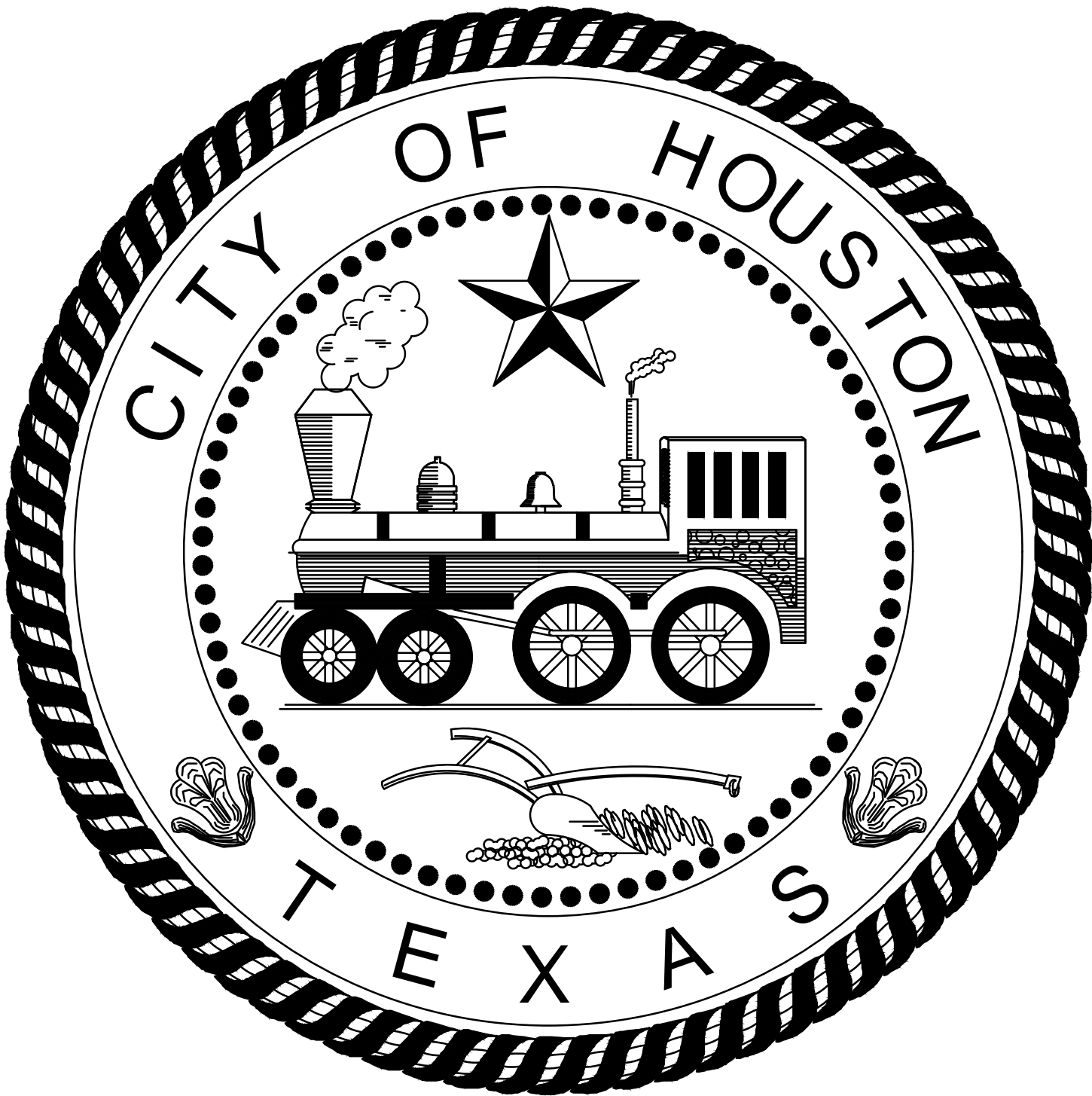


CITY OF HOUSTON
HOUSTON PUBLIC WORKS
CAPITAL PROJECTS
EP HILL PARK DETENTION
BASIN

WBS NO. M-420HUD-013A-3



MAYOR
JOHN WHITMIRE

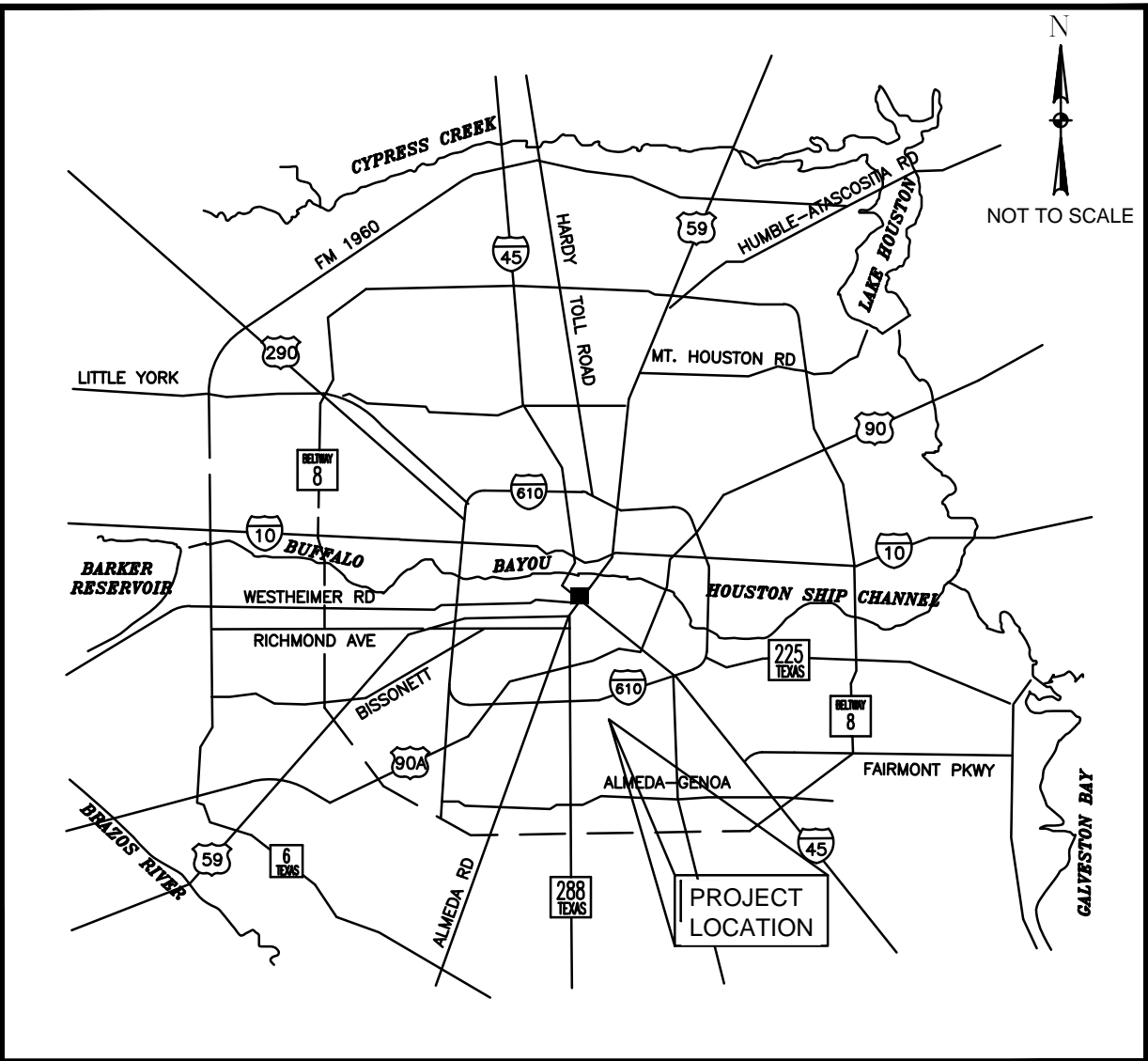
CONTROLLER
CHRIS HOLLINS

DISTRICT
COUNCIL MEMBERS

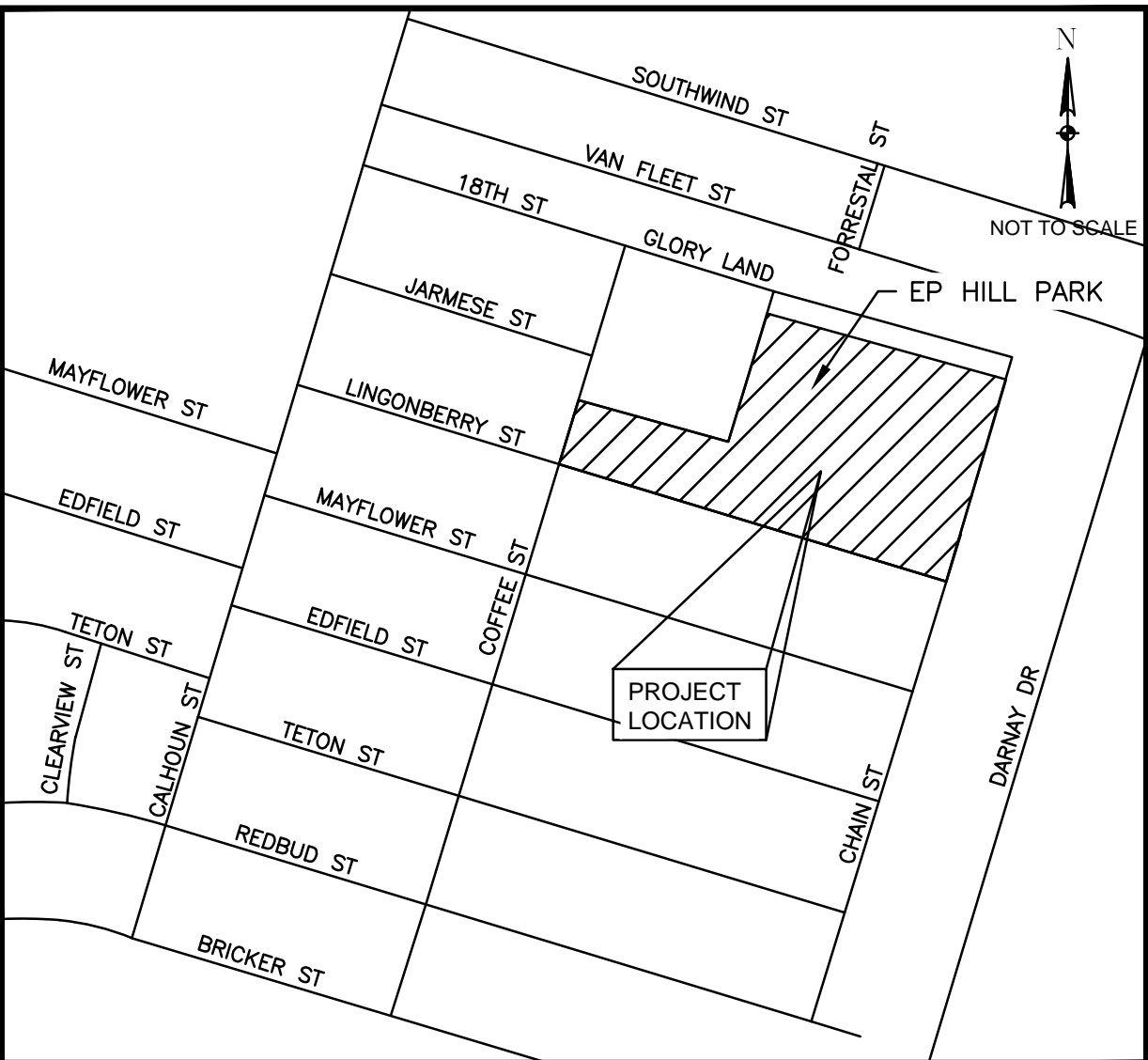
AMY PECK DISTRICT A	TARSHA JACKSON DISTRICT B	ABBIE KAMIN DISTRICT C	CAROLYN EVANS-SHABAZZ DISTRICT D
FRED FLICKINGER DISTRICT E	TIFFANY D. THOMAS DISTRICT F	MARY NAN HUFFMAN DISTRICT G	MARIO CASTILLO DISTRICT H
JOAQUIN MARTINEZ DISTRICT I	EDWARD POLLARD DISTRICT J	MARTHA CASTEX-TATUM DISTRICT K	

COUNCIL MEMBERS
AT-LARGE

JULIAN RAMIREZ POSITION 1	WILLIE DAVIS POSITION 2
TWILA CARTER POSITION 3	LETITIA PLUMMER POSITION 4
SALLIE ALCORN POSITION 5	



LOCATION MAP



VICINITY MAP
KEY MAP NO 533V

TDLR EABPR _____



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ADDRESS; 3100 WEST ALABAMA, HOUSTON, TX 77098
TELEPHONE NUMBER: (713) 520-9570
TX FIRM NUMBER: #1800

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PARKS-FORESTRY DEPT.

METRO

HOUSTON WATER

TRANSPORTATION & DRAINAGE OPERATIONS

CAPITAL PROJECTS

SURVEY

CITY ENGINEER DATE

DIRECTOR OF DATE
HOUSTON PUBLIC WORKS

SHEET NO 1 OF 73 SHEETS

FOR CITY OF HOUSTON USE ONLY

FILE PATH: c:\projectwise\dec\workdir\fidel\gambod\d0204108\GEN-SHEET INDEX.dwg

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

EP HILL PARK

SHEET INDEX

WBS NUMBER

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DRAWING SCALE

CITY OF HOUSTON PM

CUONG NGUYEN

SHEET NO. 2 OF 73


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©	AND
®	AT
AB	ALL BELL
AC	ACRE / ASBESTOS CEMENT
AI/VR	AIR INLET / VACUUM RELIEF
APPROX	APPROXIMATELY
ASPH	ASPHALT
AVE	AVENUE
℞	BASELINE
B/B	BACK TO BACK
BC	BACK OF CURB
BFV	BUTTERFLY VALVE
BL	BUILDING LINE
BLDG	BUILDING
BLVD	BOULEVARD
℄	CENTER LINE
C/C	CENTER TO CENTER
CGMP	CORRUGATED GALVANIZED METAL PIPE
CMP	CORRUGATED METAL PIPE
CIP	CAST IRON PIPE
CLR	CLEARANCE
CO	CLEAN OUT
COH	CITY OF HOUSTON
CONC	CONCRETE
CONSTR	CONSTRUCTION
CPEE	CENTERPOINT ENERGY ELECTRIC
CPEG	CENTERPOINT ENERGY GAS
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DIP	DRIVE
DWG	DRAWING
DWY	DRIVEWAY
E	EAST
EL	ELEVATION
EP	EDGE OF PAVEMENT
E/R	END OF RADIUS
ESMT	EASEMENT
EXIST	EXISTING
FC	FACE OF CURB
F/F	FACE TO FACE
FH	FIRE HYDRANT
ℓ	FLOW LINE
FM	FORCE MAIN
FT	FEET
GPS	GLOBAL POSITIONING SYSTEM
GV	GATE VALVE
GV&B	GATE VALVE AND BOX
HCFCFD	HARRIS COUNTY FLOOD CONTROL DISTRICT
HDPE	HIGH-DENSITY POLYETHYLENE
HGL	HYDRAULIC GRADE LINE
HP	HIGH PRESSURE
INV EL	INVERT ELEVATION
IP	INTERMEDIATE PRESSURE
IR	IRON ROD

J-BOX	JUNCTION BOX
JT	JOINT
JUNCT	JUNCTION
LF	LINEAR FEET
LN	LANE
LPT	LOW POINT
LT	LEFT
LS	LIFT STATION
MAX	MAXIMUM
METRO	METROPOLITAN TRANSIT AUTHORITY
MH	MANHOLE
MIN	MINIMUM
MON	MONUMENT
N	NORTH
NA	NOT APPLICABLE
NAVD	NORTH AMERICAN VERTICAL DATUM
NG	NATURAL GROUND
NO	NUMBER
NTS	NOT TO SCALE
OCC	ZERO CURB CUT
OS	OFFSET
OH	OVERHEAD
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVATURE
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PERM	PERMANENT
PGL	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PNT	POINT
PPCA	POTENTIALLY PETROLEUM CONTAMINATED AREA
PRC	POINT OF REVERSE
PROP	PROPOSED
PSI	POUND PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE PIPE / POINT OF VERTICAL CURVATURE
PVMT	PAVEMENT
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY

RECORD	DRAWING
R	RADIUS
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REINF	REINFORCED
REM	REMOVABLE
RJ	RESTRAINED JOINT
ROW	RIGHT OF WAY
RR	RAILROAD
RRPM	REFLECTIVE REMOVABLE PAVEMENT MARKERS
RT	RIGHT
S	SOUTH
SAN	SANITARY
SCHED	SCHEDULE
SF	SQUARE FEET
SHT	SHEET
SSE	SANITARY SEWER EASEMENT
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
STM	STORM
SWBT	SOUTHWESTERN BELL TELEPHONE
SWR	SEWER
SY	SQUARE YARD
TAN	TANGENT
TBM	TEMPORARY BENCHMARK
TEMP	TEMPORARY
TOB	TOP OF BANK
TOC	TOP OF CURB
TOP	TOP OF PAVEMENT
TOS	TOP OF STACK
TS&V	TAPPING SLEEVE AND VALVE
TXDOT	TEXAS DEPARTMENT OF TRANSPORTATION
TYP	TYPICAL
UE	UTILITY EASEMENT
UGND	UNDERGROUND
VC	VERTICAL CURVE
VPI	VERTICAL POINT OF INTERSECTION
W	WEST
W/	WITH
WL	WATER LINE
WLE	WATER LINE EASEMENT
WM	WATER METER
WP	WOOD POLE
WSEL	WATER SURFACE ELEVATION
WV	WATER VALVE
WTP	WASTE WATER TREATMENT PLANT

[illegible]

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<p>EP HILL PARK</p>	
<p>ABBREVIATIONS</p>	
<p>WBS NUMBER</p> <p>M-420HUD-013A-3</p>	<p>FOR CITY OF HOUSTON USE ONLY</p>
<p>DRAWING SCALE</p>	
<p>CITY OF HOUSTON PM</p>	
<p>CUONG NGUYEN</p>	
<p>SHEET NO. 3 OF 73</p>	

EXISTING PLAN VIEW	
	WATER METER
	WATER VALVE (GATE)
	WATER VALVE (BUTTERFLY)
	FIRE HYDRANT/FLUSHING VALVE
	TAPPING SLEEVE & VALVE
	REDUCER
	ROUND CONNECTION
	SANITARY SEWER CLEANOUT & MANHOLE
	STORM SEWER MANHOLE
	STORM SEWER INLETS
	CULVERT PIPE AND HEADWALL
	TOP OF CURB ELEVATION
	GUTTER ELEVATION
	TOP OF PAVEMENT ELEVATION
	CONTOUR LINE
	ROW LINE
	PROPERTY LINE
	LOT LINES
	EASEMENT LINE
	CENTER LINE OF ROW
	TRANSIT LINE
	EDGE OF DITCHES
	CENTER LINE OF DITCHES
	EDGE OF DITCHES
	FENCE LINE, WOOD
	FENCE LINE, CHAIN LINK
	FENCE LINE, BARBED WIRE
	FENCE LINE, HOG WIRE
	EDGE OF CONCRETE
	CURB LINE
	CONCRETE WALK
	EDGE OF ASPHALT
	EDGE OF SHELL OR GRAVEL
	DIMENSION LINE
	AERIAL POWER LINE
	UNDERGROUND POWER LINE
	GAS LINE
	UNKNOWN UNDERGROUND LINE
	OIL PIPELINE
	UNDERGROUND TELECOMM LINE W/VAULT
	AERIAL TELECOMM LINE
	RAILROAD LINE
	WATER LINE
	SANITARY SEWER LINE
	STORM SEWER LINE
	SANITARY SEWER FORCE MAIN
	RECLAIMED WATER LINE
	NON-POTABLE WATER LINE
	GAS METER
	GAS VALVE
	PROPANE LINE
	STEAM LINE
	MISC UNDERGROUND PIPELINE LABLE

PROPOSED PLAN VIEW	
	WATER METER
	WATER VALVE (GATE)
	WATER VALVE (BUTTERFLY)
	FIRE HYDRANT/FLUSHING VALVE
	TAPPING SLEEVE & VALVE
	REDUCER
	ROUND CONNECTION
	SANITARY SEWER CLEANOUT & MANHOLE
	STORM SEWER MANHOLE
	STORM SEWER INLETS
	CULVERT PIPE AND HEADWALL
	TOP OF CURB ELEVATION
	GUTTER ELEVATION
	TOP OF PAVEMENT ELEVATION
	CONTOUR LINE
	ROW LINE
	PROPERTY LINE
	LOT LINES
	EASEMENT LINE
	CENTER LINE OF ROW
	TRANSIT LINE
	EDGE OF DITCHES
	CENTER LINE OF DITCHES
	EDGE OF DITCHES
	FENCE LINE, WOOD
	FENCE LINE, CHAIN LINK
	FENCE LINE, BARBED WIRE
	FENCE LINE, HOG WIRE
	EDGE OF CONCRETE
	CURB LINE
	CONCRETE WALK
	EDGE OF ASPHALT
	EDGE OF SHELL OR GRAVEL
	DIMENSION LINE
	AERIAL POWER LINE
	UNDERGROUND POWER LINE
	GAS LINE
	UNKNOWN UNDERGROUND LINE
	OIL PIPELINE
	UNDERGROUND TELCOMM LINE W/ VAULT
	AERIAL TELECOMM LINE
	RAILROAD LINE
	WATER LINE
	SANITARY SEWER LINE
	STORM SEWER LINE
	SANITARY SEWER FORCE MAIN
	RECLAIMED WATER LINE
	NON-POTABLE WATER LINE
	GAS METER
	GAS VALVE
	PROPANE LINE
	STEAM LINE
	MISC UNDERGROUND PIPELINE LABLE
	MATCH LINE

EXISTING PLAN VIEW	
	PAVING HEADER
	BUILDING, RESIDENTIAL
	BUILDING, COMMERCIAL
	TREE
	HEDGE
	IRON PIPE OR IRON ROD MONUMENT
	POINT OF INTERSECTION (PI)
	POINT OF CURVE (PC)
	POINT OF TANGENCY (PT)
	POWER POLE
	POWER POLE W/DOWN GUY

EXISTING PROFILE VIEW	
	NORTH OR EAST PROPERTY LINE
	SOUTH OR WEST PROPERTY LINE
	NORTH OR EAST CURB
	SOUTH OR WEST CURB
	NORTH OR EAST DITCH
	SOUTH OR WEST DITCH
	NORTH OR EAST NATURAL GROUND
	SOUTH OR WEST NATURAL GROUND
	NORTH OR EAST CULVERT
	SOUTH OR WEST CULVERT
	CENTERLINE OF ROW
	CENTERPOINT ENERGY CONDUIT
	GAS LINE
	WESTERN UNION
	AT&T CONDUIT
	WATER LINE
	SANITARY SEWER LINE
	STORM SEWER LINE
	SANITARY SEWER FORCE MAIN
	RECLAIMED WATER LINE
	NON-POTABLE WATER LINE

EXISTING PROFILE VIEW	
	CENTERPOINT ENERGY MANHOLE
	AT&T MANHOLE
	WATER LINE MANHOLE
	SANITARY SEWER MANHOLE & CLEANOUT
	STORM SEWER MANHOLE
	STORM SEWER INLET

PROPOSED PLAN VIEW	
	PAVING HEADER
	BUILDING, RESIDENTIAL
	BUILDING, COMMERCIAL
	TREE
	HEDGE
	IRON PIPE OR IRON ROD MONUMENT
	POINT OF INTERSECTION (PI)
	POINT OF CURVE (PC)
	POINT OF TANGENCY (PT)
	POWER POLE
	POWER POLE W/DOWN GUY

PROPOSED PROFILE VIEW	
	NORTH OR EAST PROPERTY LINE
	SOUTH OR WEST PROPERTY LINE
	NORTH OR EAST CURB
	SOUTH OR WEST CURB
	NORTH OR EAST DITCH
	SOUTH OR WEST DITCH
	NORTH OR EAST NATURAL GROUND
	SOUTH OR WEST NATURAL GROUND
	NORTH OR EAST CULVERT
	SOUTH OR WEST CULVERT
	CENTERLINE OF ROW
	CENTERPOINT ENERGY CONDUIT
	GAS LINE
	WESTERN UNION
	AT&T CONDUIT
	WATER LINE
	SANITARY SEWER LINE
	STORM SEWER LINE
	SANITARY SEWER FORCE MAIN
	RECLAIMED WATER LINE
	NON-POTABLE WATER LINE

PROPOSED PROFILE VIEW	
	CENTERPOINT ENERGY MANHOLE
	AT&T MANHOLE
	WATER LINE MANHOLE
	SANITARY SEWER MANHOLE & CLEANOUT
	STORM SEWER MANHOLE
	STORM SEWER INLET

MISC STANDARD ELEMENTS	
	COH NORTH ARROW
	COH BAR SCALE
	REVISION CLOUD/DELTA

VIEW TITLE	SCALE: 1:1	DETAIL/SECTION TITLE
1		

SECTION CALLOUT

DETAIL CALLOUT

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PRIVATE UTILITY NOTES:

AT&T TEXAS/ SWBT FACILITIES:

1. THE LOCATIONS OF AT&T TEXAS/SWBT FACILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.
2. THE CONTRACTOR SHALL CALL 1-800-344-8377 (TEXAS 811) A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE UNDERGROUND LINES FIELD LOCATED.
3. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18”) OF THE INDICATED LOCATION OF AT&T TEXAS/SWBT FACILITIES, ALL EXCAVATIONS MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES. WHEN BORING, THE CONTRACTOR SHALL EXPOSE THE AT&T TEXAS/SWBT FACILITIES.
4. WHEN AT&T TEXAS/SWBT FACILITIES ARE EXPOSED, THE CONTRACTOR WILL PROVIDE SUPPORT TO PREVENT DAMAGE TO THE CONDUIT DUCTS OR CABLES. WHEN EXCAVATING NEAR TELEPHONE POLES THE CONTRACTOR SHALL BRACE THE POLE FOR SUPPORT.
5. THE PRESENCE OR ABSENCE OF AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES OR BURIED CABLE FACILITIES SHOWN ON THESE PLANS DOES NOT MEAN THAT THERE ARE NO DIRECT BURIED CABLES OR OTHER CABLES IN CONDUIT IN THE AREA.
6. PLEASE CONTACT THE AT&T TEXAS DAMAGE PREVENTION MANAGER ROOSEVELT LEE JR. AT (713) 567-4552 OR EMAIL HIM AT RL7259@ATT.COM, IF THERE ARE QUESTIONS ABOUT BORING OR EXCAVATING NEAR OUR AT&T TEXAS/SWBT FACILITIES.

CENTERPOINT ENERGY NOTES:

CAUTION: UNDERGROUND GAS FACILITIES

1. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 1-800-545-6005 OR 811 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.
 - WHEN CENTERPOINT ENERGY PIPE LINE MARKINGS ARE NOT VISIBLE, CALL 713-945-8036 OR 713-945-8037 (7:00 AM TO 4:30 PM) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.
 - WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18”) OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.
 - WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.
 - FOR EMERGENCIES REGARDING GAS LINES CALL 713-659-3552 OR 713-207-4200
2. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

WARNING: OVERHEAD ELECTRICAL LINES:


1. OVERHEAD LINES MAY EXIST ON THE PROPERTY. THE LOCATION OF OVERHEAD LINES HAS NOT BEEN SHOWN ON THESE DRAWINGS AS THE LINES ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE FORBIDS ACTIVITIES THAT OCCUR IN CLOSE PROXIMITY TO HIGH VOLTAGE LINES, SPECIFICALLY:
 - ANY ACTIVITY WHERE PERSONS OR THINGS MAY COME WITHIN SIX (6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES; AND
 - OPERATING A CRANE, DERRICK, POWER SHOVEL, DRILLING RIG, PILE DRIVER, HOISTING EQUIPMENT, OR SIMILAR APPARATUS WITHIN 10 FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES.
2. PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL CENTERPOINT ENERGY AT 713-207-2222.

ACTIVITIES ON/OR ACROSS CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY

1. NO APPROVAL TO USE, CROSS, OR OCCUPY NO CENTERPOINT FEE OR EASEMENT PROPERTY IS GIVEN. IF YOU NEED TO USE CENTERPOINT PROPERTY, PLEASE CONTACT OUR SURVEYING AND RIGHT OF WAY DIVISION AT (713) 207-6348 OR (713) 207-5769

GENERAL NOTES – METRO:

1. CONTRACTOR SHALL NOTIFY METRO AT 713-615-6195 TWO WEEKS PRIOR TO DISTURBING EXISTING BUS STOPS.
1. CONTRACTOR SHALL COORDINATE WITH METRO TO REMOVE EXISTING AMENITIES.
2. BUS STOPS SHALL CONSTRUCTED PER CITY OF HOUSTON INFRASTRUCTURE DESIGN MANUAL AND MEET CURRENT ADA REQUIREMENTS



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3100 WEST ALABAMA HOUSTON, TEXAS 77056 (713) 520-9570

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

EP HILL PARK

GENERAL NOTES

WBS NUMBER

M-420HUD-013A-3

DRAWING SCALE

CITY OF HOUSTON PM

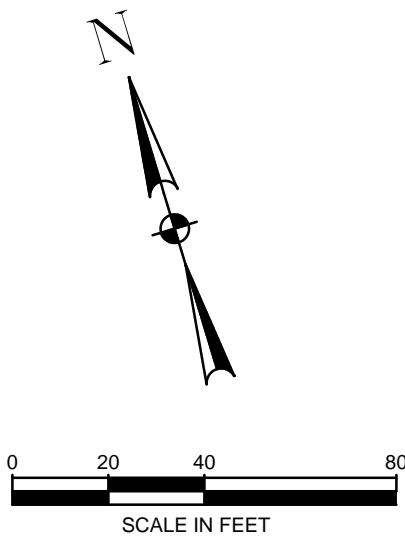
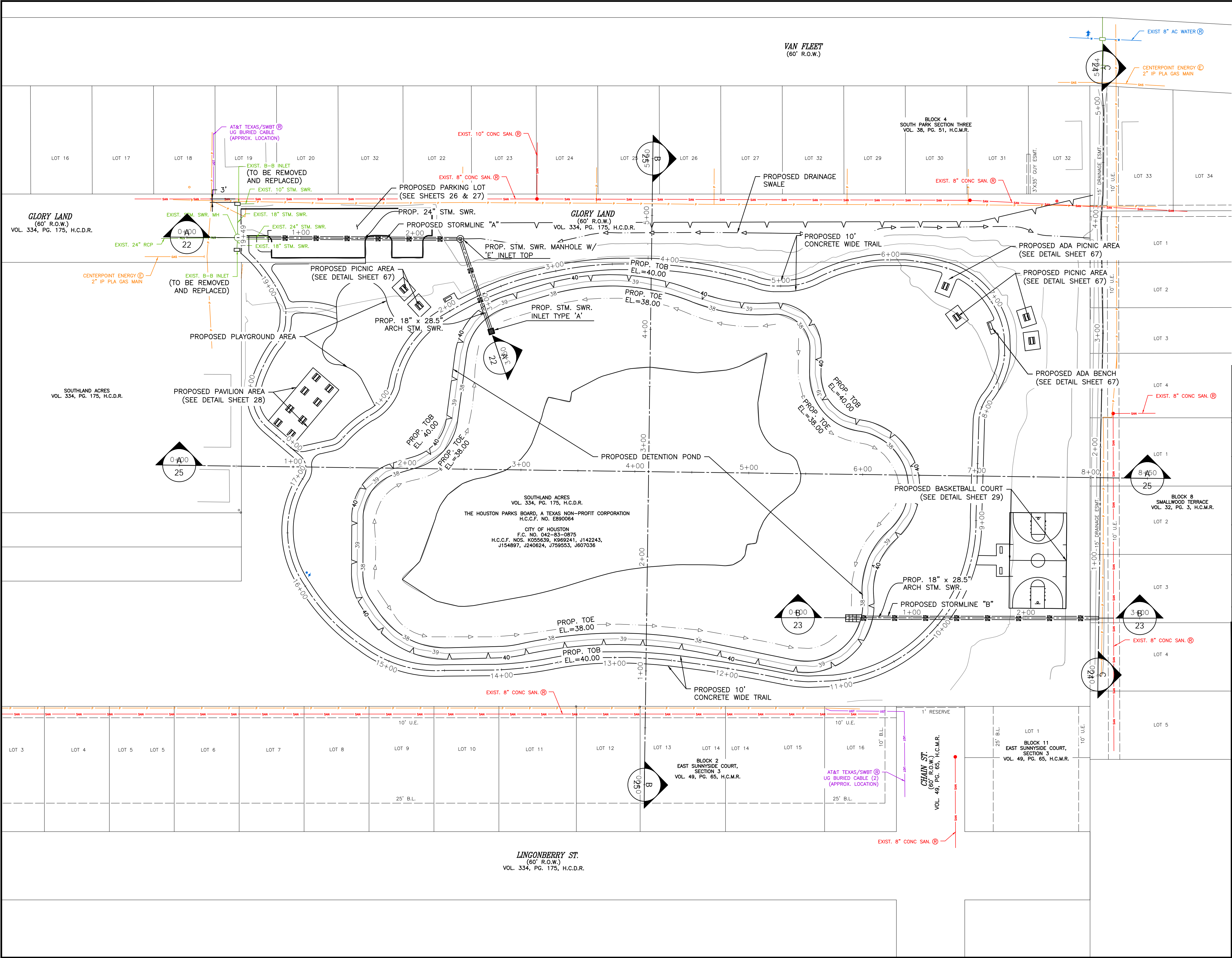
CUONG NGUYEN

SHEET NO. 5 OF 73

FOR CITY OF HOUSTON USE ONLY

FILE PATH: C:\projectwise\dec\workdir\fidel\gambou\d0204108\EP-SP-HILL PARK PROJECT LAYOUT.dwg

PLOT STYLE: Coh-ctb_230809 -- MOD.ctbPLOTED: 7/22/2025 12:18 PM



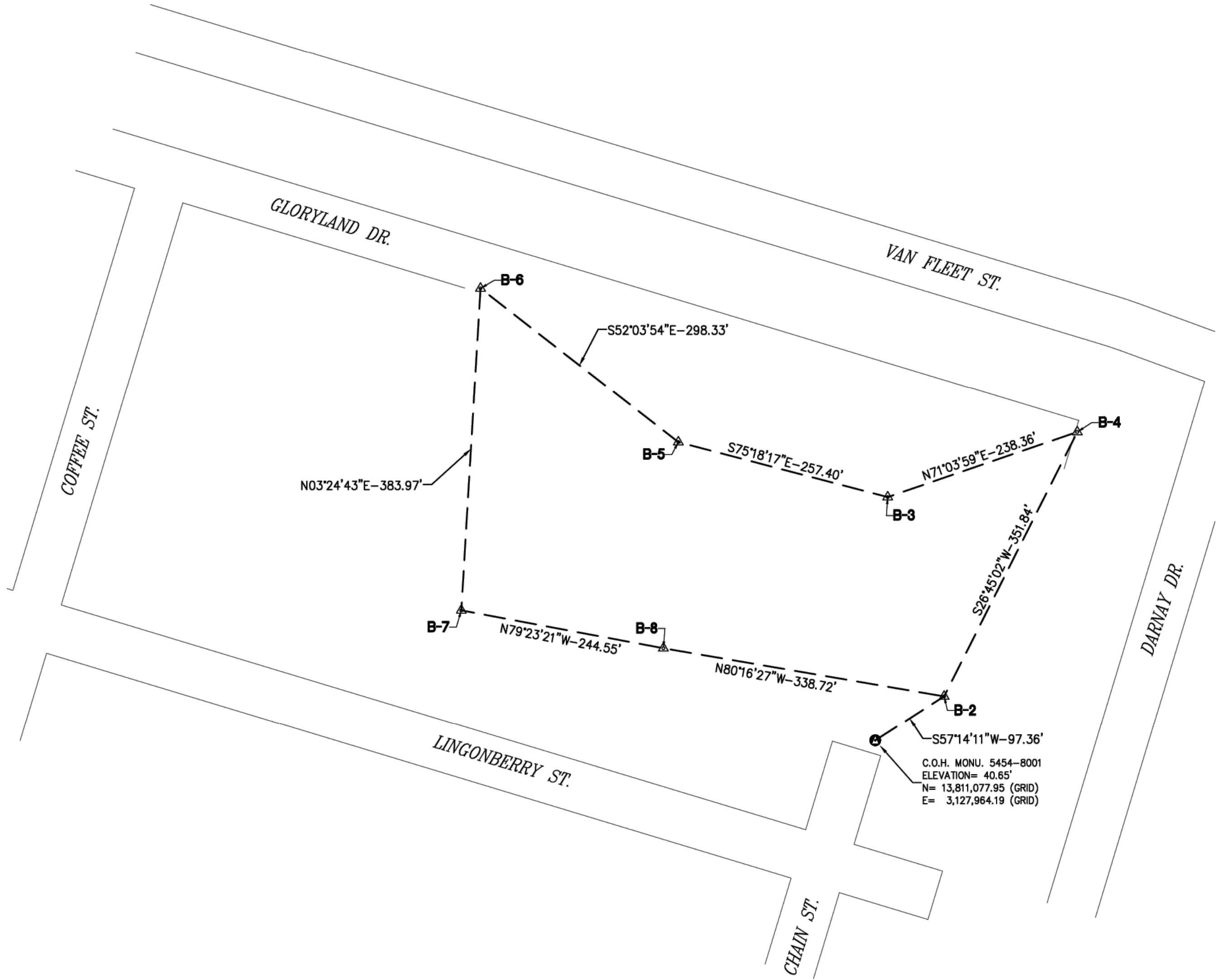
REFERENCE DRAWINGS:

- SEE SHEET 25 FOR TYPICAL POND SECTIONS.
- SEE SHEETS 22 - 23 FOR STORM OUTFALL PROFILES.
- SEE SHEET 14 FOR DEMOLITION.

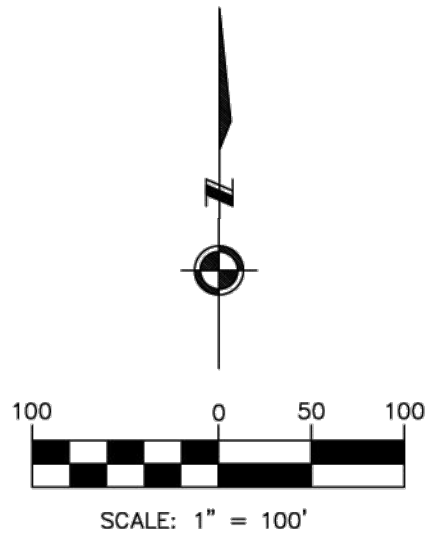
ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE, CONTRACTOR TO FIELD VERIFY BEFORE COMMENCEMENT OF WORK

PARK DETENTION INFORMATION:
PARK AREA: 7.97 AC
DETENTION PROVIDED: 5.8 AC-FT
FIRM INFO: MAP 48201C0890M
EFFECTIVE DATE: 5/2/2019

NOTICE: FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811	
VERIFICATION OF PRIVATE UTILITY LINES	
Date	CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.
Signature valid for six months.	
Date	CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)
Signature valid for six months.	
Date	Approved for AT&T underground conduit facilities only. Signature valid for one year.
<div><div>GANNETT FLEMING T.B.P.E.L.S. FIRM REGISTRATION #1800 3100 WEST ALABAMA HOUSTON, TEXAS 77056 (713) 520-9570</div><div>This document is released for interim review & not intended for construction, bidding or permit purposes by AMY E. DZIUK P.E. #133701</div></div>	
SURVEYED BY: KUO FB NO. 00000	
CITY OF HOUSTON HOUSTON PUBLIC WORKS	
EP HILL PARK	
EP HILL PARK PROJECT LAYOUT	
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
HORIZ: 1"=40'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 6 OF 73	



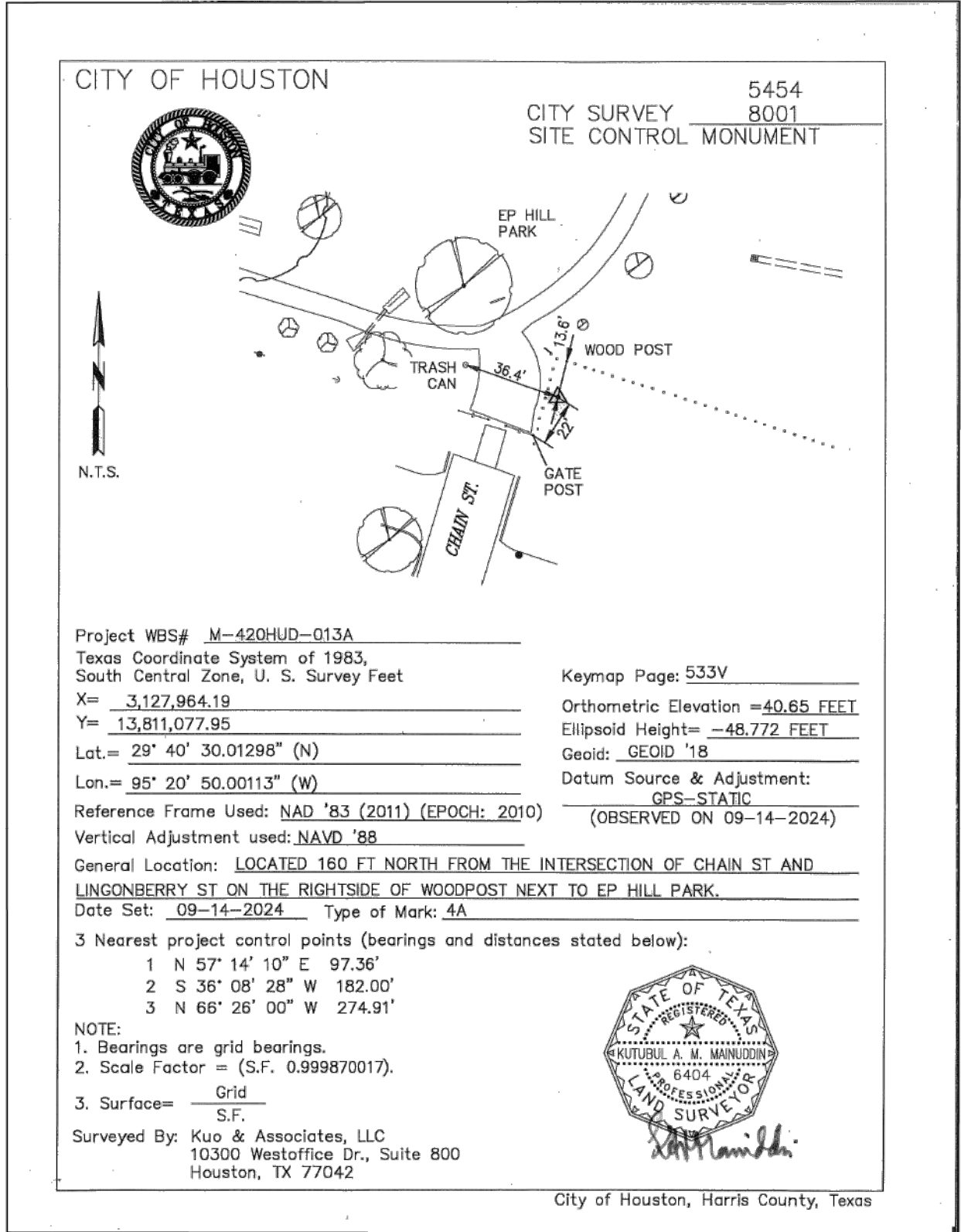
SURVEY BASELINE POINTS DATA (TEMPORARY BENCHMARK)						
POINT No.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)	ELEVATION	DESCRIPTION
B-2	13,812,926.08	3,128,452.70	13,811,130.64	3,128,046.06	38.57'	SET 1/2" I.R. W/CAP
B-3	13,813,162.93	3,128,385.60	13,811,367.45	3,127,978.97	38.78'	SET 1/2" I.R. W/CAP
B-4	13,813,240.27	3,128,611.07	13,811,444.78	3,128,204.40	37.57'	SET 1/2" I.R. W/CAP
B-5	13,813,228.23	3,128,136.63	13,811,432.74	3,127,730.02	40.68'	SET 1/2" I.R. W/CAP
B-6	13,813,411.63	3,127,901.34	13,811,616.12	3,127,494.76	39.64'	SET 1/2" I.R. W/CAP
B-7	13,813,028.34	3,127,878.48	13,811,232.88	3,127,471.91	39.88'	SET 1/2" I.R. W/CAP
B-8	13,812,983.31	3,128,118.85	13,811,187.85	3,127,712.25	39.94'	SET 1/2" I.R. W/CAP



BENCHMARK:
CITY OF HOUSTON MONUMENT 5454-8001, A BRASS DISK IN CONCRETE, LOCATED NEAR SOUTHEAST CORNER OF EP HILL PARK EAST OF THE PARK ENTRANCE.
ELEV. 40.65 FEET NAVD 1988 (GEOID '18)*
* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED SEPTEMBER 14, 2024.
VERTICAL DATUM ADJUSTMENT:
THE ELEVATION DIFFERENCE IN BETWEEN THE FLOODPLAIN REFERENCE MARKS (RM 030365) PUBLISHED DATUM NAVD 1988, 2001 ADJUSTMENT AND DATUM NAVD 1988, (GEOID '18) IS 0.05'.
NAVD 1988, 2001 ADJ. ELEVATION
= NAVD 1988 (GEOID '18) ELEVATION - 0.05 FT

NOTE:
ALL BEARINGS AND DISTANCES ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83. ALL DISTANCES ARE IN SURFACE.
THE COORDINATES SHOWN HEREON ARE TEXAS SOUTH CENTRAL ZONE NO. 4204 STATE PLANE GRID COORDINATES (NAD83) AND MAY BE BROUGHT TO SURFACE BY DIVIDING BY THE COMBINED SCALE FACTOR 0.999870017.

