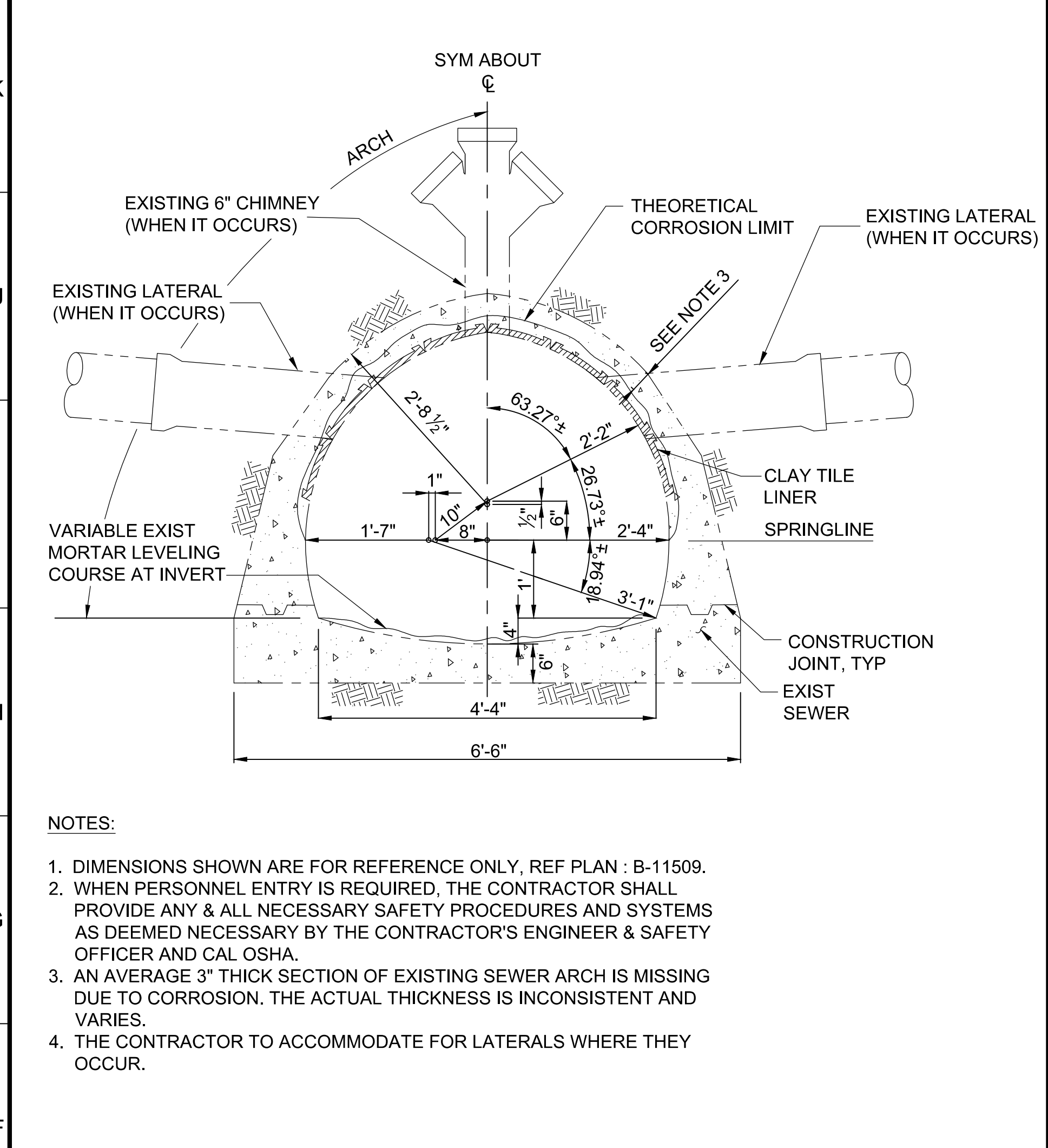
SHEET NAME **SB502**  
 SHEET 4 OF 8 SHEETS

REVISION DATES (DESIGN STAGE ONLY)

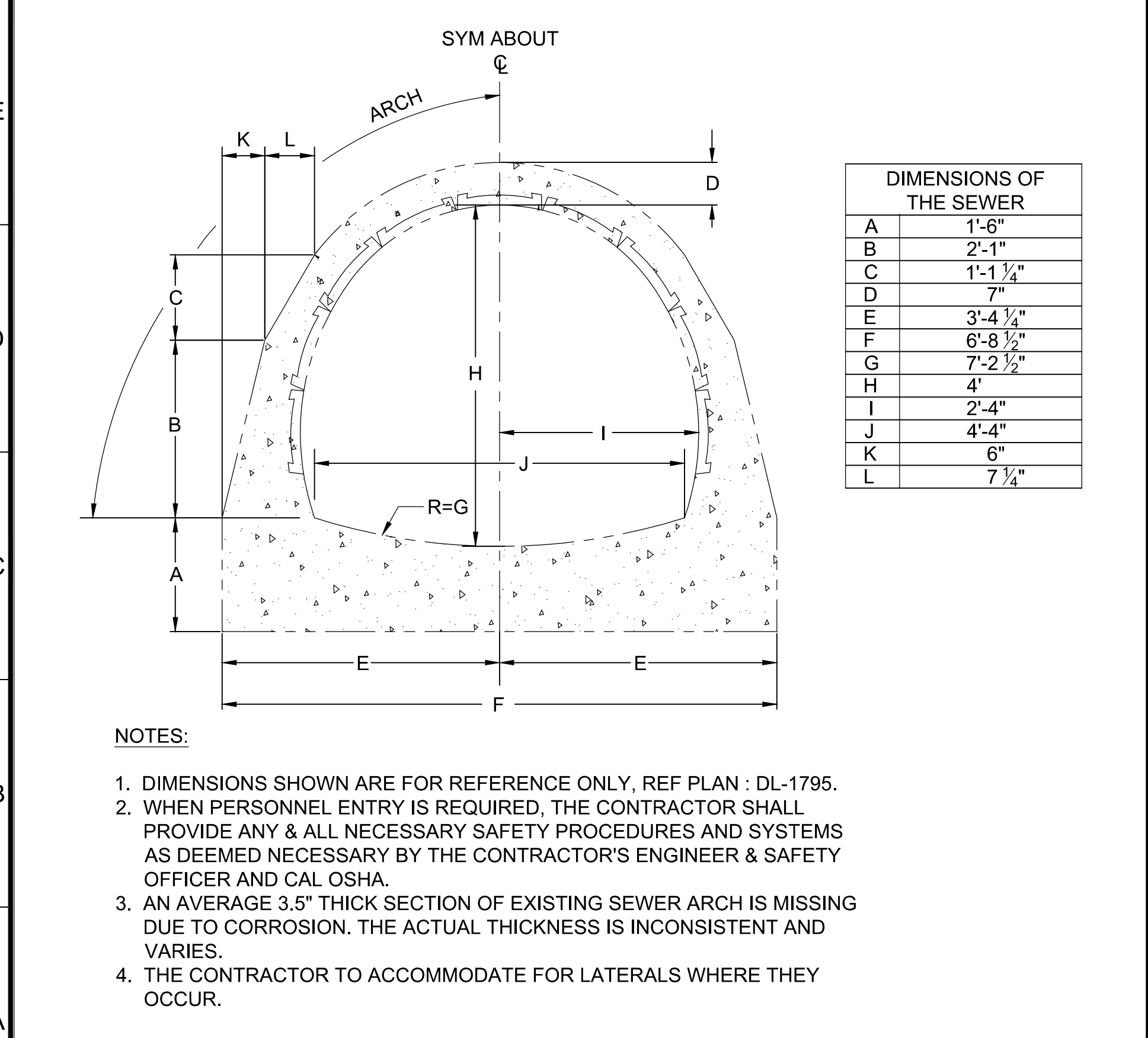
THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

K  
J  
I  
H  
G  
F  
E  
D  
C  
B  
A

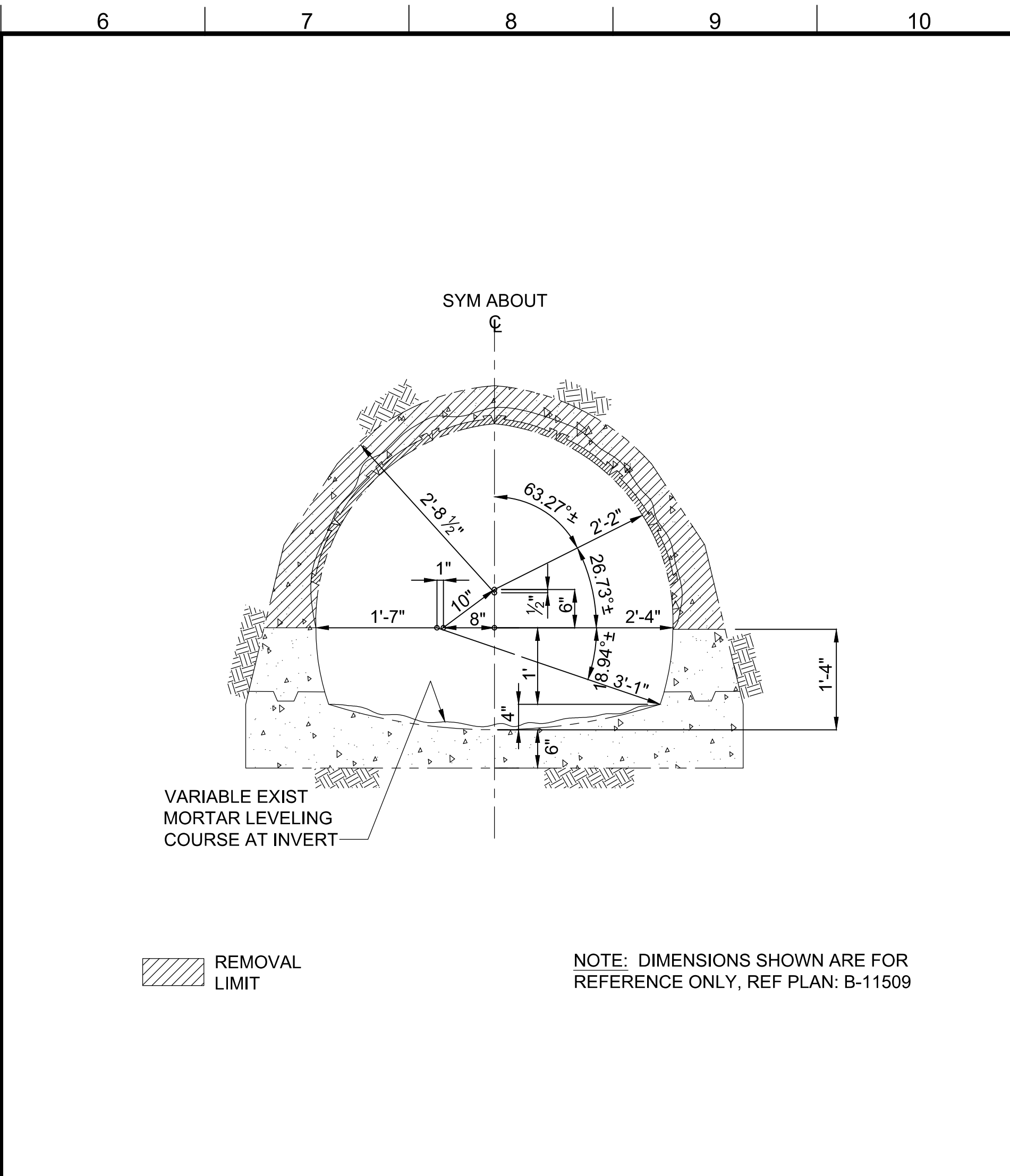
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16