- LEGEND:**
- B-X** SURVEY CONTROL POINT NUMBER
 - C-X** DESIGN BASELINE POINT NUMBER
 - SURVEY CONTROL POINT
 - DESIGN BASELINE POINT
 - CITY OF HOUSTON MONUMENT
 - S. BL. SURVEY BASELINE



10300 Westoffice Dr., Suite 800, Houston, Texas 77042
Tel: 713-975-6199, Fax: 713-975-6250, www.kuasurvey.com
TBEPLS Engineering Firm Reg. No. 11-4578
TBEPLS Surveying Firm Reg. No. 10075600



SURVEYED BY: KUO & ASSOC.
FB NO. P-6361

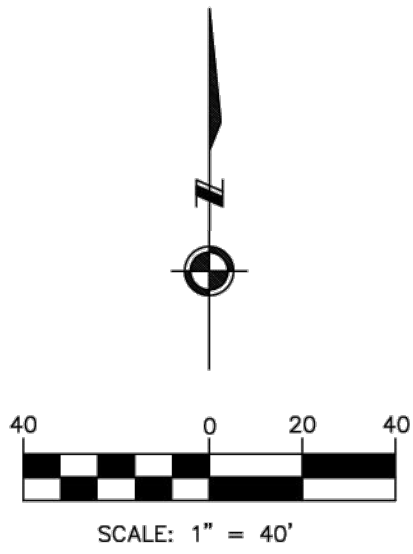
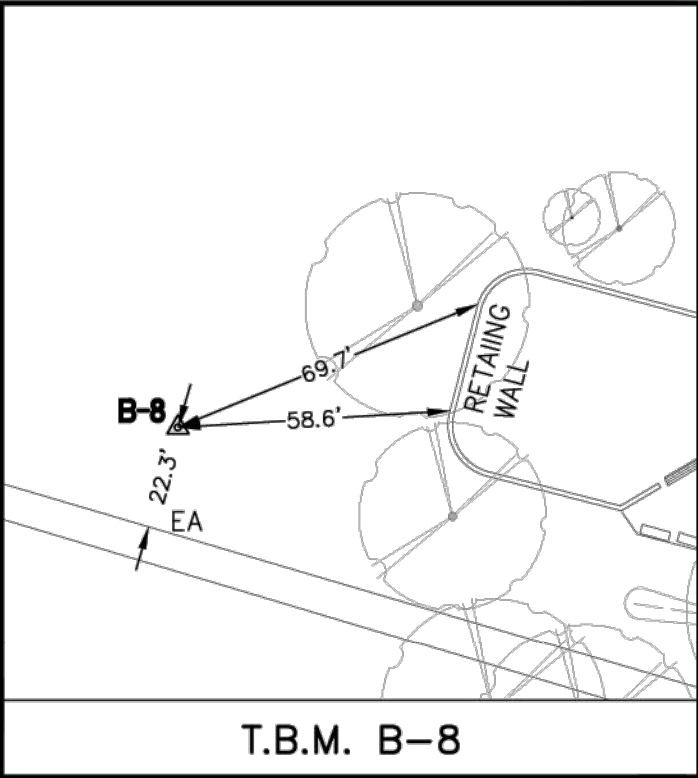
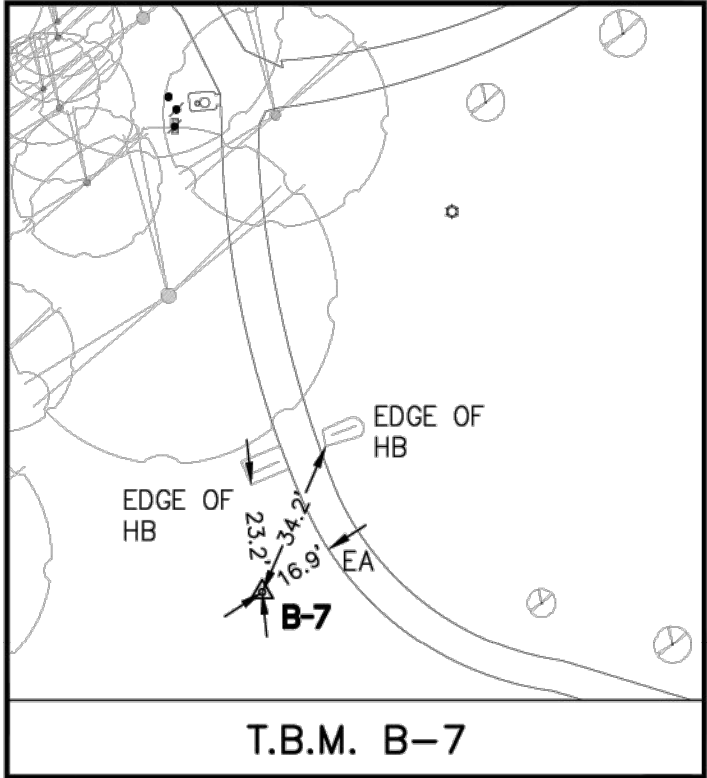
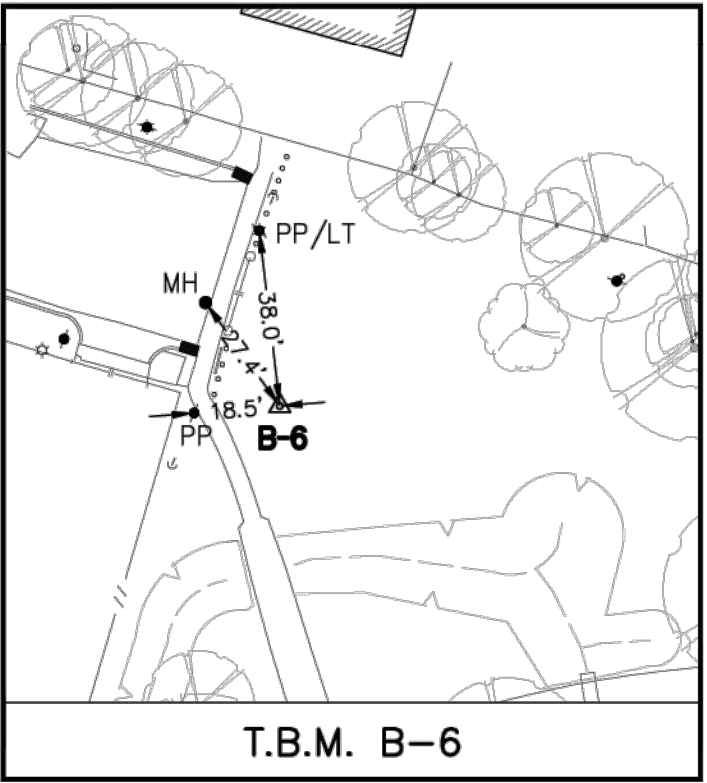
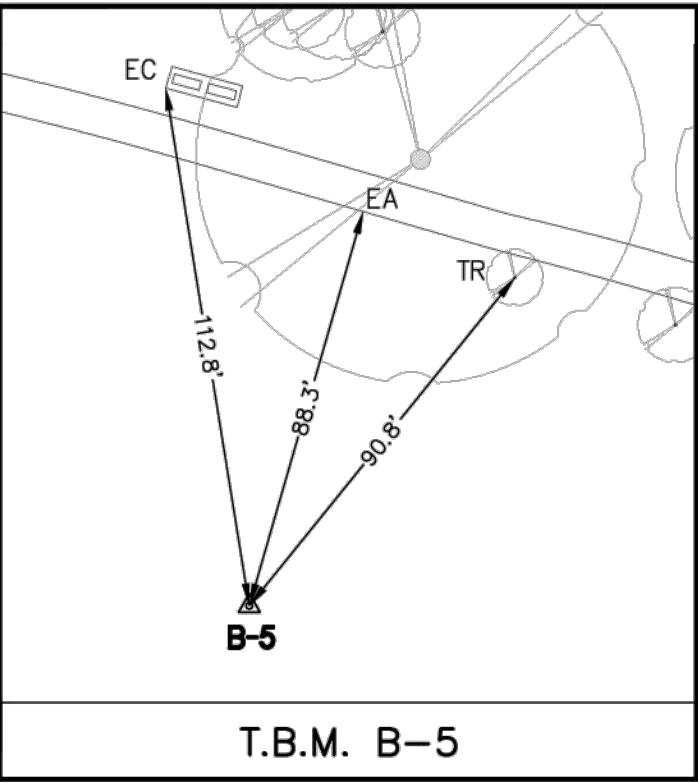
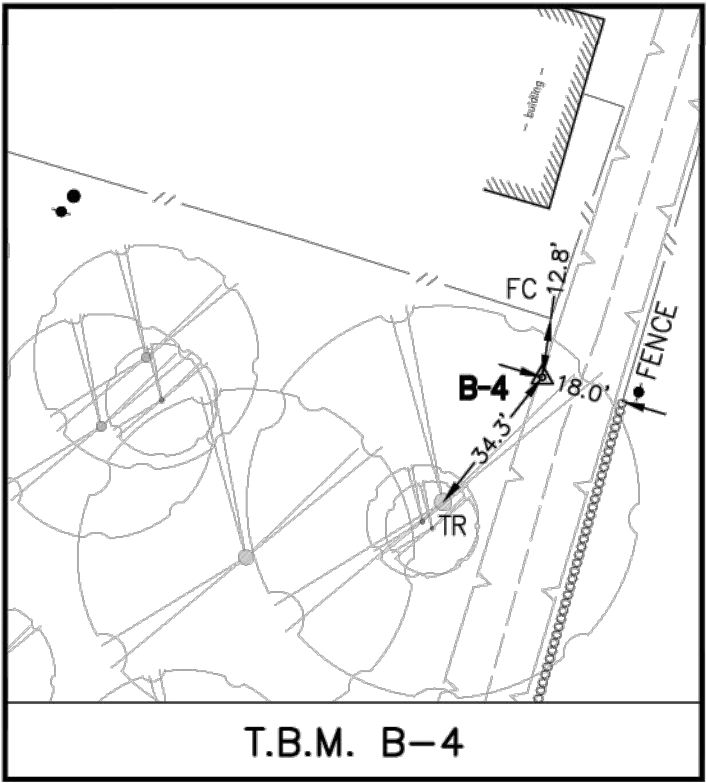
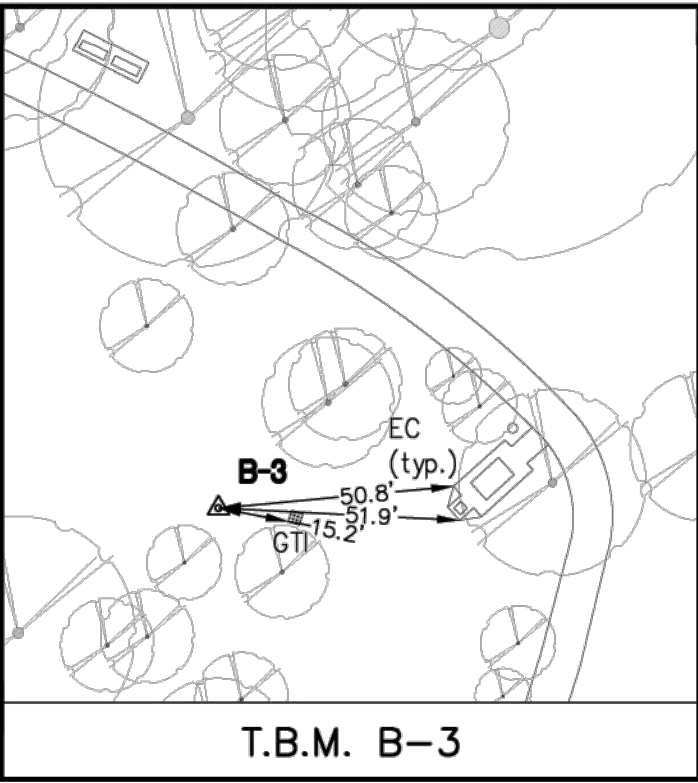
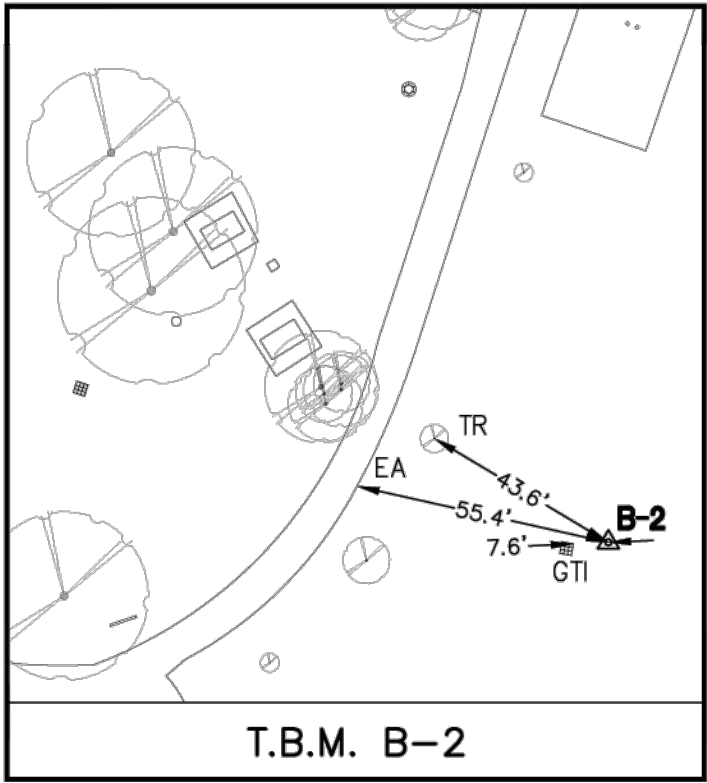
CITY OF HOUSTON

HOUSTON PUBLIC WORKS

EP HILL PARK

SURVEY CONTROL MAP
(SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
1"=100'	
CITY OF HOUSTON PM	
SHEET NO. 7 OF 73	



- EXIST. TOPOGRAPHIC LEGEND**
- | | |
|---------------------|------------------------------|
| //// ASPHALT SYMBOL | PLANTER |
| ■ B OR BB INLET | ● POWER POLE |
| ○ BUSH | ● POWER POLE W/LT. |
| ⊙ C INLET | ○ SIGN |
| ⊗ CLEANOUT | ○ SIGNAL POLE |
| ⊠ brick column | ⊗ SPRINKLER VALVE |
| ⊟ DOWN GUY | ⊗ SPRINKLER HEAD |
| ⊙ E INLET | ⊗ STREET LIGHT/FLOOD LIGHT |
| ⊙ ELEC MANHOLE | ⊗ STREET LIGHT/PARKING LIGHT |
| ● FIRE HYDRANT | ○ TREE |
| ○ GAS METER | ○ TREE STUMP |
| ⊗ GAS VALVE | ⊗ TREE-CREPE MYRTLE |
| ⊗ GATE | ⊗ TREE-PINE |
| ⊗ GRATE INLET | ⊗ WATER METER |
| ⊗ GRATE INLET | ⊗ WATER VALVE |
| ⊗ MAIL BOX | ⊗ IRRIGATION CONTROL VALVE |
| ● STORM MANHOLE | |
| ● SANITARY MANHOLE | |
- ABBREVIATIONS**
- FH – FIRE HYDRANT
FC – FENCE CORNER
LT – LIGHT POLE
MB – MAIL BOX
MH – MANHOLE
PP – POWER POLE
PP/LIGHT – POWER POLE W/LIGHT
WM – WATER METER



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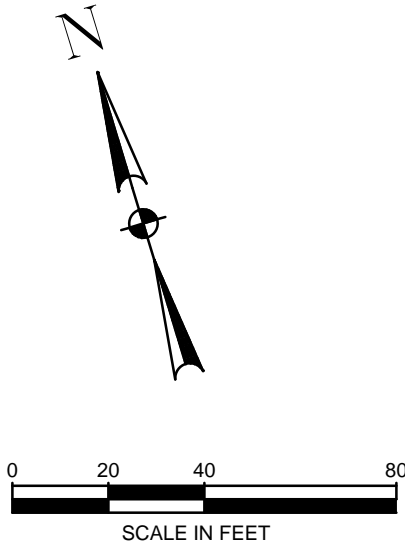
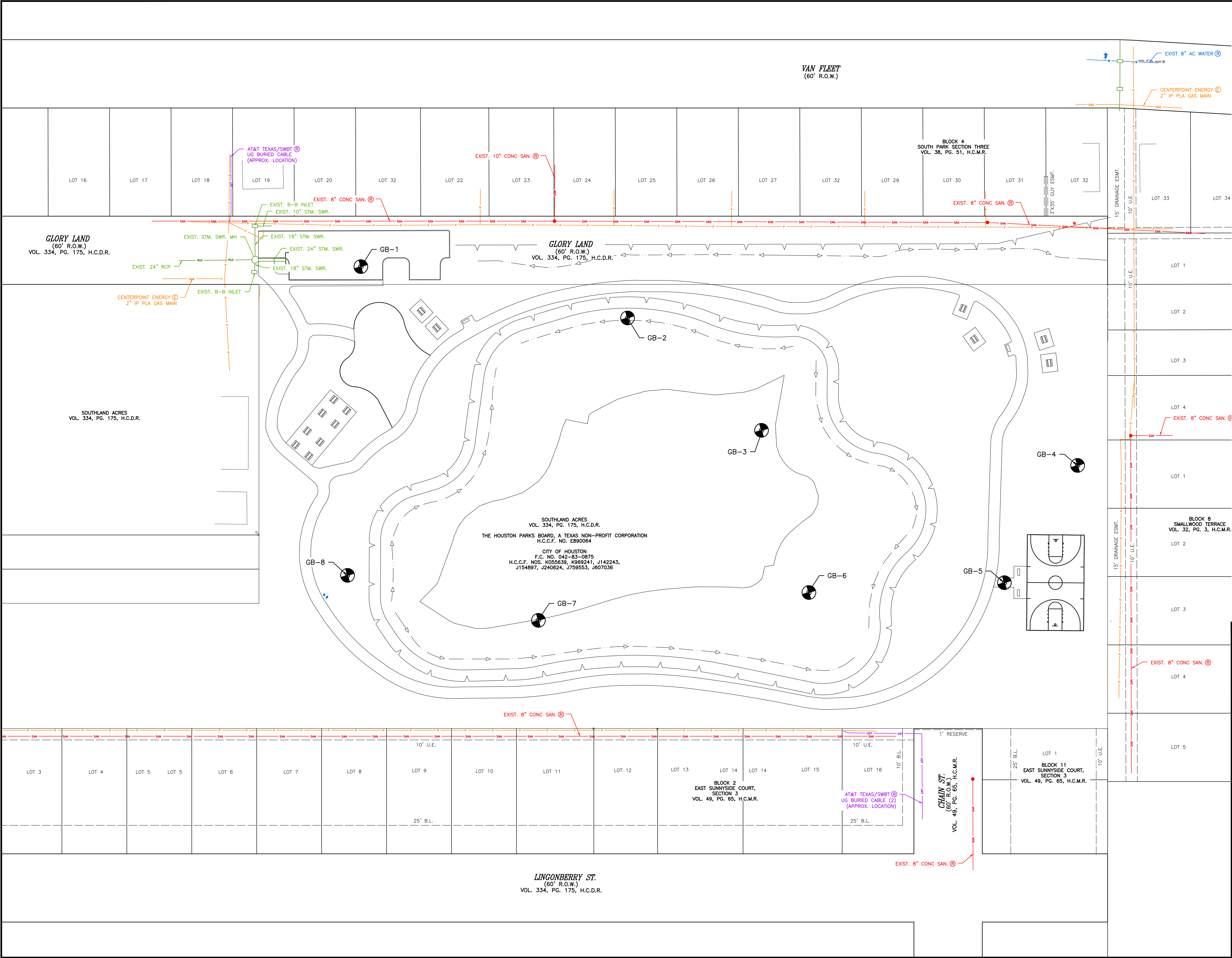
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

EP HILL PARK
SURVEY CONTROL MAP
(SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
1"=40'	
CITY OF HOUSTON PM	
SHEET NO. 8 OF 73	

FILE PATH: C:\projectwise\dec\workdir\fidel\gambou\0204\108\EP-HILL PARK BORING LOG PLAN.dwg

PLOT STYLE: Coh_ctb_230809 -- MOD.ctb



LEGEND

BORE HOLE

FOR BORE HOLE INFORMATION
SEE SHEETS 10 AND 11

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3100 WEST ALABAMA HOUSTON, TEXAS 77056 (713) 520-9570

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FB NO. 00000

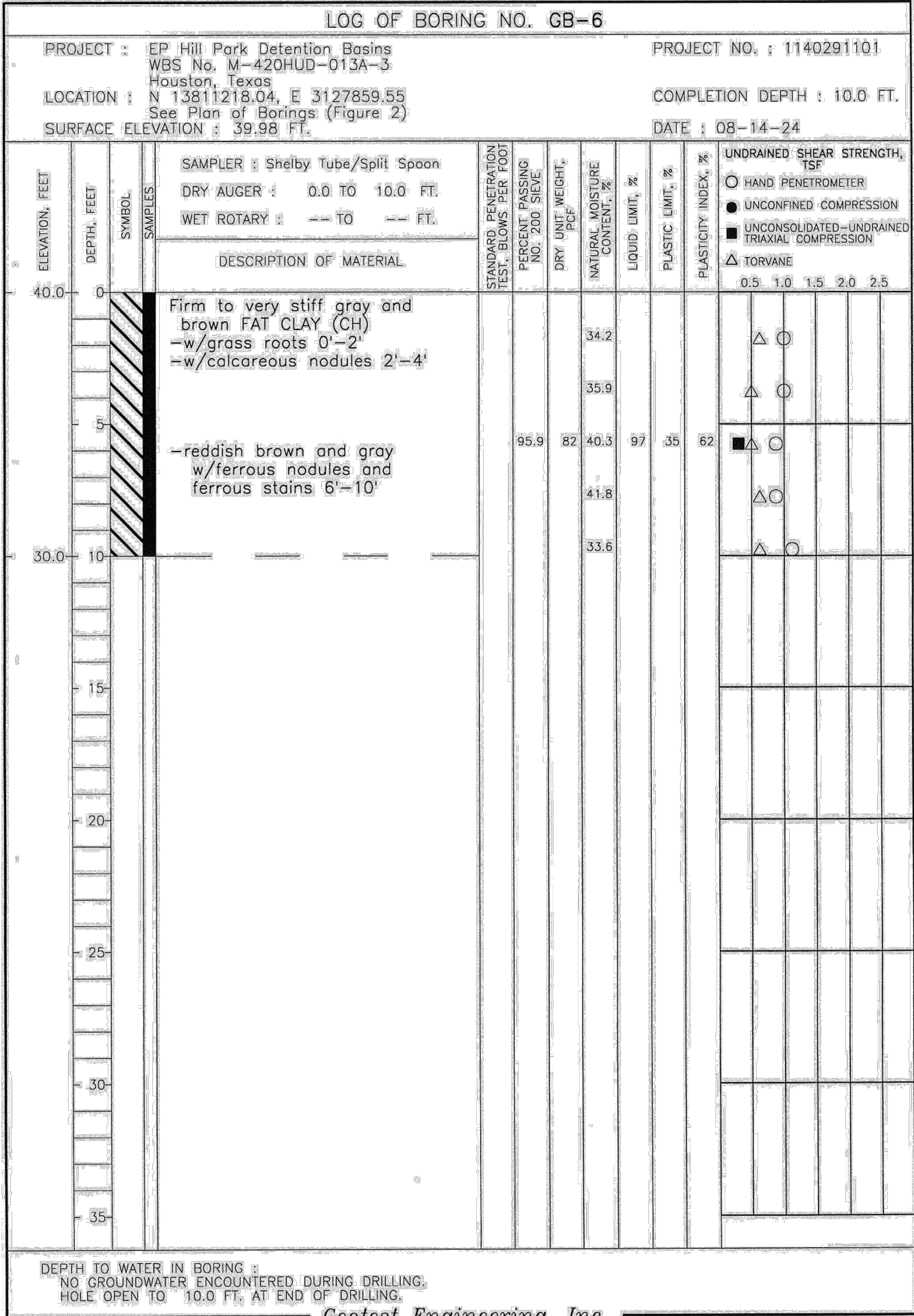
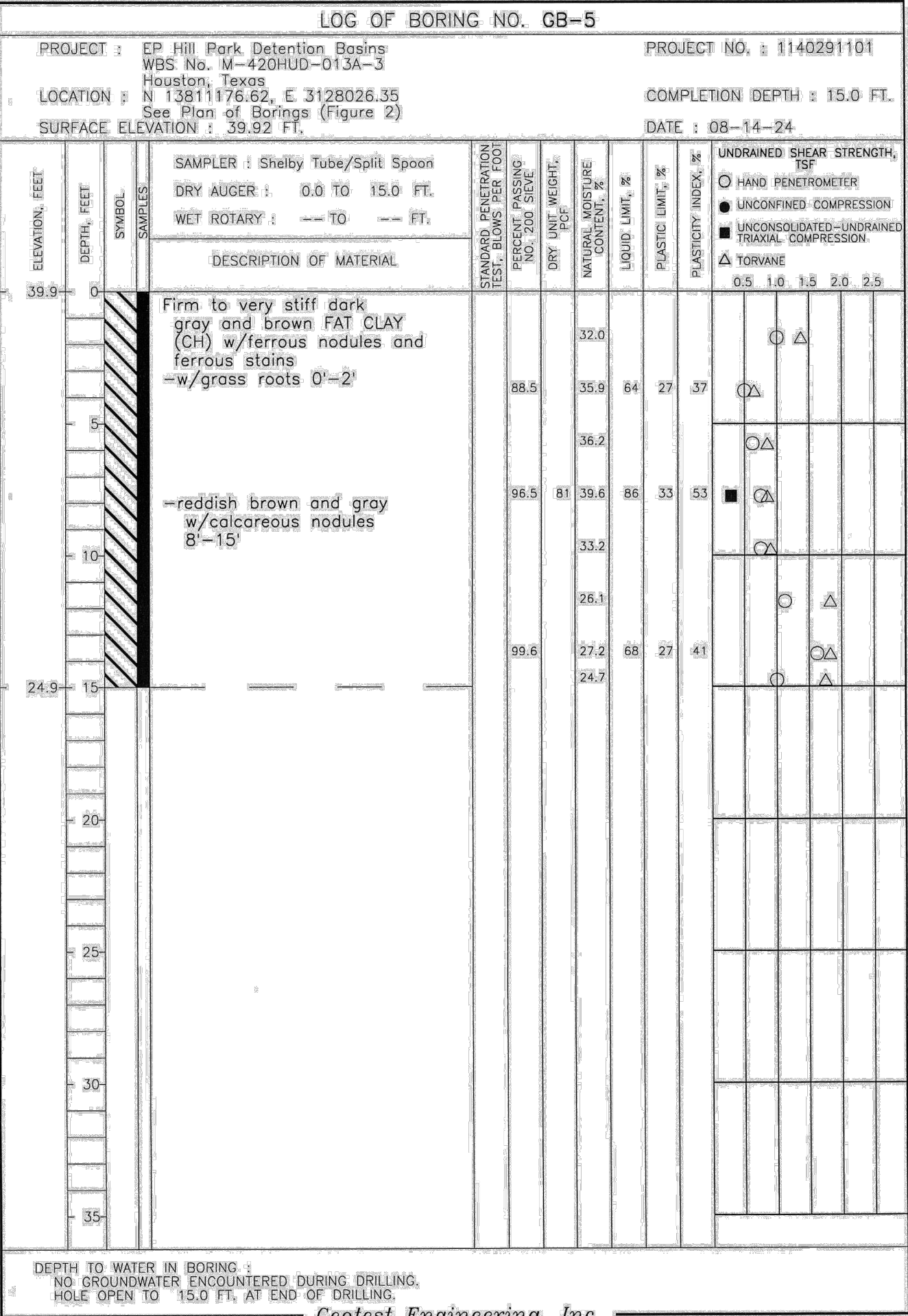
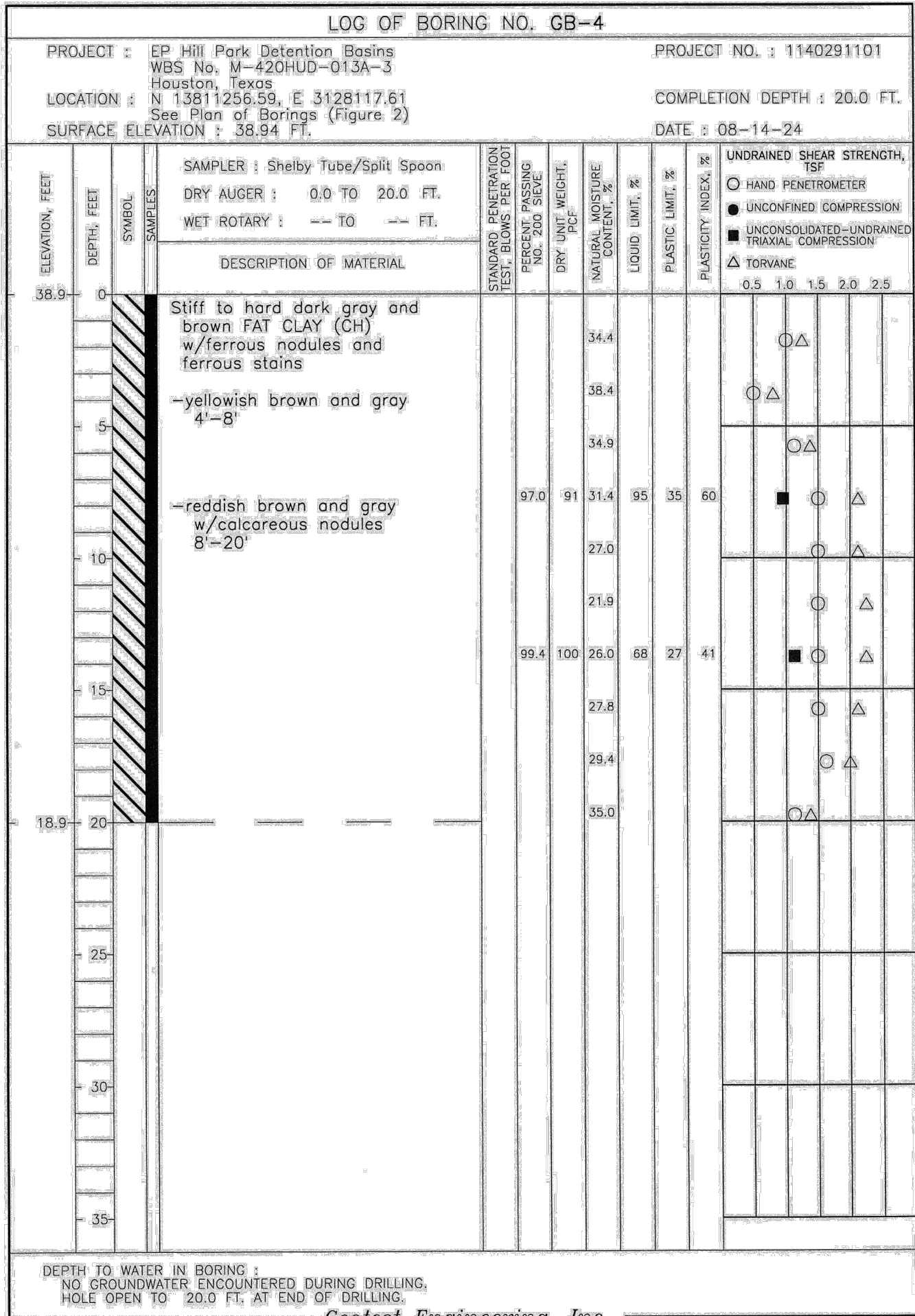
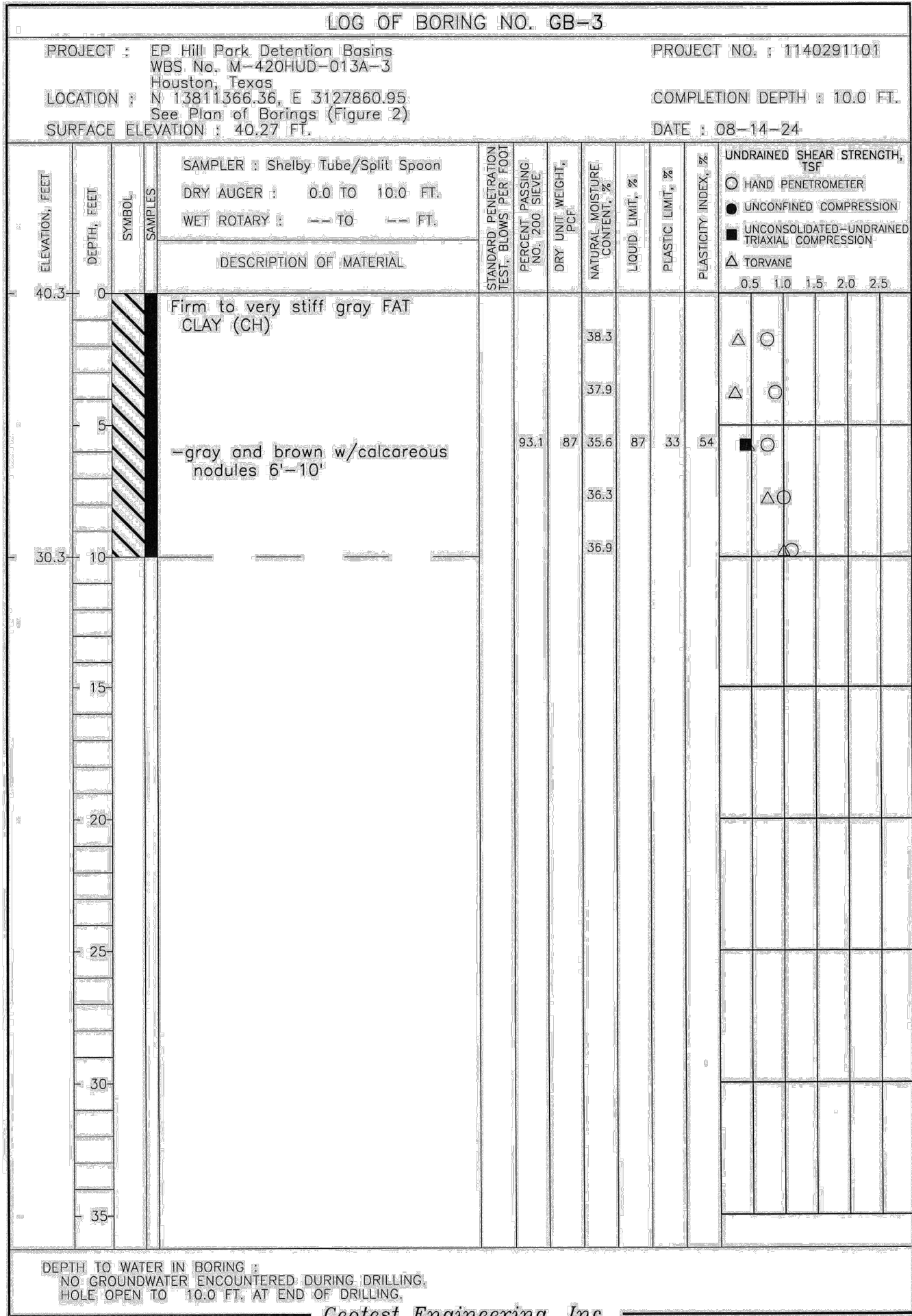
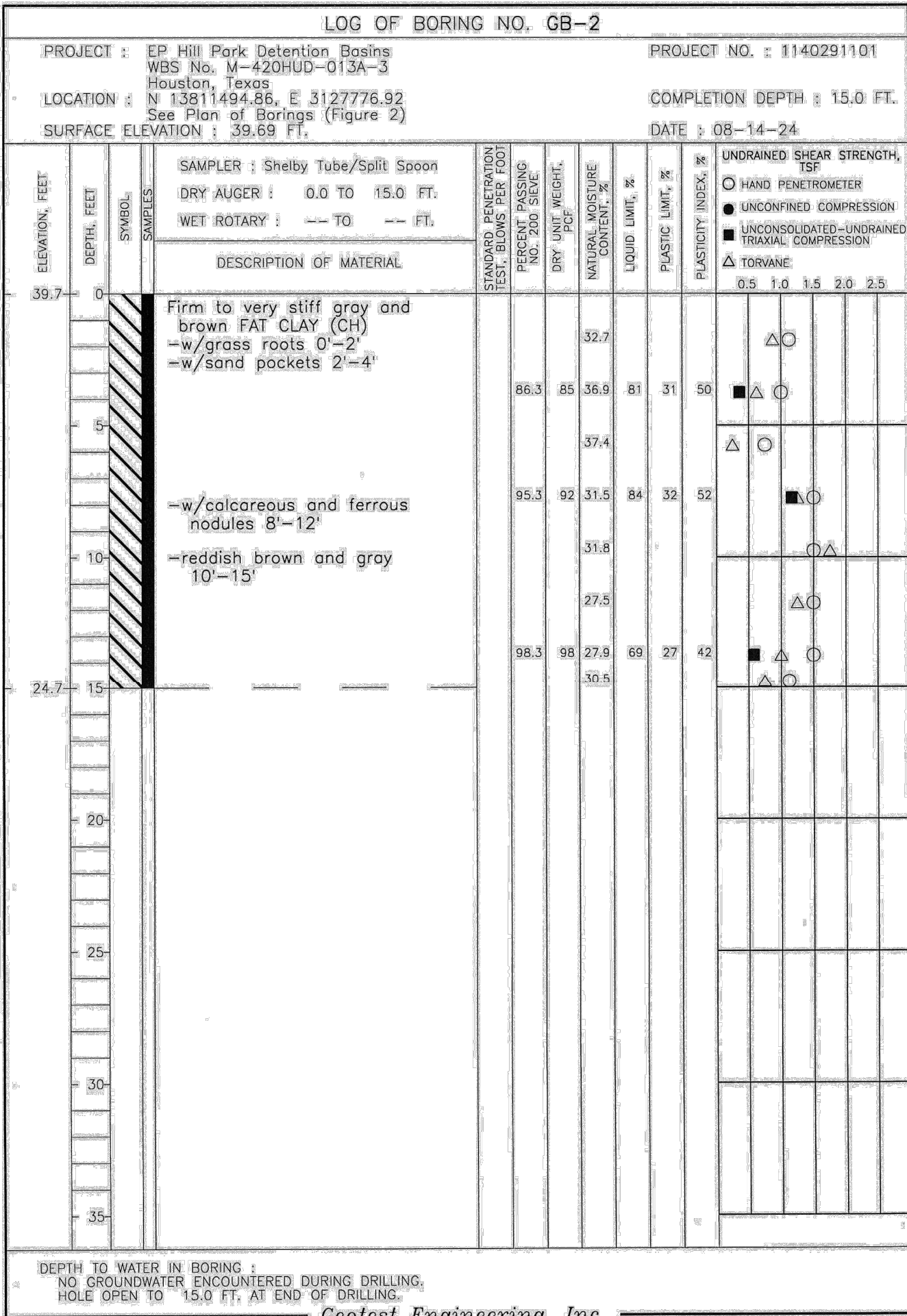
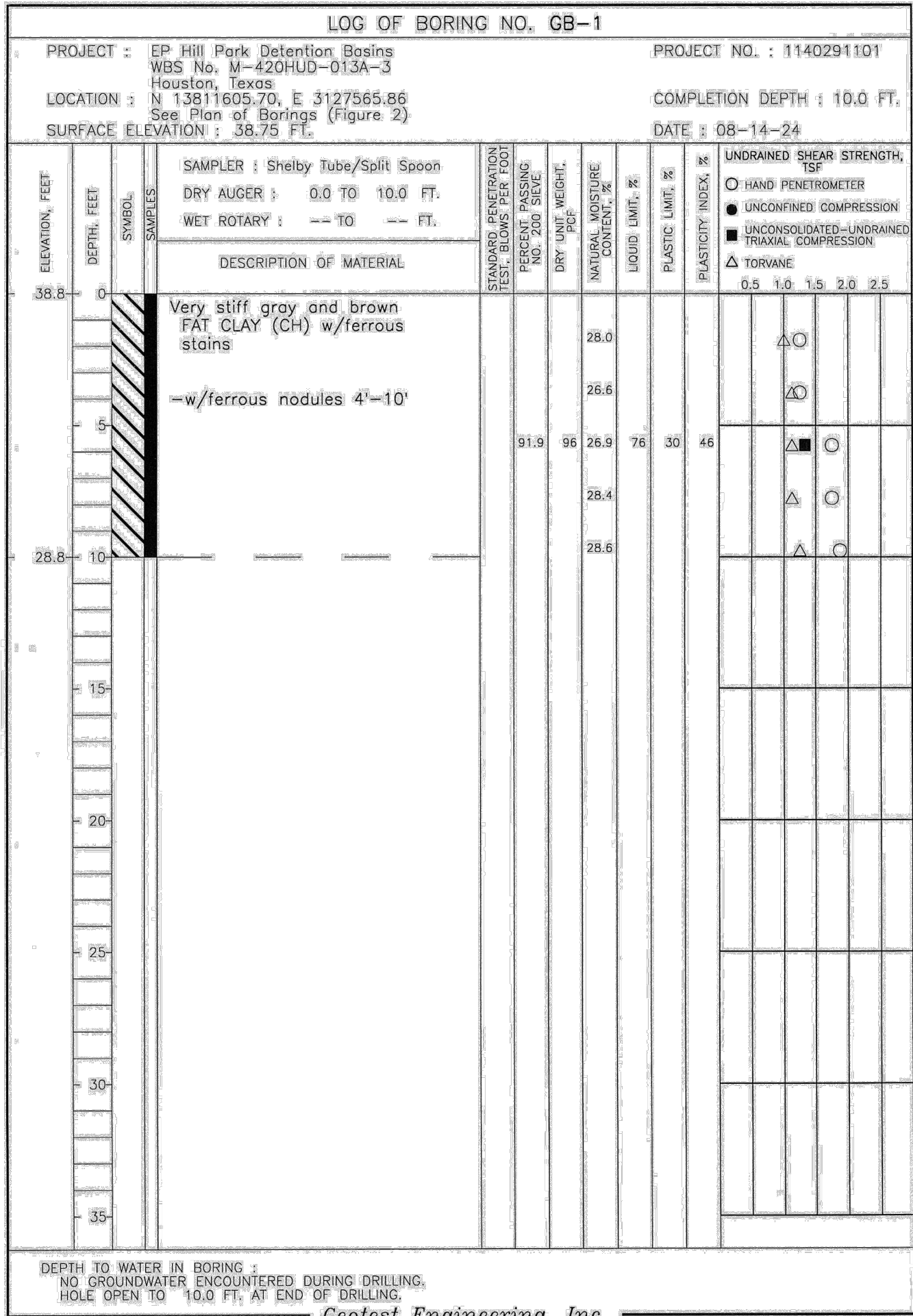
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

EP HILL PARK

EP HILL PARK BORING LOG PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
HORIZ: 1"=40'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 9 OF 73	

NO.	DATE	REVISION	APP.



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

EP HILL PARK

EP HILL PARK BORING LOG
(SHEET 1 OF 2)

WBS NUMBER

M-420HUD-013A-3

DRAWING SCALE

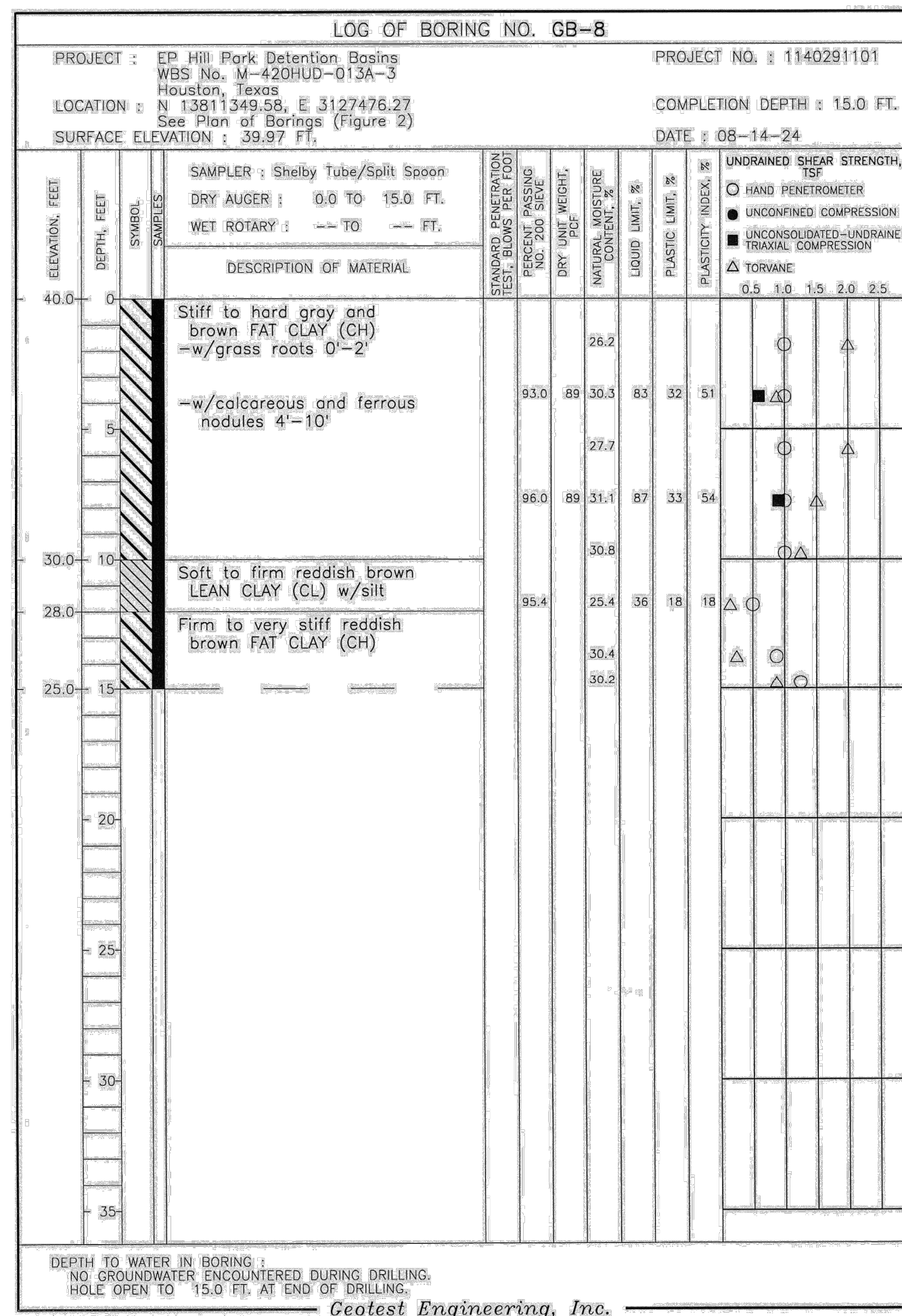
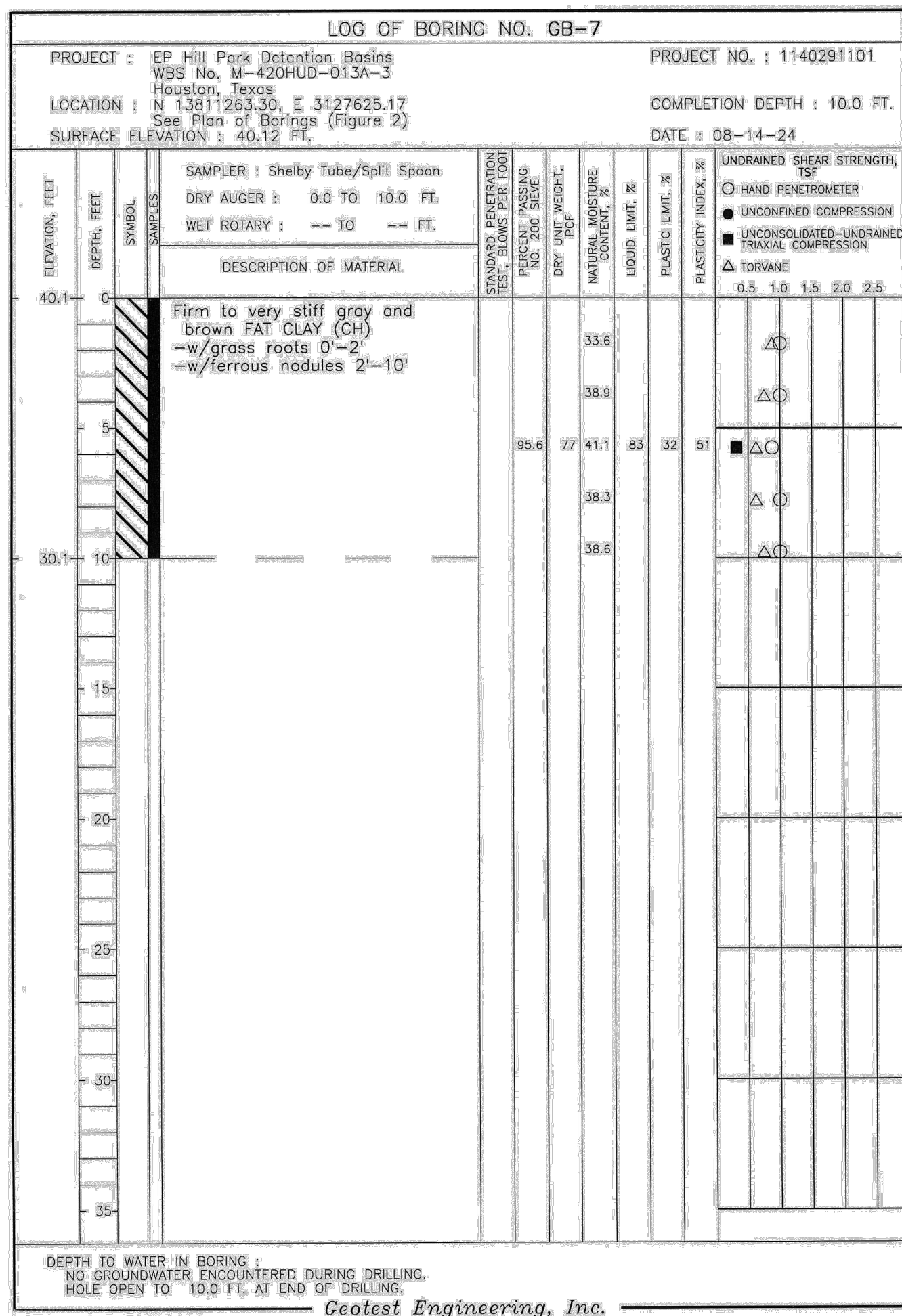
CITY OF HOUSTON PM


CUONG NGUYEN

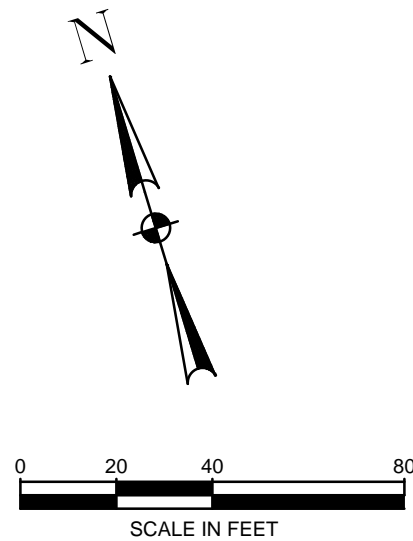
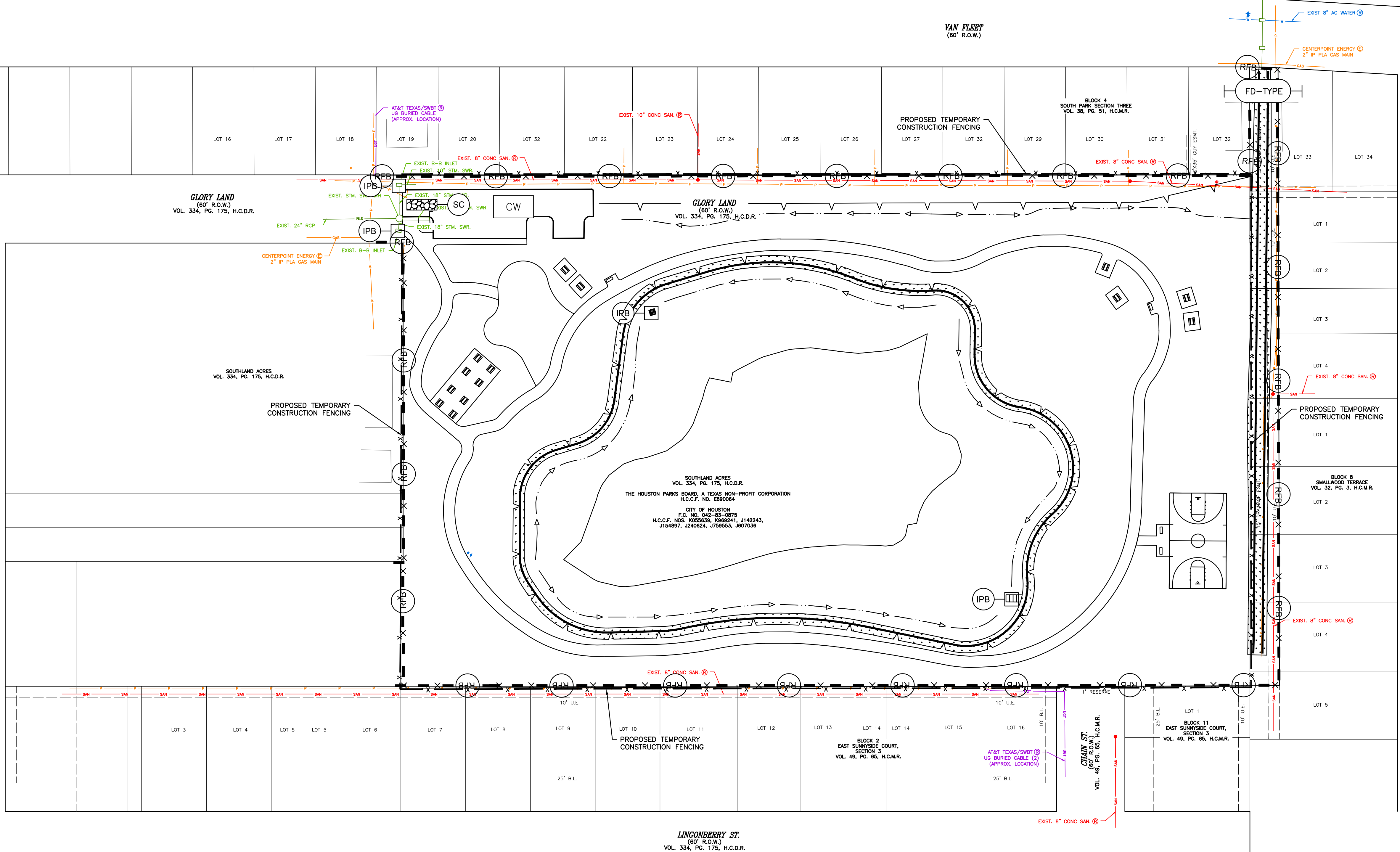
SHEET NO. 10 OF 73

FOR CITY OF HOUSTON USE ONLY

NO. DATE REVISION APP.



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<div style="text-align: center;"> <h1 style="margin: 0;">CITY OF HOUSTON</h1> <h2 style="margin: 0;">HOUSTON PUBLIC WORKS</h2> </div>		
<div style="text-align: center;"> <h1 style="margin: 0;">EP HILL PARK</h1> <h2 style="margin: 0;">EP HILL PARK BORING LOG (SHEET 2 OF 2)</h2> </div>		
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY	
M-420HUD-013A-3		
DRAWING SCALE		
CITY OF HOUSTON PM		
CUONG NGUYEN		
SHEET NO. 11 OF 73		



- LEGEND
- (RFB) — REINFORCED FILTER FABRIC
 - SC STABILIZED CONSTRUCTION ACCESS
 - IPB INLET PROTECTION BARRIER
 - FD-TYPE FILTER DAM
 - CW CONCRETE WASHDOWN
 - POND AND CHANNEL HYDROMULCH SEEDING (.523 AC)
 - SOD SODDING (404 SF)
 - STORM WATER POLLUTION PREVENTION DETAILS (SEE SHEET 13)



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AMY E. DZIUK
P.E. #133701

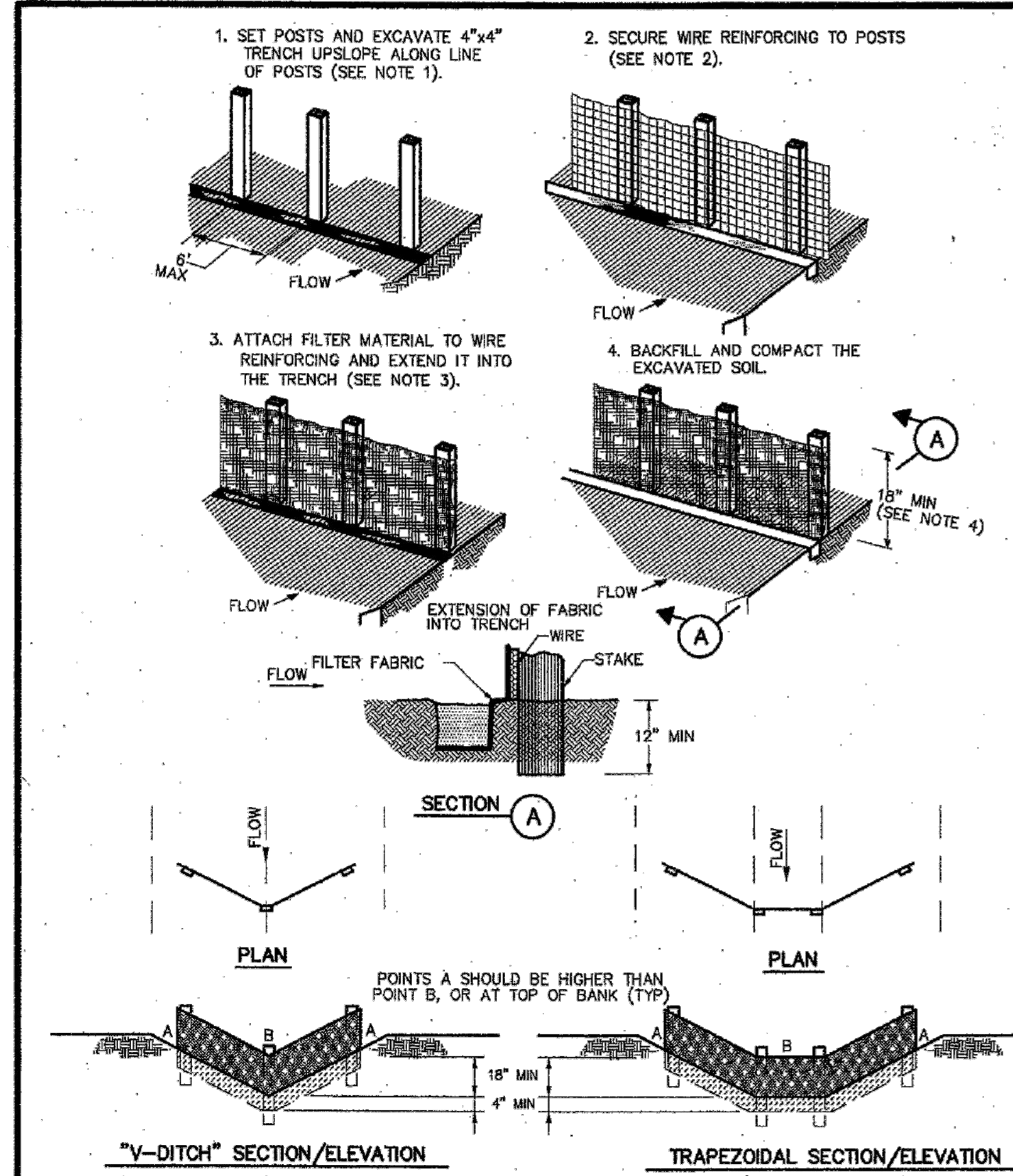
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FB NO. 00000

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

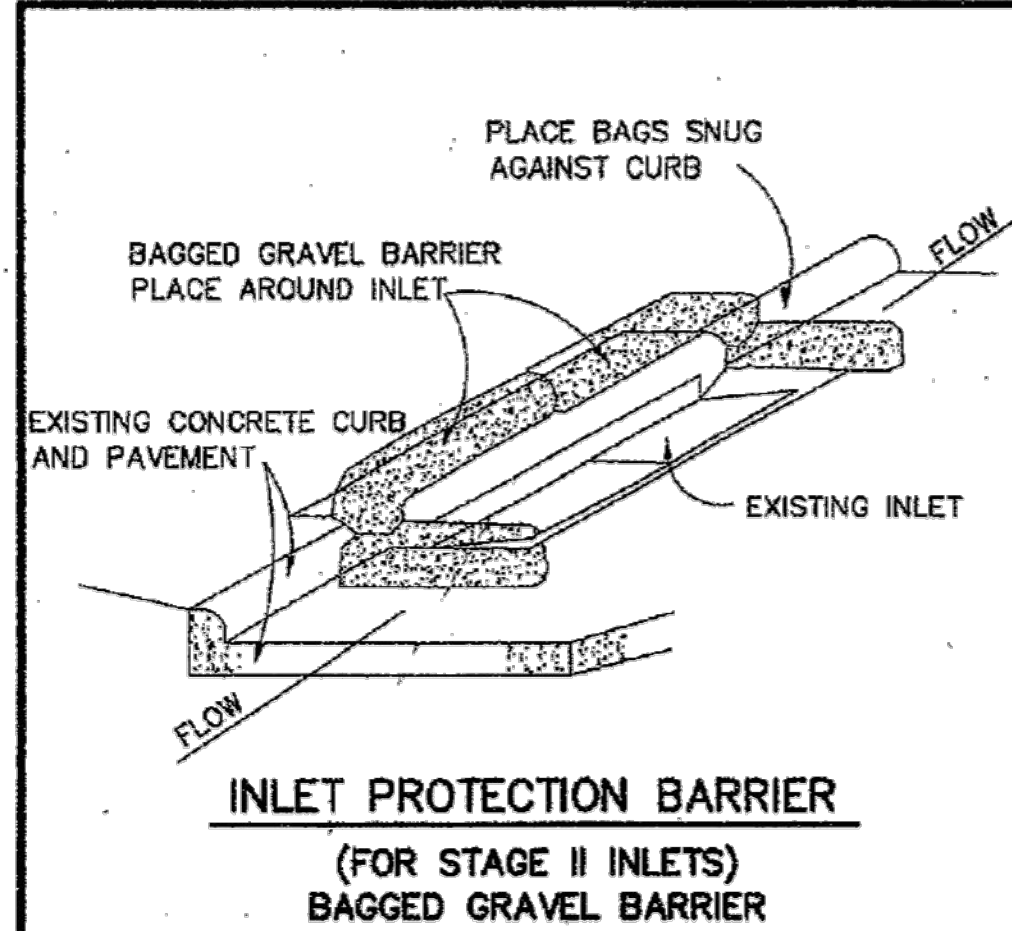
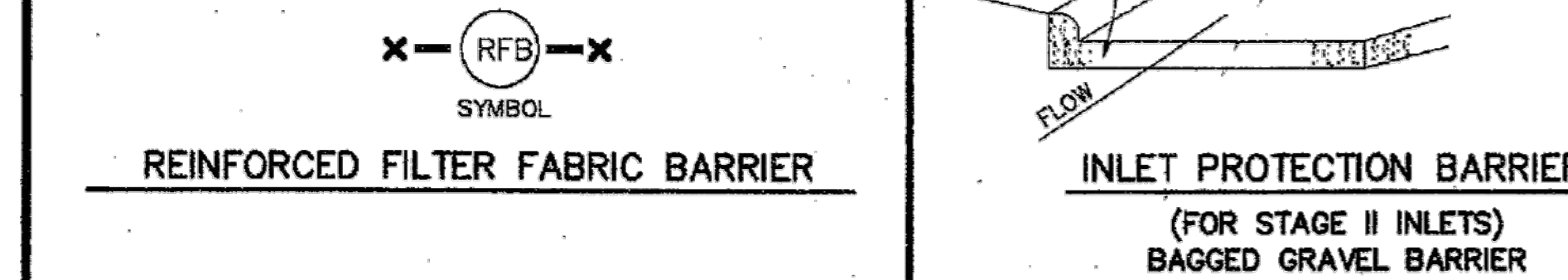
EP HILL PARK

EP HILL PARK STORM WATER
POLLUTION PREVENTION PLAN

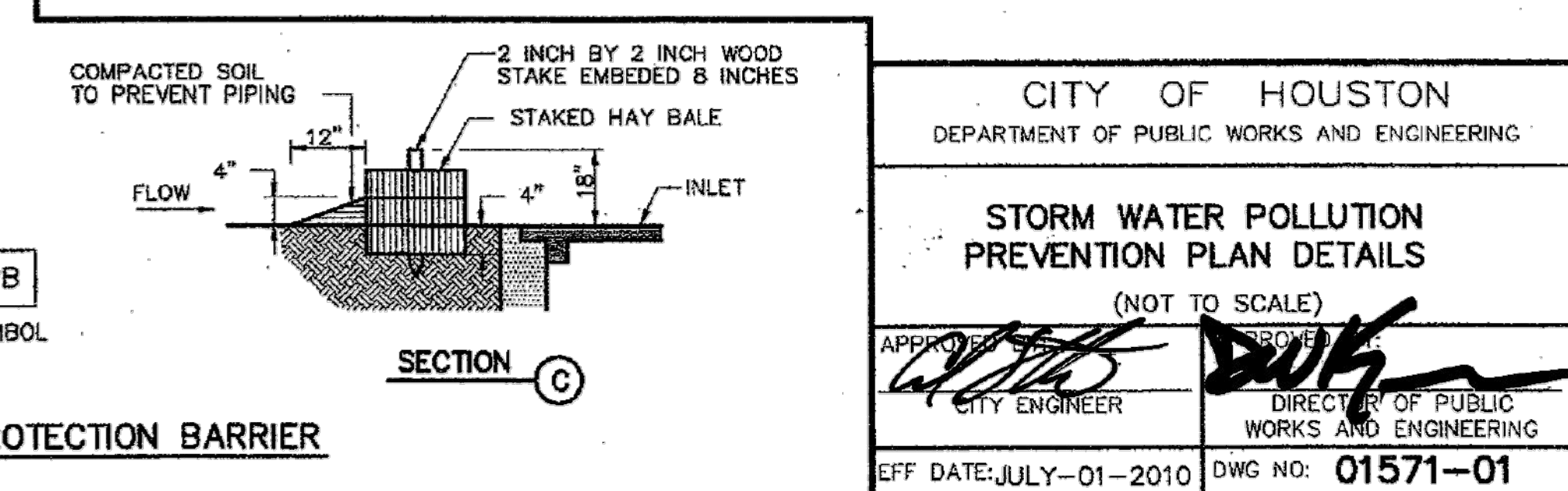
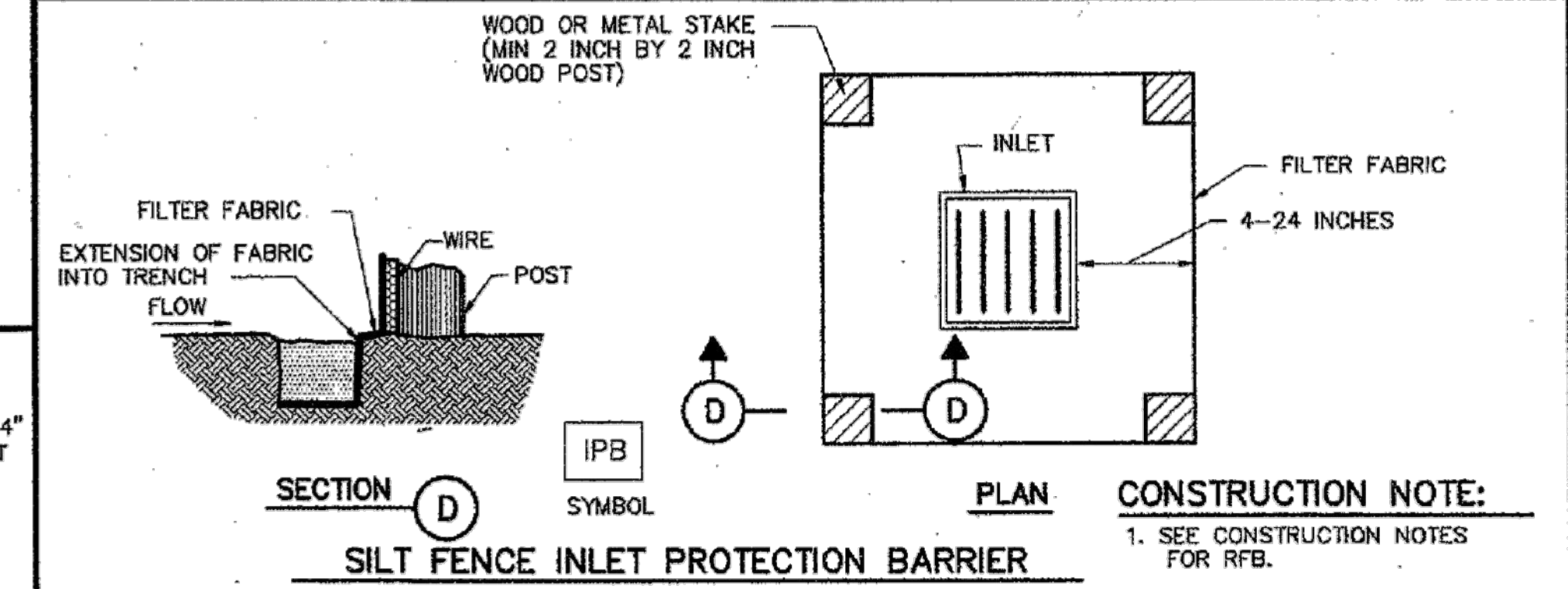
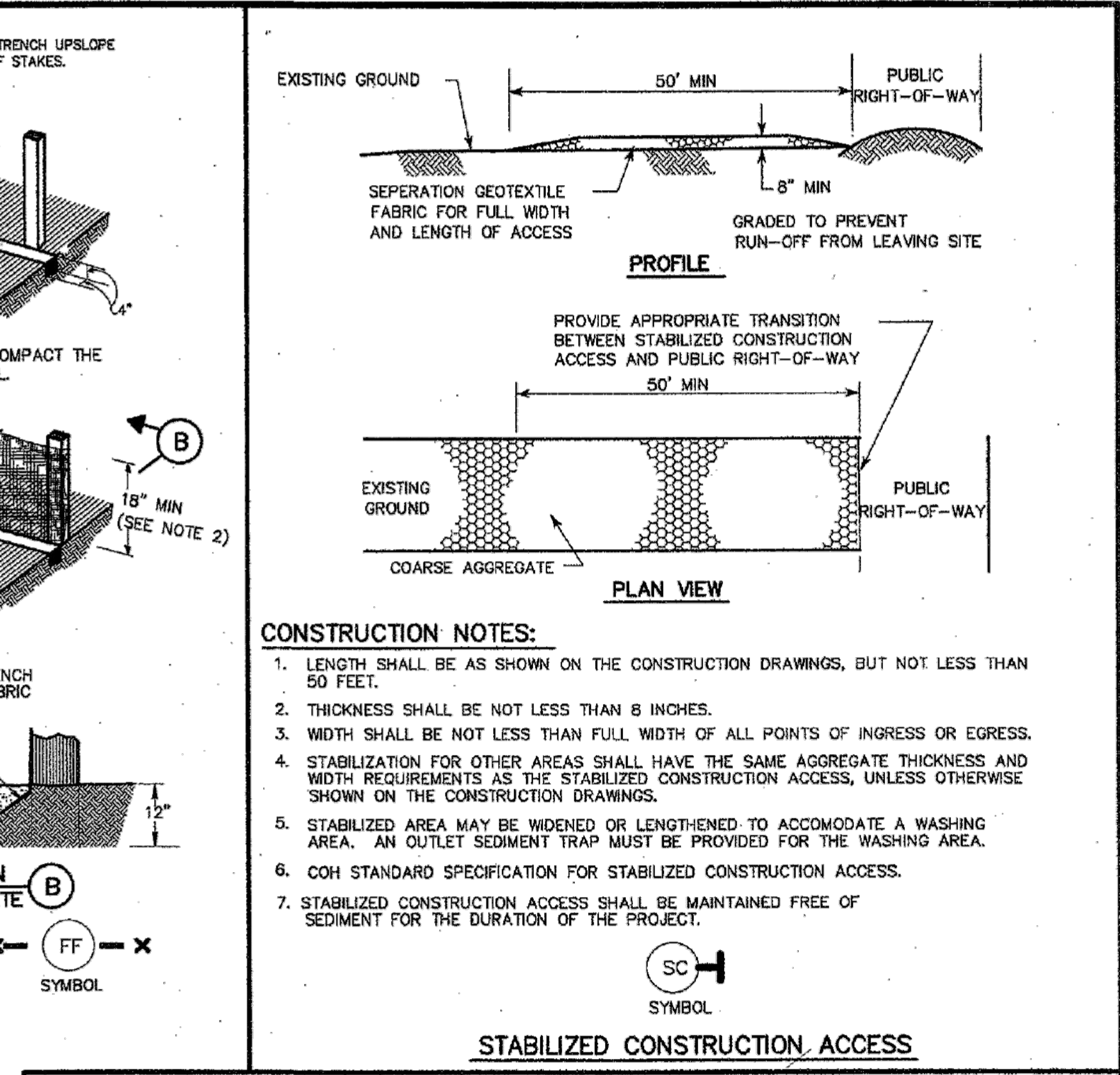
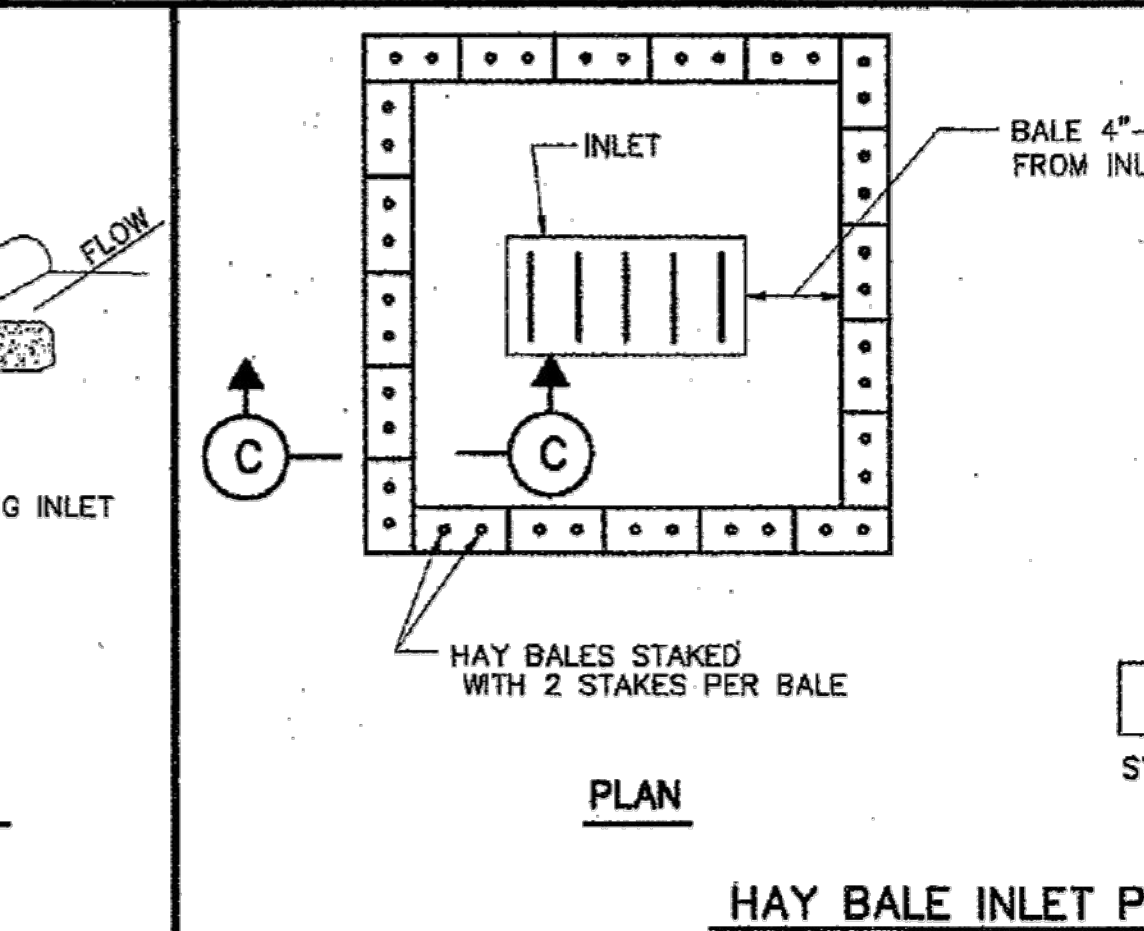
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
HORIZ: 1"=40'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 12 OF 73	



- CONSTRUCTION NOTES:**
- SET 2 INCH BY 2 INCH WOODEN STAKES SPACED A MAX OF 6 FEET APART AND EMBEDDED A MIN OF 12 INCHES.
 - WOVEN WIRE REINFORCING TO BE FASTENED SECURELY TO BARRIER POSTS WITH STAPLES.
 - FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE REINFORCING, WITH TIES SPACED EVERY 24 INCHES AT TOP AND MIDSECTION.
 - MINIMUM HEIGHT OF FILTER SHOULD BE 18 INCHES AND A MAXIMUM OF 36 INCHES ABOVE NATURAL GROUND.
 - WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
 - SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC BARRIER.



- CONSTRUCTION NOTES:**
- 2 INCH THICK BY 2 INCH WOODEN STAKES TO BE SET AT MAX SPACING OF 3 FEET AND EMBEDDED A MIN OF 8 INCHES. IF PREASSEMBLED BARRIER WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO 8 FEET MAX.
 - ATTACH FILTER FABRIC TO WOODEN STAKES. FILTER FABRIC BARRIER SHALL HAVE A MIN HEIGHT OF 18 INCHES AND MAX HEIGHT OF 36 INCHES ABOVE NATURAL GROUND.
 - WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHOULD BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
 - SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC BARRIER.



GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77056 (713) 524-9570

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P.E. #133701

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FB NO. 00000

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

EP HILL PARK

STORM WATER POLLUTION PREVENTION PLAN DETAILS

WBS NUMBER
M-420HUD-013A-3

DRAWING SCALE
N.T.S.

CITY OF HOUSTON PM
CUONG NGUYEN

SHEET NO. 13 OF 73

FOR CITY OF HOUSTON USE ONLY

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

STORM WATER POLLUTION PREVENTION PLAN DETAILS
(NOT TO SCALE)

APPROVED
CITY ENGINEER

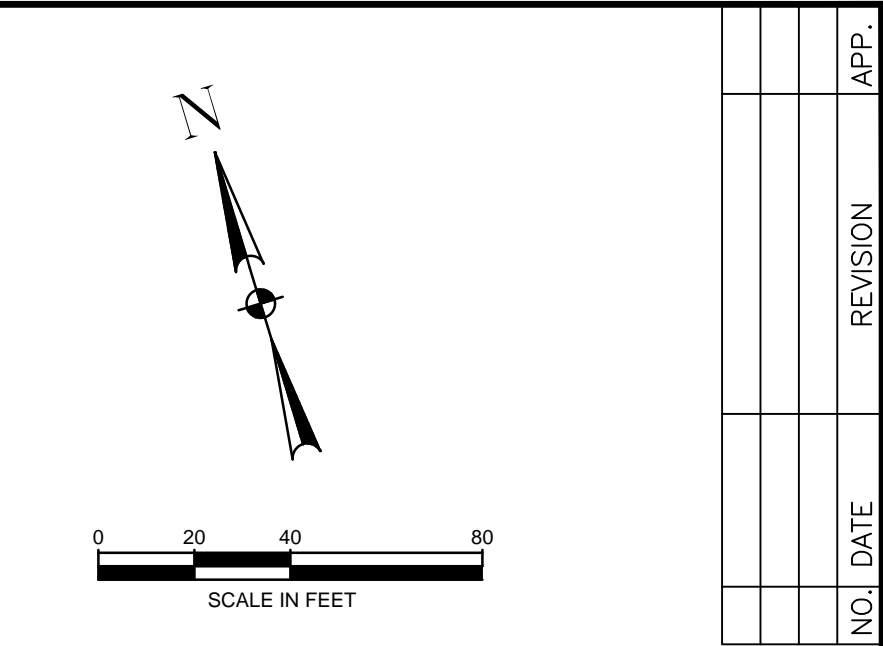
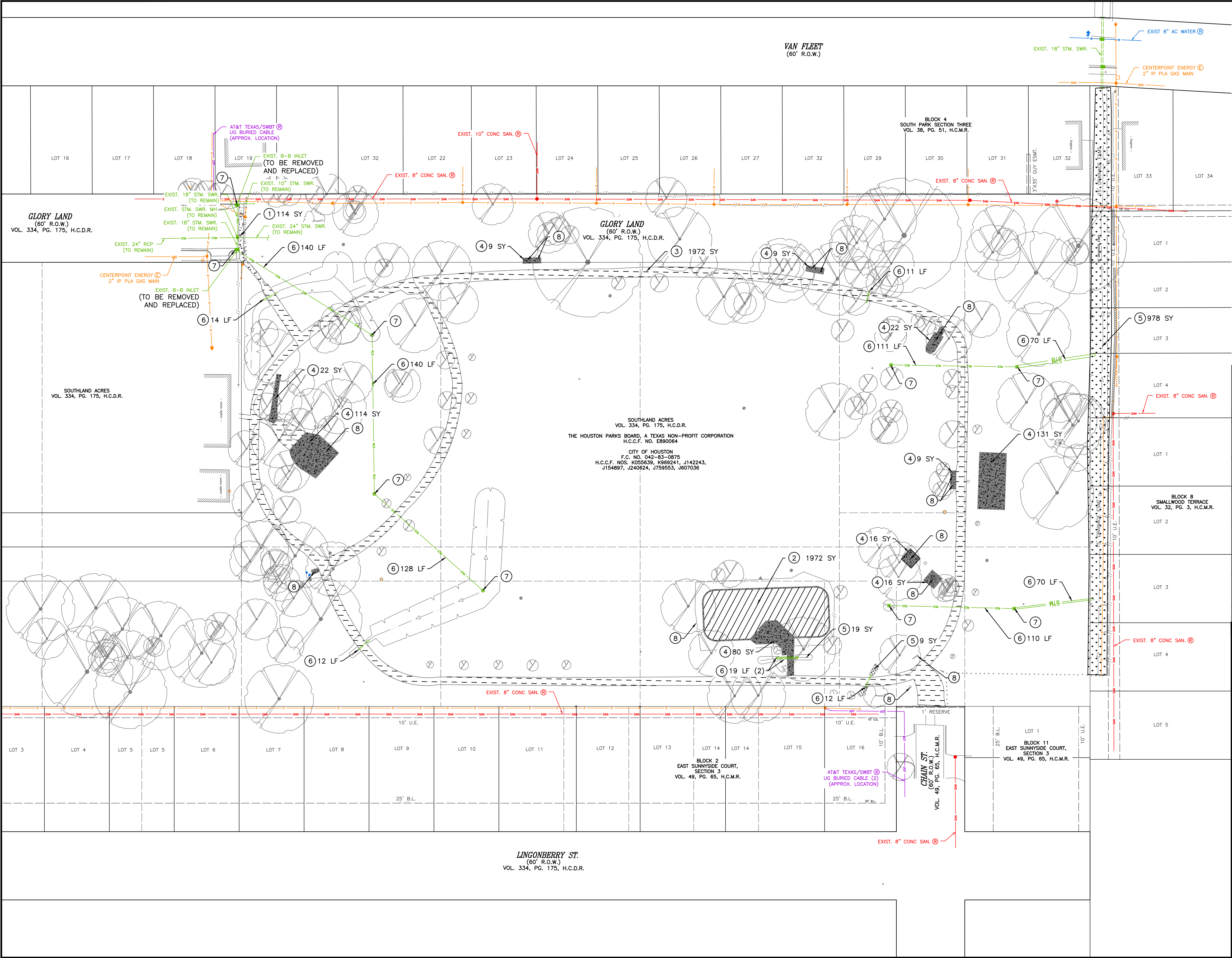
APPROVED
DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: JULY-01-2010

DWG NO: 01571-01

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PLOT STYLE: Coh_ctb_230809 -- MOD.ctbPLOTTED: 7/22/2025 12:19 PM



DEMOLITION LEGEND

	1 CONC. SIDEWALK
	2 PLAYGROUND
	3 ASPHALT PAVEMENT
	4 CONC. (MISC.)
	5 CHANNEL LIGHT CLEARING
	6 STORM SEWER PIPE
	7 STORM INLET
	8 PARK APPURTENANCES (SEE NOTE)

SEE SHEET 33 FOR TREE REMOVAL

THE REMOVAL OF EXIST. PARK APPURTENANCES TO BE COORDINATED WITH AND STORED BY THE CITY OF HOUSTON PARKS DEPARTMENT.