**F1** SECTION - ORIGINAL 48" SE NOS DIMENSIONS  
SCALE: 3/4" = 1'-0"



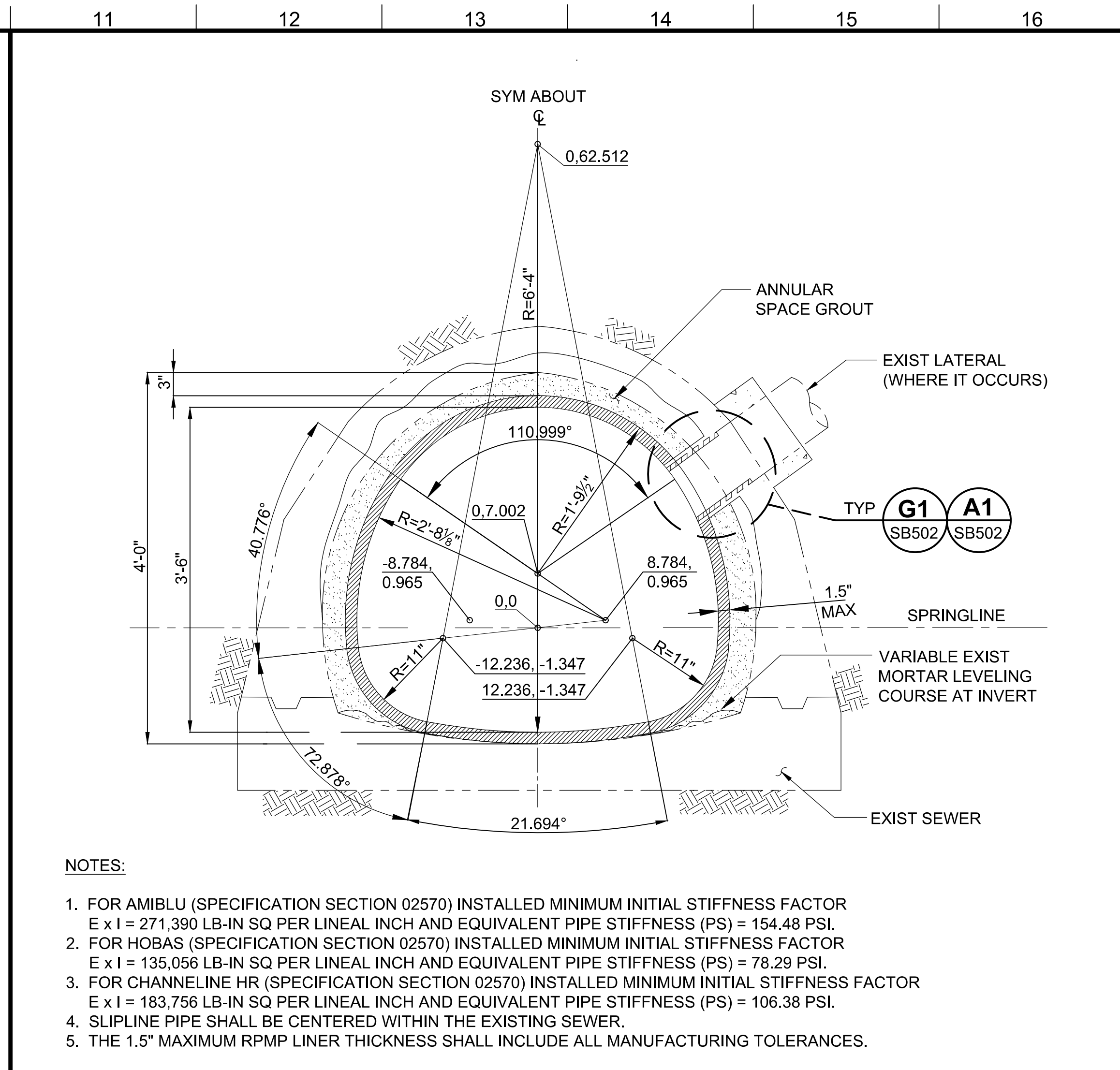
**A1** SECTION - ORIGINAL 48" SE NOS DIMENSIONS FROM STA 12+46.89 TO STA 12+84.92  
SCALE: 3/4" = 1'-0"



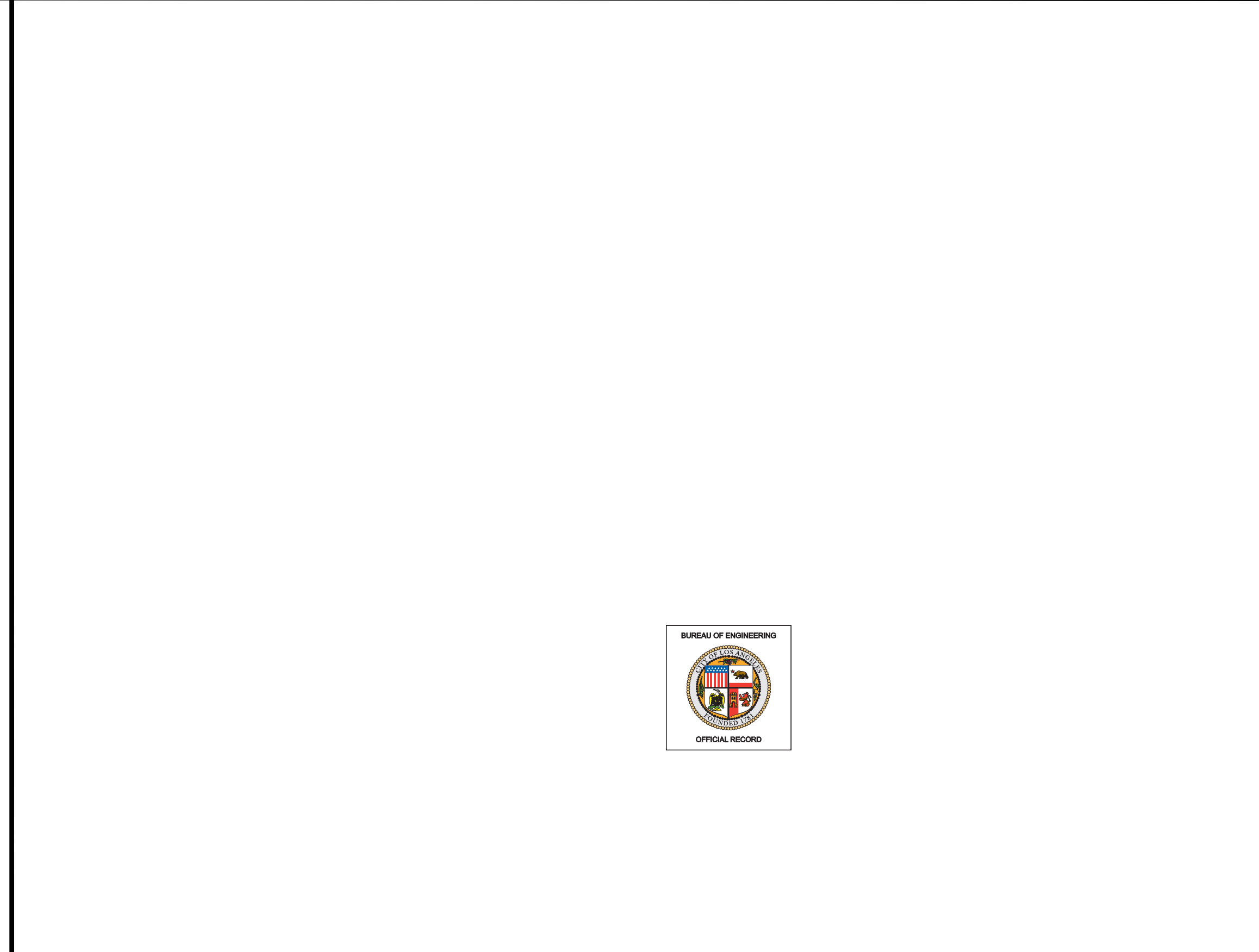
**F6** SECTION - PIPE CROWN REMOVAL 48" SE NOS  
SCALE: 3/4" = 1'-0"



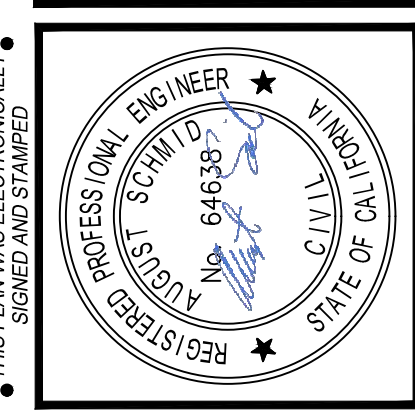
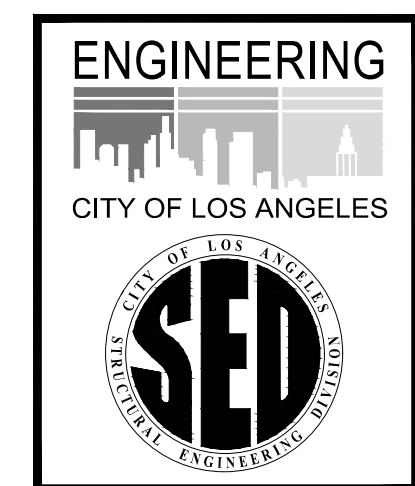
**A1** SECTION - ORIGINAL 48" SE NOS DIMENSIONS FROM STA 12+46.89 TO STA 12+84.92  
SCALE: 3/4" = 1'-0"



**F11** SLIPLINED NON-ROUND FIBERGLASS REINF. PIPE LINER FOR 48" SE NOS  
SCALE: 1" = 1'-0"



**A1** SLIPLINED NON-ROUND FIBERGLASS REINF. PIPE LINER FOR 48" SE NOS  
SCALE: 1" = 1'-0"



**BUREAU OF ENGINEERING**

VERTICAL CONTROL: \_\_\_\_\_  
HORIZONTAL CONTROL: \_\_\_\_\_

SHEET TITLE: REHABILITATION SECTIONS  
48" SEMI-ELLIPTICAL SEWER

PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR.  
RIGHT-OF-WAY TO DORAN ST.

ADDRESS: ZOO DR. RW TO DORAN ST.  
LOS ANGELES, CA

**DEPARTMENT OF PUBLIC WORKS**

NO.	REVISIONS	DATE	BY
1		10/22/24	JN

REVISION TOTAL NUMBER OF SHEETS: \_\_\_\_\_

CITY NO. 960

INDEX NO. D-35839

**CITY OF LOS ANGELES**

TED ALLEN, P.E.