NOTICE:
FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date
CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification. Signature valid for six months.
Date
CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification) Signature valid for six months.
Date
Approved for AT&T underground conduit facilities only. Signature valid for one year.

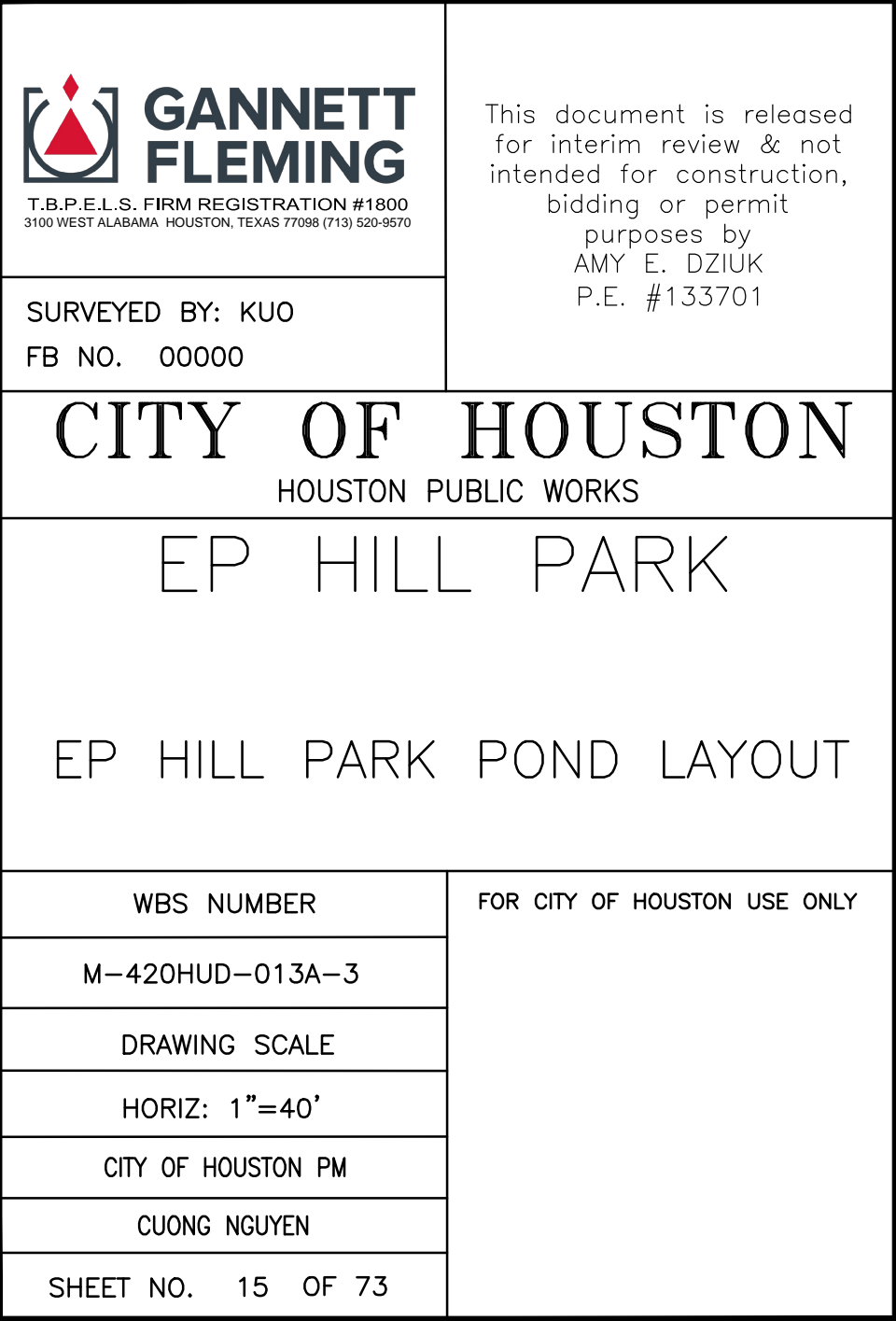
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS


EP HILL PARK

EP HILL PARK DEMOLITION PLAN

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
HORIZ: 1"=40'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 14 OF 73	



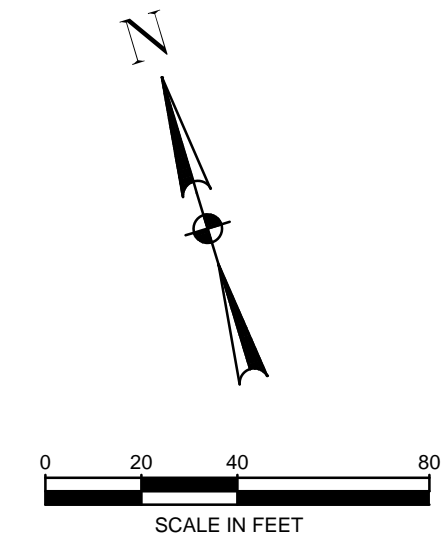
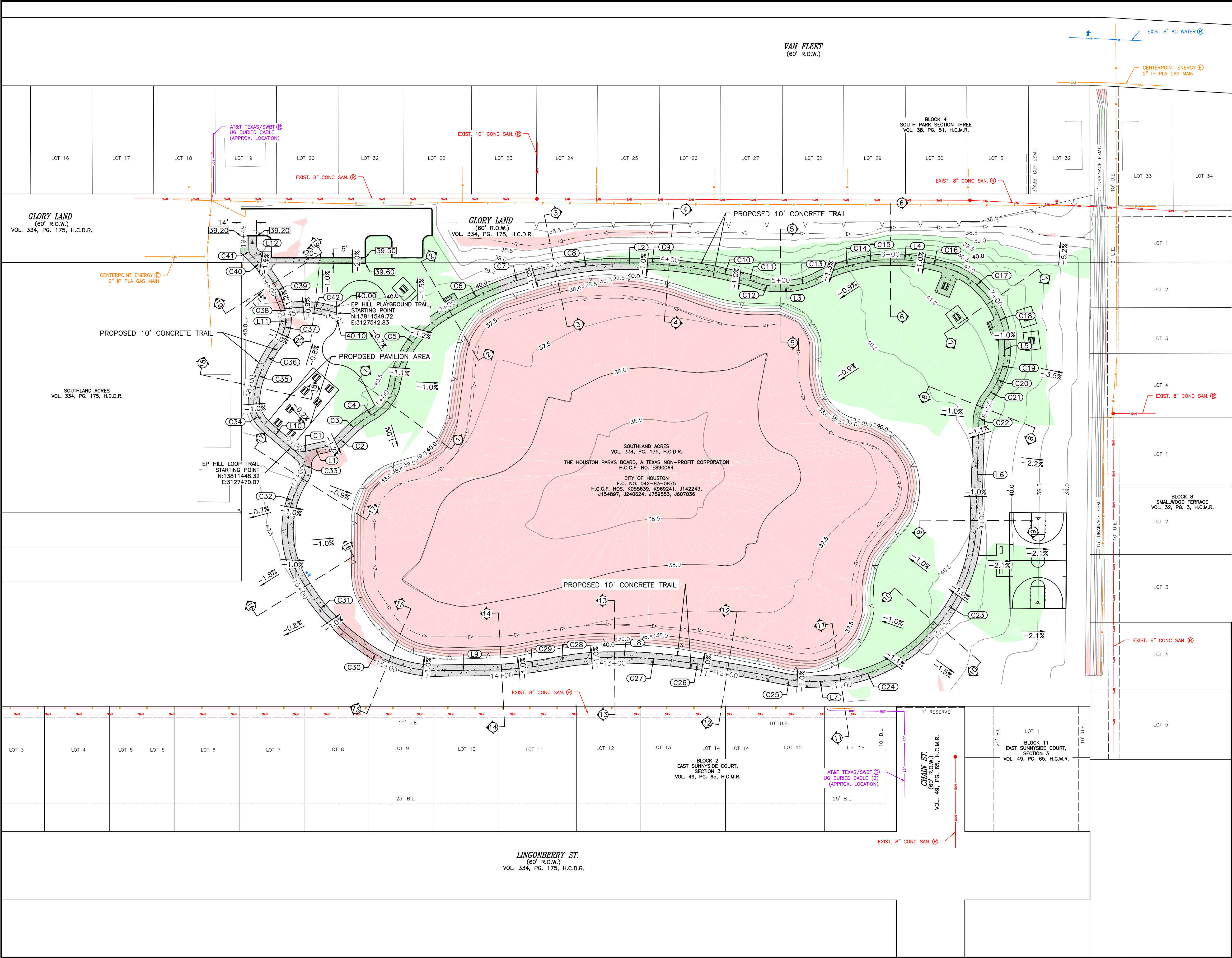
PROPOSED BASIN SWALE COORDINATES AND ELEVATIONS				
POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
91	37.16	13811192.69	3127907.44	SWALE
92	37.11	13811172.66	3127900.84	SWALE
93	37.00	13811164.50	3127893.14	SWALE
94	37.05	13811151.91	3127881.20	SWALE
95	37.10	13811147.96	3127854.16	SWALE
96	37.27	13811185.56	3127778.38	SWALE
97	37.47	13811221.23	3127684.60	SWALE
98	37.59	13811231.40	3127624.50	SWALE
99	37.66	13811238.39	3127590.39	SWALE
100	37.77	13811253.23	3127541.16	SWALE
101	37.84	13811277.34	3127515.77	SWALE
102	37.90	13811306.32	3127506.91	SWALE
104	38.21	13811506.67	3127928.07	SWALE
105	38.14	13811545.57	3127800.02	SWALE
106	38.10	13811557.93	3127721.31	SWALE
107	38.07	13811580.62	3127665.76	SWALE
108	38.16	13811478.80	3128037.77	SWALE
109	38.10	13811451.36	3128130.68	SWALE
110	37.90	13811421.66	3128194.49	SWALE

 <p>GANNETT FLEMING</p> <p>T.B.P.E.L.S. FIRM REGISTRATION #1800 3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9576</p>	<p>This document is released for interim review & not intended for construction, bidding or permit purposes by AMY E. DZIUK P.E. #133701</p>
<p>SURVEYED BY: KUO FB NO. 00000</p>	
<p>CITY OF HOUSTON HOUSTON PUBLIC WORKS</p>	
<p>EP HILL PARK EP HILL PARK POND POINT TABLE</p>	
<p>WBS NUMBER</p> <p>M-420HUD-013A-3</p> <p>DRAWING SCALE</p> <p>CITY OF HOUSTON PM</p> <p>CUONG NGUYEN</p> <p>SHEET NO. 16 OF 73</p>	<p>FOR CITY OF HOUSTON USE ONLY</p>

NO.	DATE	REVISION	APP.		

FILE PATH: C:\projectwise\dec\workdir\fidel\gambou\d0204108\EP-SP-EP HILL PARK CONCRETE TRAIL LAYOUT.dwg

PLOT STYLE: Coh_ctb_230809 -- MOD.ctbPLOTED: 7/22/2025 12:19 PM



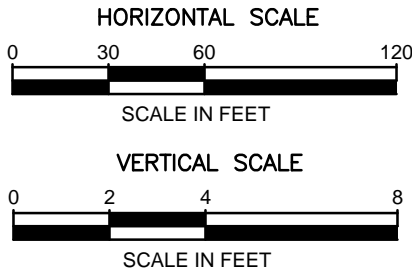
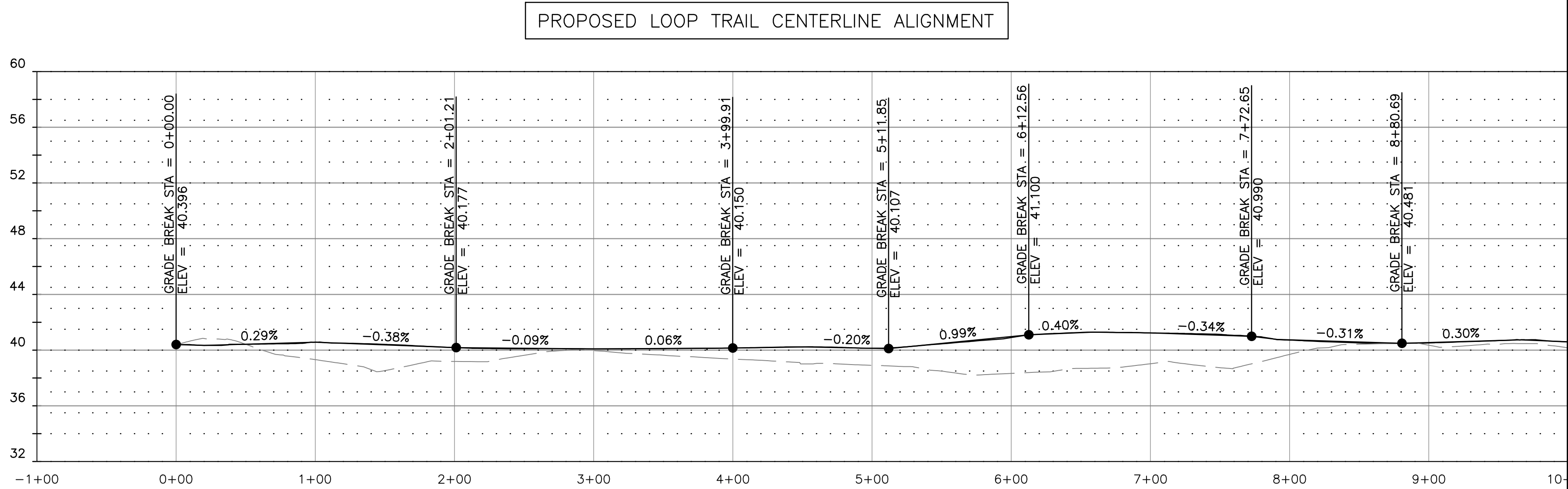
LEGEND

- PROPOSED CONCRETE TRAIL (20,853 SF)
- PROPOSED FILL - .5' OR MORE
- PROPOSED CUT - .5' OR MORE
- PROPOSED ELEVATION

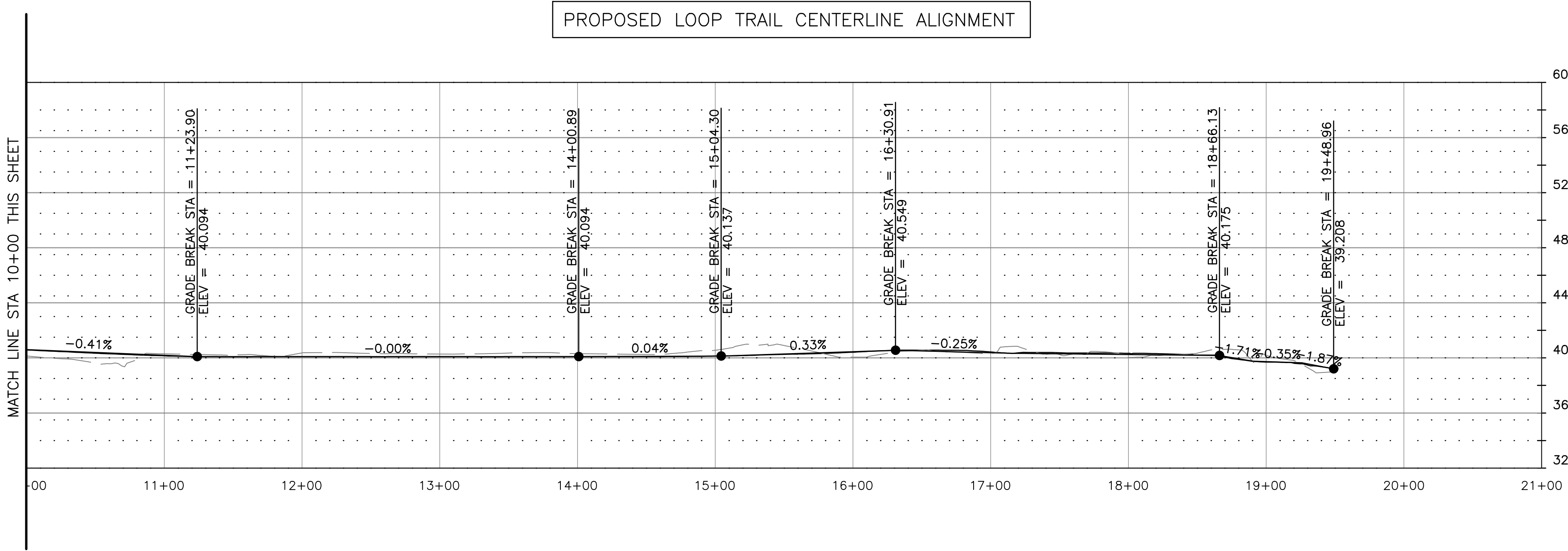
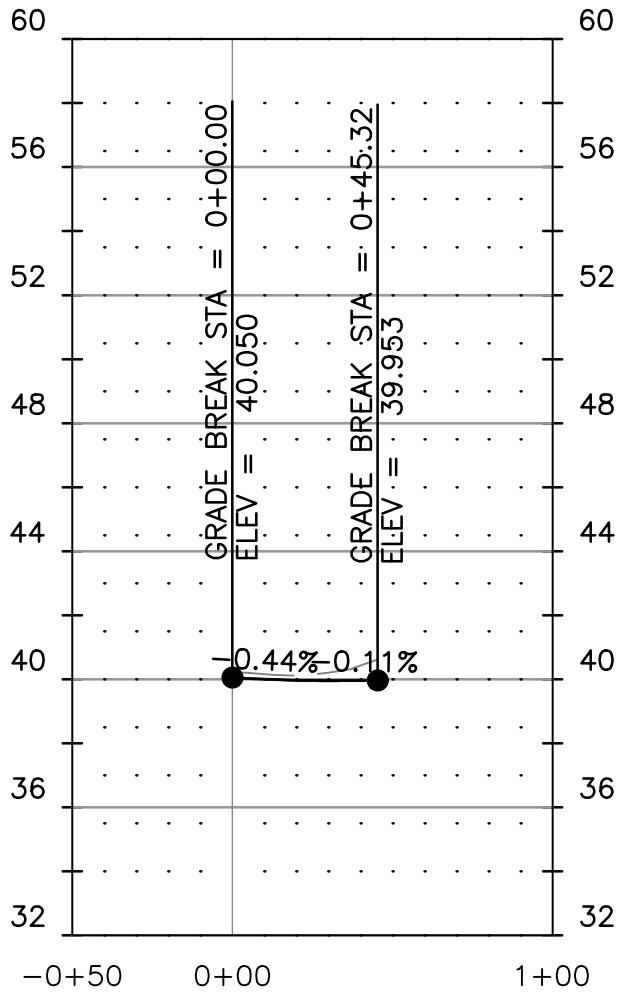
FOR TRAIL LIGHTING INFORMATION
SEE SHEETS 52 - 54

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CITY OF HOUSTON HOUSTON PUBLIC WORKS		
EP HILL PARK EP HILL PARK CONCRETE TRAIL LAYOUT		
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY	
M-420HUD-013A-3		
DRAWING SCALE		
HORIZ: 1"=40'		
CITY OF HOUSTON PM		
CUONG NGUYEN		
SHEET NO. 17 OF 73		

NO.	DATE	REVISION	APP.



PROPOSED PLAYGROUND TRAIL CENTERLINE ALIGNMENT



CONCRETE TRAIL ALIGNMENT LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	23.78	S85° 45' 04.66"E
L2	24.90	S73° 09' 42.17"E
L3	13.46	S73° 28' 50.43"E
L4	18.70	S73° 22' 47.90"E
L5	11.65	S15° 02' 27.26"W
L6	86.93	S18° 30' 31.80"W
L7	21.98	N75° 25' 41.96"W
L8	22.81	N73° 31' 13.72"W
L9	45.04	N73° 41' 15.99"W
L10	37.11	N32° 46' 43.51"W
L11	10.44	N18° 53' 37.56"E
L12	12.42	N16° 29' 47.73"E

CONCRETE TRAIL ALIGNMENT CURVE TABLE						
CURVE #	RADIUS	LENGTH	CHORD DIRECTION	CHORD LENGTH	DELTA ANGLE	
C1	15.00	13.87'	S59° 15' 54"E	13.38'	Δ=52° 58' 21"	
C2	15.00	9.59'	N75° 55' 32"E	9.43'	Δ=36° 38' 47"	
C3	106.95	33.17'	N66° 29' 17"E	33.04'	Δ=17° 46' 17"	
C4	43.14	33.45'	N57° 18' 12"E	32.62'	Δ=44° 25' 22"	
C5	89.08	76.98'	N50° 13' 30"E	74.61'	Δ=49° 30' 44"	
C6	369.82	46.64'	N78° 54' 38"E	46.61'	Δ=7° 13' 35"	
C7	265.51	61.65'	N89° 58' 18"E	61.51'	Δ=13° 18' 15"	
C8	319.59	46.96'	S80° 39' 30"E	46.92'	Δ=8° 25' 10"	
C9	316.66	34.53'	S68° 29' 57"E	34.52'	Δ=6° 14' 54"	
C10	344.05	47.69'	S61° 43' 19"E	47.66'	Δ=7° 56' 33"	
C11	97.35	14.60'	S56° 54' 07"E	14.59'	Δ=8° 35' 43"	
C12	54.25	15.41'	S61° 42' 28"E	15.35'	Δ=16° 16' 17"	
C13	66.15	24.71'	S88° 26' 13"E	24.56'	Δ=21° 24' 06"	
C14	137.56	40.87'	N87° 25' 55"E	40.72'	Δ=17° 01' 18"	
C15	101.13	21.43'	S80° 56' 37"E	21.39'	Δ=12° 08' 36"	

CONCRETE TRAIL ALIGNMENT CURVE TABLE					
CURVE #	RADIUS	LENGTH	CHORD DIRECTION	CHORD LENGTH	DELTA ANGLE
C16	183.58	42.21'	S61° 15' 06"E	42.12'	Δ=13° 10' 24"
C17	71.33	40.70'	S35° 51' 12"E	40.15'	Δ=32° 41' 33"
C18	67.49	37.44'	S5° 18' 39"E	36.96'	Δ=31° 47' 02"
C19	51.88	19.81'	S26° 21' 09"W	19.69'	Δ=21° 52' 35"
C20	58.05	14.84'	S40° 55' 05"W	14.79'	Δ=14° 38' 32"
C21	59.97	11.67'	S51° 23' 27"W	11.65'	Δ=11° 08' 46"
C22	39.92	19.40'	S36° 57' 51"W	19.21'	Δ=27° 50' 33"
C23	139.66	113.14'	S38° 38' 24"W	110.07'	Δ=46° 24' 52"
C24	135.66	95.75'	S80° 48' 53"W	93.78'	Δ=40° 26' 28"
C25	132.22	25.28'	N65° 38' 38"W	25.24'	Δ=10° 57' 22"
C26	1147.81	84.60'	N63° 42' 08"W	84.58'	Δ=4° 13' 22"
C27	446.38	48.81'	N68° 17' 42"W	48.79'	Δ=6° 15' 54"
C28	263.87	44.60'	N79° 40' 10"W	44.54'	Δ=9° 41' 01"
C29	325.14	51.33'	N79° 48' 27"W	51.28'	Δ=9° 02' 43"
C30	107.54	75.23'	N56° 32' 04"W	73.71'	Δ=40° 04' 57"

CONCRETE TRAIL ALIGNMENT CURVE TABLE					
CURVE #	RADIUS	LENGTH	CHORD DIRECTION	CHORD LENGTH	DELTA ANGLE
C31	175.15	74.86'	N26° 56' 22"W	74.30'	Δ=24° 29' 22"
C32	84.27	100.16'	N16° 01' 22"E	94.36'	Δ=68° 05' 33"
C33	15.00	21.68'	N8° 37' 42"E	19.84'	Δ=82° 48' 51"
C34	36.26	23.72'	N14° 53' 42"W	23.30'	Δ=37° 29' 11"
C35	66.01	27.54'	N27° 07' 15"E	27.34'	Δ=23° 54' 07"
C36	121.24	27.95'	N44° 37' 44"E	27.88'	Δ=13° 12' 22"
C37	35.42	23.57'	N42° 04' 24"E	23.14'	Δ=38° 08' 11"
C38	9.17	3.40'	N8° 12' 12"E	3.38'	Δ=21° 15' 35"
C39	104.11	32.58'	N11° 23' 28"W	32.45'	Δ=17° 55' 45"
C40	106.12	23.49'	N23° 24' 49"W	23.44'	Δ=12° 40' 52"
C41	5.00	4.03'	N6° 37' 12"W	3.93'	Δ=46° 14' 00"
C42	88.07	45.32'	N68° 20' 59"W	44.82'	Δ=29° 29' 03"



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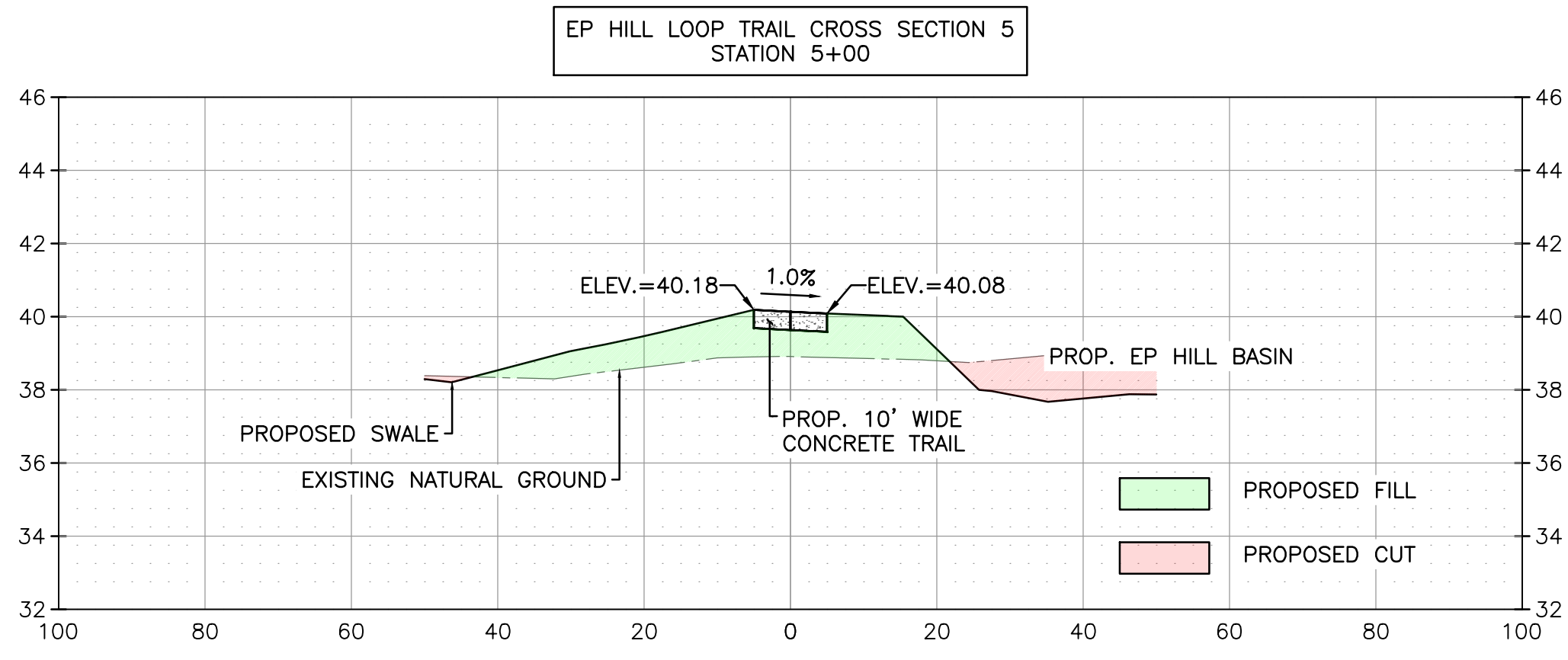
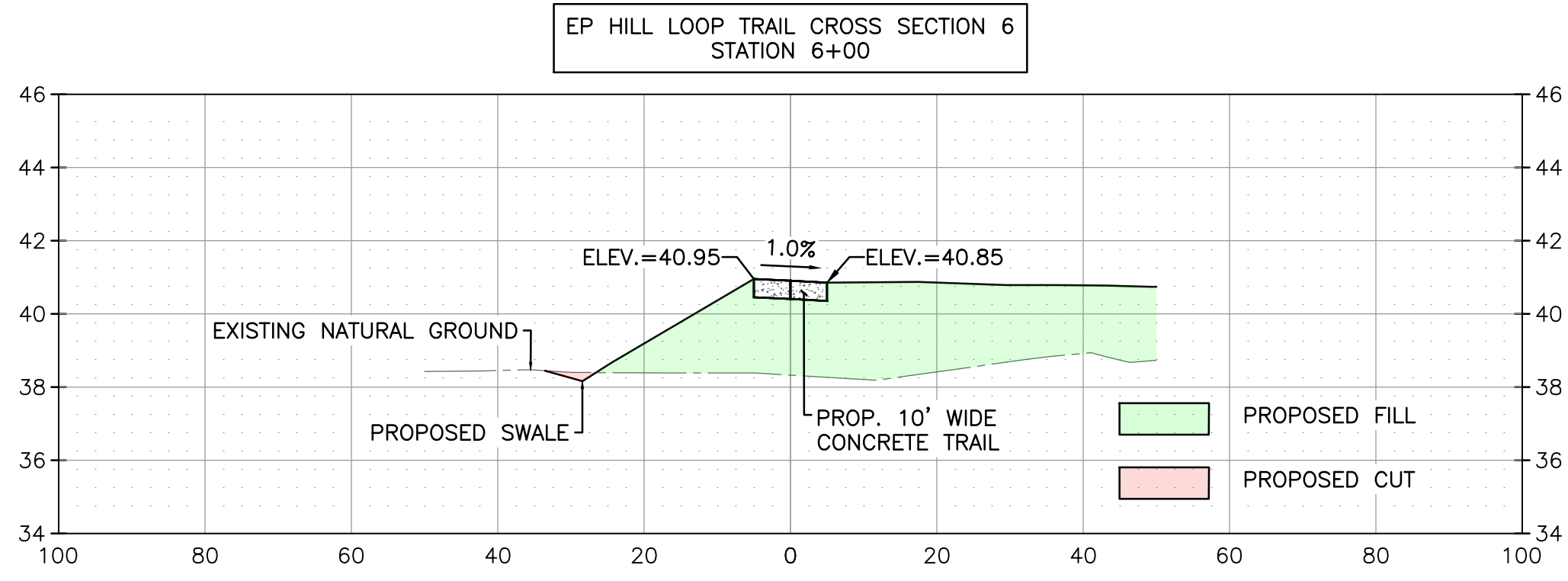
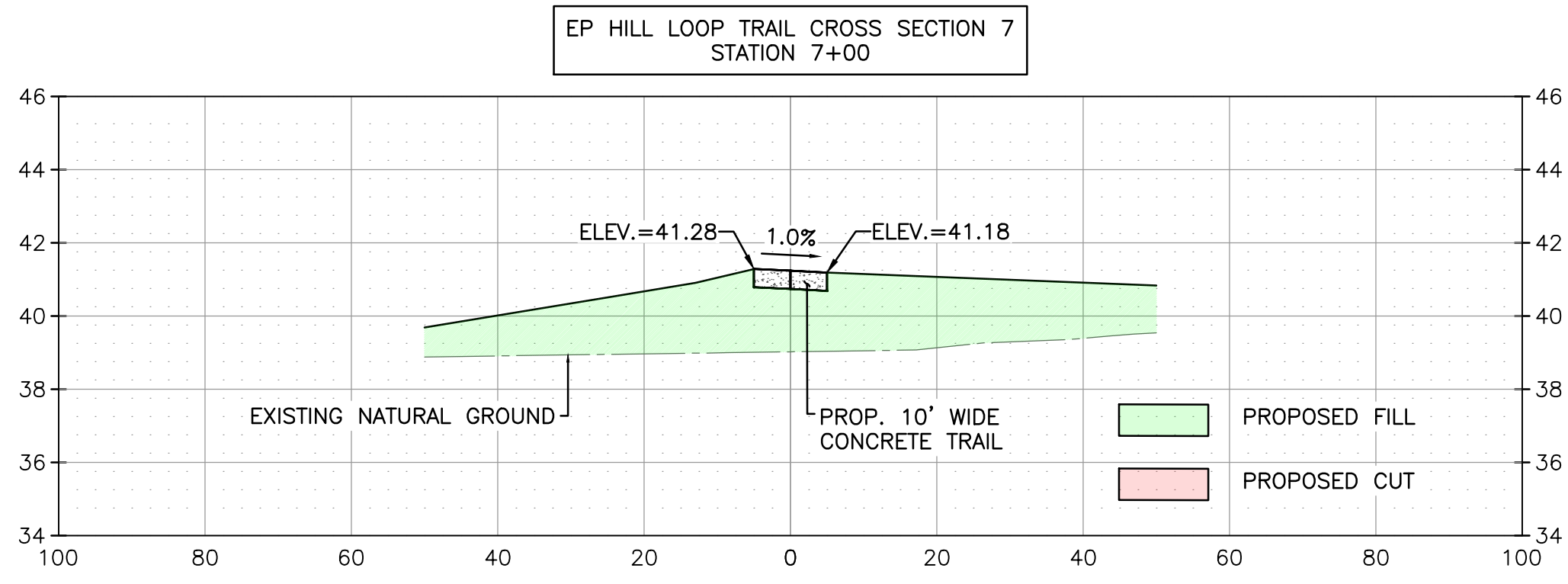
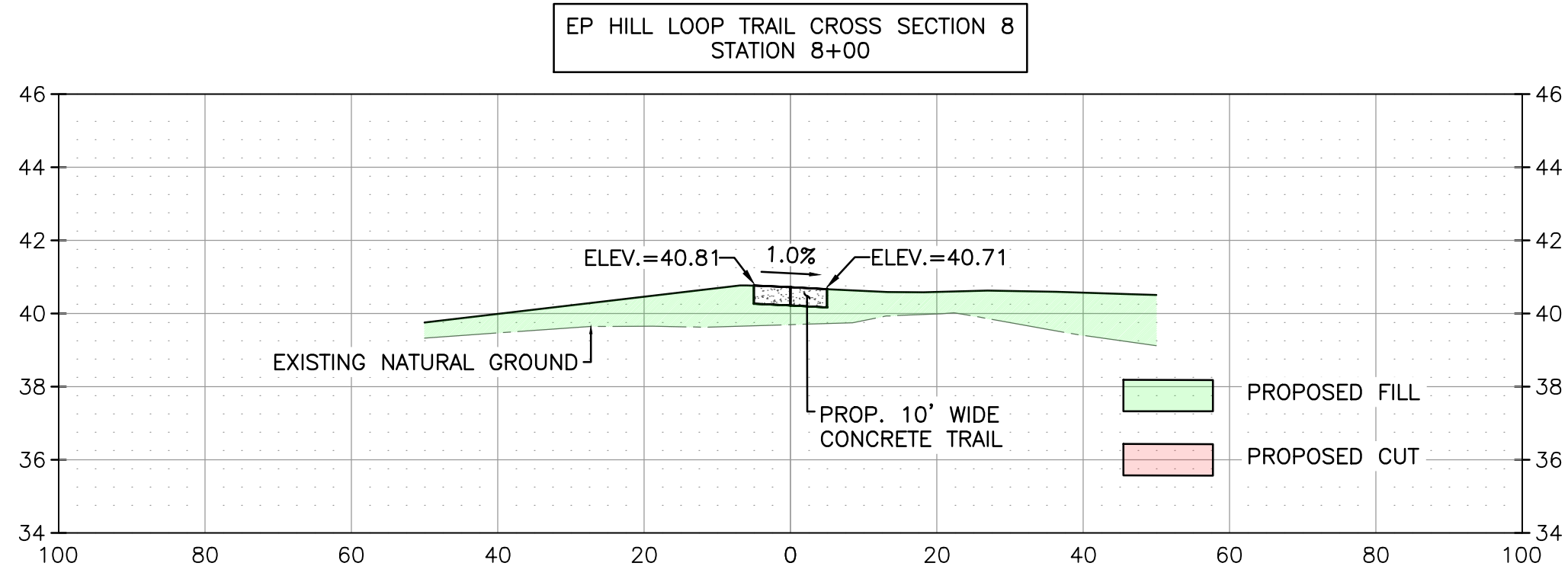
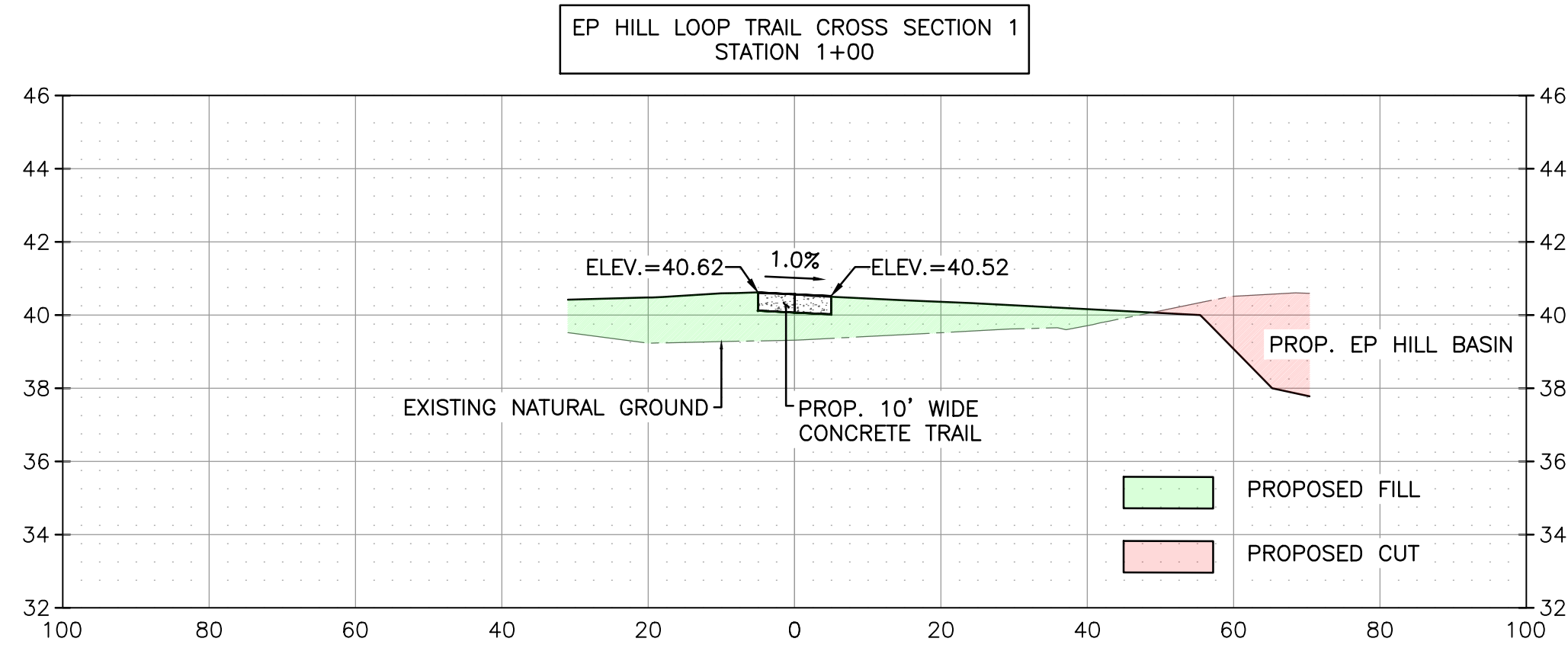
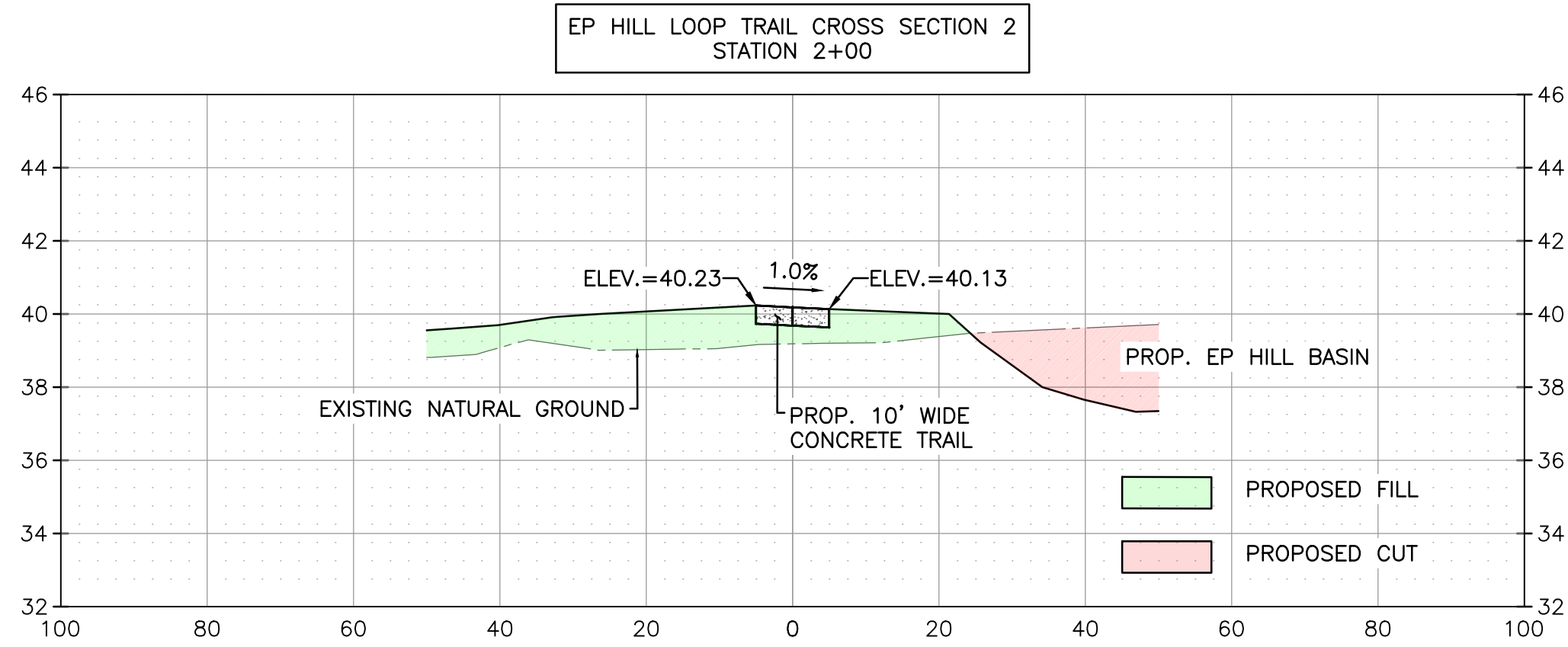
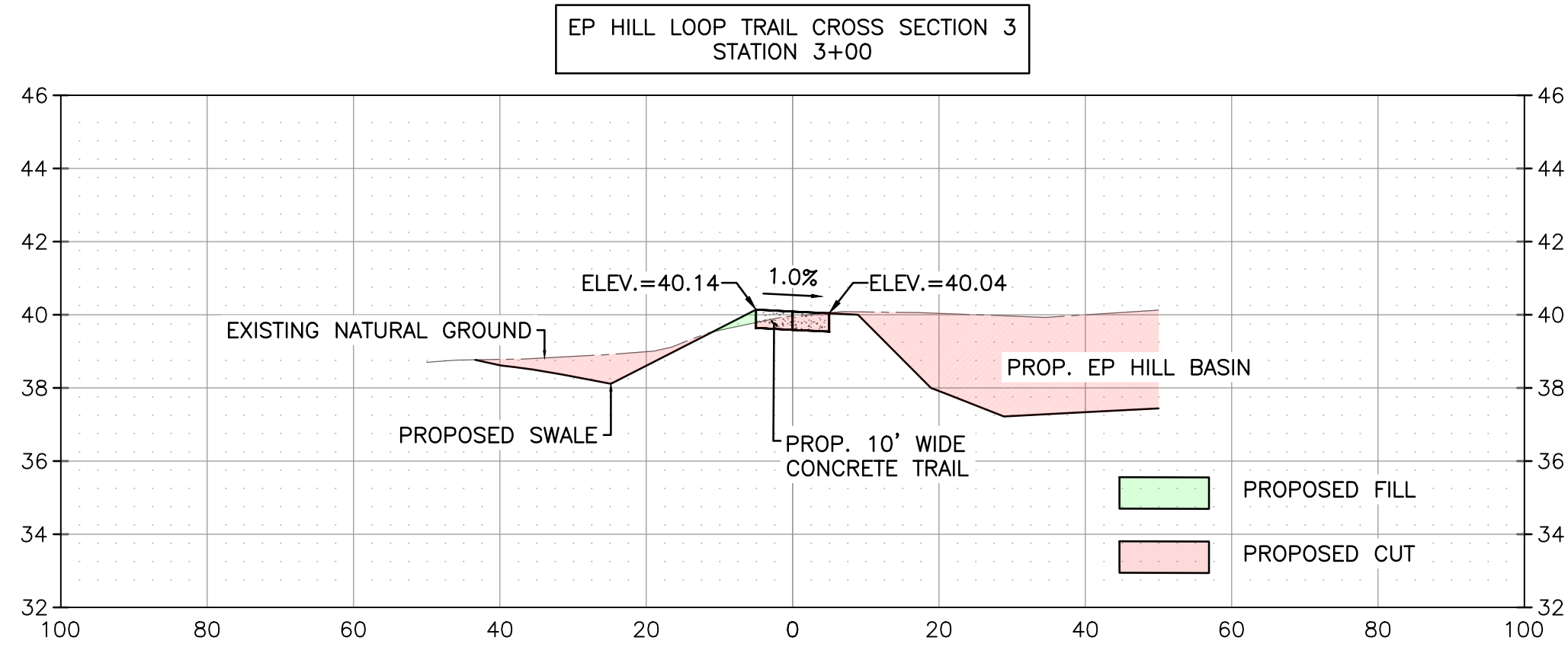
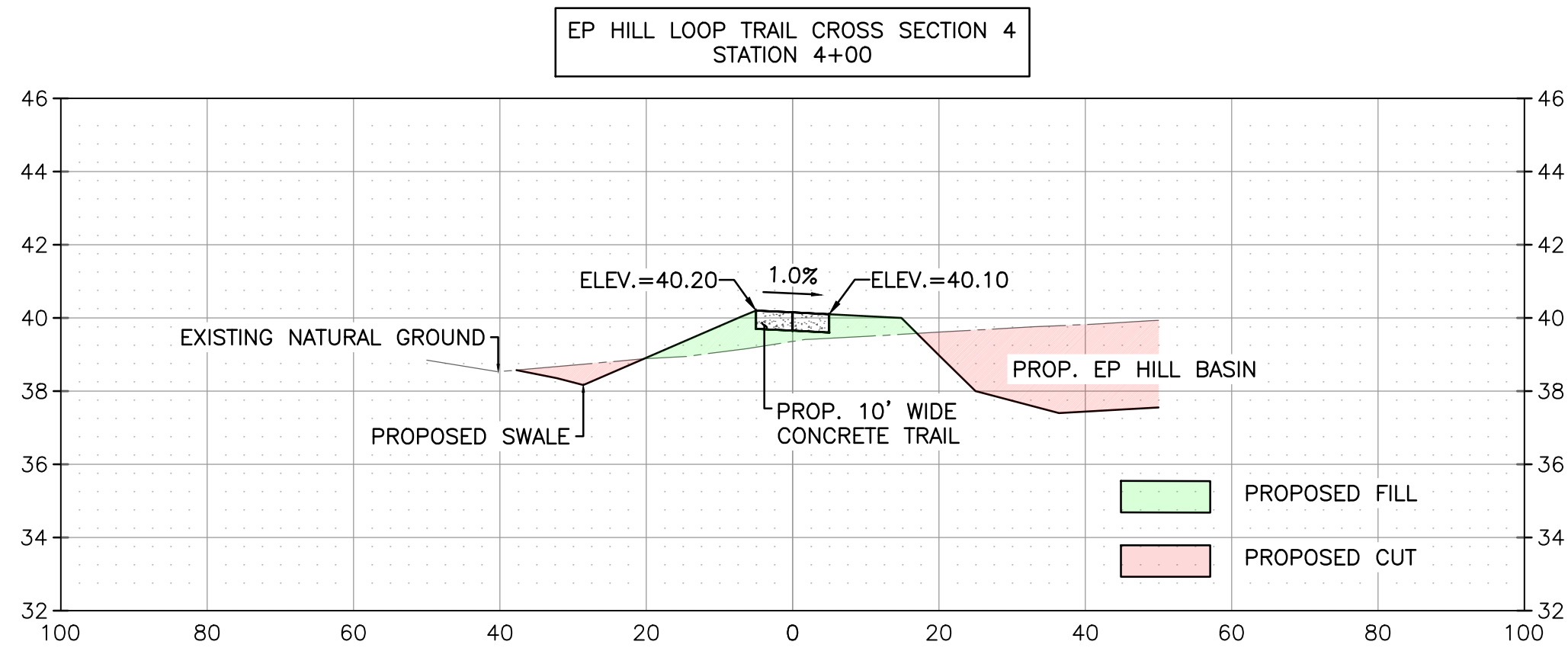
CITY OF HOUSTON
 HOUSTON PUBLIC WORKS

EP HILL PARK
 EP HILL PARK
 CONCRETE TRAIL CL

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
HORIZ: 1"=60', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 18 OF 73	

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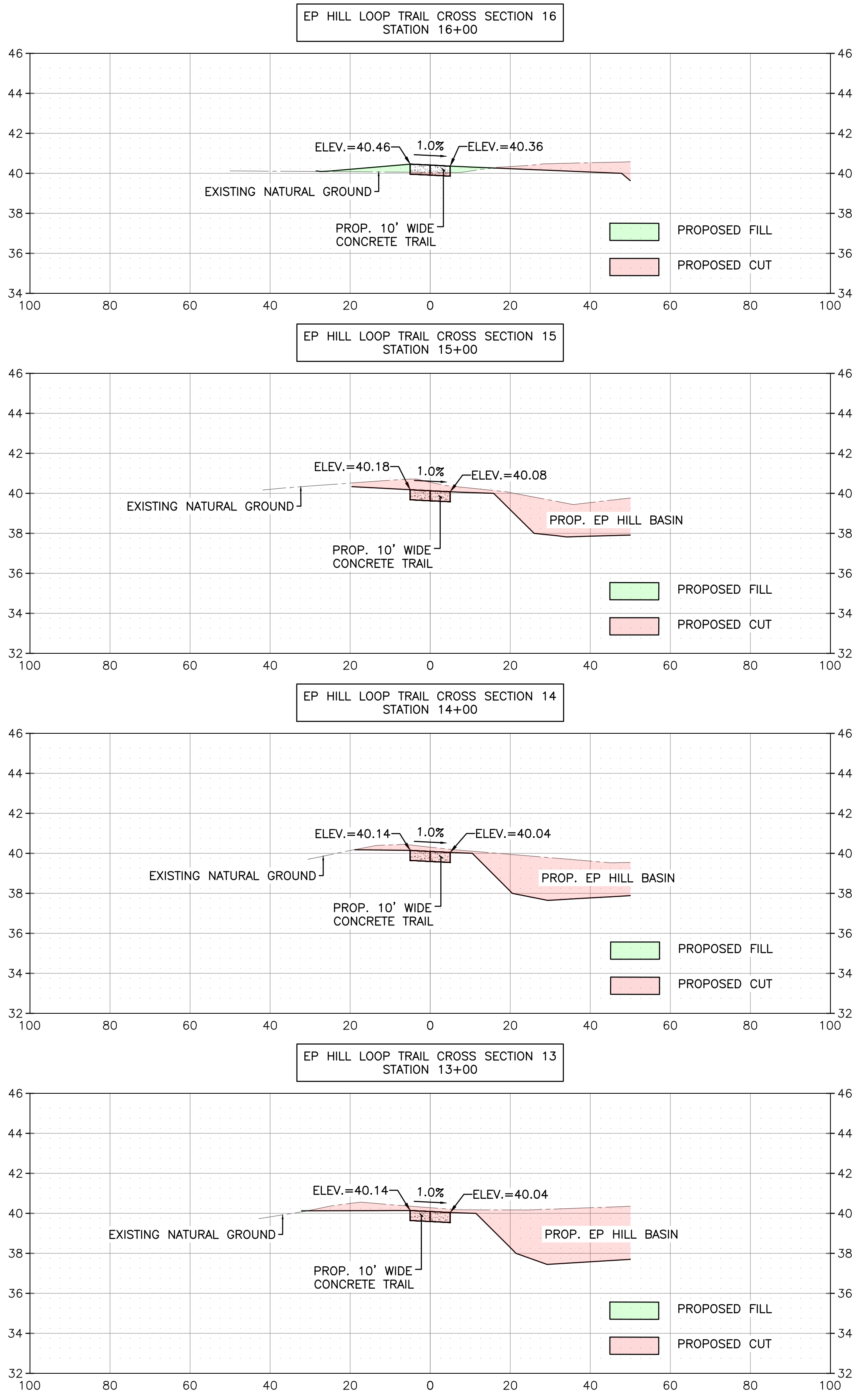
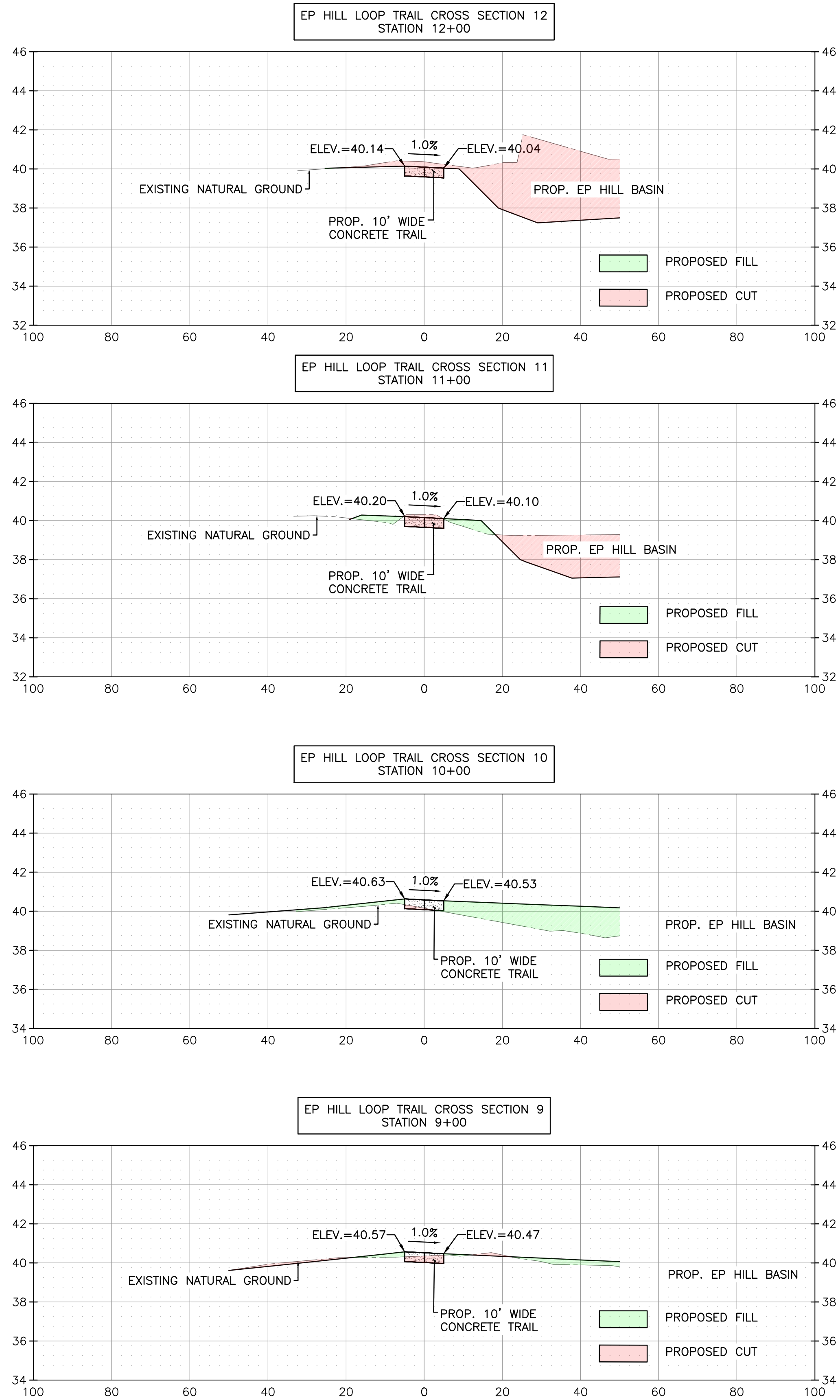
EP HILL PARK
EP HILL PARK CONCRETE TRAIL
CROSS SECTIONS
(SHEET 1 OF 3)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
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HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 19 OF 73	

NO.	DATE	REVISION	APP.

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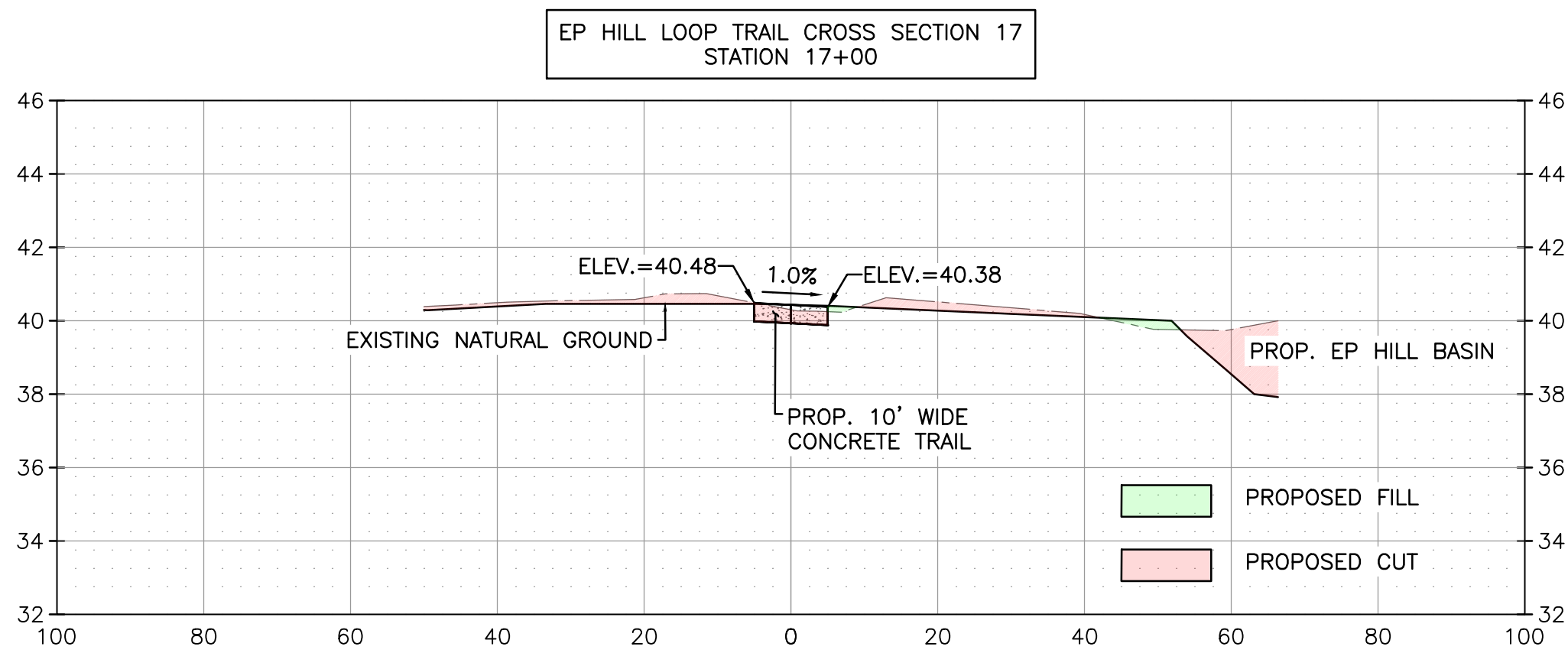
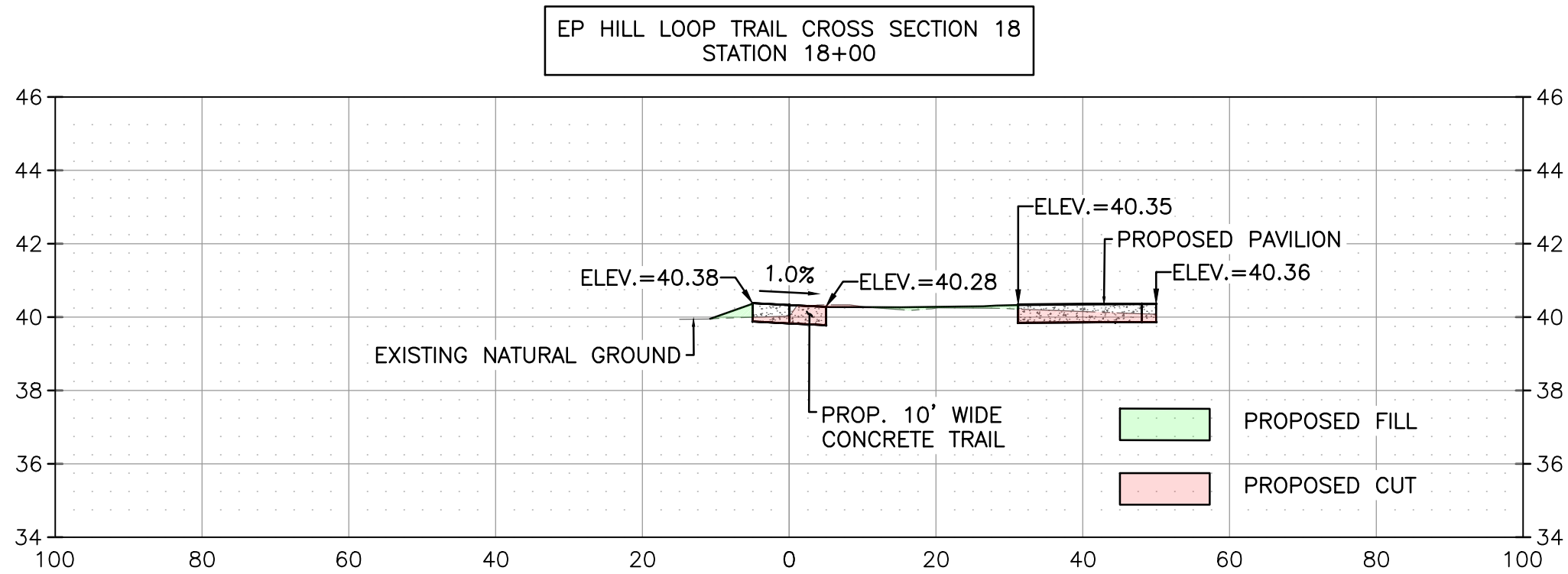
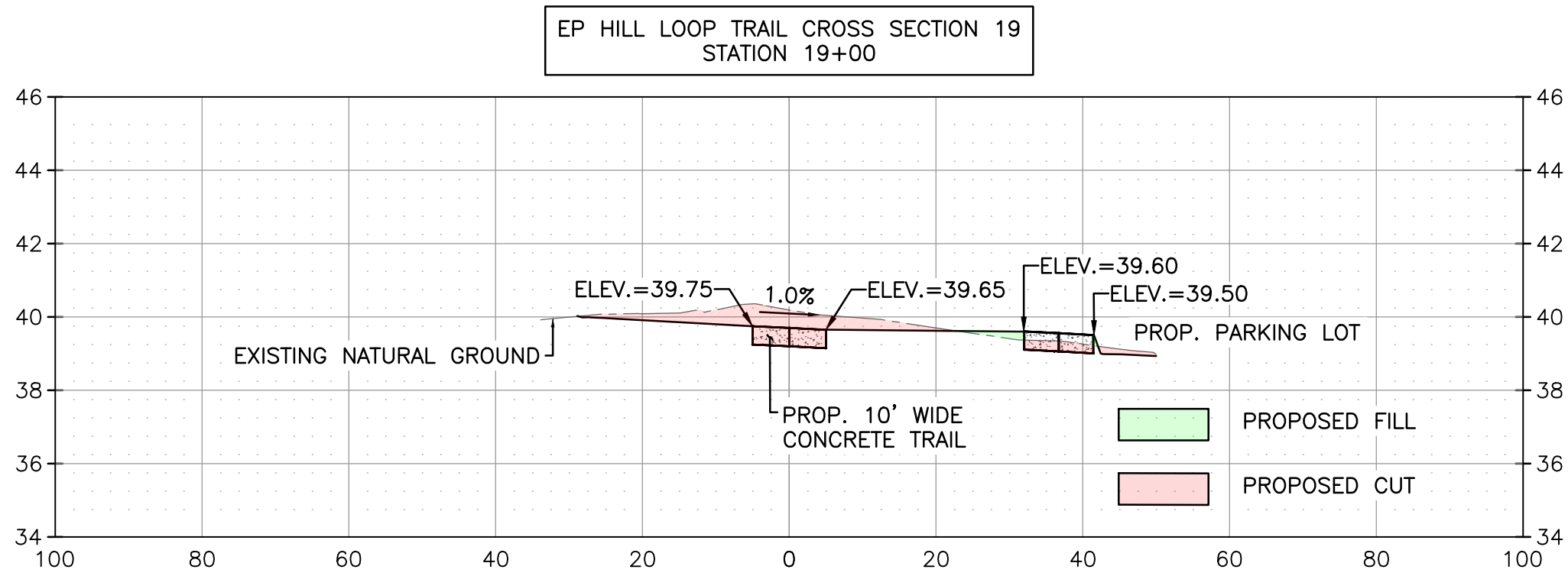
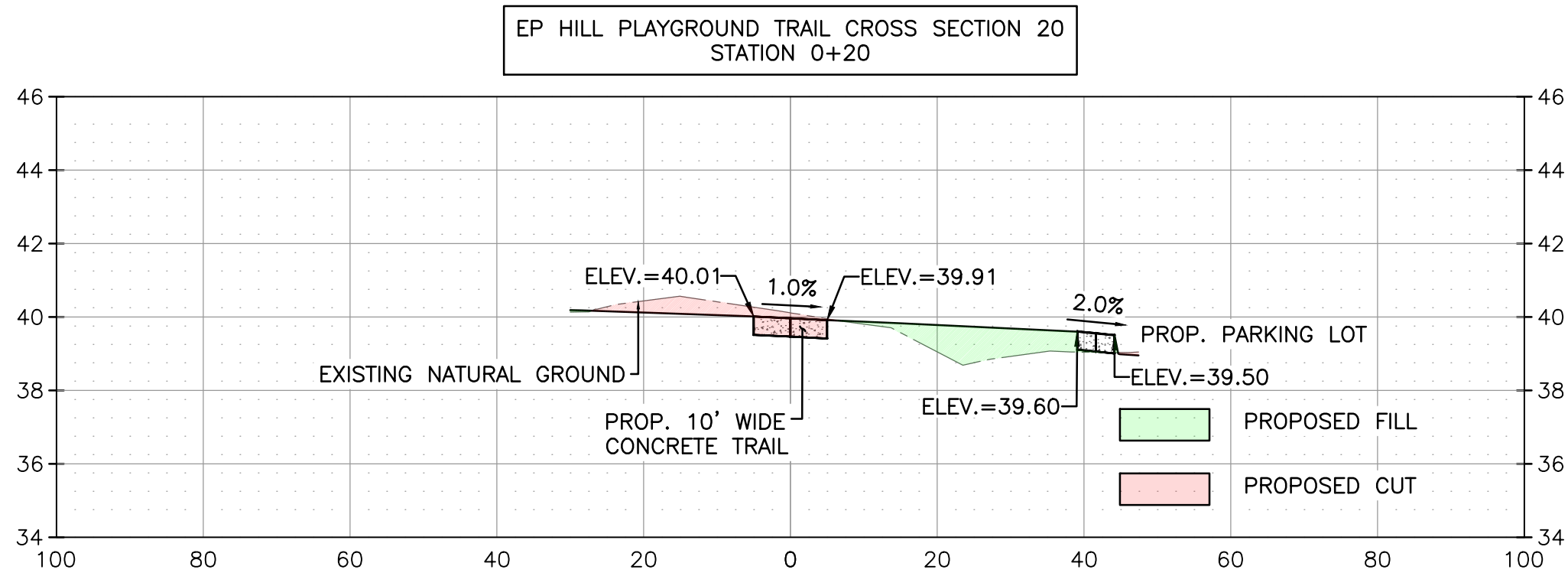
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EP HILL PARK
EP HILL PARK CONCRETE TRAIL
CROSS SECTIONS
(SHEET 2 OF 3)

WBS NUMBER
M-420HUD-013A-3
DRAWING SCALE
HORIZ: 1"=20', VERT: 1"=2'
CITY OF HOUSTON PM
CUONG NGUYEN
SHEET NO. 20 OF 73

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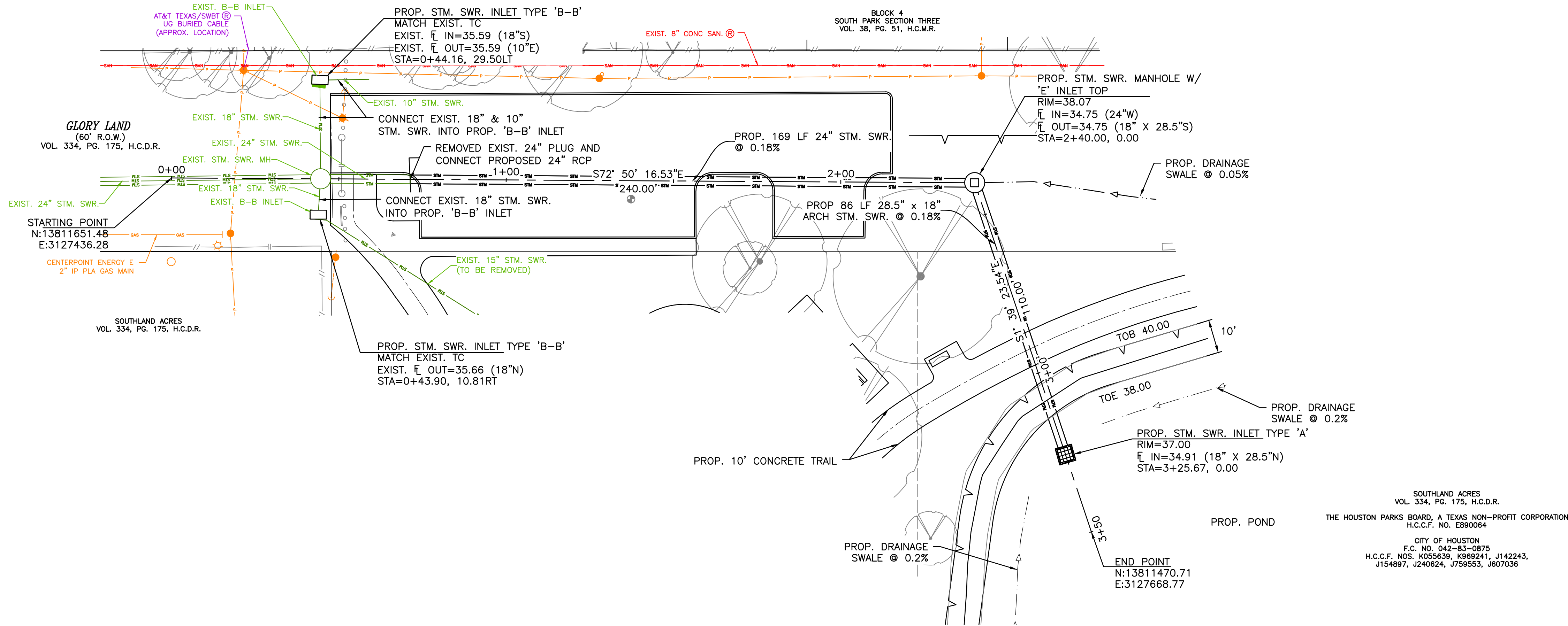
EP HILL PARK
EP HILL PARK CONCRETE TRAIL
CROSS SECTIONS
(SHEET 3 OF 3)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=2'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 21 OF 73	

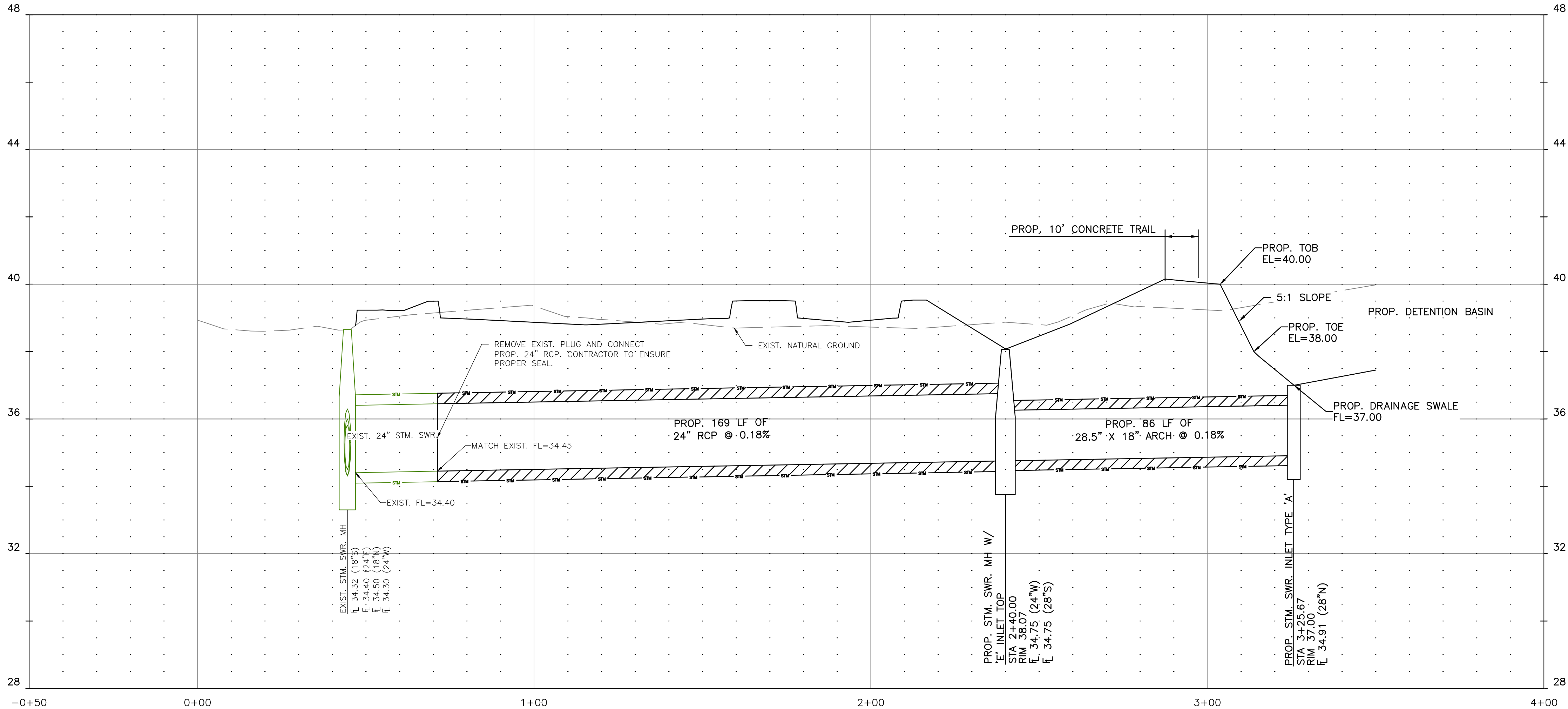
NO.	DATE	REVISION	APP.

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EP HILL PARK STORM LINE A PROFILE



NOTICE:
FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811
AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES
CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR
OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date
CenterPoint Energy natural gas utilities shown. (Gas service lines are not
shown). This signature not be used for conflict verification.
Signature valid for six months.

Date
CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY.
(This signature verifies existing underground facilities - not to be used
for conflict verification)
Signature valid for six months.

Date
Approved for AT&T underground conduit facilities only.
Signature valid for one year.

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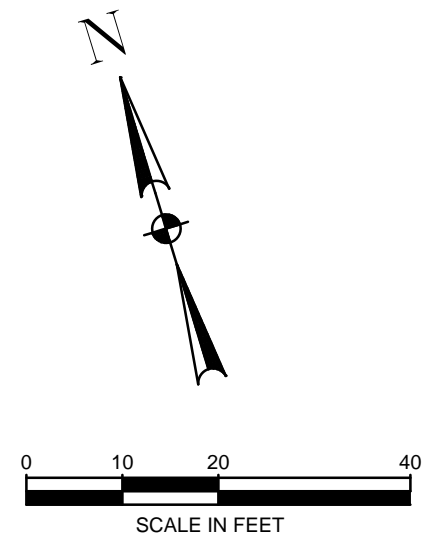
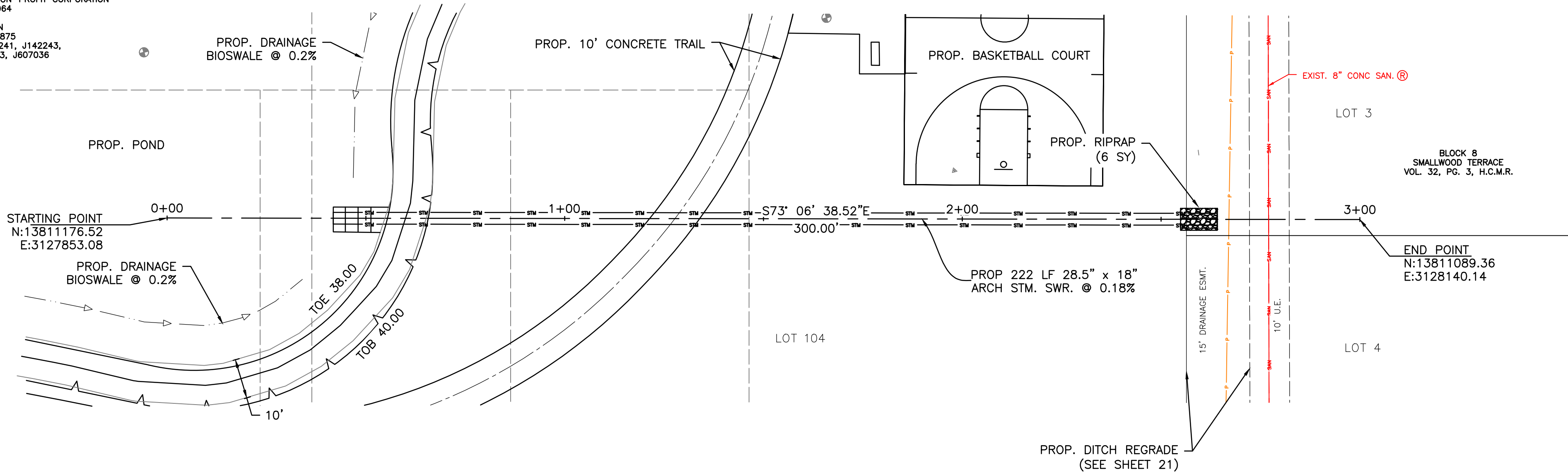
EP HILL PARK
EP HILL PARK OUTFALLS
(SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 22 OF 73	

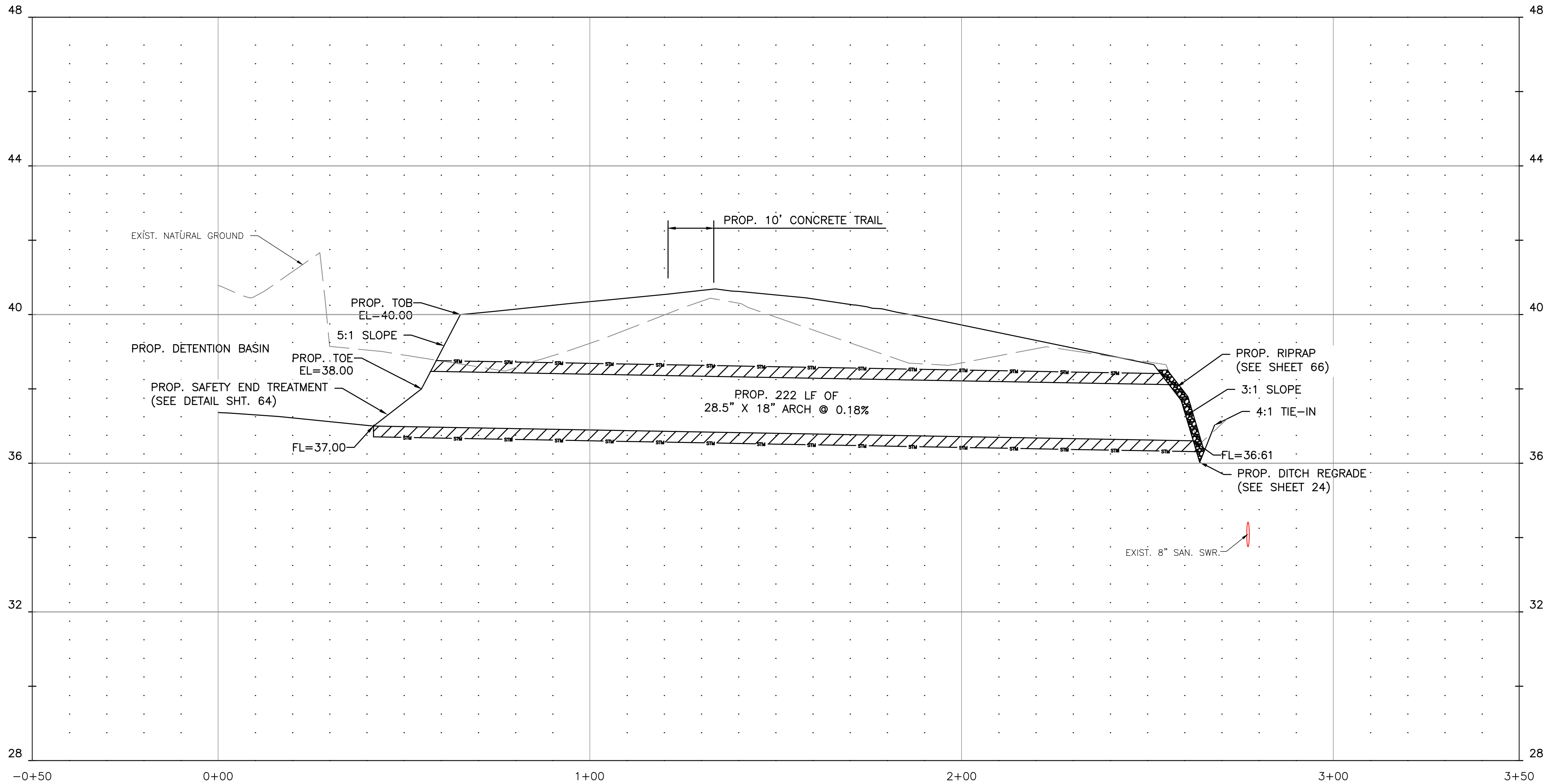
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SOUTHLAND ACRES
VOL. 334, PG. 175, H.C.D.R.
THE HOUSTON PARKS BOARD, A TEXAS NON-PROFIT CORPORATION
H.C.C.F. NO. E890064
CITY OF HOUSTON
F.C. NO. 042-83-0875
H.C.C.F. NOS. K055639, K969241, J142243,
J154897, J240824, J759553, J607036



EP HILL PARK STORM LINE B PROFILE



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AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES
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VERIFICATION OF PRIVATE UTILITY LINES

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Date
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Date
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Signature valid for one year.