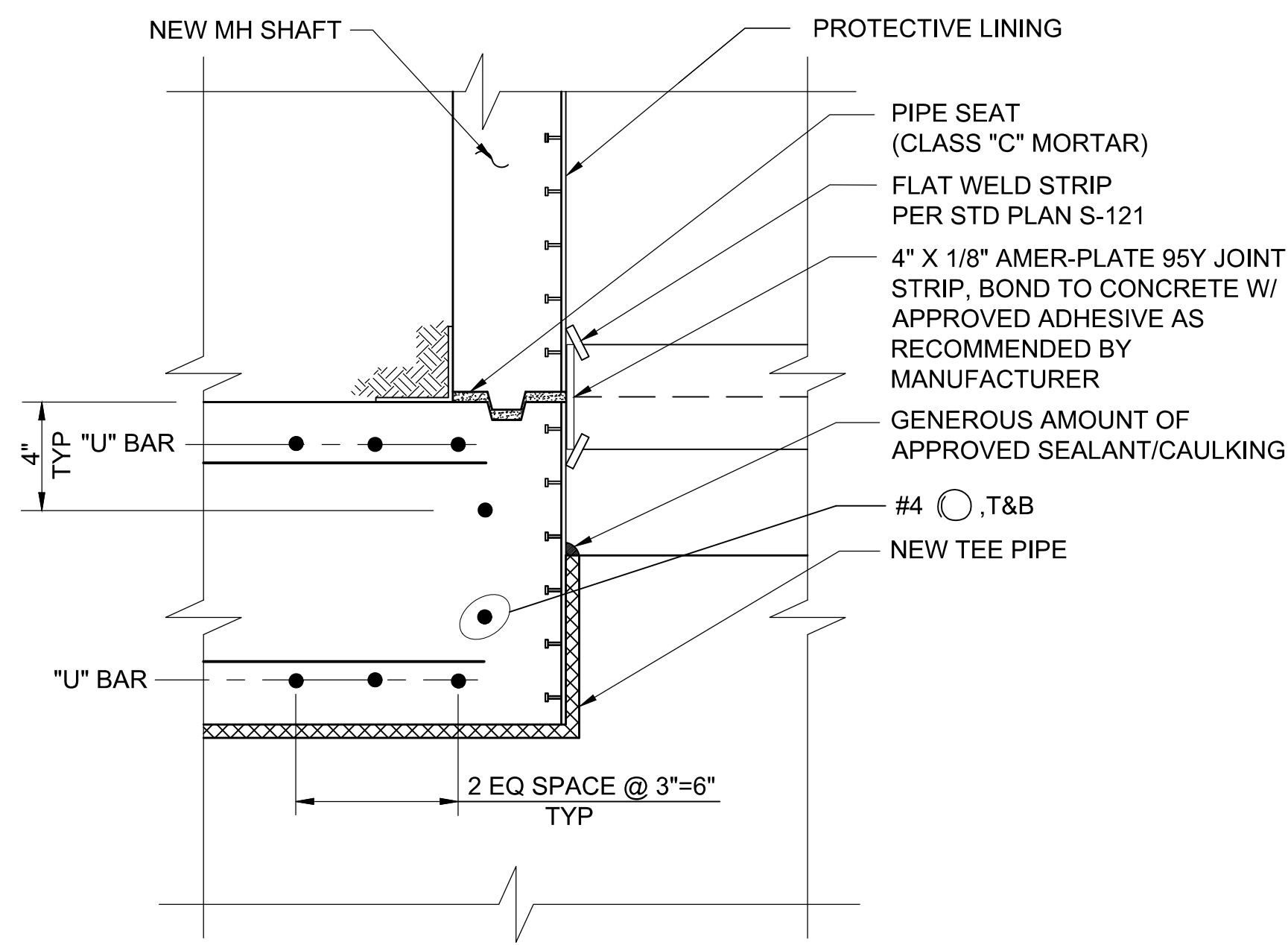
CITY ENGINEER	DATE
DESIGN GROUP	07/21/23
ENGINEER	LIC. NO. C-64638
DESIGNED BY	TAL SHEMEN, PE / PIYOUNIK HAKOPIAN, PE
DRAWN BY	CHIH-YUN SUN
CHECKED BY	MARIAM YOUSSEF, PE / SHIRISH MISTRY, SE
APPROVED BY	SHAILESH 'SUNNY' PATEL, SE

WORK ORDER NO. SZC13947

SHEET NAME **SB503**

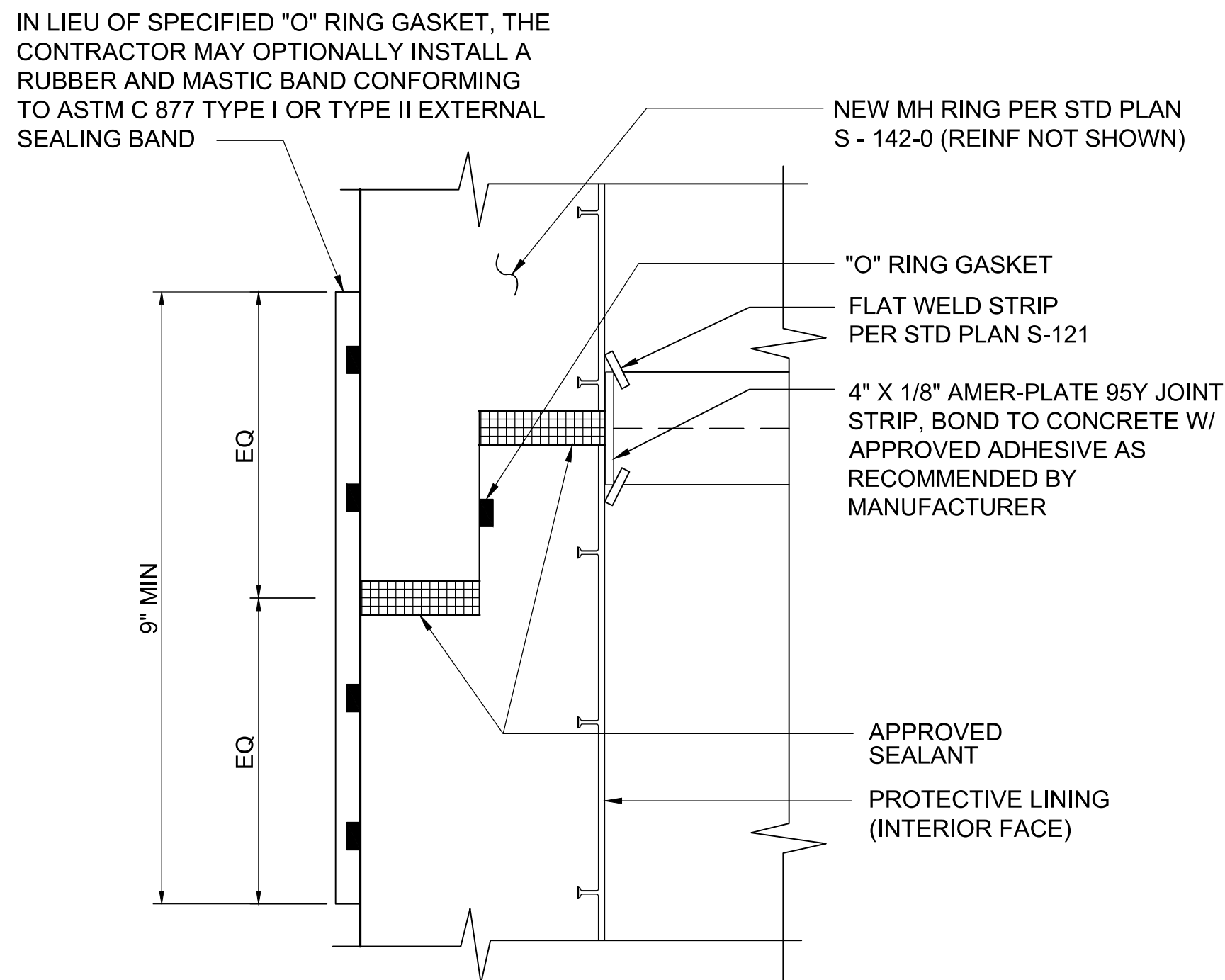
SHEET 47 OF 51 SHEETS

REVISION DATES (DESIGN STAGE ONLY) SHEET VERSION 4.0 THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



NOTES:  
 1. SEE G12 HEREON FOR JOINTS BELOW GROUND WATER TABLE.  
 2. SEE TABLE ON G1/SB101 FOR "U" AND "T" BARS.

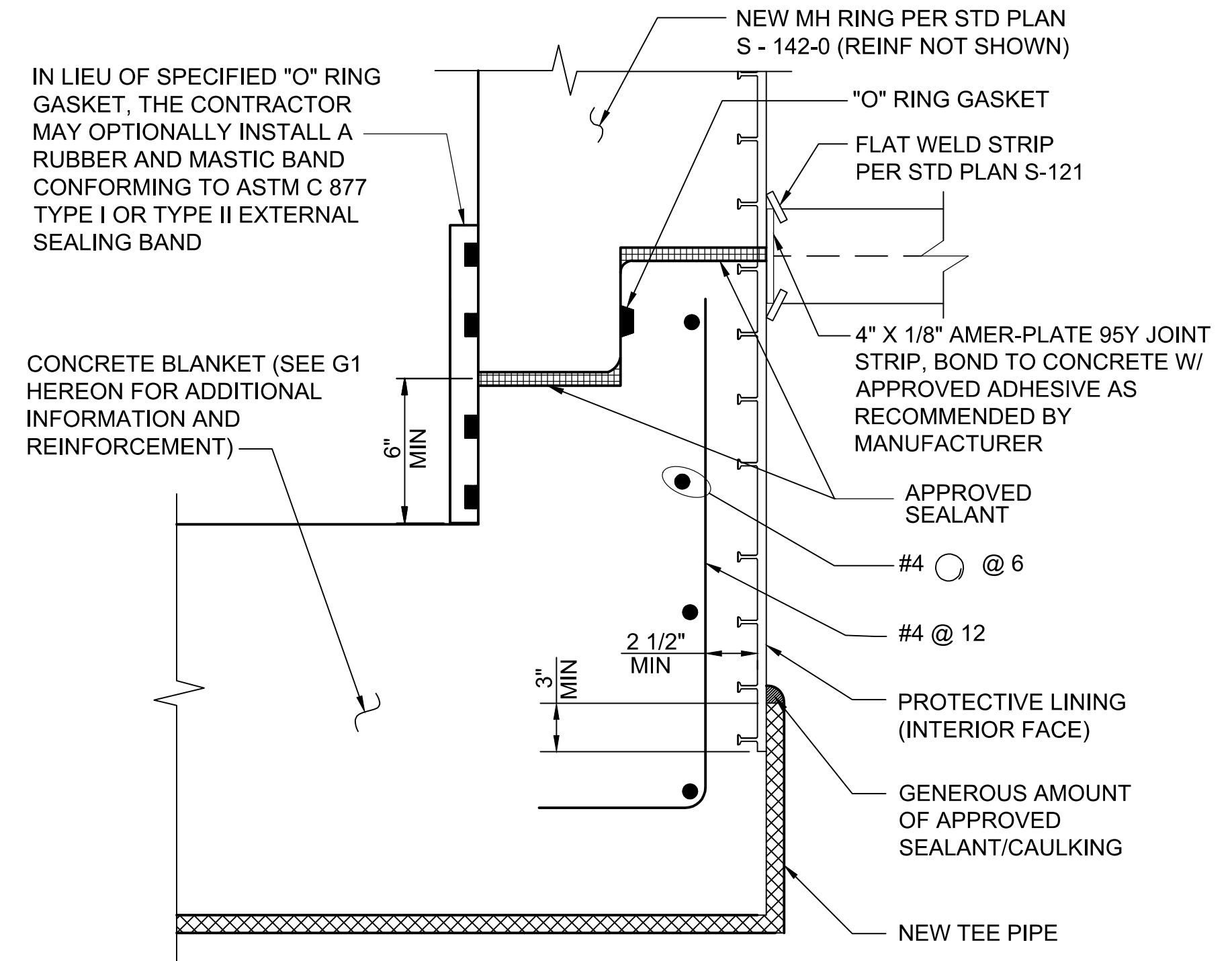
**G1 TYP. DETAIL - JT @ SLAB AND MH CONNECTION**  
 NTS SB101, SB102, SB103, SB104, SB106



NOTE:  
 THIS DETAIL SHALL BE USED FOR JOINTS BELOW GROUND WATER TABLE. OTHERWISE, USE STD PLAN S-142 JOINTS.

**"O" RING GASKET JOINT @ MH SHAFT**

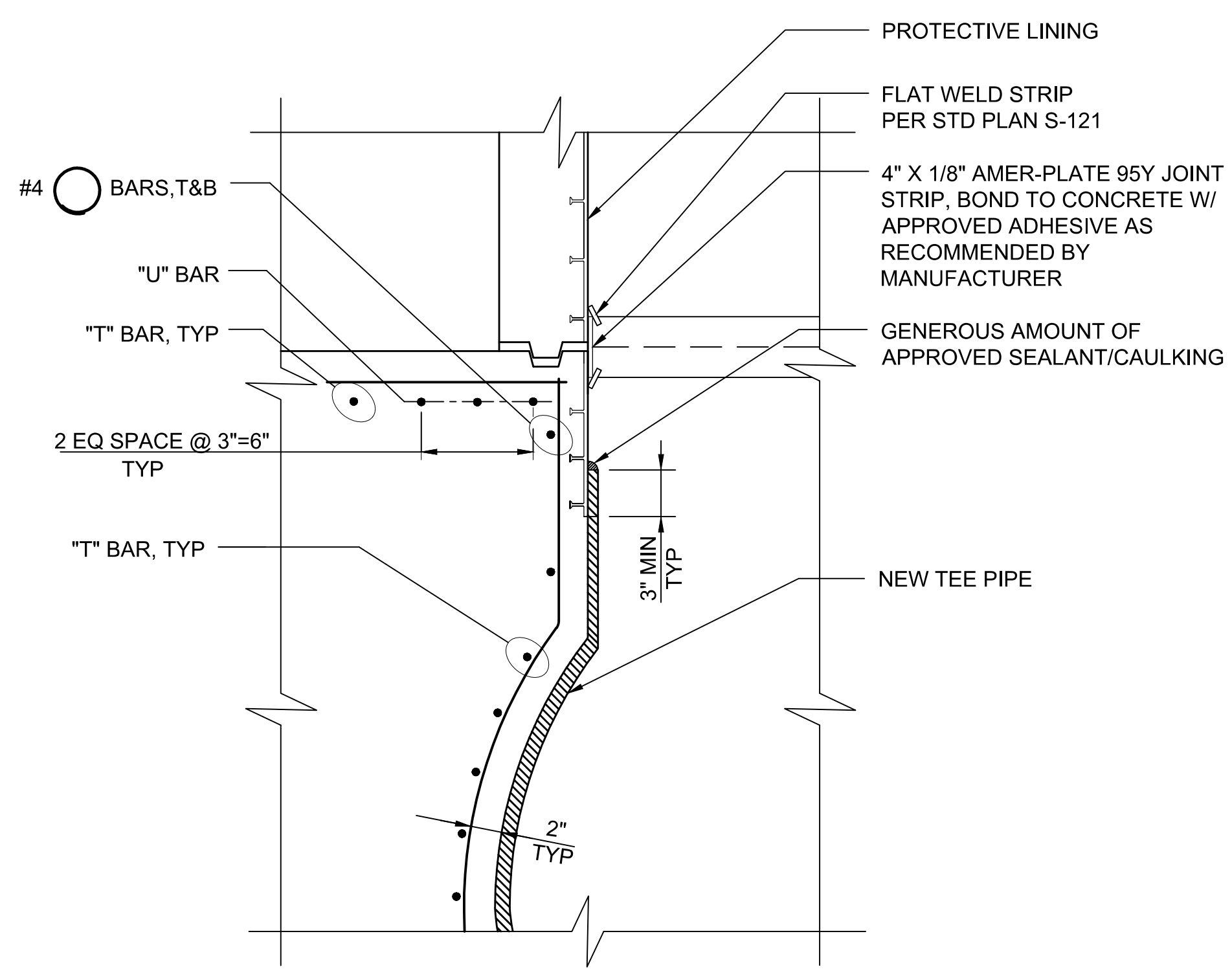
**G7 TYP. DETAIL - BELOW GROUND WATER**  
 NTS SB101, SB102, SB103, SB104, SB106



NOTE:  
 THIS DETAIL SHALL BE USED FOR JOINTS BELOW GROUND WATER TABLE. OTHERWISE, USE STD PLAN S-142 JOINTS.

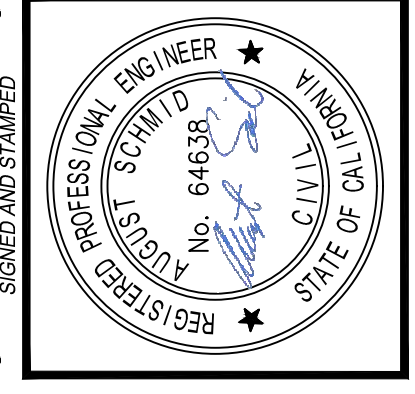
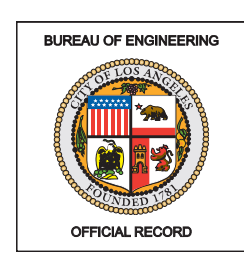
**"O" RING GASKET JOINT @ TOP OF SLAB**

**G12 TYP. DETAIL - BELOW GROUND WATER**  
 NTS



NOTE:  
 1. SEE TABLE ON G1/SB101 FOR "U" AND "T" BARS.

**A1 TYP. DETAIL - JT @ SLAB AND MH CONNECTION**  
 NTS SB101, SB102, SB103, SB104, SB106



**BUREAU OF ENGINEERING**  
 VERTICAL CONTROL: [ ]  
 HORIZONTAL CONTROL: [ ]  
 SHEET TITLE: DETAILS  
 PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.  
 ADDRESS: ZOO DR. RW TO DORAN ST. LOS ANGELES, CA

NO.	REVISIONS	DATE	BY
1	REVISE TOTAL NUMBER OF SHEETS	10/22/24	JN

INDEX NO. **D-35839** CIP NO. **960**

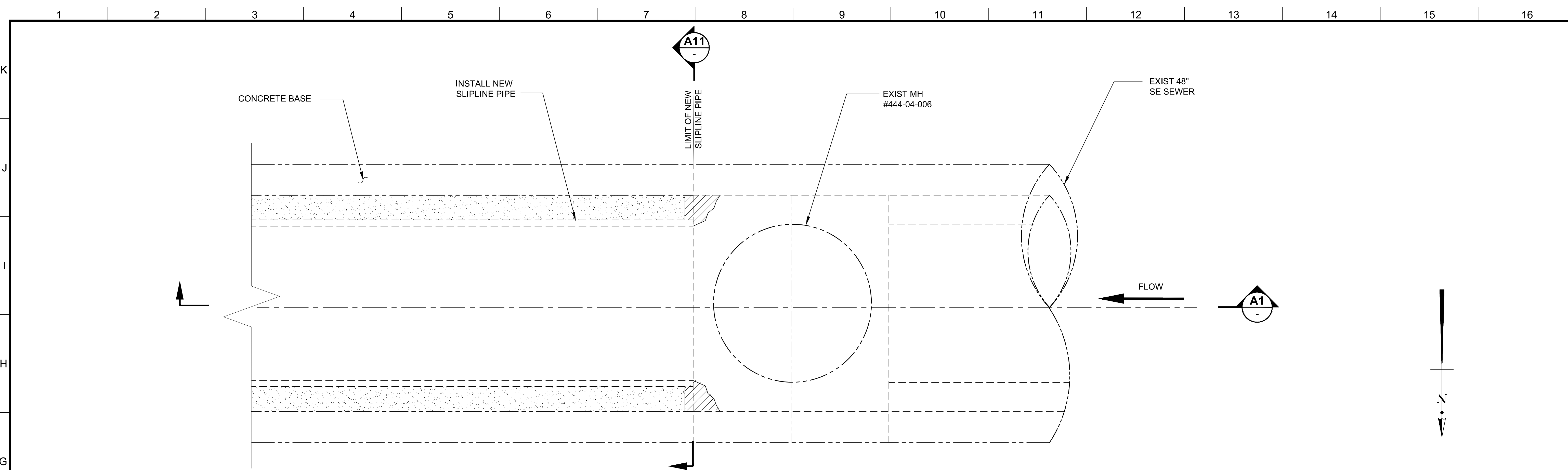
**DEPARTMENT OF PUBLIC WORKS**  
 CITY ENGINEER: TED ALLEN, P.E.  
 DESIGN GROUP: AUGUST SCHMID, PE  
 ENGINEER: TAL SHEMEN, PE  
 DRAWN BY: CHIH-YUN SUN  
 CHECKED BY: MARIAM YOUSSEF, PE / SHIRISH MISTRY, SE  
 APPROVED BY: SHAILESH "SUNNY" PATEL, SE