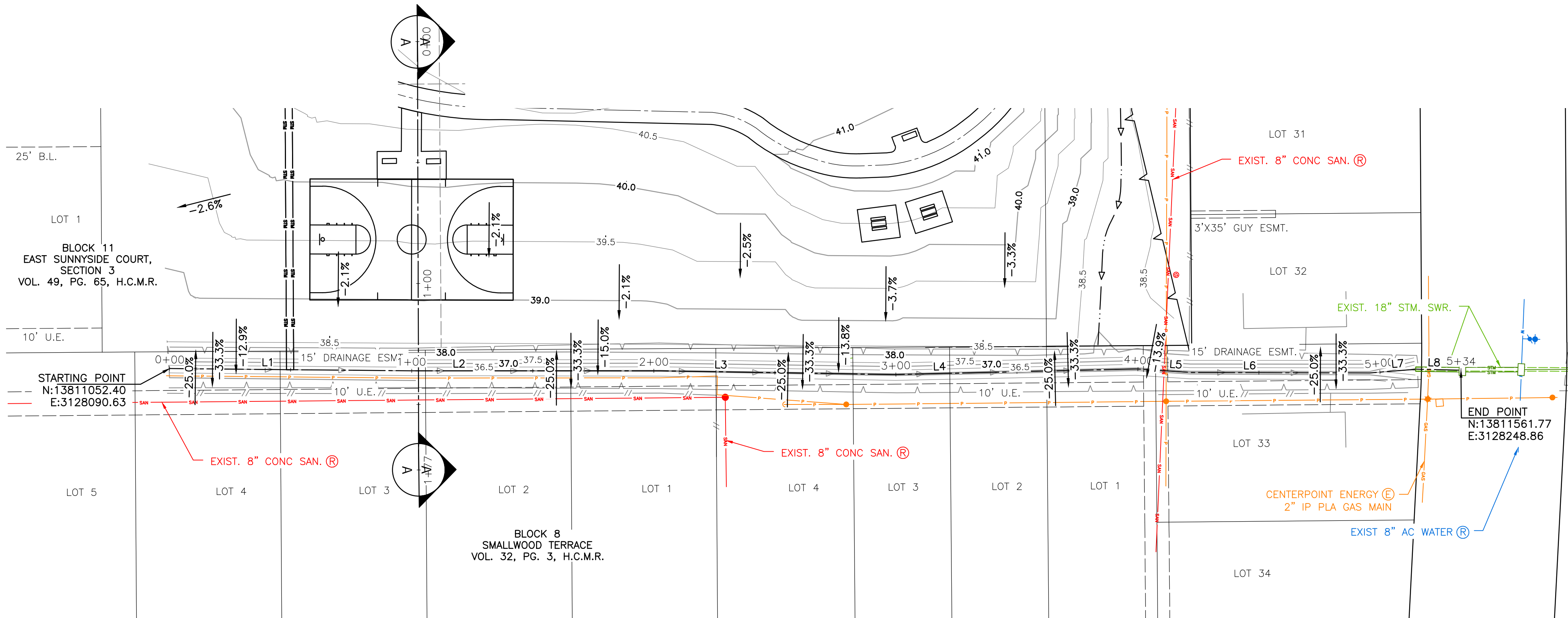
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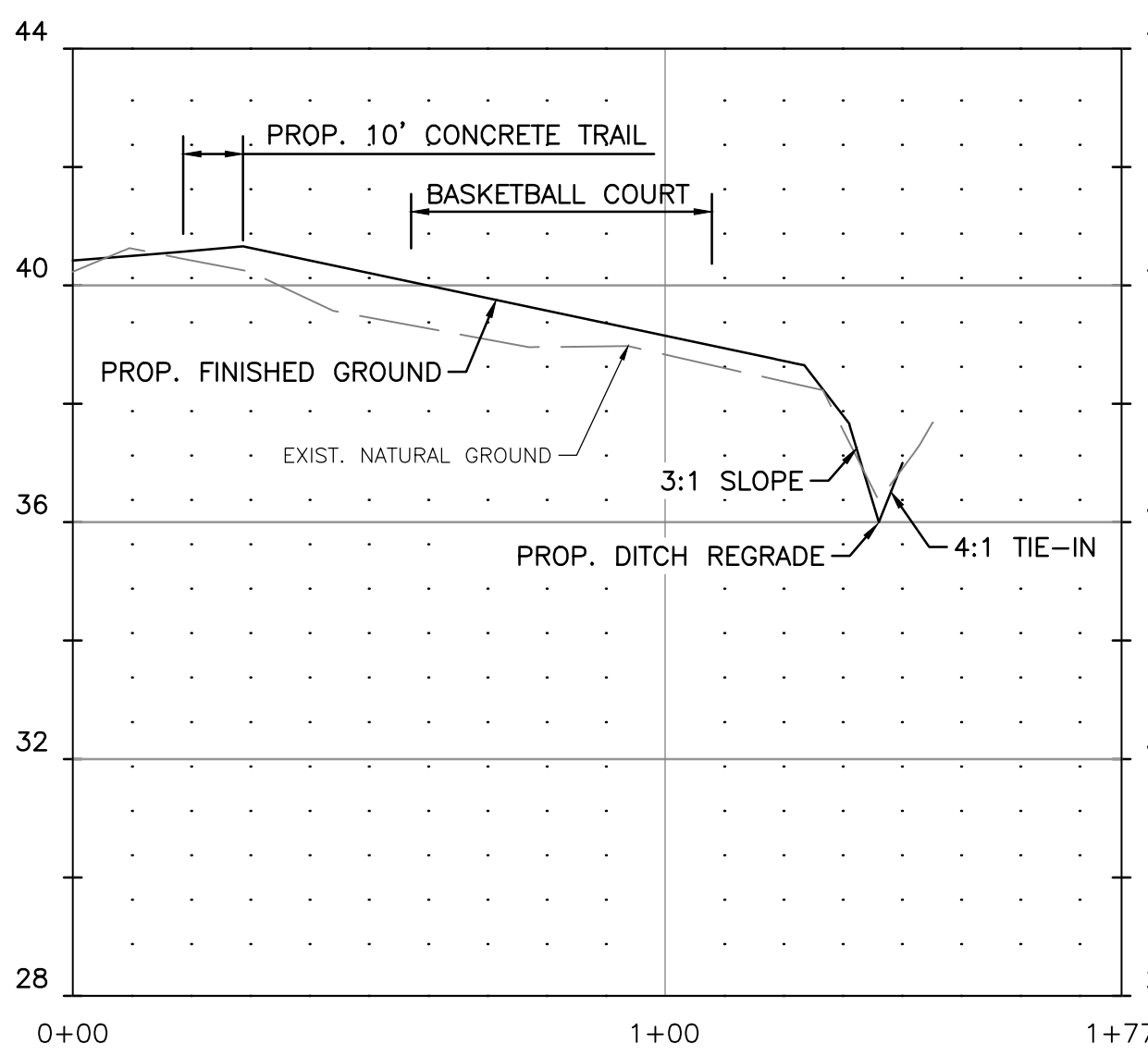
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EP HILL PARK
EP HILL PARK OUTFALLS
(SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
HORIZ: 1"=20', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 23 OF 73	



EXIST. DITCH REGRADE A-A CROSS SECTION PROFILE



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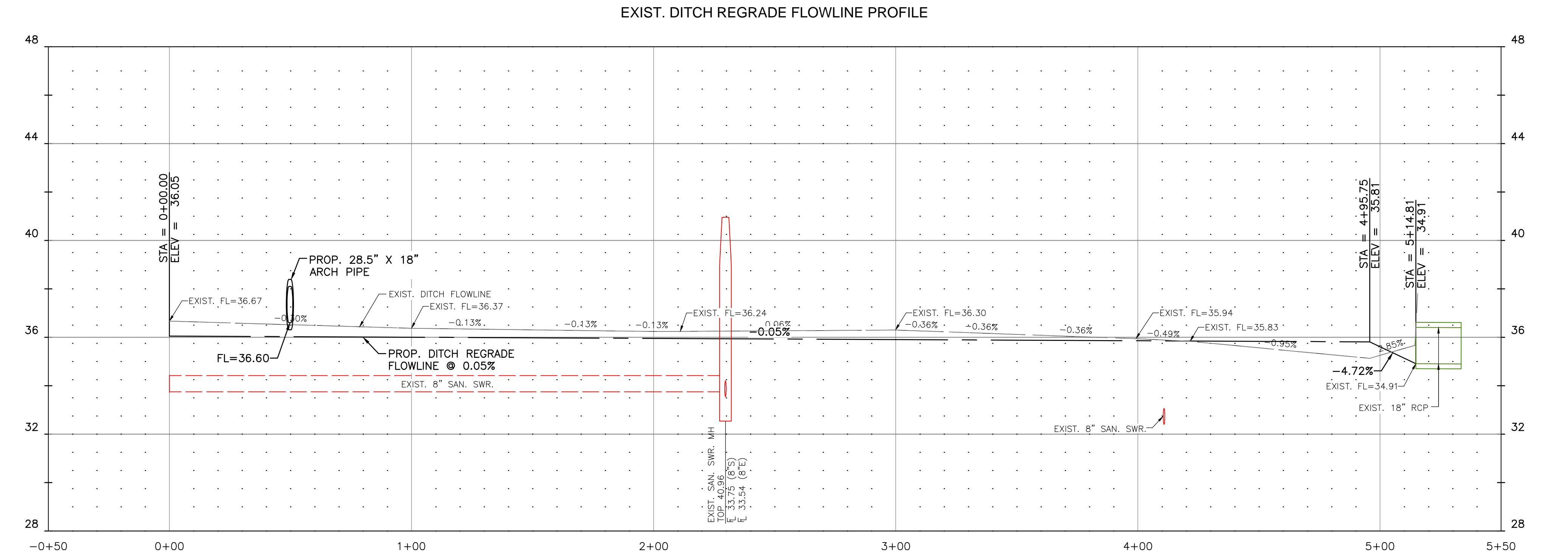
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EP HILL PARK

EP HILL PARK EXISTING DITCH REGRADE

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
HORIZ: 1"=30', VERT: 1"=4'	
CITY OF HOUSTON PM	
CUONG NGUYEN	SHEET NO. 24 OF 73



DITCH CENTERLINE ALIGNMENT		
LINE #	LENGTH	BEARING
L1	99.98'	N17° 43' 39.98"E
L2	102.88'	N17° 10' 54.92"E
L3	97.00'	N18° 05' 31.04"E
L4	99.33'	N15° 50' 45.00"E
L5	22.38'	N20° 52' 17.36"E
L6	74.15'	N17° 20' 21.74"E
L7	18.71'	N12° 38' 48.18"E
L8	18.73'	N18° 35' 02.31"E

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811
AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES
CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR
OBLIGATION TO CALL 811

Date _____

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

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Date _____

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HOUSTON PUBLIC WORKS

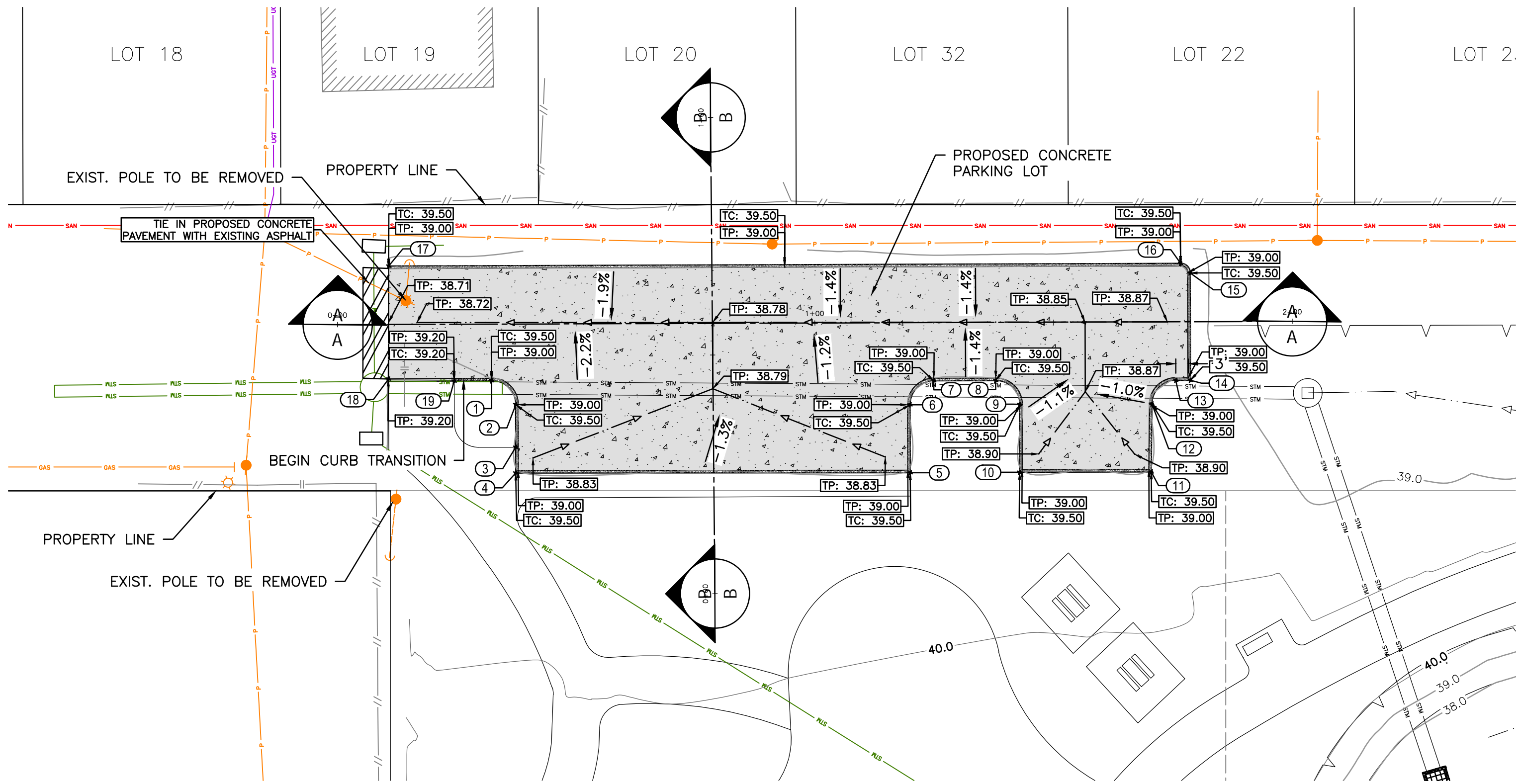
EP HILL PARK

EP HILL PARK POND SECTIONS

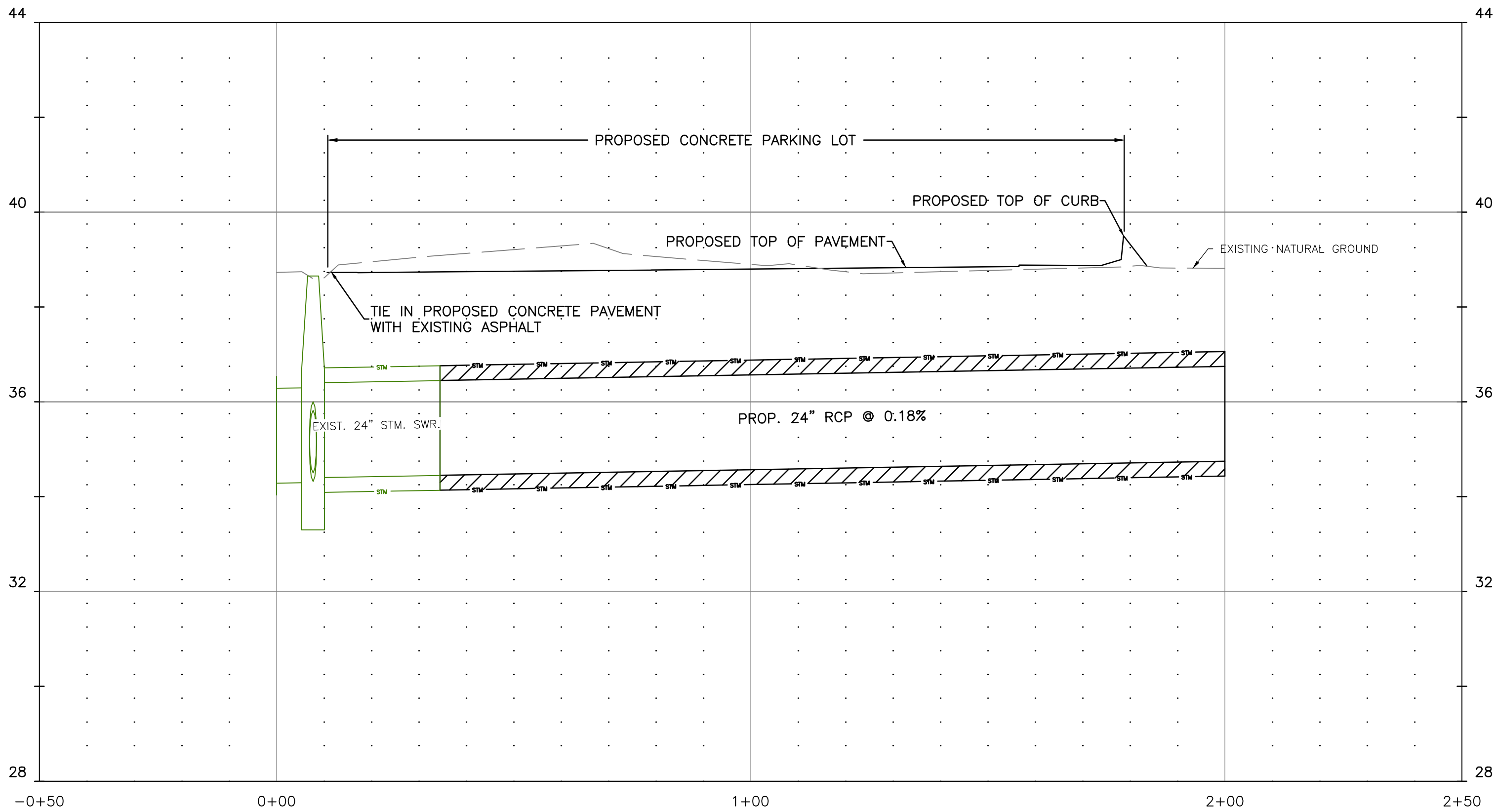
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M-420HUD-013A-3	
DRAWING SCALE	
HORIZ: 1"=40', VERT: 1"=4'	
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CUONG NGUYEN	
SHEET NO. 25 OF 73	

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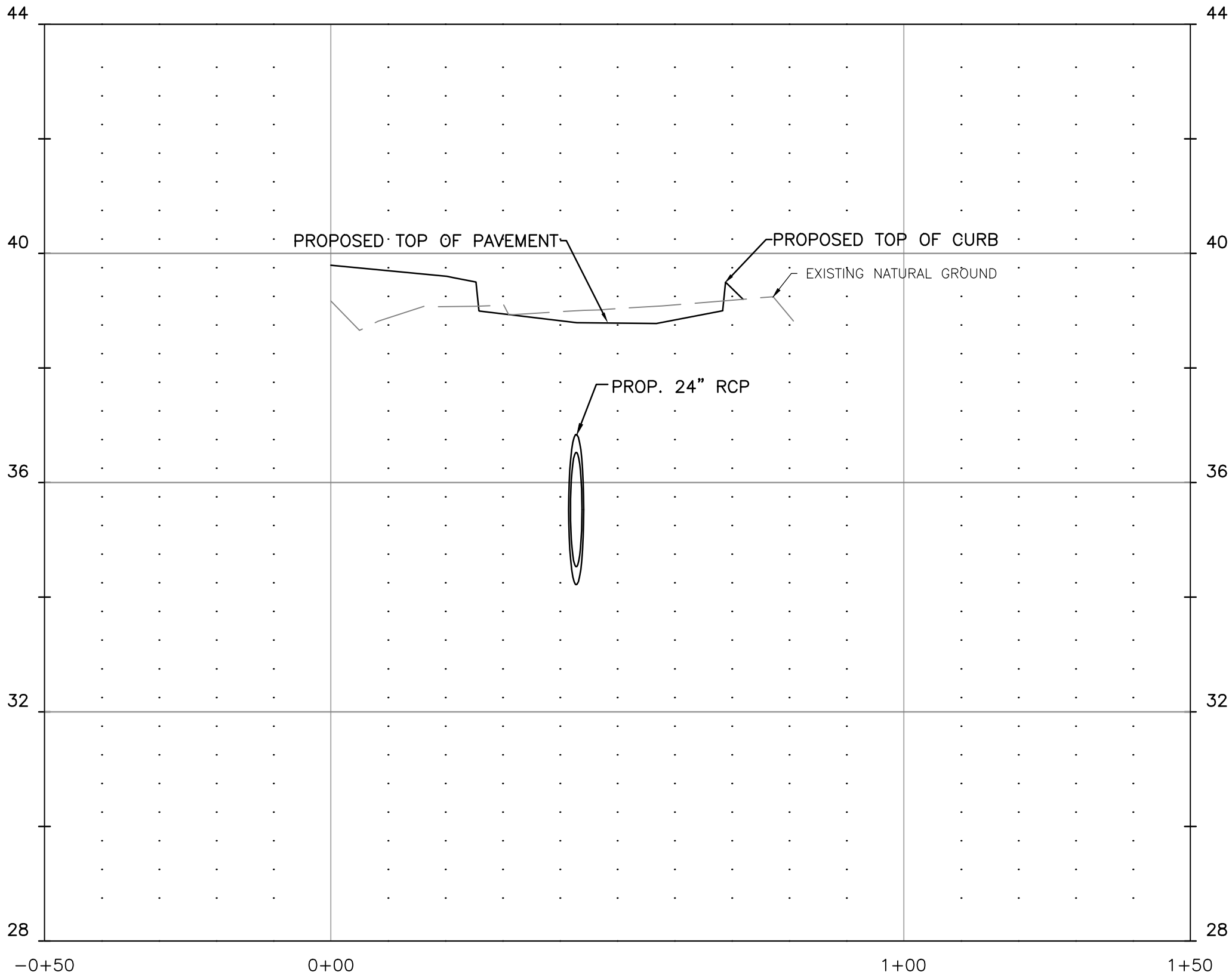
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PROPOSED PARKING LOT CROSS SECTION A-A PROFILE



PROPOSED PARKING LOT CROSS SECTION B-B PROFILE



LEGEND

- PROPOSED CONCRETE PARKING LOT (6,016 SF)
- TP: XX.XX PROP. TOP OF PAVEMENT
- TC: XX.XX PROP. TOP OF CURB

FOR PARKING LOT LIGHTING INFORMATION
SEE SHEETS 55 - 59

PROPOSED PARKING LOT COORDINATES AND ELEVATIONS				
POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
1	39.50	13811632.55	3127502.70	TOP OF CURB
2	39.50	13811626.31	3127506.07	TOP OF CURB
3	39.50	13811617.78	3127503.50	TOP OF CURB
4	39.50	13811612.61	3127501.94	TOP OF CURB
5	39.50	13811588.76	3127581.06	TOP OF CURB
6	39.50	13811602.40	3127585.14	TOP OF CURB
7	39.50	13811605.76	3127591.36	TOP OF CURB
8	39.50	13811602.06	3127603.79	TOP OF CURB
9	39.50	13811595.82	3127607.15	TOP OF CURB
10	39.50	13811582.22	3127603.02	TOP OF CURB
11	39.50	13811574.32	3127629.44	TOP OF CURB
12	39.50	13811587.90	3127633.70	TOP OF CURB
13	39.50	13811591.19	3127639.91	TOP OF CURB
14	39.50	13811590.31	3127642.84	TOP OF CURB
15	39.50	13811611.86	3127649.31	TOP OF CURB
16	39.50	13811614.35	3127647.96	TOP OF CURB
17	39.50	13811661.81	3127488.99	TOP OF CURB
18	39.20	13811639.17	3127482.11	TOP OF PAVEMENT
19	39.20	13811634.78	3127495.16	TOP OF PAVEMENT



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AMY E. DZIUK
P.E. #133701

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

EP HILL PARK
EP HILL PARK PARKING LOT
LAYOUT
(SHEET 1 OF 2)

WBS NUMBER

M-420HUD-013A-3

DRAWING SCALE

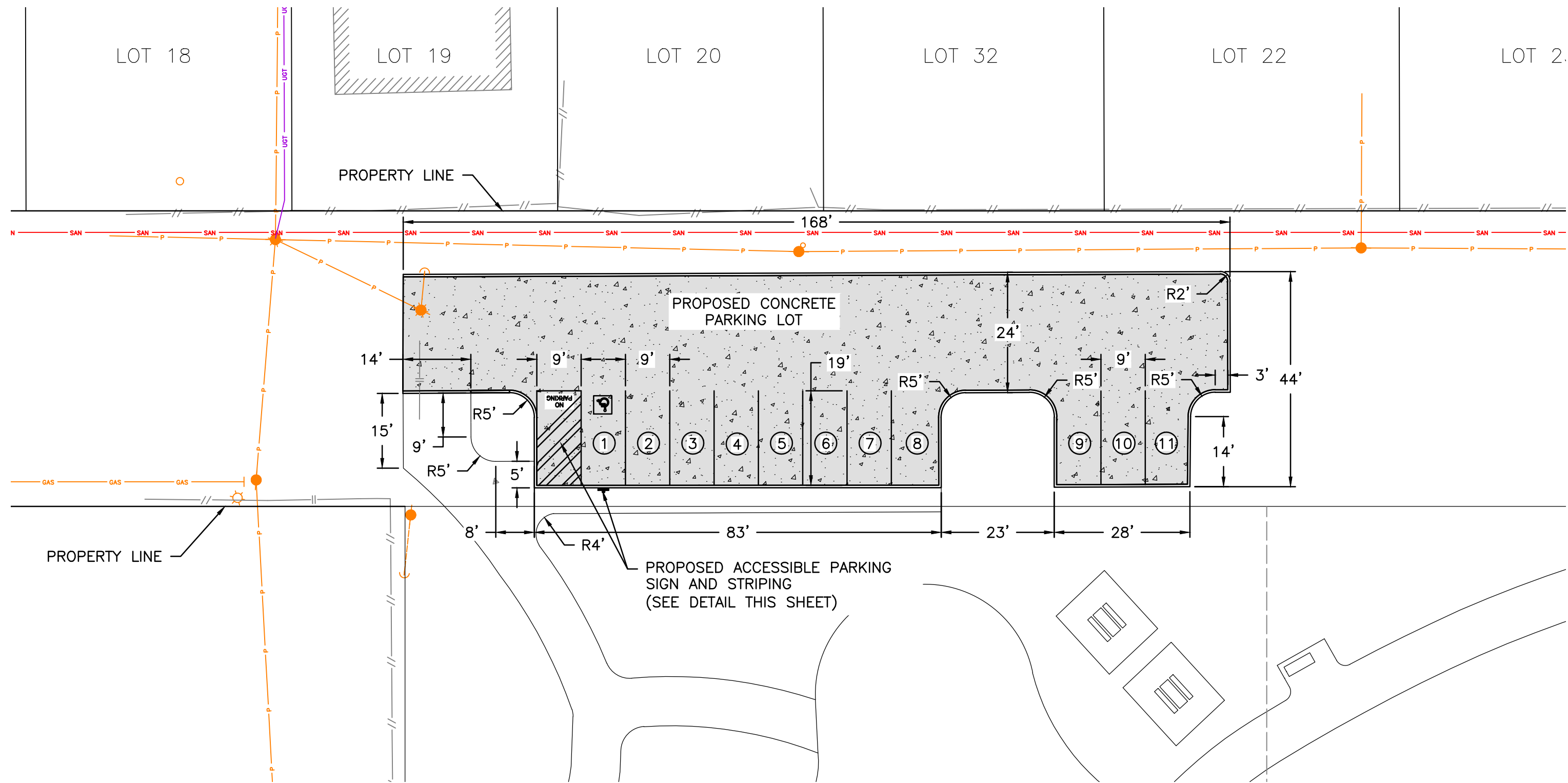
HORIZ: 1"=20'

CITY OF HOUSTON PM

CUONG NGUYEN

SHEET NO. 26 OF 73

FOR CITY OF HOUSTON USE ONLY



PERPENDICULAR OR ANGLED ACCESSIBLE PARKING SPACE DIMENSIONS

GENERAL NOTES:

- All paved accessible parking space limit lines shall be 4" solid white lines.
- Paved accessible parking spaces must include a white International Symbol of Accessibility applied conspicuously on the surface in a color that contrasts the pavement. A blue background with white border may supplement the symbol for additional contrast.
- The words "NO PARKING" must be applied on any access aisle adjacent to the parking space. The words must be white, applied:
 - in all capital letters,
 - centered within each access aisle adjacent to the parking space.
- RESERVED PARKING (R7-BT) sign including the International Symbol of Accessibility.
 - shall be REQUIRED for each accessible parking space.
 - shall NOT be placed between two accessible parking spaces.
 - shall NOT be placed in a location that restricts movement of wheelchairs within the adjacent sidewalk.
 - shall have a mounting height of 7 feet to the bottom of the sign.
- A sign identifying the consequences of parking illegally in a paved accessible parking space. Must:
 - at a minimum state "VIOLATORS SUBJECT TO FINE AND TOWING" (Plaque) (R7-8aPT).
 - be mounted on a pole, post, wall or freestanding board.
 - be no more than eight inches (8") below sign R7-BT a sign required by the Texas Accessibility Standards, 502.6.
 - be installed so that the bottom edge of the sign is no lower than 48 inches and no higher than 80 inches above the ground level.
- Signs identifying van parking spaces shall contain the designation "VAN ACCESSIBLE" (R7-8P). Signs shall be 60 inches minimum above the ground level measured to the bottom of the sign.
- Perpendicular or angled parking spaces shall be 8 feet wide minimum with an access aisle 8 feet minimum wide (van accessible). Two parking spaces are permitted to share a common access aisle.
- Access aisles shall be at street level, extend the full length of the parking space they serve, follow ADA surface requirements, and marked to discourage parking in the access aisle. Curb ramps shall connect the access aisle to the adjacent pedestrian access route. Curb ramps shall not be located within the access aisle.
- International Symbol of Accessibility Parking Space Marking and sign details can be found in The Standard Highway Sign Designs for Texas (SHSD) at the following website, <http://www.txdot.gov/>

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080
7.5 to 15	0.100
Greater than 15	0.125

DEPARTMENTAL MATERIAL SPECIFICATIONS	
ALUMINUM SIGN BLANKS	DMS-7110
TRAFFIC PAINT	DMS-8200
NOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
SIGN FACE MATERIALS	DMS-8300

PAVEMENT MARKINGS AND SIGNING FOR ACCESSIBLE PARKING

PM(AP) - 21

FILE	DATE	BY	CHK	APP	DATE	BY	CHK	APP	DATE	BY	CHK	APP
11-11	09/10/21	21			11-11	09/10/21	21			11-11	09/10/21	21
11-11	09/10/21	21			11-11	09/10/21	21			11-11	09/10/21	21

T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA, HOUSTON, TEXAS 77056 (713) 520-9570

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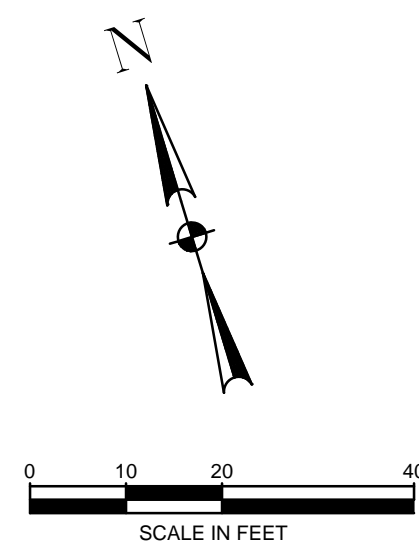
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FB NO. 00000

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

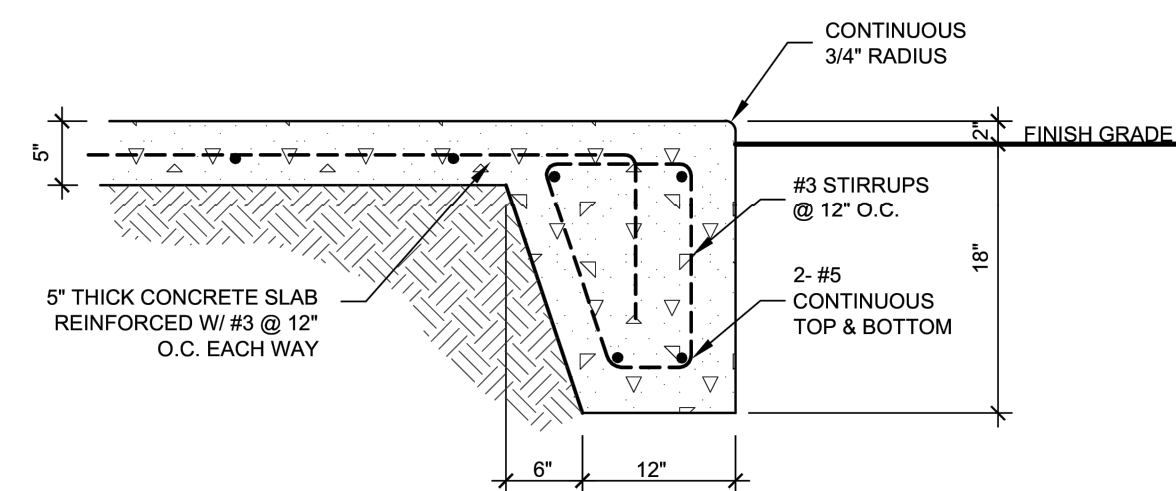
EP HILL PARK
EP HILL PARK PARKING LOT
DIMENSION LAYOUT
(SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
HORIZ: 1"=20'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 27 OF 73	

NO.	DATE	REVISION	APP.

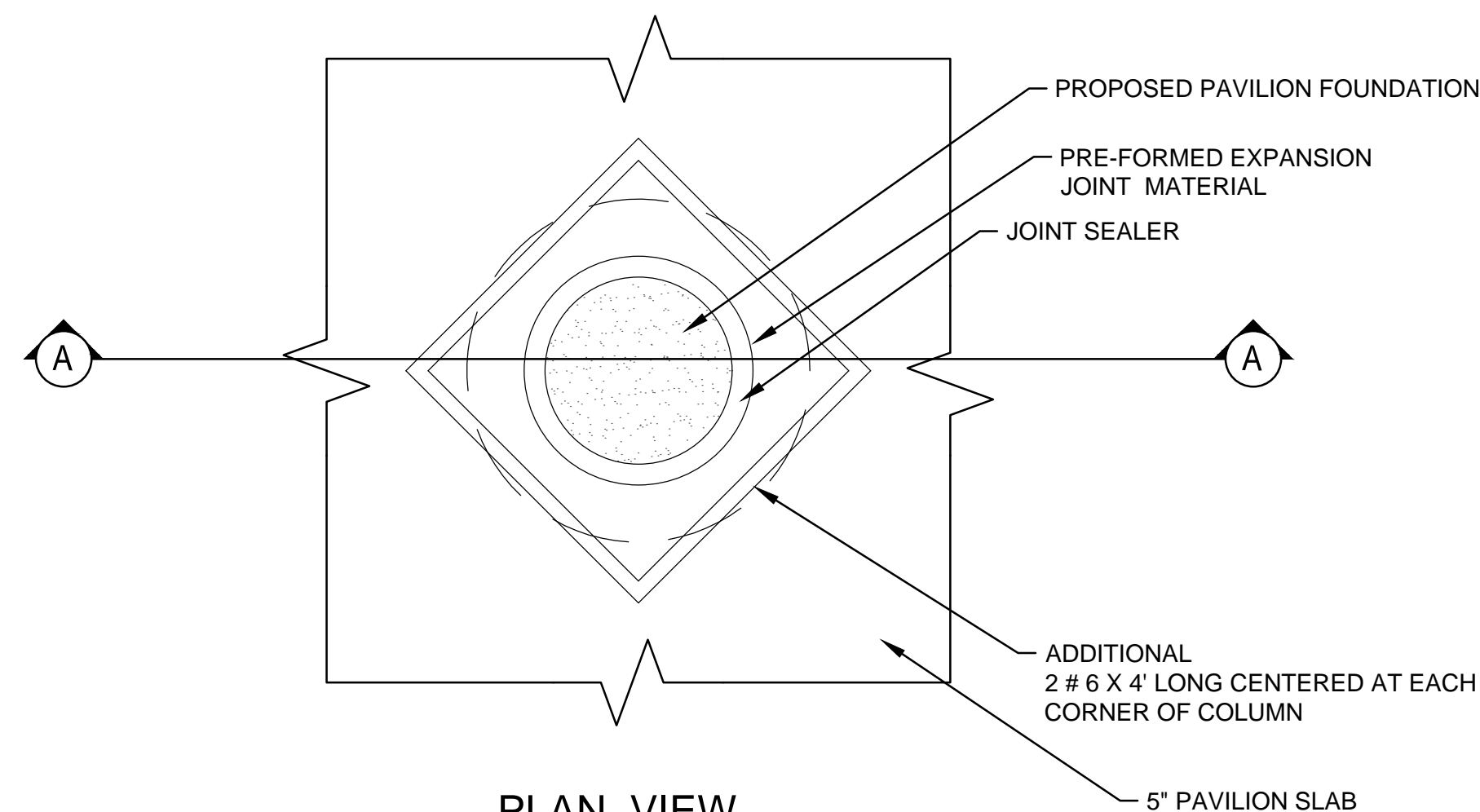


PROPOSED PAVLION LIMITS COORDINATES AND ELEVATIONS				
POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
1	40.31	13811476.46	3127458.11	PAVLION LIMITS
2	40.35	13811509.90	3127509.13	PAVLION LIMITS
3	40.37	13811484.59	3127525.22	PAVLION LIMITS
4	40.39	13811451.14	3127474.20	PAVLION LIMITS

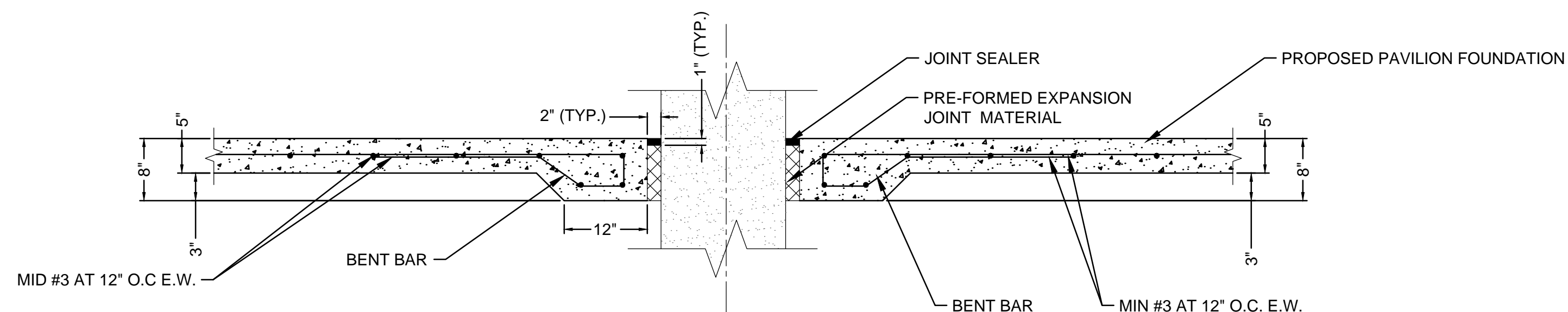


8 PARK SHELTER SLAB EDGE DETAIL

NOT TO SCALE



PLAN VIEW
PROPOSED PAVILION FOUNDATION DETAIL



SECTION A-A

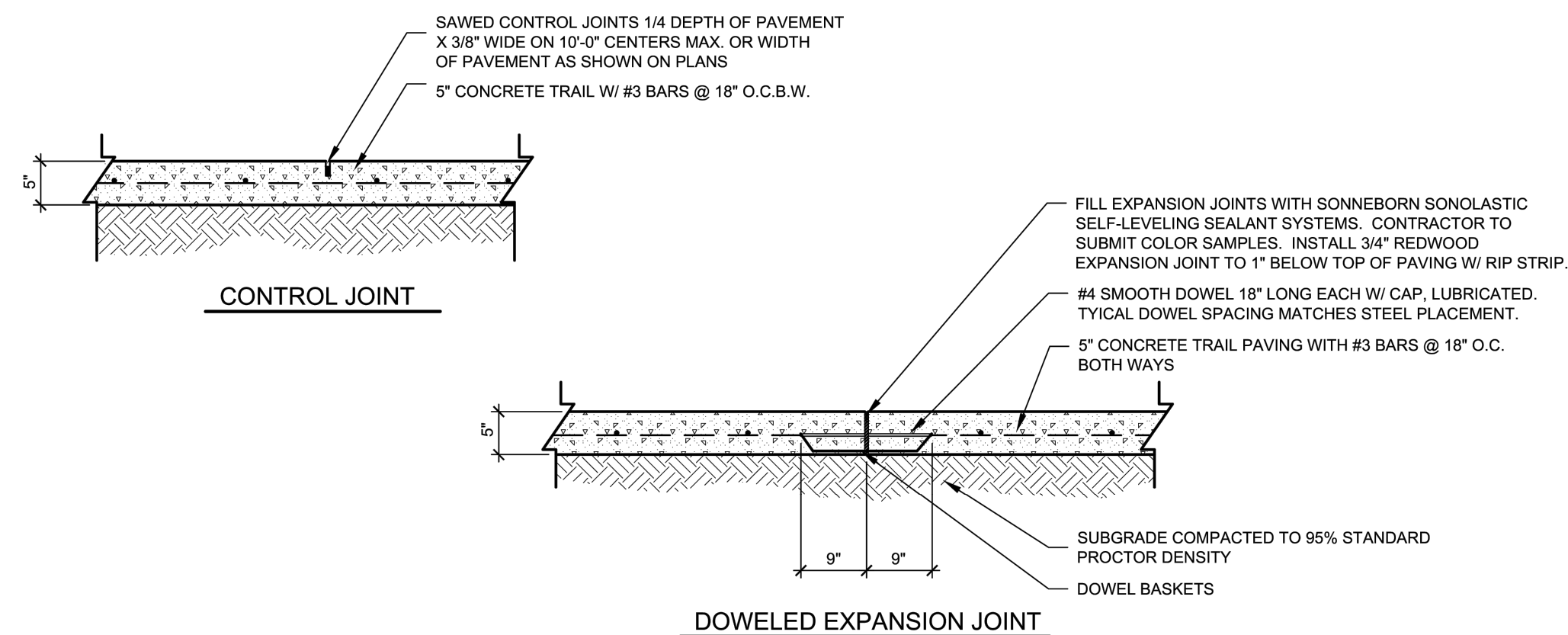
ISOLATION JOINT DETAIL

NOT TO SCALE

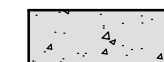
GENERAL NOTES:

1. LOCATE DOWELED EXPANSION JOINTS ON MAXIMUM 100'-0" CENTERS.
2. THE MAXIMUM CONTROL JOINT SPACING SHALL BE THE WIDTH OF THE TRAIL OR AS SHOWN ON THE PLANS.
3. COMPACTION REQUIREMENTS NOTED ARE A MINIMUM STANDARD. REFER TO GEOTECHNICAL REPORT FOR SPECIFIC PROJECT REQUIREMENTS WHICH SHALL PREVAIL.