WORK ORDER NO. **SZC13947**

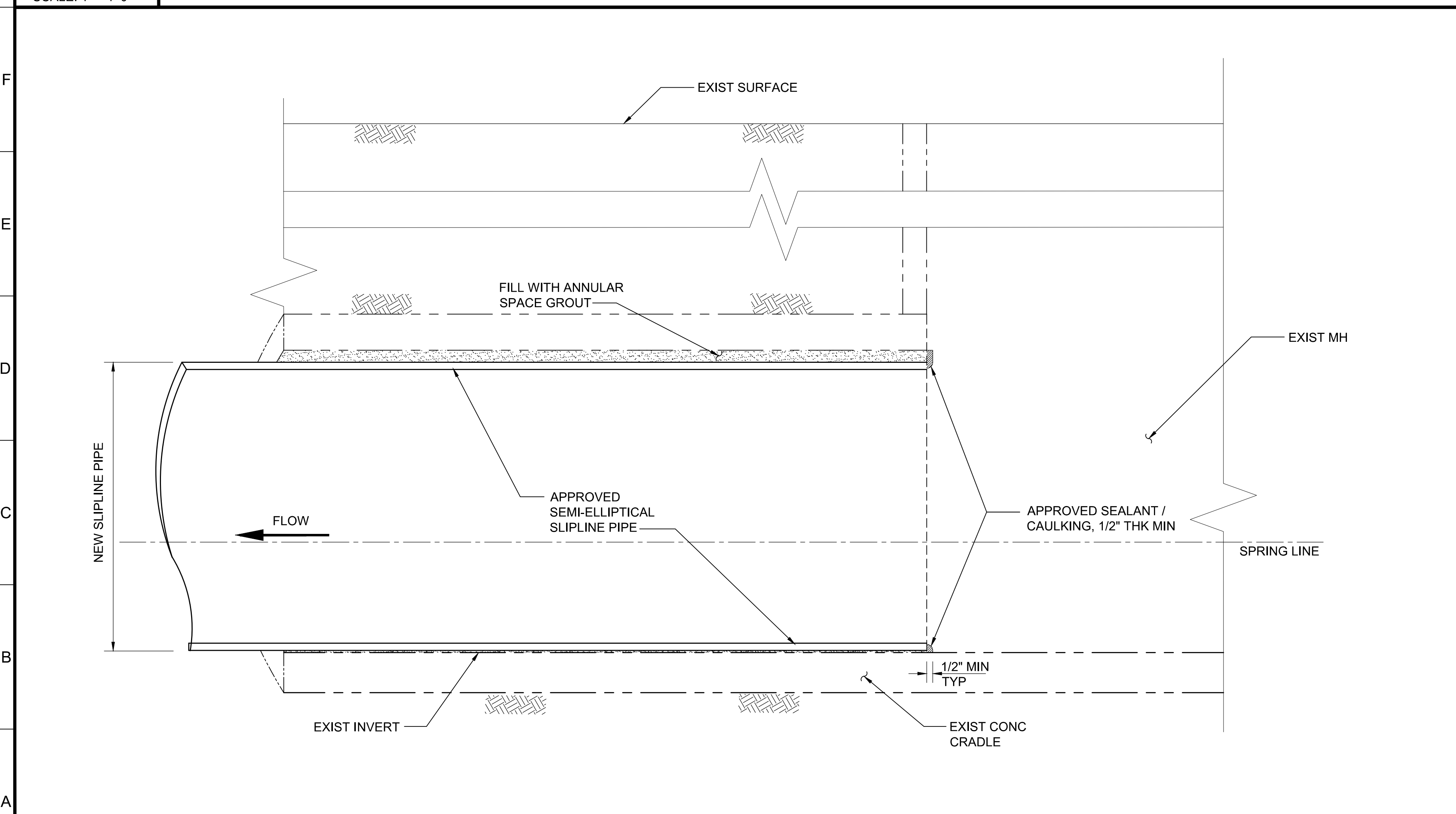
SHEET NAME: **SB504**  
 SHEET 48 OF 51 SHEETS

REVISION DATES (DESIGN STAGE ONLY)

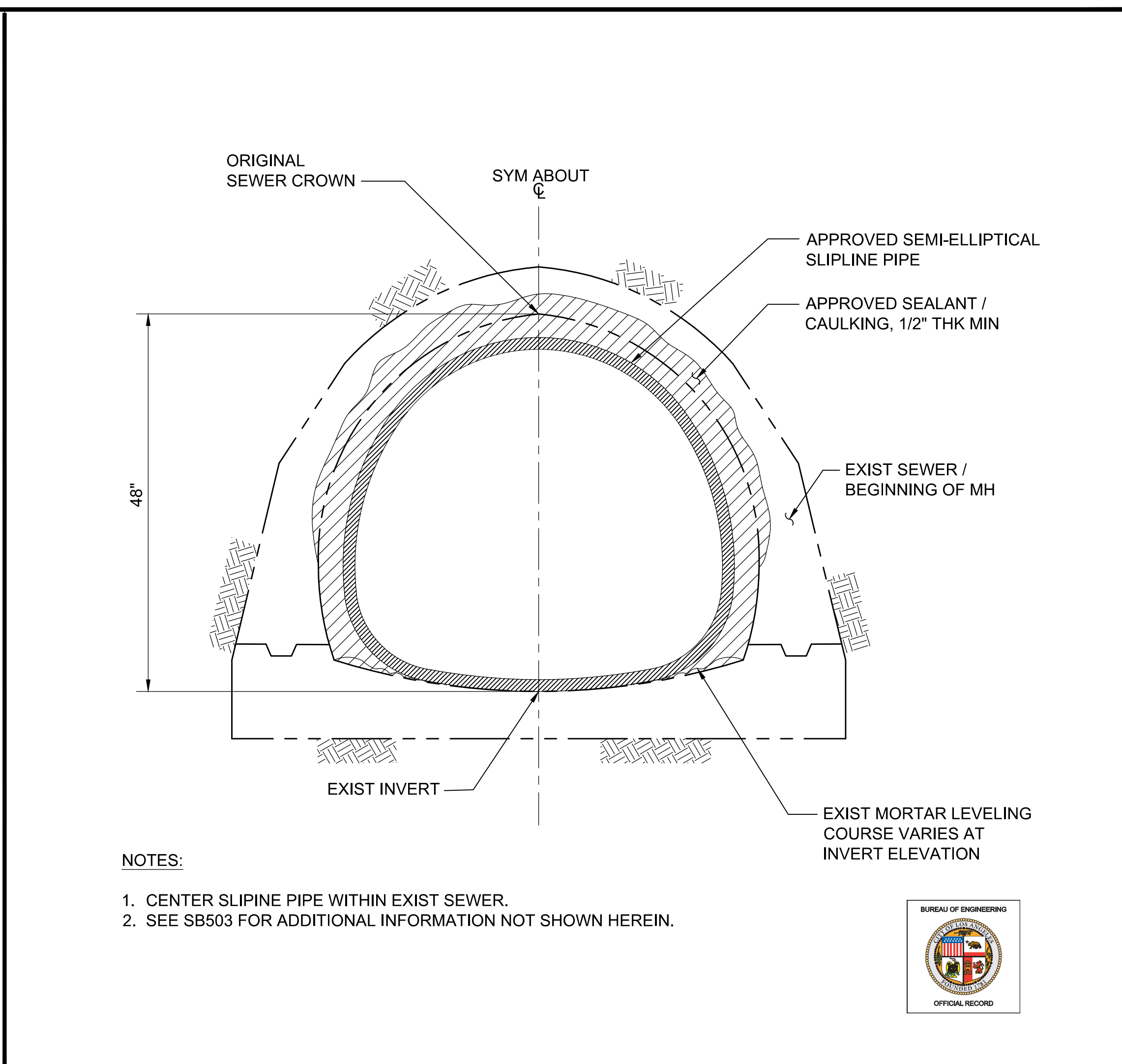
THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



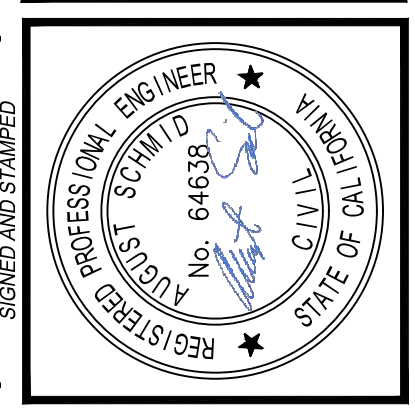
**G1** PLAN - END OF PROJECT (STA. 48+60.55)  
SCALE: 1" = 1'-0"



**A1** DETAIL  
SCALE: 1" = 1'-0"



**A11** DETAIL  
SCALE: 1" = 1'-0"



VERTICAL CONTROL	
HORIZONTAL CONTROL	
SHEET TITLE	DETAILS
PROJECT	NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.
ADDRESS	ZOO DR. RW TO DORAN ST. LOS ANGELES, CA

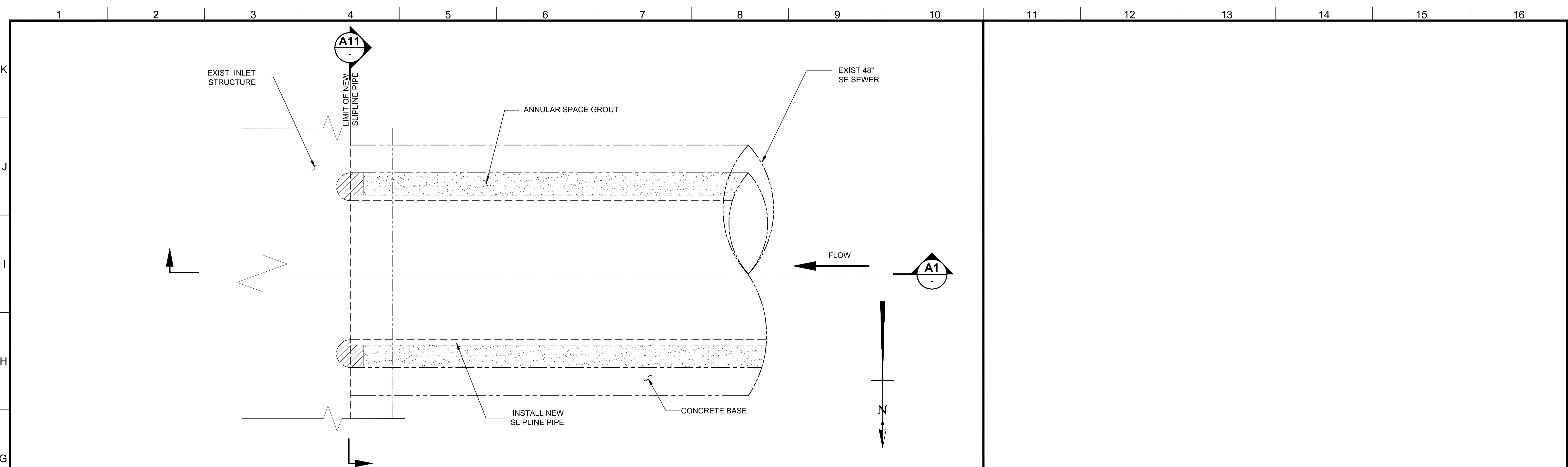
NO.	REVISIONS	DATE	BY
		10/22/24	JN
REVISE TOTAL NUMBER OF SHEETS			
1			

CITY ENGINEER	DATE
TED ALLEN, P.E.	07/21/23
DESIGN GROUP	LIC. NO. C-84638
ENGINEER	AUGUST SCHMID, PE
DESIGNED BY	TAL BHEMEN, PE
DRAWN BY	CHIH-YUN SUN
CHECKED BY	MARIAM YOUSSEF, PE / SHIRISH MISTRY, SE
APPROVED BY	SHALESH "SUNNY" PATEL, SE

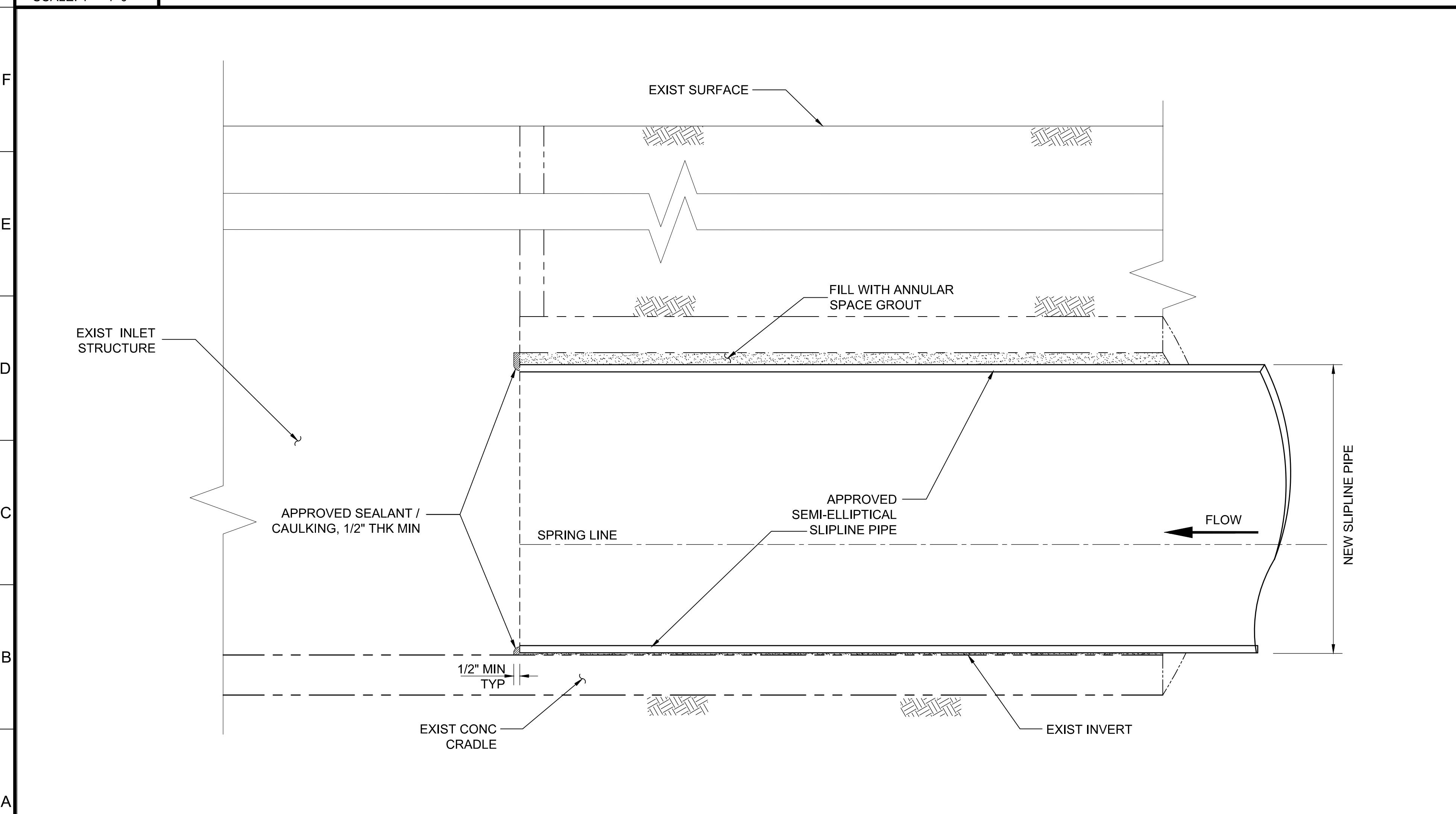
WORK ORDER NO.	SZC13947
SHEET NAME	<b>SB505</b>
SHEET	4 OF 5 SHEETS

BUREAU OF ENGINEERING  
DEPARTMENT OF PUBLIC WORKS  
CITY OF LOS ANGELES  
CIP NO. 960  
INDEX NO. D-35839

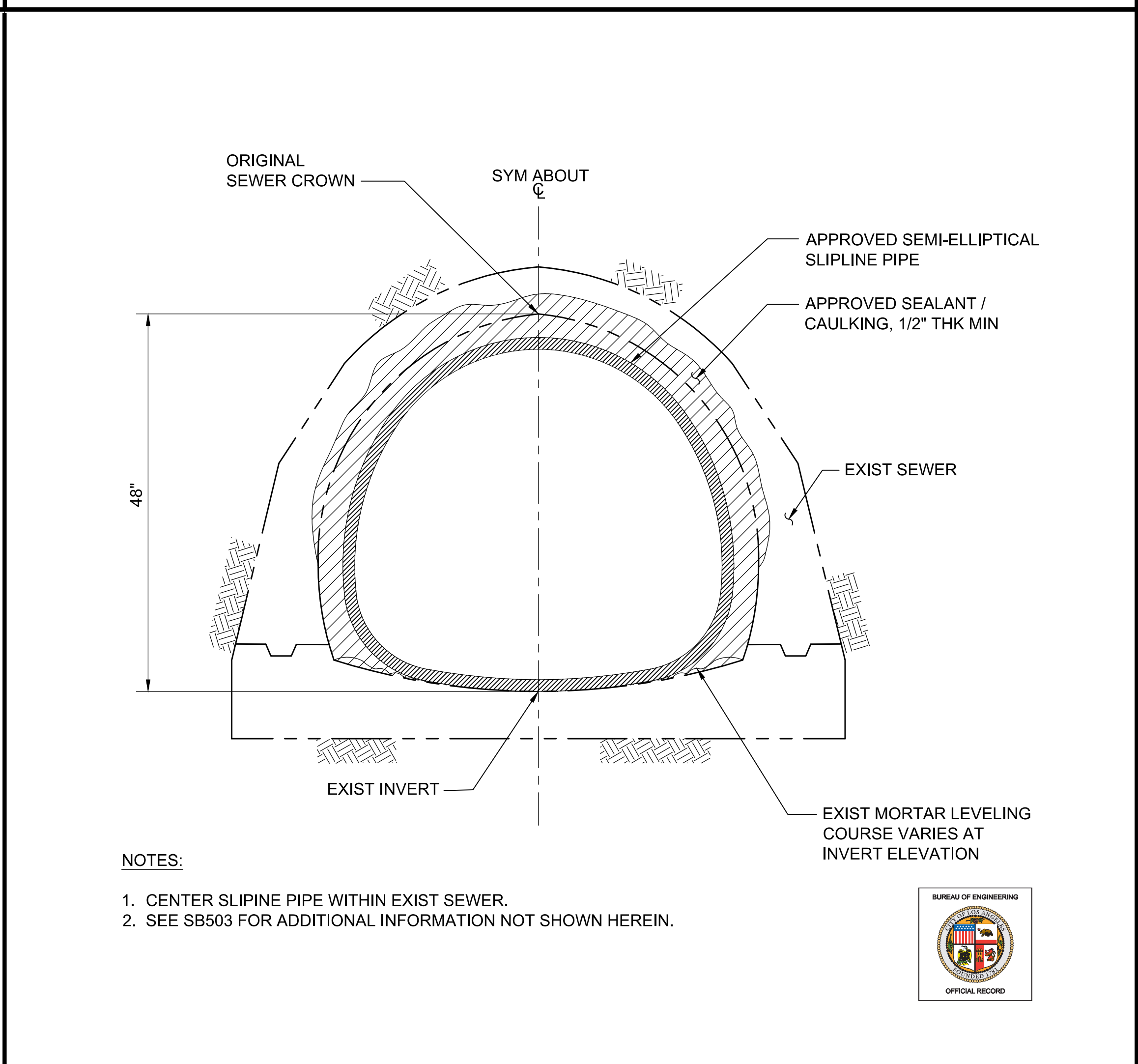
REVISION DATES (DESIGN STAGE ONLY) SHEET NO. 1



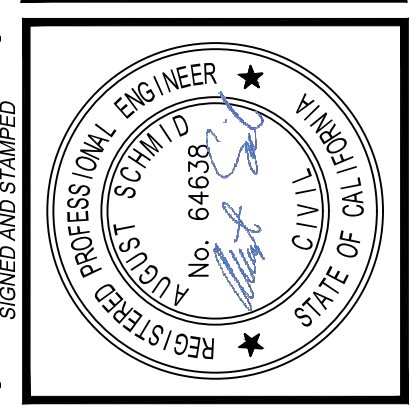
**G1** PLAN - START OF PROJECT (STA. 12+46.89)  
SCALE: 1" = 1'-0"



**A1** DETAIL  
SCALE: 1" = 1'-0"



**A11** DETAIL  
SCALE: 1" = 1'-0"



VERTICAL CONTROL	
HORIZONTAL CONTROL	
SHEET TITLE	DETAILS
PROJECT	NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.
ADDRESS	ZOO DR. RW TO DORAN ST. LOS ANGELES, CA

DEPARTMENT OF PUBLIC WORKS	
V. NO.	1
REVISIONS	
DATE	10/22/24 JN
BY	
REVISION TOTAL NUMBER OF SHEETS	
CIP NO.	960
INDEX NO.	D-35839

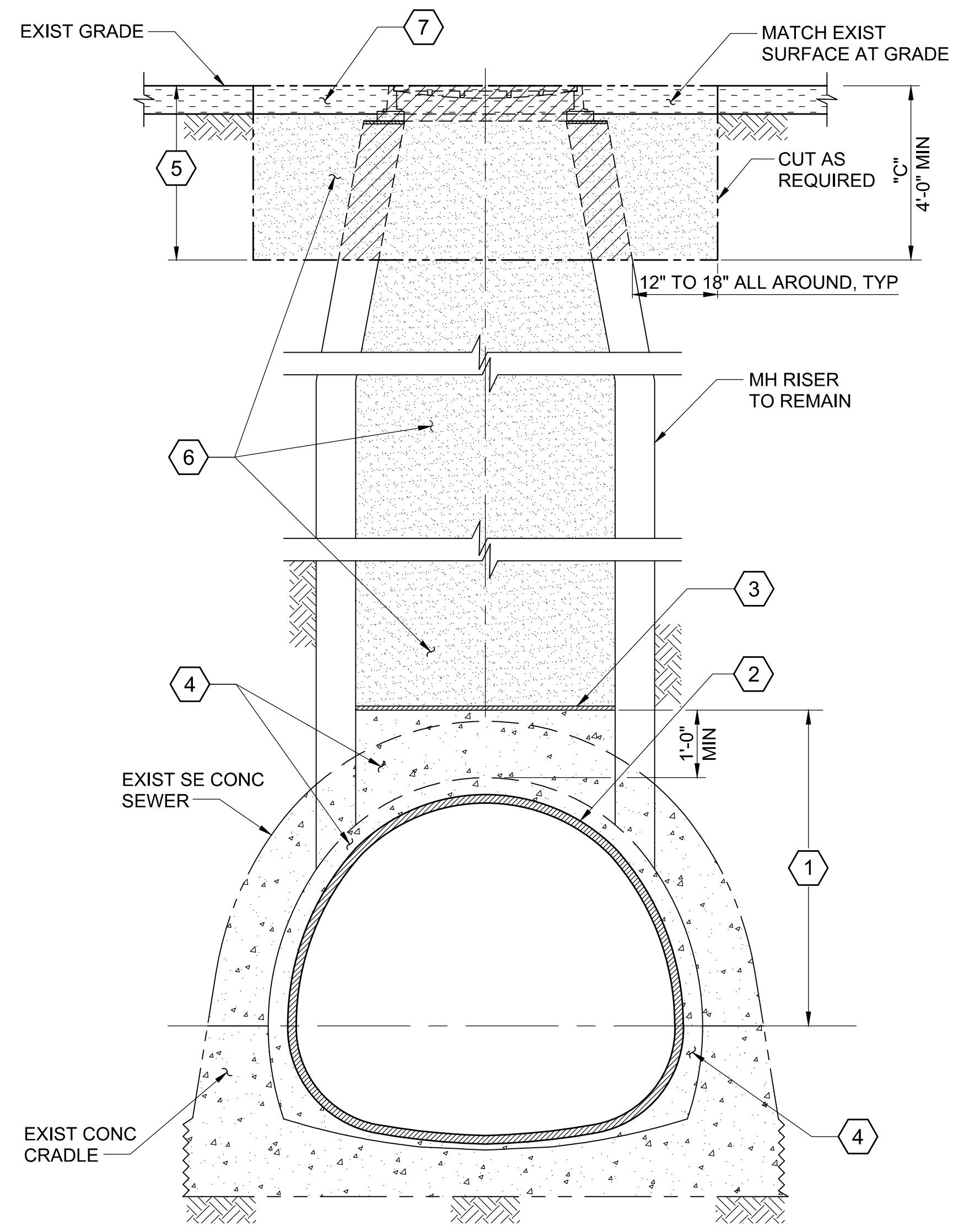
CITY ENGINEER	TED ALLEN, P.E.
DESIGN GROUP	DESIGN GROUP
ENGINEER	AUGUST SCHMID, PE
LIC. NO.	C-84638
DESIGNED BY	RHEA OSORIO
DRAWN BY	CHIH-YUN SUN
CHECKED BY	MARIAM YOUSSEF, PE / SHIRISH MISTRY, SE
APPROVED BY	SHALESH "SUNNY" PATEL, SE
DATE	07/21/23
LIC. NO.	06/0023
DATE	06/30/23
DATE	06/30/23
DATE	07/27/23