A DOWELED EXPANSION AND CONTROL JOINT DETAILS



LEGEND



PROPOSED CONCRETE PARKING LOT
(1,831 SF)



T.B.P.E.L.S. FIRM REGISTRATION #180
3100 WEST ALABAMA, HOUSTON, TEXAS 77098 (713) 520-99

SURVEYED BY: KUO
FB NO. 00000

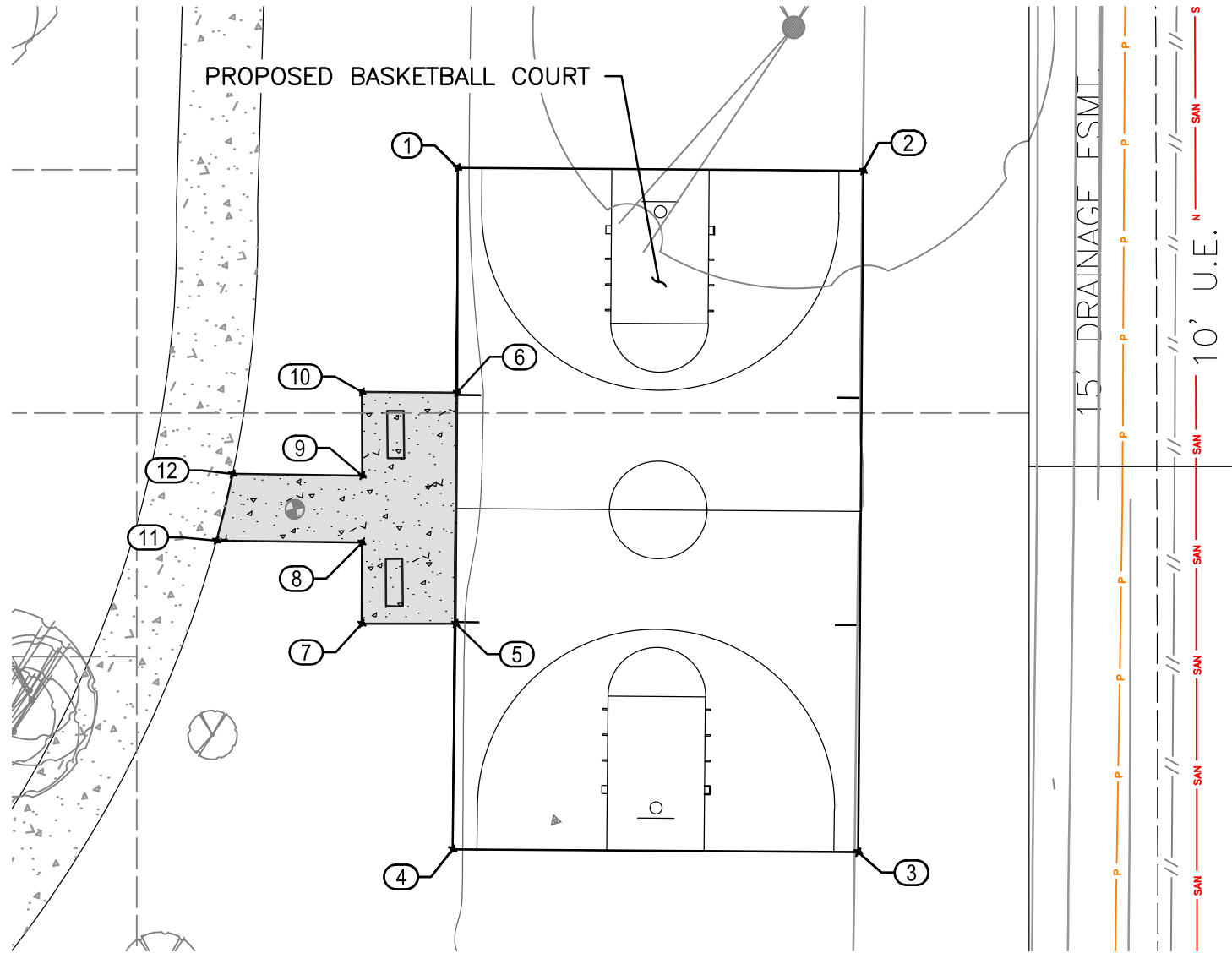
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

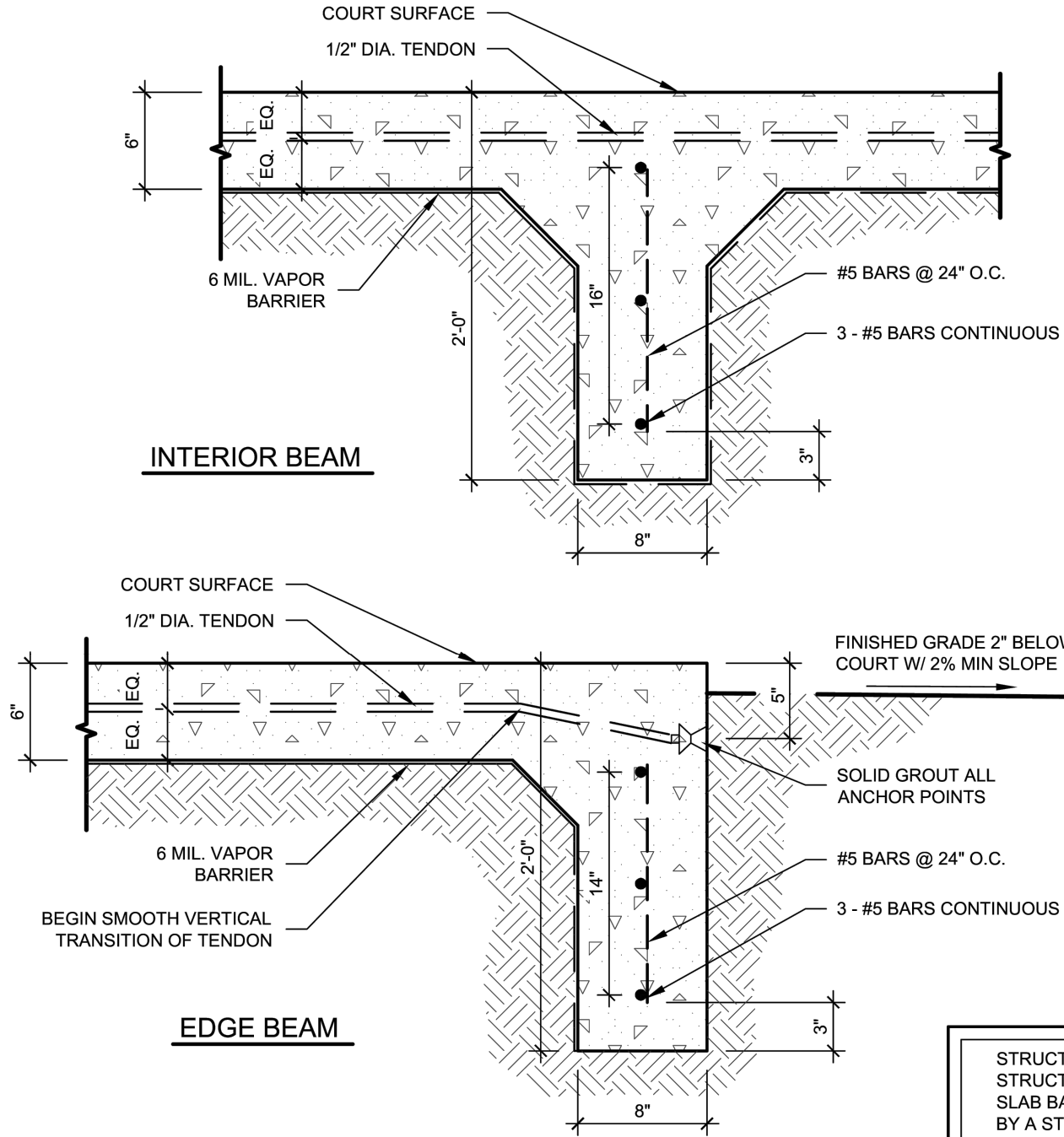
EP HILL PARK

EP HILL PARK PAVILION LAYOUT

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
HORIZ: 1"=10'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 28 OF 73	

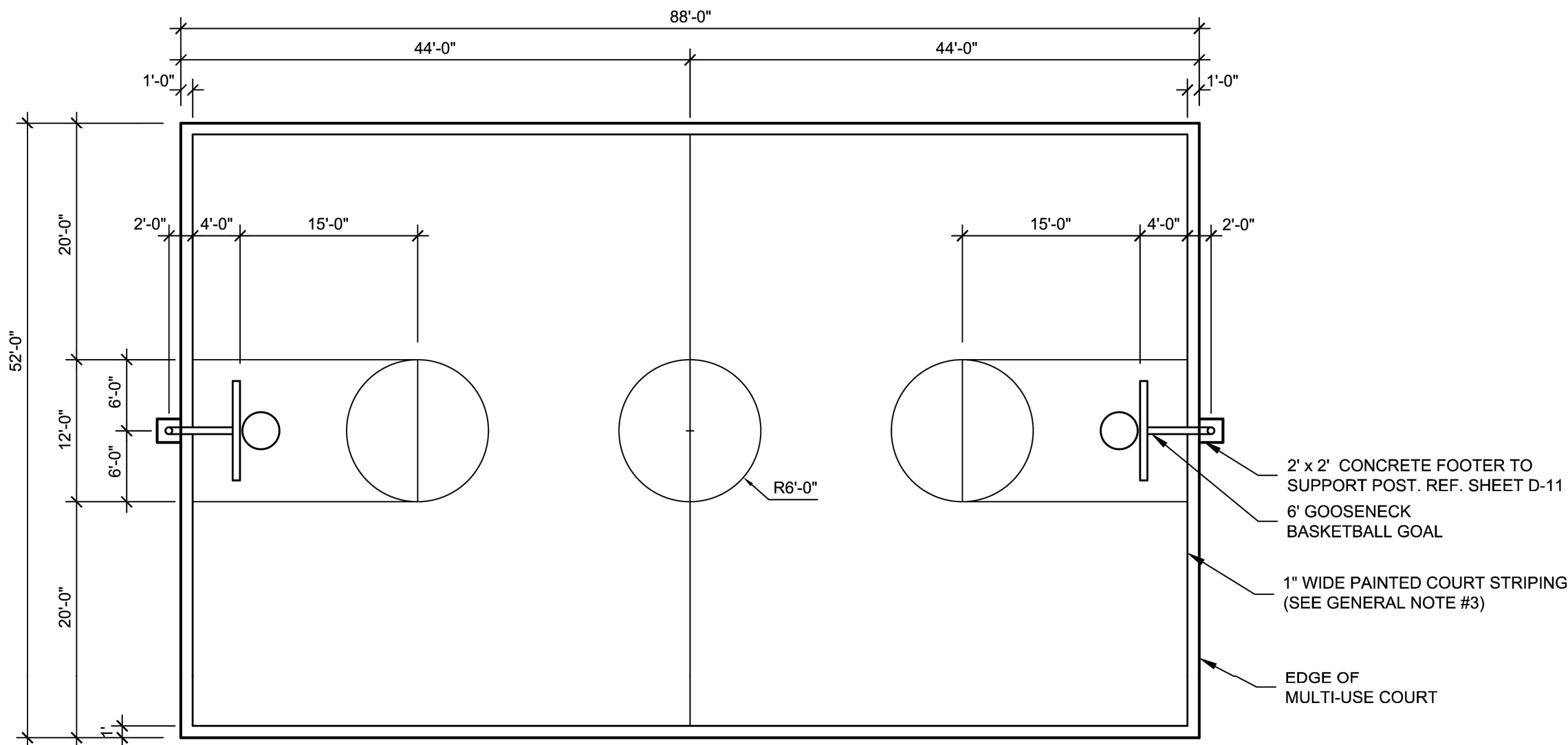


PROPOSED BASKETBALL COURT LIMITS COORDINATES AND ELEVATIONS				
POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
1	40.34	13811211.14	3128057.80	BASKETBALL COURT LIMITS
2	39.94	13811196.33	3128105.55	BASKETBALL COURT LIMITS
3	39.95	13811116.11	3128080.67	BASKETBALL COURT LIMITS
4	40.42	13811130.92	3128032.92	BASKETBALL COURT LIMITS
5	40.42	13811157.45	3128041.30	BASKETBALL COURT LIMITS
6	40.39	13811184.63	3128049.73	BASKETBALL COURT LIMITS
7	40.53	13811160.79	3128030.24	PROPOSED CONCRETE
8	40.52	13811170.34	3128033.16	PROPOSED CONCRETE
9	40.51	13811178.22	3128035.58	PROPOSED CONCRETE
10	40.49	13811188.11	3128038.51	PROPOSED CONCRETE
11	40.68	13811175.76	3128016.06	PROPOSED CONCRETE
12	40.65	13811183.05	3128020.34	PROPOSED CONCRETE



STRUCTURAL NOTE:
STRUCTURAL DETAILS FOR POST-TENSION CONCRETE
SLAB BASKETBALL COURT TO BE SIGNED AND SEALED
BY A STRUCTURAL ENGINEER LICENSED IN THE STATE
OF TEXAS.

D
10
MULTI-USE COURT BEAM DETAILS



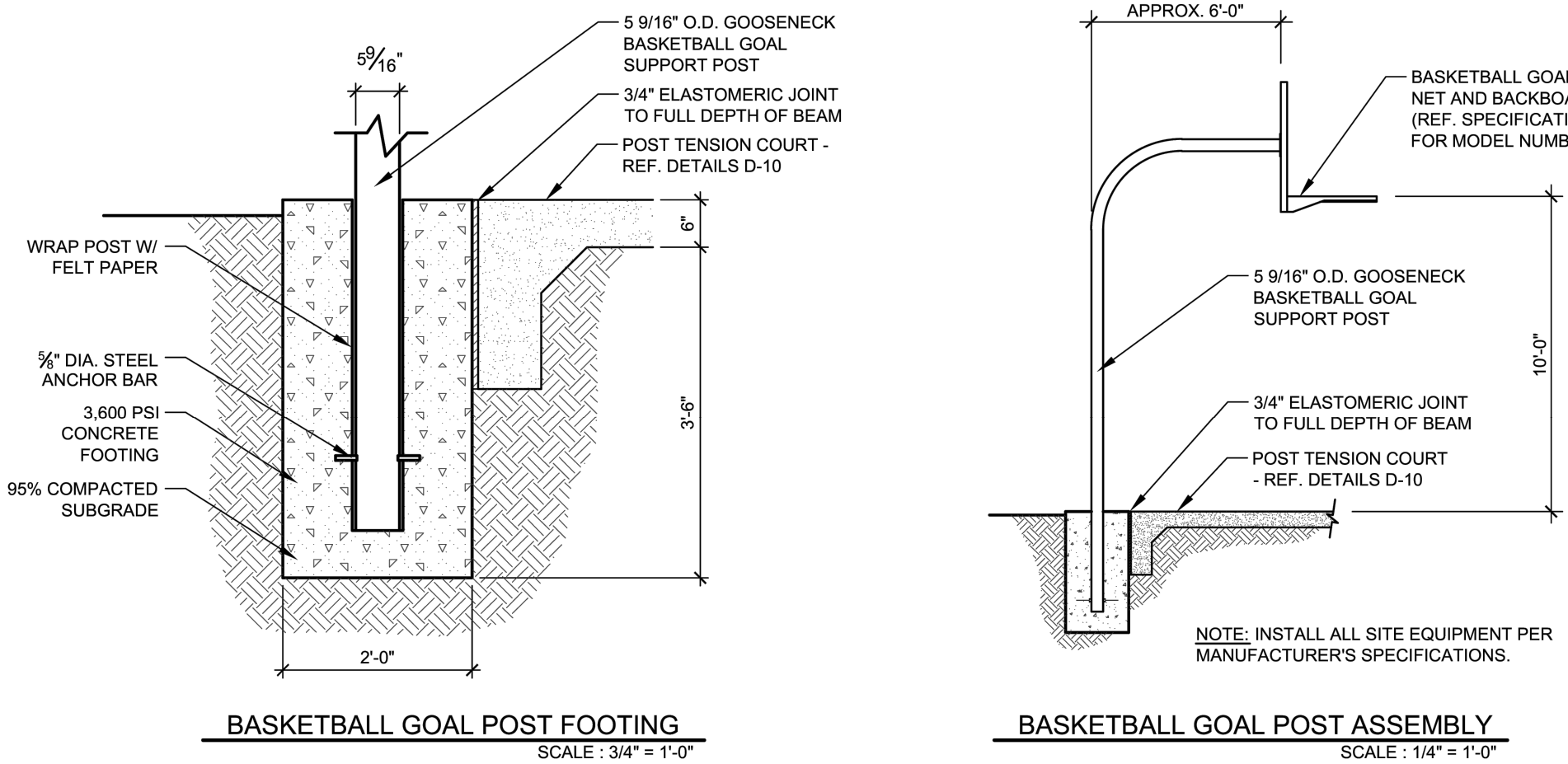
GENERAL NOTES:

- ALL WRITTEN DIMENSIONS SHALL PREVAIL.
- BASKETBALL COURT TO BE POST TENSION CONCRETE SLAB.
- ALL COURT STRIPING TO BE 1" WIDTH PAINTED WHITE OR ALTERNATE COLOR APPROVED BY OWNER.

POST TENSIONING NOTES:

- POST TENSIONING SHALL MEET ALL CURRENT STANDARDS OF THE POST TENSIONING INSTITUTE.
- INSTALLATION PROCEDURES, FOR REVIEW PRIOR TO BEGINNING INSTALLATION OF BASKETBALL COURT.
- ALL TENDONS SHALL BE 1/2" DIAMETER - 270 KSI STRAND.
- ALL CONCRETE SHALL BE 3600 PSI MINIMUM.
- AGGREGATE USED IN CONCRETE IS TO BE UNIFORMLY GRADED WITH @ LEAST 500 # 3/8" AGGREGATE PER YARD.
- PARTIAL STRESSING (25%) SHALL BE REQUIRED @ 24 HOURS. 100% STRESSING SHALL BE COMPLETED WITHIN 7 DAYS. REQUIRED ANCHOR FORCE TO BE 28.9 KIPS.
- SUBMIT CONCRETE MIX DESIGN FOR REVIEW BY PARKS DEPARTMENT REPRESENTATIVE.

D
9
BASKETBALL COURT LAYOUT



D
11
BASKETBALL GOAL POST FOOTING AND POST ASSEMBLY DETAILS

SCALE : AS NOTED

LEGEND

PROPOSED CONCRETE TRAIL
(471 SF)



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HOUSTON PUBLIC WORKS

EP HILL PARK

EP HILL PARK BASKETBALL
COURT LAYOUT

WBS NUMBER

M-420HUD-013A-3

DRAWING SCALE

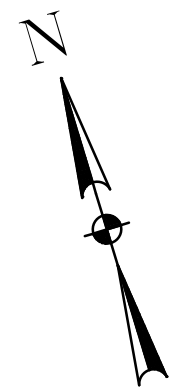
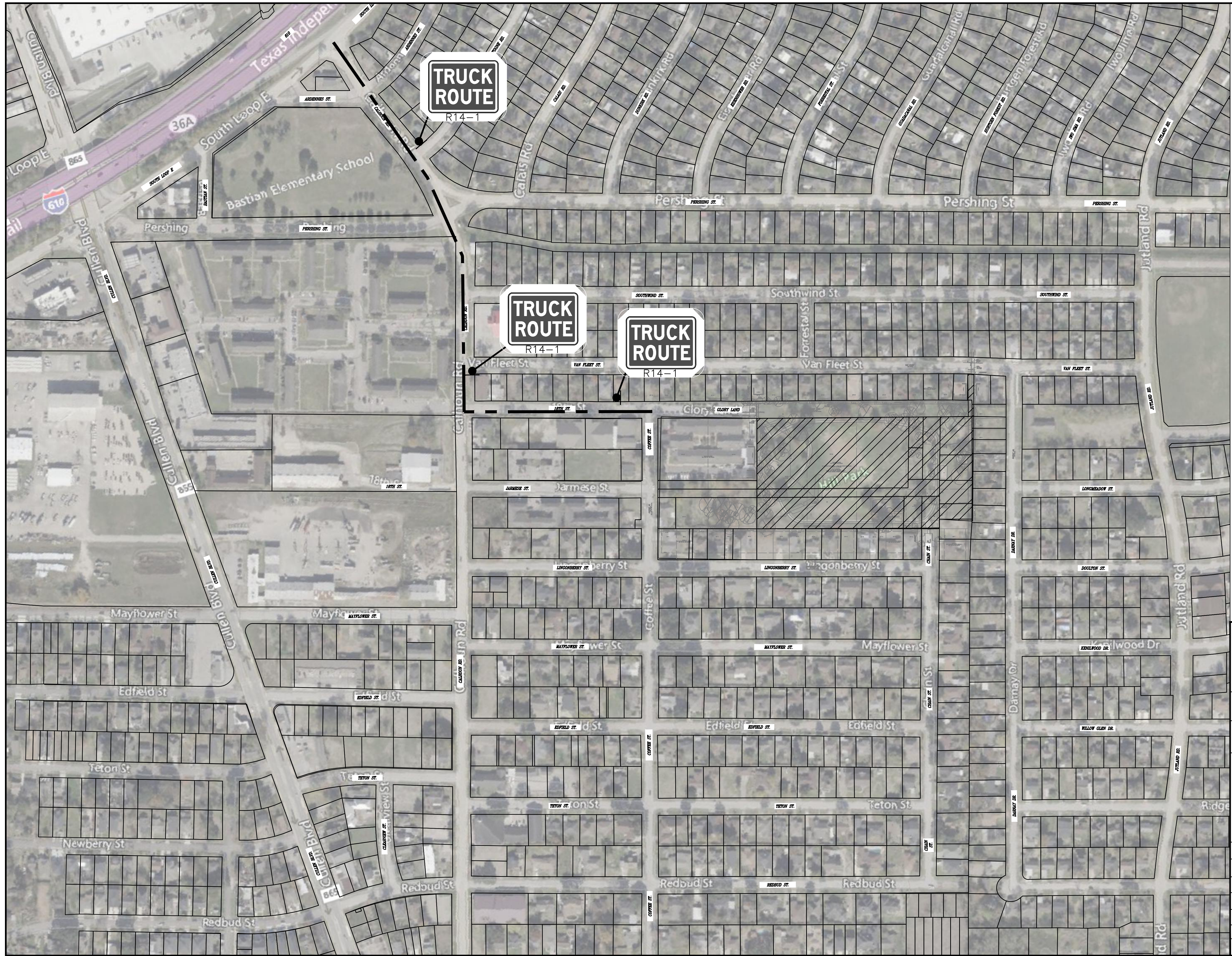
HORIZ: 1"=10'

CITY OF HOUSTON PM




CUONG NGUYEN

SHEET NO. 29 OF 73

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[illegible]

LEGEND

- | | |
|---|--------------|
|  | TRAFFIC SIGN |
|  | PROJECT AREA |
|  | TRUCK ROUTE |

BENCHMARK:

CITY OF HOUSTON MONUMENT 5454-8001, A BRASS DISK IN CONCRETE, LOCATED NEAR SOUTHEAST CORNER OF EP HILL PARK EAST OF THE PARK ENTRANCE.

ELEV.40.65 FEET NAVD 1988 (GEOID '18)*

* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED SEPTEMBER 14, 2024.

TRAFFIC CONTROL NOTES:

- 1) CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VII OF TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES DURING CONSTRUCTION.



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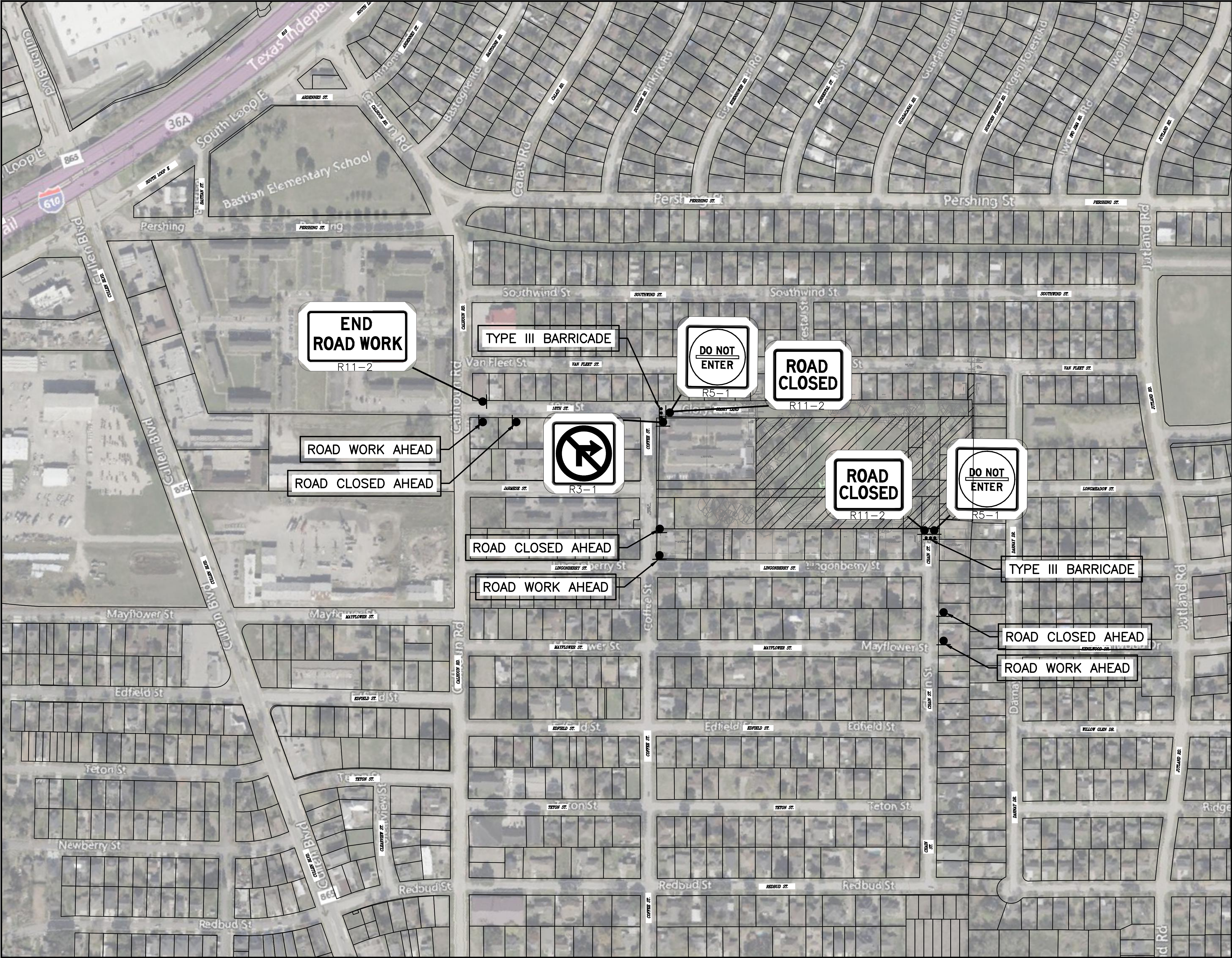
CITY OF HOUSTON

HOUSTON PUBLIC WORKS

EP HILL PARK

EP HILL PARK TRAFFIC
CONTROL PLAN
(SHEET 1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 30 OF 73	



LEGEND

- TRAFFIC SIGN
- ▨ PROJECT AREA

BENCHMARK:
CITY OF HOUSTON MONUMENT 5454--8001, A BRASS DISK IN CONCRETE, LOCATED NEAR SOUTHEAST CORNER OF EP HILL PARK EAST OF THE PARK ENTRANCE.
ELEV.40.65 FEET NAVD 1988 (GEOID '18)*
* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED SEPTEMBER 14, 2024.

TRAFFIC CONTROL NOTES:
1) CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VII OF TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES DURING CONSTRUCTION.



SURVEYED BY: KUO
FB NO. 00000

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

EP HILL PARK

EP HILL PARK TRAFFIC CONTROL PLAN
(SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 31 OF 73	

DISCLAIMER: THE USE OF THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR USE, ACCEPTS RESPONSIBILITY FOR THEIR APPLICABILITY, ADEQUACY AND SAFETY. NO WARRANTY OF ANY KIND IS MADE BY THE CITY OF HOUSTON FOR ANY PURPOSES WHATSOEVER. THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

- GENERAL NOTES**
- THE CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) LATEST EDITION WITH REVISIONS DURING THE ENTIRE CONSTRUCTION PERIOD.
 - ALL SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM THE LATEST VERSION OF THE TMUTCD.
 - NO LANES SHALL BE CLOSED DURING THE HOURS OF 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM MONDAY THRU FRIDAY WITHOUT APPROVAL OF THE CITY TRAFFIC ENGINEER.
 - NO WORK SHALL BE PERFORMED IN RESIDENTIAL AREAS FROM 7:00 PM TO 7:00 AM.
 - CONTRACTOR SHALL MAINTAIN APPROVED NUMBER OF THROUGH LANES OF TRAFFIC IN EACH DIRECTION DURING CONSTRUCTION WORKING HOURS. TRAFFIC CONTROL PLANS SHALL INCLUDE ONE-WAY AND/OR DETOUR PLANS. CONTRACTOR SHALL MAINTAIN ADA COMPLIANT PEDESTRIAN ACCESS TO BUS STOPS AND ADEQUATE BUS ACCESS TO ALL THE BUS STOPS.
 - CONTRACTOR SHALL MAINTAIN TRAFFIC LANES AND DETOURS ACCORDING TO TRAFFIC CONTROL PLANS DURING WORKING HOURS.
 - CONTRACTOR SHALL COVER OPEN PAVEMENT EXCAVATIONS FOR MINOR UTILITY WORK WITH ANCHORED STEEL PLATES DURING NON-WORKING HOURS, AND OPEN LANES FOR NORMAL TRAFFIC FLOW WHEN FEASIBLE.
 - IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF "TRAFFIC CONTROL PLANS" DURING THE CONSTRUCTION THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, THE CONTRACTOR SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT AN ALTERNATE SET OF TRAFFIC CONTROL PLANS TO THE CITY OF HOUSTON PROJECT MANAGER FOR APPROVAL TEN WORKING DAYS PRIOR TO IMPLEMENTATION. THESE PLANS SHALL BE DRAWN TO SCALE ON REPRODUCIBLE MYLARS AND SHALL BE SEALED BY A LICENSED ENGINEER IN THE STATE OF TEXAS. OFFICE OF CITY ENGINEER, MOBILITY PERMITS SECTION REPRESENTATIVE APPROVAL IS REQUIRED TO ACCEPT THE PROPOSED CHANGES.
 - CONTRACTOR SHALL SECURE LANE/SIDEWALK/BICYCLE FACILITY CLOSURE PERMITS FROM OFFICE OF CITY ENGINEER (MOBILITY PERMIT SECTION AT <https://geohub.houstontx.gov>) BEFORE IMPLEMENTING THE TRAFFIC CONTROL PLAN. THE APPLICATION MUST BE SUBMITTED AT LEAST TEN DAYS PRIOR TO THE IMPLEMENTATION OF THE TRAFFIC CONTROL PLAN AND/OR BEGINNING CONSTRUCTION WORK. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PLANS, CONSTRUCTION SEQUENCING, AND CONSTRUCTION SCHEDULE WITH THE APPLICATION.
 - CONTRACTOR SHALL HAVE APPROVED TRAFFIC CONTROL PLAN AND PERMIT AT THE JOB SITE FOR INSPECTION AT ALL TIMES.
 - DURING PAVEMENT SURFACE RESTORATION PROJECTS; THE CONTRACTOR SHALL NOT OPEN CLOSED LANES UNTIL THE PAVEMENT SURFACE HAS CURED ENOUGH TO ALLOW VEHICULAR TRAFFIC ACCORDING TO CITY OF HOUSTON STANDARD SPECIFICATIONS.
 - THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND COORDINATING ALL CONSTRUCTION ACTIVITIES WITH STAKE HOLDERS IN THE VICINITY INCLUDING EMERGENCY RESPONSE AGENCIES SUCH AS HOUSTON POLICE DEPARTMENT, HOUSTON FIRE DEPARTMENT, AND METROPOLITAN TRANSIT AUTHORITY.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR ISSUING ALL WORK DIRECTIVES TO ALL SUB-CONTRACTORS, UTILITY COMPANIES, AND ALL OTHER ENTITIES PERFORMING CONSTRUCTION WORK ASSOCIATED WITH THE PROJECT.
 - NOTHING IN THESE NOTES OR PLANS SHALL RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT; INCLUDING SAFETY OF ALL MODES OF TRANSPORTATION, PERSONS, AND PROPERTY, AND THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO WORKING HOURS.
 - THE OFFICE OF CITY ENGINEER (MOBILITY PERMITS GROUP) PER THE DIRECTION OF THE CITY TRAFFIC ENGINEER HAVE THE RIGHT TO DEMAND THE INSTALLATION OF ADDITIONAL TRAFFIC CONTROL DEVICES OR MODIFICATIONS OF THESE PLANS AND NOTES, AS DEEMED NECESSARY TO PROMOTE THE SAFE AND ORDERLY FLOW OF TRAFFIC, INCLUDING PEDESTRIANS AND BICYCLES, THROUGH THE CONSTRUCTION WORK ZONE. THE CONTRACTOR SHALL COMPLY WITH THESE ADDITIONAL REQUESTS OR MODIFICATIONS WITH DUE DILIGENCE.
 - ALL EXISTING TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS SHALL BE MAINTAINED IN VISIBLE LOCATIONS DURING CONSTRUCTION UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM CITY OF HOUSTON PROJECT MANAGER. THE CONTRACTOR SHALL RESTORE OR REPLACE (AT THE DISCRETION OF THE CITY TRAFFIC ENGINEER) ANY PAVEMENT MARKING OR SIGNING DAMAGE DURING CONSTRUCTION OPERATIONS, INCLUDING RAISED PAVEMENT MARKERS (RPMS).
 - WHEN ENTERING OR LEAVING ROADWAYS CARRYING PUBLIC TRAFFIC, THE CONTRACTOR'S EQUIPMENT, WHETHER EMPTY OR LOADED SHALL IN ALL CASES YIELD TO PUBLIC TRAFFIC WITH THE ASSISTANCE OF CONTRACTOR PROVIDED CERTIFIED FLAGGER/PEACE OFFICER.
 - ACCESS TO DRIVEWAYS ADJACENT TO THE CONSTRUCTION WORK ZONE SHALL BE MAINTAINED AT ALL TIMES AS MUCH AS POSSIBLE. ADDITIONAL CONES AND/OR DELINEATORS MAY BE REQUIRED TO DELINEATE THE DRIVEWAY ACCESS ROUTE THROUGH THE CONSTRUCTION WORK ZONE. A MINIMUM OF ONE TRAVEL LANE SHALL BE MAINTAINED ACROSS THE DRIVEWAYS, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM CITY OF HOUSTON PROJECT MANAGER.
 - SPILLAGE RESULTING FROM HAULING OPERATIONS ALONG OR ACROSS ANY PUBLIC TRAVELED WAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
 - THE CONTRACTOR SHALL SUBMIT AN APPLICATION FOR TEMPORARY PARKING RESTRICTIONS IF THERE ARE PARKING METERS LOCATED AT THE PROPOSED LANE CLOSURES FROM PARKING MANAGEMENT DIVISION (832-393-8690) AT LEAST TEN BUSINESS DAYS BEFORE IMPLEMENTATION OF LANE CLOSURES. IN ADDITION, TEMPORARY NO PARKING SIGNS SHALL BE POSTED 24 HOURS PRIOR TO COMMENCEMENT OF WORK.
 - ADDITIONAL OFF DUTY OFFICERS/FLAGGERS MAY BE REQUESTED TO DIRECT TRAFFIC WHEN LANES ARE BLOCKED AT THE DISCRETION OF THE CITY PROJECT MANAGER EVEN IF THEY ARE NOT SPECIFICALLY IDENTIFIED ON THE PROJECT PLANS.
 - THE CONTRACTOR SHALL REPLACE WITHIN 72 HOURS, ALL TRAFFIC SIGNAL LOOP DETECTORS DAMAGED DURING CONSTRUCTION.
 - IN GENERAL, A SOLAR POWERED FLASHING ARROW BOARD SHALL BE REQUIRED ON ALL MAJOR THOROUGHFARE LANES CLOSURES. EXCEPTIONS TO FLASHING ARROW BOARDS AND/OR IMPLEMENTATION ON RESIDENTIAL LANE CLOSURES SHALL BE APPROVED BY CITY TRAFFIC ENGINEER.
 - APPROVED TRAFFIC CONTROL PLAN SHALL BE IN PLACE BEFORE STARTING ANY EXCAVATION.
 - WATER FILLED BARRIERS CAN BE USED AS INSTRUCTED BY THE ENGINEER AND APPROVED BY THE CITY FOR PROJECTS WHERE SPACE IS LIMITED AND HEAVY EQUIPMENT TO PLACE CONCRETE BARRIERS IS NOT FEASIBLE. WATER FILLED BARRIERS SHALL NOT BE USED ON ROADWAYS WITH A POSTED SPEED LIMIT MORE THAN 45 MPH.
 - WATER FILLED BARRIERS MUST BE INSTALLED AND MAINTAINED PER THE MANUFACTURER'S REQUIREMENTS AND ROUTINELY INSPECTED FOR DEFECTS.
 - IF WATER FILLED BARRIER IS PROVIDED, USE ENVIRONMENTALLY SAFE ANTI-FREEZING AGENT IN THE WATER WHEN IT IS APPLICABLE PER MANUFACTURER SPECIFICATIONS AND RECOVER AGENT WHEN THE BARRIER IS DRAINED.

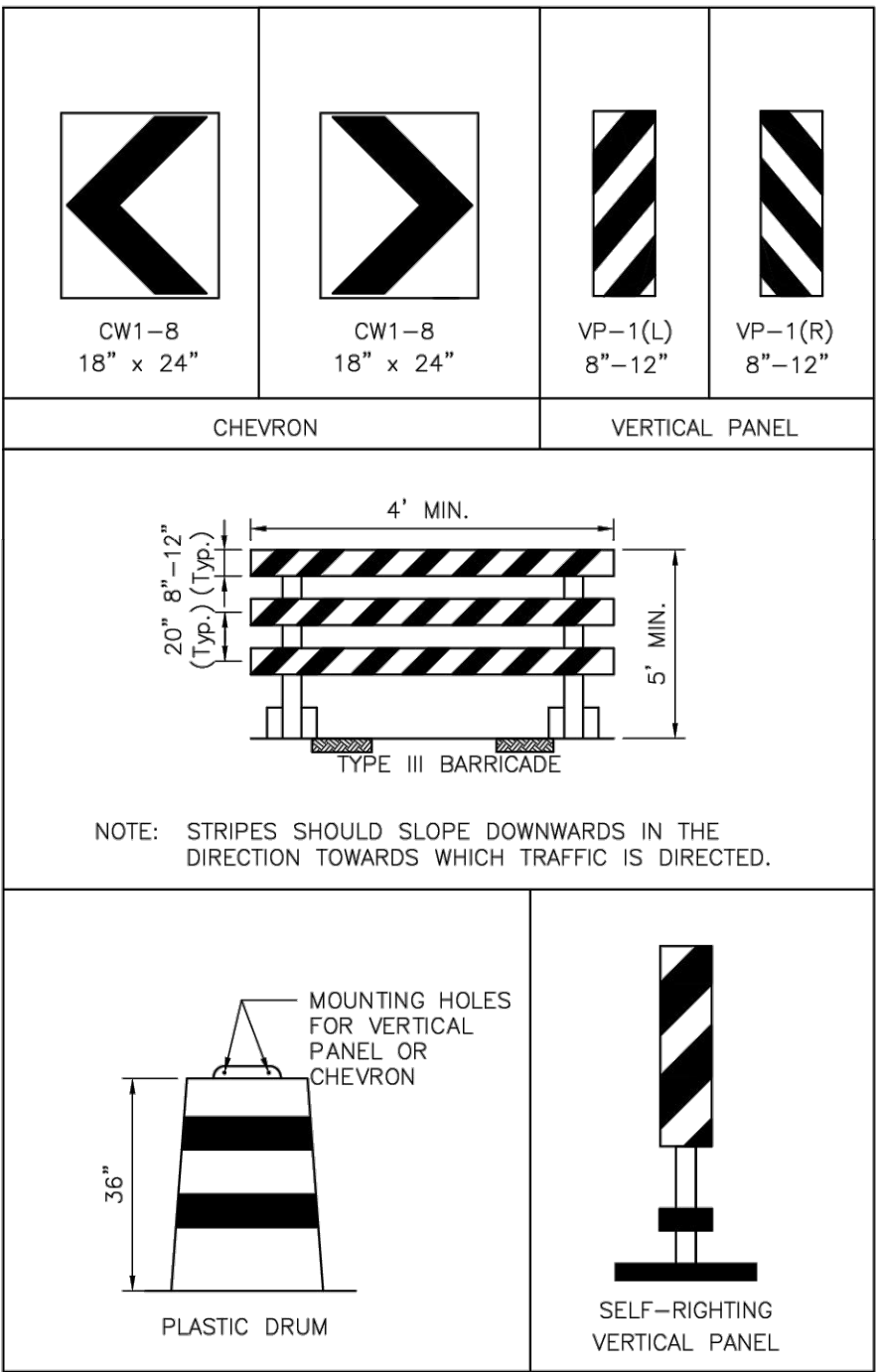
- DISPOSE OF WATER AND AGENT PROPERLY. DO NOT DRAIN WATER FILLED BARRIER INTO OR ACROSS AN EXISTING TRAVEL LANE.
- PROVIDE BARRIER UNITS THAT ARE CAPABLE OF BEING LIFTED AND MOVED WHEN FILLED IF DRAINING IS NOT POSSIBLE.
- PROVIDE WATER FILLED BARRIER THAT ACTS AS ITS OWN FREE STANDING, NON-REDIRECTIVE END TREATMENT.
- WHEN WATER FILLED BARRIERS ARE USED TO CHANNELIZE PEDESTRIANS, THEY MUST HAVE A CONTINUOUS DETECTABLE BOTTOM FOR USERS OF LONG CANES AND THE TOP OF THE UNIT SHALL NOT BE LESS THAN 32 INCHES IN HEIGHT.
- ANY CLOSURE OF A PEDESTRIAN OR BICYCLE FACILITY SHALL REQUIRE THE SHORTEST DETOUR THAT MAINTAINS THE SAFETY OF PEDESTRIAN AND/OR BICYCLISTS.