WORK ORDER NO.	SZC13947
SHEET NAME	SB506
SHEET	30 OF 51 SHEETS

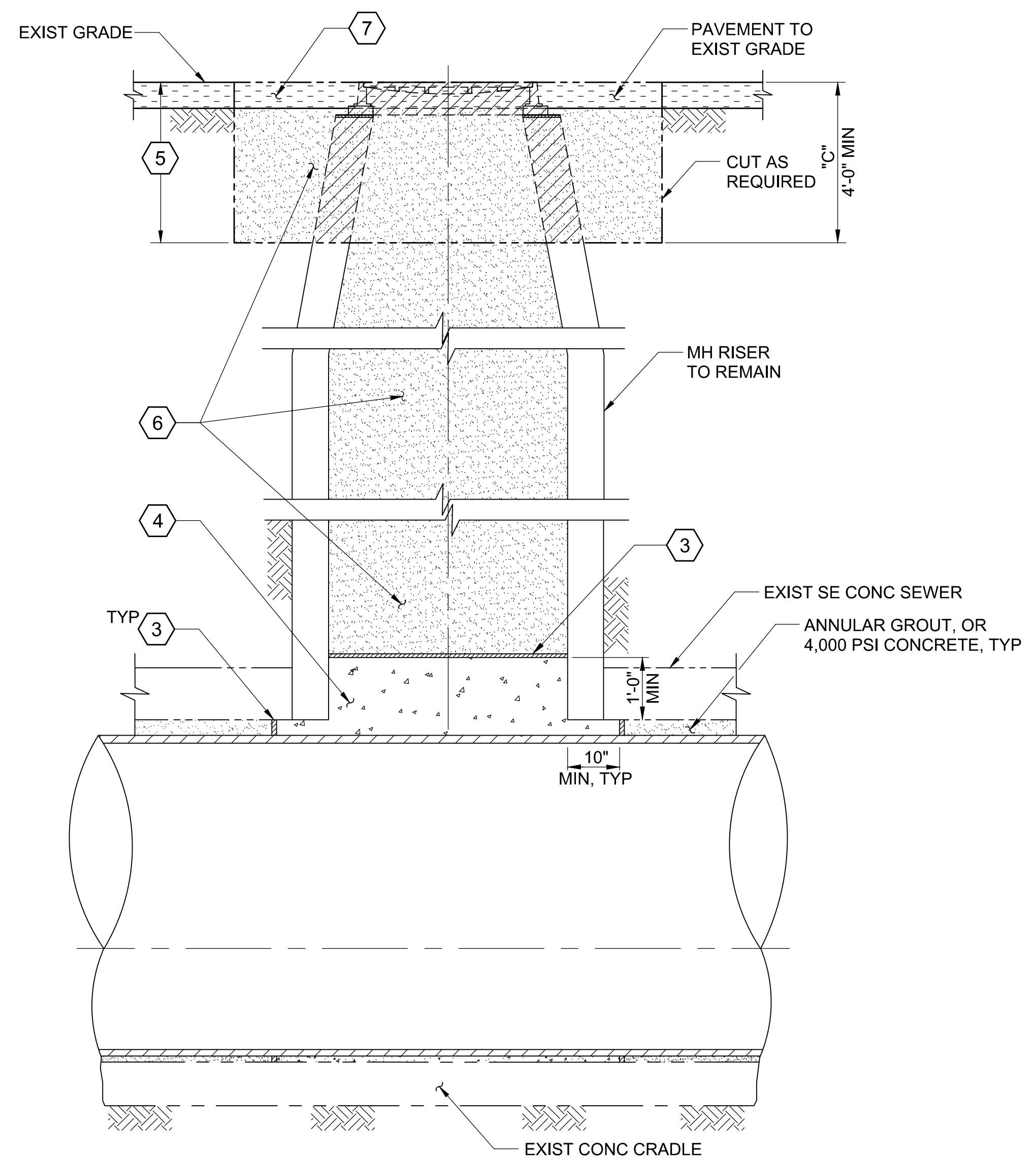
THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REVISION DATES (DESIGN STAGE ONLY)

Sheet Version 4.0

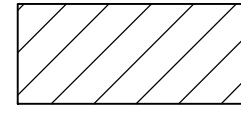
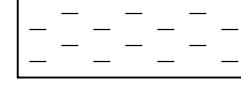
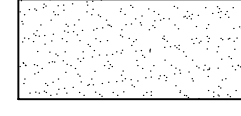
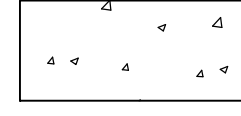


**MH ABANDONMENT DETAIL A - TYP**  
NOT TO SCALE



**MH ABANDONMENT DETAIL B - TYP**  
NOT TO SCALE

**LEGEND:**

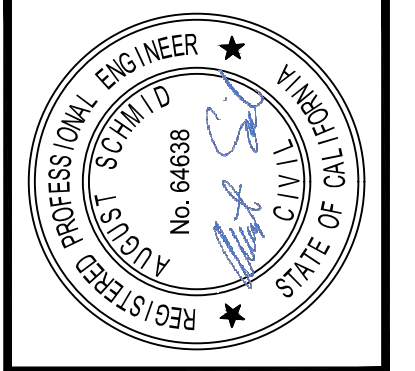
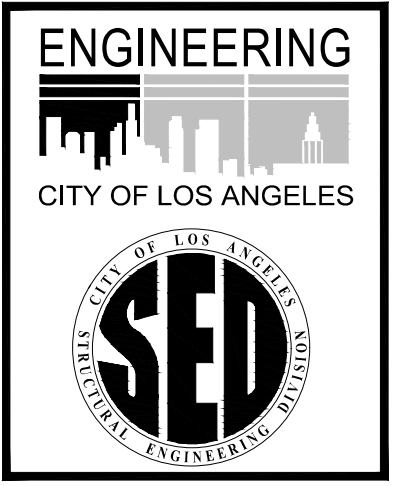
	REMOVAL LIMIT
	EXIST SURFACE
	CONTROLLED LOW STRENGTH MATERIAL (CLSM)
	TUNNEL FILLER MATERIAL (490-C-2000P FOR SLIPLINE OPTION)

**PROCEDURE:**

THE FOLLOWING IS ONLY ONE GENERAL CONSTRUCTION SEQUENCE FOR ABANDONMENT OF MAINTENANCE HOLES (OTHER CONSTRUCTION SEQUENCES ARE POSSIBLE). CONTRACTOR TO SUBMIT SPECIFIC ABANDONMENT PLAN.

- ① HYDRO BLAST INTERIOR OF EXISTING SEWER TO CREATE A CLEAN, ROUGHENED SURFACE FOR CONCRETE BOND.
- ② INSTALL NEW LINER PER PLANS.
- ③ INSTALL HORIZONTAL AND VERTICAL BULKHEADS. PLACE HORIZONTAL BULKHEADS PRIOR TO POURING THE ANNULAR GROUT. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS & CALCULATIONS FOR BULKHEADS TO ENGINEER FOR REVIEW AND APPROVAL. DRAWINGS & CALCULATIONS SHALL BE PREPARED, SEALED & SIGNED BY A CALIFORNIA REGISTERED CIVIL OR STRUCTURAL ENGINEER.

- ④ FIRST STAGE GROUTING: PERFORM GROUTING THROUGH EXISTING SEWER TO LOCK LINER INTO PLACE. TUNNEL FILLER MATERIAL (490-C-2000P) SHALL EXTEND INTO THE HOST A MINIMUM OF 10" ON EACH SIDE.
- ⑤ REMOVE MH RISER A MINIMUM DEPTH OF 4'-0" FROM EXISTING SURFACE. FOR MH 445-01-006, ADDITIONALLY REMOVE COLLAR ABOVE GROUND SURFACE. FOR CUT DEPTHS, "C", GREATER THAN 5 FEET, CONTRACTOR SHALL SUBMIT SHORING FOR ENGINEER'S REVIEW & APPROVAL, AND SHALL CONFORM TO THE SHORING REQUIREMENTS OF THE CONTRACT DOCUMENTS.
- ⑥ SECOND STAGE GROUTING : FILL THE MH SHAFT WITH CLSM IN LIFTS OF 10 FEET MAX. THE WAITING PERIOD BETWEEN EACH LIFT SHALL BE A MINIMUM OF 48 HOURS.
- ⑦ AREA SHALL BE BACKFILLED AND SURFACE REPAIRED TO MATCH THE SURROUNDING SURFACE.



**BUREAU OF ENGINEERING**

THIS PLAN WAS ELECTRONICALLY SIGNED AND STAMPED

VERTICAL CONTROL:	DATE: BY:
HORIZONTAL CONTROL:	10/22/24 JN
SHEET TITLE: MAINTENANCE HOLE ABANDONMENT SECTION AND DETAIL	REVISIONS:
PROJECT: NOS REHAB UNIT 20 & 21 - ZOO DR. RIGHT-OF-WAY TO DORAN ST.	1
ADDRESS: ZOO DR. R/W TO DORAN ST. LOS ANGELES, CA	REVISION TOTAL NUMBER OF SHEETS

INDEX NO.	D-35839	CIP NO.	960
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CITY ENGINEER	TED ALLEN, P.E.	DATE:	07/27/23
DESIGN GROUP	AUGUST SCHMID, PE	LIC. NO.	C-64638
ENGINEER	TAL SHEMIEN, PE	DATE:	06/30/23
DESIGNED BY:	CHRYL-YUN SUN	DATE:	06/30/23
DRAWN BY:	MARIAM YOUSSEF, PE / SHIRISH MISTRY, SE	DATE:	06/30/23
CHECKED BY:	SHAILESH SUNNY PATEL, SE	DATE:	07/27/23
APPROVED BY:	<i>Shailesh</i>		

WORK ORDER NO.	SZC13947
SHEET NAME	SB507
SHEET 51 OF 51 SHEETS	







**A1 TYPICAL MAINTENANCE HOLE ABANDONMENT DETAIL**

NTS	—
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# PROJECT VICINITY MAP



**LEGEND:**

 <p>48-INCH SEWER PIPE TO BE REPAIRED (3,615 feet long)</p>	 <p>42", 24", AND 21" SIPHON SEWER PIPES TO BE REPAIRED (2,475 feet long)</p>	 <p>COUNCIL DISTRICT 4</p>	 <p>COUNCIL DISTRICT 13</p>	 <p>ACCESS PITS</p>	 <p>N</p>	<p><b>ANTICIPATED CONSTRUCTION WITHIN RAP ROW</b> START: 04/01/26 END: 12/31/26</p>
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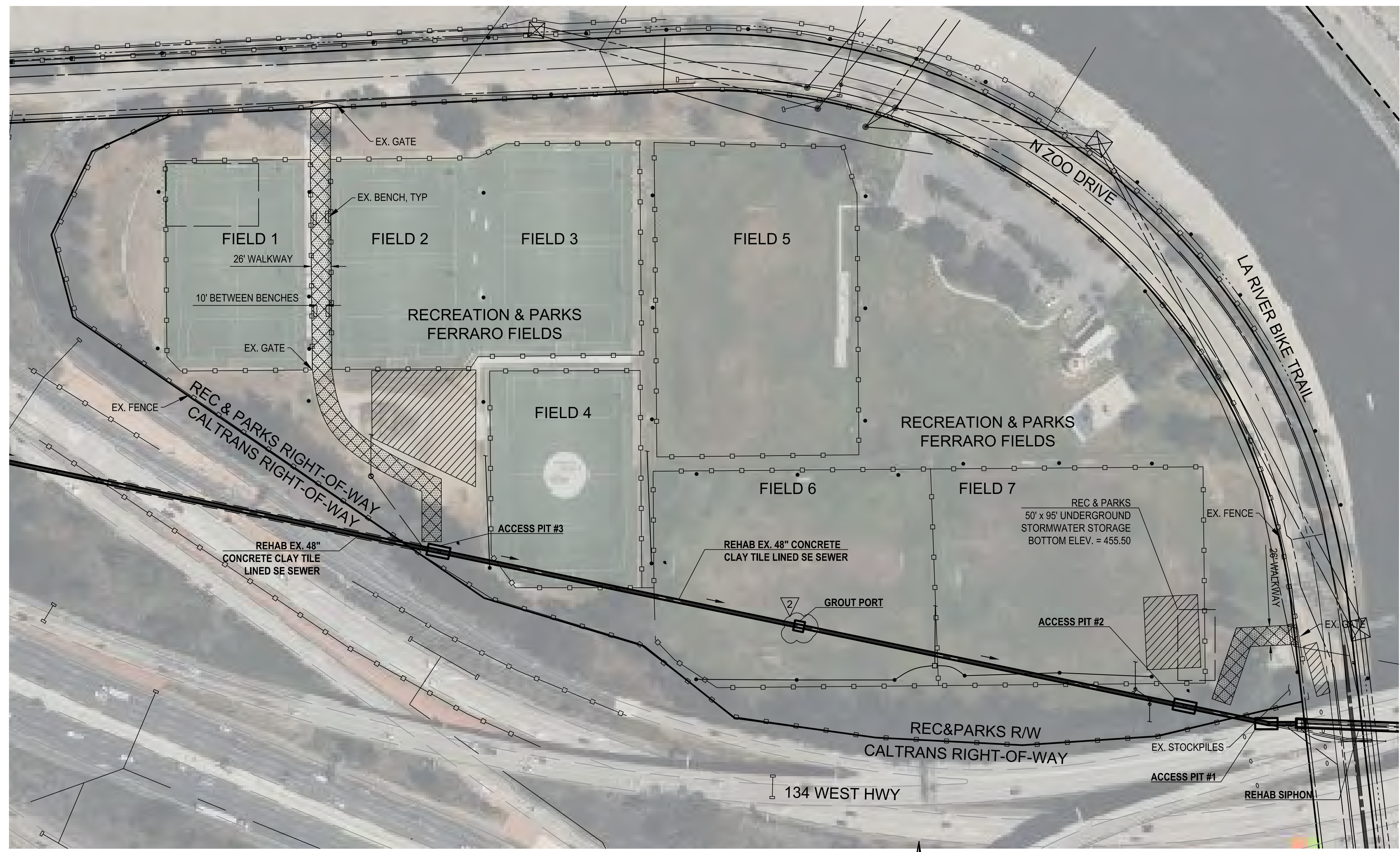
# PROJECT IMPACTS TO FERRARO FIELDS





THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REVISION DATES ONLY (DESIGN STAGE ONLY)



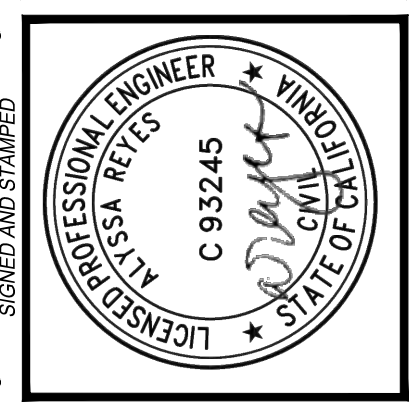
**SITE ACCESS / WORK AREA NO. 1, 2 & 3**  
NTS

**NOTES :**

1. **CALTRANS**
  - A. A CALTRANS ENCROACHMENT PERMIT IS REQUIRED FOR THE CONSTRUCTION WITHIN THE CALTRANS RIGHT-OF-WAY FOR ACCESS PIT NO.1 (STA 12+84.92) AND ACCESSING THE SIPHON INLET. THE CONTRACTOR SHALL APPLY FOR AND OBTAIN THE PERMIT FROM THE CALTRANS DISTRICT 07 LOCATED AT 100 SOUTH MAIN STREET, SUITE 100, LOS ANGELES CA 90012. THE CALTRANS CONTACT NUMBER IS (213) 897-3656.
  - B. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY INFORMATION FROM THE CALTRANS ENCROACHMENT MANUAL AND ENCROACHMENT PERMIT WEBSITE AT [HTTPS://DOT.CA.GOV/PROGRAMS/TRAFFIC-OPERATIONS](https://dot.ca.gov/programs/traffic-operations).
  - C. THE CONTRACTOR SHALL SUBMIT THE ENCROACHMENT PERMIT APPLICATION WITH ALL REQUIRED DOCUMENTS INCLUDING BUT NOT LIMITED TO CIVIL PLANS, SPECIFICATIONS, SOIL REPORTS, SHORING DESIGN, AND TRAFFIC CONTROL PLANS WITHIN 60 CALENDAR DAYS FROM THE DATE OF THE ISSUANCE OF THE NTP. THE CONTRACTOR SHALL NOT BE GRANTED A TIME EXTENSION IF THE CONTRACTOR FAILS TO DO SO. THE CONTRACTOR SHALL ALLOW AT LEAST 90 CALENDAR DAYS FOR CALTRANS TO REVIEW AND APPROVE.
2. **DEPARTMENT OF RECREATION & PARKS**
  - A. THE CONTRACTOR SHALL COORDINATE WITH THE DEPARTMENT OF RECREATION & PARKS STAFF, STEFANIE SMITH AT [STEFANIE.SMITH@LACITY.ORG](mailto:STEFANIE.SMITH@LACITY.ORG) AND JORGE DE LOERA AT [JORGE.DELOERA@LACITY.ORG](mailto:JORGE.DELOERA@LACITY.ORG) TO ACCESS THE GRIFFITH PARK FERRARO FIELDS PRIOR TO THE START OF CONSTRUCTION AND COMPLETE AND SUBMIT WITH THE PERMITS ATTACHED IN THE CONTRACT DOCUMENTS.
  - B. THE CONTRACTOR SHALL DOCUMENT THE PRE-EXISTING AND POST-CONSTRUCTION SITE CONDITIONS IN THE FORM OF PICTURES FOR RAP REVIEW. ANY DAMAGE TO PARK PROPERTY SHALL BE RESTORED TO A CONDITION THAT IS EQUAL OR EXCEEDS THE ORIGINAL STATE/CONDITION OF THE ELEMENTS DAMAGED. ALL WORK TO BE PERFORMED SHALL BE VERIFIED WITH THE DEPARTMENT OF RECREATION & PARKS STAFF.
  - C. MH 445-01-002 IS BURIED BENEATH THE SOCCER FIELD NO. 4. THE CONTRACTOR SHALL RESTORE THE SITE PER RAP STANDARD DETAILS FOR CONSTRUCTION AS PROVIDED ON SHEET CU605.
  - D. THE CONTRACTOR SHALL ENTER GRIFFITH PARK FERRARO FIELDS THROUGH THE GATE ON NORTH ZOO DRIVE EAST OF ACCESS PIT #2.
  - E. THE CONTRACTOR SHALL ENTER GRIFFITH PARK FERRARO FIELDS THROUGH THE GATE ON NORTH ZOO DRIVE NORTH OF ACCESS PIT #3. THE CONTRACTOR SHALL REMOVE AND REPLACE THE BENCHES IN THE WALKWAY AND REPLACE ANY DAMAGED PORTIONS OF THE WALKWAY IN KIND.
  - F. THE CONTRACTOR IS ADVISED THAT TRESPASSING IS COMMON AFTER BUSINESS HOURS. THE CONTRACTOR SHALL PROVIDE 24/7 SECURITY OF THE WORK AREAS ON RAP PROPERTY. INSTALL FENCE CLAMPS AT EACH FENCE PANEL, AND LOCK ALL GATES DURING OFF-HOURS TO PREVENT TRESPASSING.
  - G. THE CONTRACTOR SHALL PERFORM DEBRIS REMOVAL AT PIT #2, SO AS TO MINIMIZE FREQUENT TRANSPORTATION OF HEAVY MACHINERY ON THE CONCRETE WALKWAY BETWEEN FIELDS NO. 1 AND NO. 2.
  - H. THE CONTRACTOR SHALL INSTALL TEMPORARY FENCING, 6 FEET OR HIGHER, AROUND ALL WORK AREAS FOR THE DURATION OF THE WORK.
  - I. GROUT PORTS SHALL BE INSTALLED USING CONTRACTOR'S MEANS AND METHODS ALONG THE ALIGNMENT AS NEEDED IN ACCORDANCE WITH GR 02431. THE CONTRACTOR IS ADVISED THAT THE GROUT PORT LOCATION WITHIN THE RAP ROW IS PROPOSED AND SUBJECT TO FLEXIBILITY, SO LONG AS THE LOCATION IS REVIEWED AND APPROVED BY RAP FACILITY STAFF BEFORE THE WORK BEGINS.

**LEGEND:**

- PROPOSED ABOVE GROUND STORAGE AREA
- PROPOSED ACCESS PATH



VERTICAL CONTROL: NAD83, 1982 ADJ (FMS) (EAD)	PROJECT: WORK AREA ACCESS - ACCESS PIT #1, #2, & #3
HORIZONTAL CONTROL: NAD83, EPOCH1 1981.5 (FEB 165-197 FIG 108 & 102)	RIGHT-OF-WAY TO DORAN ST.
SHEET TITLE: WORK AREA ACCESS - ACCESS PIT #1, #2, & #3	ADDRESS: ZOO DR. RIGHT-OF-WAY TO DORAN ST. LOS ANGELES, CA

DATE: 10/22/24	BY: AR
REVISION: 1	REVISION NOTE: 28 TO 2F
2	ADDENDUM #4
DATE: 12/04/24	BY: AR

CITY ENGINEER: TED ALLEN, P.E.	DESIGN GROUP: (A)MAN MALIK, P.E.
ENGINEER: (A)MAN MALIK, P.E.	DESIGNED BY: ALYSSA REYES, P.E.
DRAWN BY: NOEL LOPEZ	CHECKED BY: MARY THOMAS, P.E.
APPROVED BY: EDWARD ARRINGTON, S.E., ENV. SP.	

WORK ORDER NO. SZC13947
SHEET NAME CU401
SHEET 14 OF 51 SHEETS