SPACING FOR CHANNELIZING DEVICES

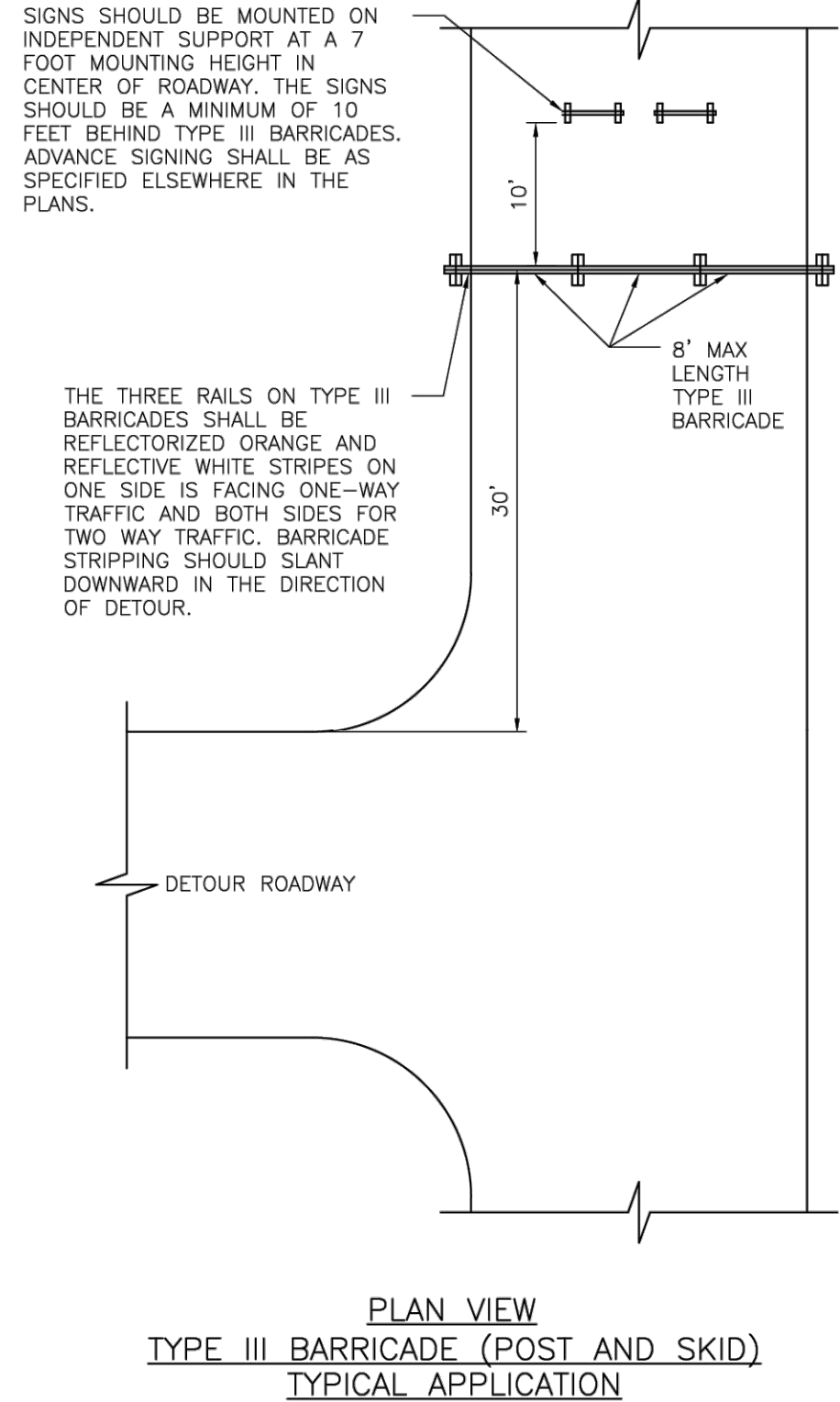
- PLASTIC DRUMS ON MERGING TAPER @ 30' C - C WITH CHEVRON SIGN @ 60' C - C AND WARNING LIGHTS FOR OVERNIGHT CLOSURE.
- PLASTIC DRUMS ON DOWNSTREAM TAPER @ 30' C - C (RETURN TAPER AND BARRICADE ARE OPTIONAL AND DIVIDED ROADWAY SECTION)
- PLASTIC DRUMS ON RADI @ 35' C -C.
- PLASTIC DRUMS ON TANGENT @ 35' C - C WITH VERTICAL PANEL AT 70' C - C AND APPROVED WARNING LIGHT @ 70' C - C (FOR OVERNIGHT CLOSURE).
- PLASTIC DRUMS IN FRONT OF CONSTRUCTION ZONE @ 20' C - C WITH VERTICAL PANEL AT 40' C - C AND APPROVED WARNING LIGHT @ 40' C - C (FOR OVERNIGHT CLOSURE).
- CONCRETE TRAFFIC BARRIER (CTB) OR LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCBT) WITH APPROVED REFLECTORS @ 10' C - C IF PAVEMENT DROP IS GREATER THAN 1 FOOT.
- PLASTIC DRUMS W/GUARD RAIL MOUNTED.
- SELF- RIGHTING VERTICAL PANEL SPACING.
 - 4 LANES TO 2 LANES UNDIVIDED ROADWAY SECTION @ 20' C - C.
 - 4 LANES DIVIDED ROADWAY TO ONE SIDE TWO WAY ROADWAY @ 20' C - C.
 - LEFT LANE AND RIGHT LANE STORAGE BAYS @ 15' C - C.
- SPACING SHOWN ON TRAFFIC CONTROL SHALL SUPERSEDE THE ABOVE SPACING.
- SPACING MAY BE ADJUSTED TO PROVIDE DRIVEWAYS, INTERSECTIONS AND /OR MEDIAN OPENINGS.

TABLE C3 – TYPICAL SIGN SPACING, TAPER LENGTHS, AND SUGGESTED SPACING OF CHANNELIZATION DEVICES						
POSTED SPEED (MPH)	SIGN SPACING "X" (FEET)	MIN. DESIRABLE TAPER LENGTH "L"*			SUGGESTED MAXIMUM SPACING OF DEVICE	
		10' OFFSET	11' OFFSET	12' OFFSET	ON A TAPER	ON A TANGENT
30	120'	150'	165'	180'	30'	60'-75'
35	160'	205'	225'	245'	35'	70'-90'
40	240'	265'	295'	320'	40'	80'-100'
45	320'	450'	495'	540'	45'	90'-110'
50	400'	500'	550'	600'	50'	100'-125'
55	500'	550'	605'	660'	55'	110'-140'

TABLE C4 – STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED	
POSTED SPEED (MPH)	DISTANCE "D" (FEET)
30	200
35	250
40	305
45	360
50	425
55	495



CHANNELIZATION AND BARRICADES

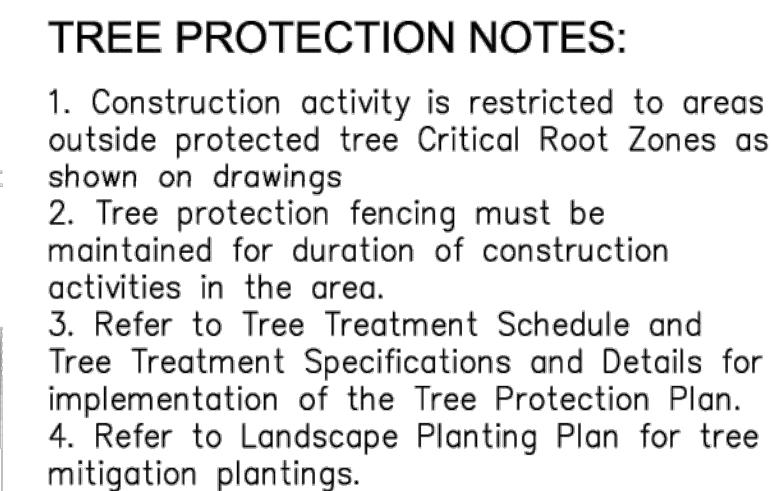


LEGEND:


- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
- FLASHING ARROW PANEL
- AREA UNDER CONSTRUCTION
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN
- DETOUR TRAVEL WAY

APPROVED BY: <i>Sulaiman</i> CITY ENGINEER	APPROVED BY: <i>Leanne Nguyen</i> CITY TRAFFIC ENGINEER
APPROVED BY: <i>Carl Hall</i> DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 01555-01
CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
TCP NOTES CHANNELIZING DEVICES AND BARRICADES	
FOR CITY OF HOUSTON USE ONLY	
DRAWING SCALE	
NOT TO SCALE	

 T.B.P.E.L.S. FIRM REGISTRATION #1800 3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570	This document is released for interim review & not intended for construction, bidding or permit purposes by AMY E. DZIUK P.E. #133701
CITY OF HOUSTON HOUSTON PUBLIC WORKS	
EP HILL PARK	
TRAFFIC CONTROL DETAILS	
WBS NUMBER M-420HUD-013A-3	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
CITY OF HOUSTON PM CUONG NGUYEN	
SHEET NO. 32 OF 73	



2	07/21/25	90% CD Set	
1	04/15/25	60% CD Set	
NO.	DATE	REVISION	APP.

 Protected Tree with critical root zone area (Refer to Tree Treatment Schedule)

~~RP~~ ROOT PRUNING

—x—x—x— Tree Protection
Fencing

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811
AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES
CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR
OBLIGATION TO CALL 811

Date _____

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date _____

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY.
(This signature verifies existing underground facilities – not to be used
for conflict verification)

Signature valid for six months.

Date _____

Approved for AT&T underground conduit facilities only.
Signature valid for one year.



SURVEYED BY: KUO
FB NO. 00000

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UNDER THE AUTHORITY OF
CLAUDIA T. WALKER, RLA
LANDSCAPE ARCHITECT No. 2387, ON 7/18/23
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

EP HILL PARK
60% CONSTRUCTION DOCUMENTS

TP 1.01 – TREE PROTECTION
AND MITIGATION PLAN

WBS NUMBER

M-420HUD-013A-3

DRAWING SCALE

$$1'' = 40'$$

CITY OF HOUSTON PM

CUONG NGUYEN

SHEET NO. 33 OF 73

	FOR CITY OF HOUSTON USE ONLY
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TreeID	Diameter	Species	Condition	Multistem	Status	Disposition	Treatment	Comments
1	14	Crepemyrtil	Fair	Yes	Mitigate	Remove	Remove	
2	20	Chinese Tallow	Good	Yes	Mitigate	Remove	Remove	
3	8	Sugarberry	Poor		Remove due to Poor Condition	Remove	Remove	Poor Form, topped
4	9	Chinese Tallow	Poor	No		Remove	Remove	Top missing
5	19	Chinese Tallow	Good	No		Remove	Remove	
6	24	Oak, Live	Good	No		Preserve	Tree Protection Fencing	Next to sidewalk
7	19	Chinese Tallow	Fair	No		Preserve	Tree Protection Fencing	
8	20	Chinese Tallow	Good	Yes	Mitigate	Remove	Remove	Two stems 11,15
9	14	Chinese Tallow	Good	No		Remove	Remove	
10	10	Chinese Tallow	Poor	No		Remove	Remove	
11	42	Chinese Tallow	Good	No	Mitigate	Remove	Remove	Massive buttress roots
12	7	Oak, Willow	Good	No	Mitigate	Remove	Remove	
13	11	Unknown	Good	No	Mitigate	Remove	Remove	
14	28	Chinese Tallow	Good	No		Preserve	Tree Protection Fencing	
15	13	Ligustrum	Fair	No	Not Protected	Remove	Remove	
16	22	Chinese Tallow	Good	No	Mitigate	Remove	Remove	
17	10	Chinese Tallow	Fair	No	Not Protected	Remove	Remove	
18	15	Chinese Tallow	Good	No		Preserve	Tree Protection Fencing	Leaning
19	26	Arizona Ash	Fair	No		Preserve	Tree Protection Fencing	Arizona, trunk cavity and missing large branch, slight lean
20	19	Arizona Ash	Fair	No		Preserve	Tree Protection Fencing	
21	34	Arizona Ash	Good	No		Preserve	Tree Protection Fencing, Install Sidewalk on Top of Grade	
22	22	Chinese Tallow	Fair	No		Preserve	Tree Protection Fencing	Heavy lean
23	24	Arizona Ash	Fair	No		Preserve	Tree Protection Fencing	Leaning heavy
24	14	Arizona Ash	Fair	No	Mitigate	Remove	Remove	
25	26	Arizona Ash	Good	No	Mitigate	Remove	Remove	
26	40	Arizona Ash	Hazard	Yes		Remove	Remove	Dead,Multistemmed, Hazard Tree
27	18	Arizona Ash	Fair	No	Mitigate	Remove	Remove	Basal cavity
28	13	Chinese Tallow	Fair	No		Remove	Remove	
29	11	Chinese Tallow	Fair	No		Remove	Remove	
30	20	Chinese Tallow	Good	No	Mitigate	Remove	Remove	
31	12	Chinese Tallow	Poor	No	Remove due to Poor Condition	Remove	Remove	Top missing
32	30	Chinese Tallow	Fair	Yes	Mitigate	Remove	Remove	Two trunks
33	48	Arizona Ash	Good	Yes	Mitigate	Remove	Remove	5stems
34	11	Chinese Tallow	Fair	No		Remove	Remove	Leaning
35	10	Chinese Tallow	Fair	No		Remove	Remove	Leaning heavy
36	42	Arizona Ash	Good	No	Mitigate	Remove	Remove	Arizona
37	17	Arizona Ash	Poor	No	Remove due to Poor Condition	Remove	Remove	One stem remaing from original trunk
38	17	Chinese Tallow	Good	No		Remove	Remove	
39	26	Mulberry	Poor	Yes	Remove due to Poor Condition	Remove	Remove	Major decay multistem
40	17	Chinese Tallow	Poor	No		Remove	Remove	Crowded by adj tree
41	40	Arizona Ash	Fair	Yes	Mitigate	Remove	Remove	Multistem leaning
42	28	Arizona Ash	Poor	No		Remove	Remove	Multistemmed, one fallen, decay
43	22	Arizona Ash	Poor	No		Remove	Remove	4 stems, decay
44	13	Chinese Tallow	Poor	No		Remove	Remove	
45	32	Chinese Tallow	Good	No	Mitigate	Remove	Remove	
46	3	Oak, Live	Good	No		Preserve	Tree Protection Fencing	
47	5	Elm, Cedar	Fair	No		Preserve	Tree Protection Fencing	
48	3	Magnolia, Grandif	Poor	No		Preserve	Tree Protection Fencing	
49	2	Unknown	Dead	No	Remove due to Poor Condition	Remove	Remove	Dead tree
50	15	Chinese Tallow	Poor	Yes		Preserve	Tree Protection Fencing, Remove Dead Stem	2 stems, 9,7 one dead
51	9	Chinese Tallow	Fair	No		Preserve	Tree Protection Fencing	
52	14	Chinese Tallow	Fair	Yes		Preserve	Tree Protection Fencing, Remove Dead Stem	2 stems 7, 10, 7inch is dead and topped
53	22	Oak, Live	Good	No		Preserve	Tree Protection Fencing	
54	17	Oak, Live	Good	No		Preserve	Tree Protection Fencing	
55	15	Chinese Tallow	Good	No	Not Protected	Remove	Remove	
56	6	Elm, Cedar	Poor	No	Remove due to Poor Condition	Remove	Remove	
57	19	Oak, Live	Good	No	Mitigate	Remove	Remove	
58	16	Crepemyrtil	Fair	No		Preserve	Tree Protection Fencing	Multistemmed
59	6	Crepemyrtil	Fair	No		Preserve	Tree Protection Fencing	
60	3	Crepemyrtil	Fair	No		Preserve	Tree Protection Fencing	
61	9	Pear	Poor	No	Remove due to Poor Condition	Remove	Remove	
62	26	Baldcypress	Good	No	Mitigate	Remove	Remove	
63	9	Crepemyrtil	Fair	Yes	Mitigate	Remove	Remove	2 stems
64	24	Oak, Live	Good	No		Preserve	Tree Protection Fencing	
65	28	Oak, Live	Good	No		Preserve	Tree Protection Fencing	
66	20	Baldcypress	Good	No	Mitigate	Remove	Remove	
67	26	Oak, Live	Good	No	Mitigate	Remove	Remove	
68	6	Unknown	Poor	No	Remove due to Poor Condition	Remove	Remove	Severe trunk damage from axe
69	12	Ligustrum	Fair	No	Not Protected	Remove	Remove	Trunk wound
70	7	Prunus	Poor	No		Preserve	Tree Protection Fencing	Papery cherry bark kind of elm-like
71	11	Ligustrum	Fair	No		Preserve	Tree Protection Fencing	
72	8	Prunus	Fair	No		Preserve	Tree Protection Fencing	Mystery elm-like paper bark
73	10	Ligustrum	Good	No		Preserve	Tree Protection Fencing, Remove Sidewalk Via Hand Work or Light Equipment Only	
74	4	Oak, Live	Good	No	Mitigate	Remove	Remove	
75	3	Redbud	Good	Yes	Mitigate	Remove	Remove	
76	9	Ligustrum	Good	No		Remove	Remove	
77	20	Chinese Tallow	Good	Yes	Mitigate	Remove	Remove	Stems 9,11,9
78	8	Redbud	Good	Yes	Mitigate	Remove	Remove	Multistemmed
79	7	Prunus	Good	No	Mitigate	Remove	Remove	Same mystery tree paper bark
80	13	Chinese Tallow	Good	No		Remove	Remove	
81	11	Chinese Tallow	Fair	No		Remove	Remove	
82	15	Chinese Tallow	Good	No		Remove	Remove	
83	11	Chinese Tallow	Poor	No		Remove	Remove	
84	10	Chinese Tallow	Poor	No		Remove	Remove	Trunk damage
85	13	Chinese Tallow	Fair	No	Not Protected	Remove	Remove	
86	11	Chinese Tallow	Poor	No		Remove	Remove	
87	10	Chinese Tallow	Good	No		Remove	Remove	
88	11	Chinese Tallow	Poor	No		Remove	Remove	
89	15	Chinese Tallow	Good	No	Not Protected	Remove	Remove	
90	12	Chinese Tallow	Good	No	Not Protected	Remove	Remove	
91	9	Chinese Tallow	Poor	No	Not Protected	Remove	Remove	Major trunk cavity, topped
92	3	Oak, Live	Good	No		Remove	Transplant On Site	
93	4	Oak, Live	Good	No		Remove	Transplant On Site	
94	3	Sweetgum	Good	No		Remove	Transplant On Site	
95	3	Oak, Live	Good	No		Remove	Transplant On Site	
96	3	Magnolia, Grandif	Good	No		Remove	Transplant On Site	
97	31	Chinese Tallow	Good	No		Preserve	Tree Protection Fencing	
98	14	Chinese Tallow	Good	No		Preserve	Tree Protection Fencing	
99	38	Chinese Tallow	Fair	Yes	Mitigate	Remove	Remove	Multistemmed: 14,16,9,9,11
100	16	Chinese Tallow	Good	No		Preserve	Tree Protection Fencing	

TreeID	Diameter	Species	Condition	Multistem	Status	Disposition	Treatment	Comments
101	13	Chinese Tallow	Good	No		Preserve	Tree Protection Fencing	
102	18	Chinese Tallow	Fair	No		Preserve	Tree Protection Fencing	
103	14	Chinese Tallow	Fair	Yes		Preserve	Tree Protection Fencing	Multistemmed: 9,9 one half missing
104	26	Chinese Tallow	Good	Yes		Preserve	Tree Protection Fencing	Three stems
105	32	Chinese Tallow	Good	Yes		Preserve	Tree Protection Fencing	Ms 12,9,10,21,9
106	30	Chinese Tallow	Good	Yes		Preserve	Tree Protection Fencing	Multistemmed
107	9	Chinese Tallow	Fair	No		Preserve	Tree Protection Fencing	
108	10	Chinese Tallow	Fair	No		Preserve	Tree Protection Fencing	
109	32	Chinese Tallow	Fair	No		Preserve	Tree Protection Fencing	
110	24	Chinese Tallow	Poor	Yes		Preserve	Tree Protection Fencing	4 stems 9,9,10,7
111	32	Chinese Tallow	Good	Yes		Preserve	Tree Protection Fencing	Multistemmed: 9,9,9,10,9,4
112	14	Chinese Tallow	Good	No		Preserve	Tree Protection Fencing	
113	14	Chinese Tallow	Good	No		Preserve	Tree Protection Fencing	
114	15	Chinese Tallow	Fair	Yes		Preserve	Tree Protection Fencing	2 stems leaning into adj tree
115	15	Chinese Tallow	Good	No		Preserve	Tree Protection Fencing	
116	42	Chinese Tallow	Good	Yes		Preserve	Tree Protection Fencing	Multistemmed: 6 stem cluster
117	16	Chinese Tallow	Good	No		Preserve	Tree Protection Fencing	
118	32	Chinese Tallow	Good	Yes		Preserve	Tree Protection Fencing	Multistemmed: 16,16,15
119	28	Chinese Tallow	Poor	Yes		Preserve	Tree Protection Fencing, Remove Dead Stem	Three stems 17,11,10 17 inch one is dead
120	13	Chinese Tallow	Good	No		Preserve	Tree Protection Fencing	
121	14	Chinese Tallow	Fair	No		Preserve	Tree Protection Fencing	
122	12	Chinese Tallow	Good	No		Preserve	Tree Protection Fencing	Leaning heavy
123	32	Chinese Tallow	Good	Yes	Mitigate	Remove	Remove	Three stem cluster
124	17	Chinese Tallow	Good	No		Preserve	Tree Protection Fencing	
125	20	Chinese Tallow	Poor	Yes		Preserve	Tree Protection Fencing	Multistemmed: 10,10,9
126	23	Oak, Live	Good	No		Preserve	Tree Protection Fencing, Remove Sidewalk Via Hand Work or Light Equipment Only	
127	4	Elm, Cedar	Good	No	Transplant	Remove	Transplant On Site	
128	4	Elm, Cedar	Good	No	Transplant	Remove	Transplant On Site	
129	4	Chalk Maple	Fair	No	Mitigate	Remove	Remove	
130	3	Oak, Live	Good	No	Transplant	Remove	Transplant On Site	
131	16	Unknown	Good	No	Mitigate	Remove	Remove	
132	4	Oak, Live	Good	No	Transplant	Remove	Transplant On Site	
133	8	Unknown	Fair	No	Mitigate	Remove	Remove	
134	4	Elm, Cedar	Good	No	Transplant	Remove	Transplant On Site	
135	10	Ligustrum	Good	No		Remove	Remove	
136	2	Magnolia, Grandif	Poor	No	Remove due to Poor Condition	Remove	Remove	
137	18	Oak, Live	Good	No	Mitigate	Remove	Remove	
138	26	Oak, Live	Good	No	Mitigate	Remove	Remove	
139	16	Chinese Tallow	Fair	No	Not Protected	Remove	Remove	
140	12	Chinese Tallow	Poor	No	Not Protected	Remove	Remove	Decay, trunk split
141	15	Chinese Tallow	Fair	No	Not Protected	Remove	Remove	
142	14	Chinese Tallow	Fair	No	Not Protected	Remove	Remove	
143	14	Chinese Tallow	Fair	No	Not Protected	Remove	Remove	
144	12	Chinese Tallow	Good	No		Preserve	Tree Protection Fencing	
145	22	Chinese Tallow	Good	No	Mitigate	Remove	Remove	
146	14	Chinese Tallow	Fair	No		Preserve	Tree Protection Fencing	Leaning to structure
147	16	Chinese Tallow	Good	No	Not Protected	Remove	Remove	
148	13	Chinese Tallow	Fair	No	Not Protected	Remove	Remove	
149	16	Chinese Tallow	Fair	No		Remove	Remove	
150	11	Chinese Tallow	Good	No		Remove	Remove	
151	23	Chinese Tallow	Good	No	Mitigate	Remove	Remove	
152	16	Chinese Tallow	Poor	No	Not Protected	Remove	Remove	
153	11	Chinese Tallow	Poor	No	Not Protected	Remove	Remove	Severe decay, top missing
154	14	Chinese Tallow	Good	No	Not Protected	Remove	Remove	
155	22	Chinese Tallow	Good	No	Mitigate	Remove	Remove	
156	15	Chinese Tallow	Good	No		Preserve	Tree Protection Fencing, Remove Sidewalk Via Hand Work or Light Equipment Only	
157	15	Chinese Tallow	Fair	No		Preserve	Tree Protection Fencing	
158	14	Chinese Tallow	Fair	No		Preserve	Tree Protection Fencing	
159	13	Chinese Tallow	Good	No	Not Protected	Remove	Remove	
160	16	Chinese Tallow	Good	No		Preserve	Tree Protection Fencing	

Tree Treatment Summary		
Disposition	# Trees	Total Inches
Remove and Mitigate	36	757
Remove, Not Protected Tree	19	253
Remove Due to Poor Condition	9	88
Transplant On Site	10	35
Total	74	1133
Treatment	Units	Quantity
Fencing	Linear Feet	2258

TREE PROTECTION NOTES:

- Construction activity is restricted to areas outside protected tree Critical Root Zones as shown on drawings
- Tree protection fencing must be maintained for duration of construction activities in the area.
- Refer to Tree Treatment Schedule and Tree Treatment Specifications and Details for implementation of the Tree Protection Plan.
- Refer to Landscape Planting Plan for tree mitigation plantings.

2	07/21/25	90% CD Set	NO.	DATE	REVISION	APP.
1	04/15/25	60% CD Set				

NOTICE:
FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.
Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities – not to be used for conflict verification)
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Approved for AT&T underground conduit facilities only.
Signature valid for one year.

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FB NO. 00000

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

EP HILL PARK
60% CONSTRUCTION DOCUMENTS

TP 1.02 – TREE TREATMENT
SCHEDULE

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
N/A	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 34 OF 73	

TREE TREATMENT SPECIFICATIONS AND DETAILS

TREE PRESERVATION AND TREATMENT SPECIFICATIONS

These Specifications are supplemental to the City of Houston Standard Specifications, Section 01562--Tree and Plant Protection.

PART 1 - GENERAL

1.1 SUMMARY

A. Work includes:

1. Removal operation.
2. Maintenance pruning.
3. Fertilization treatment.
4. Tree protection fencing installation.
5. Mulching operation.
6. Root pruning operation.
7. Root pruning/chemical barrier operation.
8. Utility boring operation.
9. Zero curb cut operation.
10. Transplant operation.
11. Replacement planting.
12. Repair/replacement operation.
13. Sidewalk installation.

B. All Contractors shall meet with the Urban Forester or Owner's Representative to review the Tree Preservation Plan for the site before startup of site work.

C. No site construction shall begin in any areas where tree preservation and treatment measures have not been implemented and approved.

D. Tree preservation and treatment measures shall be reviewed and approved by the Urban Forester or Owner's Representative prior to and immediately following installation.

E. Contractor shall be responsible for compliance to and maintenance of the Tree Preservation Plan.

F. The areas protected by the tree protection fencing are the tree preservation areas. No access to these areas shall be permitted during the construction period without first consulting with the Urban Forester or Owner's Representative.

G. Any roots of preservation trees exposed by construction activity shall be covered with a layer of light topsoil or 10 mil. polyethylene sheeting to prevent desiccation and loss of exposed roots.

H. Any work, excavation, or grading required by construction within the tree preservation areas shall be limited to 2' cut or fill with no roots over 1/2" being cut. This work shall be by hand or with approved equipment and root protection.

I. Trees damaged or lost due to Contractor's negligence during the construction period shall be repaired by the Urban Forester or Owner's Representative and the Owner compensated.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Fertilizer -- "XL Injecto Feed" (32-7-7), a product of Doggett Corporation, Lebanon, NJ, (800) 446-1862.

B. Mycorrhizal Fungi -- MycorTree Eco-Injectable, a product of Plant Health Care, Inc., (800) 421-9051.

C. Tree Protection Fencing:

1. 4' tall plastic, 1" mesh fence.
2. Iron T-bar posts, 6' tall.
3. Wire, 16 gauge steel.

D. Polyethylene Sheeting: minimum 10 mil. thickness, clear.

E. Mulch: First run mulch or site generated mulch.

F. Products of the same type from other sources shall not be excluded, provided they have like physical and functional characteristics and are approved by the Urban Forester or Owner's Representative.

G. Every effort shall be made to utilize chemicals of an organic or biodegradable nature in order to offer the least impact to the environment.

PART 3 - IMPLEMENTATION

3.1 TREATMENTS

A. Removal Operation: (Treatment A).

1. Trees designated to be removed by hand on the Tree Preservation Plan shall be painted with an "X" by the Urban Forester or Owner's Representative.
2. Designated removal trees shall be replaced on an inch for inch basis for the total diameter inches removed.
3. Plant replacement trees as near as possible to their original location (See planting procedure).
4. All tree removals shall be done by a certified Arborist by hand work.
5. All wood and debris from tree removal shall be removed from the site immediately.
6. All stumps shall be ground down to 12" below grade.
7. Any damage to preservation trees occurring during the removal operation shall be repaired.

B. Maintenance Pruning: (Treatment B).

1. Trees to be pruned are designated on the Tree Treatment Schedule and will be identified by the Urban Forester or Owner's Representative.
2. All maintenance pruning work shall be done by a certified Arborist.
3. A Tree Treatment Schedule listing the preservation trees and treatments will be provided.
4. Pruning shall consist of the following method:

- (a) Pruning as defined by the American National Standard for Tree Care Operations -- Tree Shrub and Other Woody Plant Maintenance Standards. This would include:
 - (i) Crown raising or clearance pruning shall consist of the removal of the lower branches of a tree to provide clearance for streets and sidewalks while maintaining a balanced form.
- (b) All pruning cuts on Oak trees shall be covered with a thin coat of water-based black paint approved by Urban Forester or Owner's Representative if pruning is to occur in April, May, or June.
- (c) All wood and debris from pruning operations shall be removed from the site.

C. Fertilization Treatment -- (Treatment C).

1. Preservation trees shall be treated as designated on the Tree Treatment Schedule.
2. Injection of the fertilizer into the root zone of a tree shall consist of the following methods:
 - (a) Mix in a tank with agitation capability:
 - (i) Fertilizer -- 9 pounds by weight per 100 gallons water.
 - (ii) Mycorrhizal Fungi -- 1 lb. per 100 gallons water.
 - (b) Inject the Mixture on a 2.5 ft. square grid at 1/2 gallon of mix per hole or 9 gallons per 100 square feet.
 - (c) Injection pressure shall be 100-150 PSI as soil conditions warrant.
 - (d) Depth of injection shall be 6 - 12 inches.
 - (e) Inject the root zone area, where possible, in the available canopy areas plus 10 feet beyond dripline, but not in root loss zone.

3. Contractor is responsible for mixing, applying and disposal of all chemicals in accordance with strict adherence to manufacturer's directions and/or State and Federal Regulations.

D. Tree Protection Fencing Installation (Treatment D -- refer to Tree Preservation Details).

1. Tree protection fencing is designated in the Tree Preservation Plan.
2. Fencing as follows:
 - (a) Fabric, 4' tall plastic fence.
 - (b) Iron T-bar posts, 6' tall, placed 8' - 0" on center, 24" into the ground.
 - (c) Fence is to be attached to posts with wire ties placed every 24" on center.
 - (d) Fence is to be placed a minimum of 1 foot from all root prune lines.
3. No access to fenced areas shall be permitted without prior approval of the Urban Forester or Owner's Representative.
4. Contractor shall provide for maintenance and repair of fencing during site work

E. Mulching Operations (Treatment E).

1. A 4" layer of mulch shall be placed in the canopy area of trees where exposed soil or roots are present.
2. Approved access through the canopy areas for construction equipment or vehicles shall be covered with 6" of mulch covered by 3/4" plywood.

F. Root Pruning Operation (Treatment F -- refer to Tree Preservation Details).

1. Trenching areas are designated in the Tree Preservation Plan and exact locations will be marked in the field by the Urban Forester or Owner's Representative.
2. All encroachments located in the canopy of trees shall have the tree side of the excavation root pruned before excavation.
3. Trenching shall be backfilled and compacted immediately after trenching.
4. Trenching shall be backfilled and compacted immediately after trenching.
5. All excavated material shall be placed outside the canopy of the tree or on plywood cover under the canopy of the tree to protect the root zone area.
6. Topsoil should be kept aside so as not to mix with sub-grade material and placed back in the pit on the top of the backfill.

G. Root Pruning/Chemical Barrier Installation (Treatment G--refer to Tree Treatment Details).

1. Root Pruning Chemical barrier shall be installed where root pruning is scheduled to be done at the back of curb line for the new curb line.
2. All specifications for root pruning trenching shall apply to this installation with the following additional requirements:
 - (a) 10 mil Polyethylene sheeting shall be placed in the trench to the bottom of the trench.
 - (b) Anchor sheeting at the top of the trench in order to backfill the trench.
 - (c) Cover the top of the sheeting so that no sheeting is exposed.

H. Utility Boring (Treatment H.).

1. All utilities will be bored through the Critical Root Zone (CRZ) of all protected trees.
2. Bore pits will be outside the CRZ of each protected tree.
3. Bore layout must be approved in the field by the Urban Forester or Owner's Representative.
4. Any necessary excavations within the CRZ of protected trees will require the approval of the Urban Forester or Owner's Representative.

I. Zero Curb Cut Operation (Treatment I--refer to Tree Treatment Details).

1. Removal of the old curb located within the canopy area of preservation trees will be done in the following manner:
 - (a) Dig out the existing street in front of curb to the bottom of existing curb.
 - (b) Remove existing curb by pulling it into the street excavation without digging or clawing behind the curb.
 - (c) Cover the exposed soil and roots immediately with 10 mil clear plastic to prevent desiccation of roots.
 - (d) Anchor the plastic cover with wooden stakes driven into the soil (avoiding tree roots) behind the old curb edge.
 - (e) Plastic shall be removed at the same time as backfill is being placed so that the roots are not exposed to air.
 - (f) New curb installation shall be formed and poured without disturbance or damage to the exposed roots located at the edge of the old/removed curb.
 - (g) Where necessary, backfill between the old and new curb area shall consist of:
 - (i) Backfill void up to within 6" of the top of the curb with a material acceptable to engineering standards. This material shall be clean and free of rocks, debris, or chemical residues that pose a threat to the root environment.
 - (ii) The remaining 6" of fill behind the curb shall be of the specified topsoil mix.
 - (h) Back fill behind the old curb area (Tree Preservation Area) shall consist of the specified topsoil mix. This mix shall be applied in depths of no greater than 3" to the critical root zones of the protected trees by hand.

J. Transplant Operation (Treatment J refer to Tree Treatment Details).

1. Trees designated for transplanting are designated in the Tree Treatment Schedule.
2. Transplants are to be relocated to a location determined by the Urban Forester or Owner's Representative.
3. Contractor shall be responsible for proper relocation, planting, and maintenance of the transplanted trees for one (1) year.

K. Replacement Planting (Refer to Tree Treatment Details).

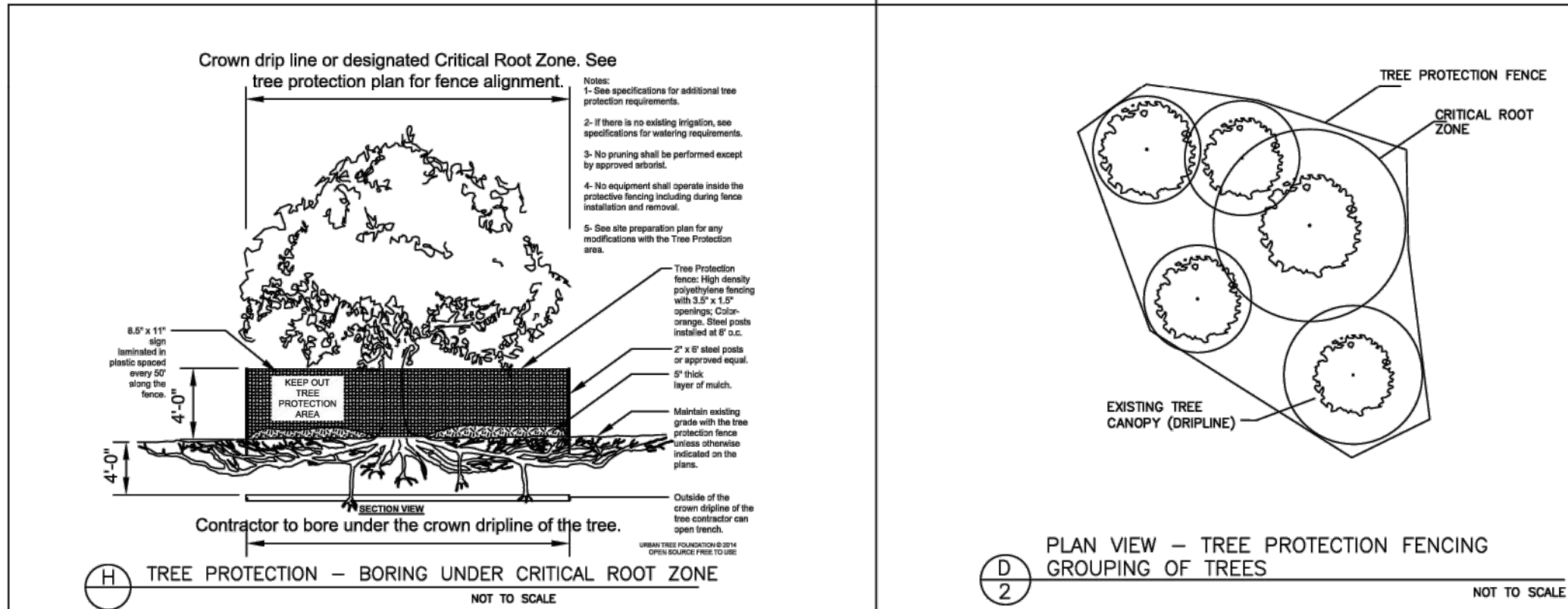
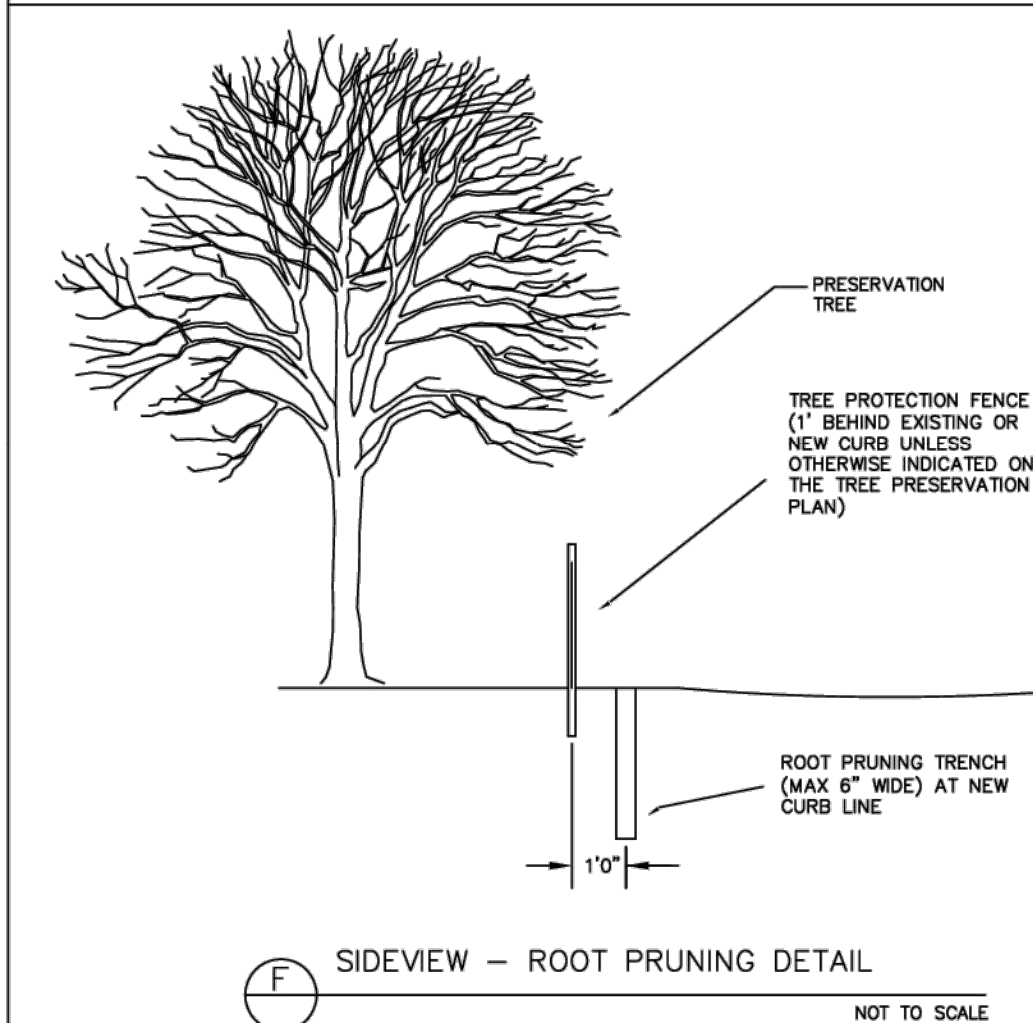
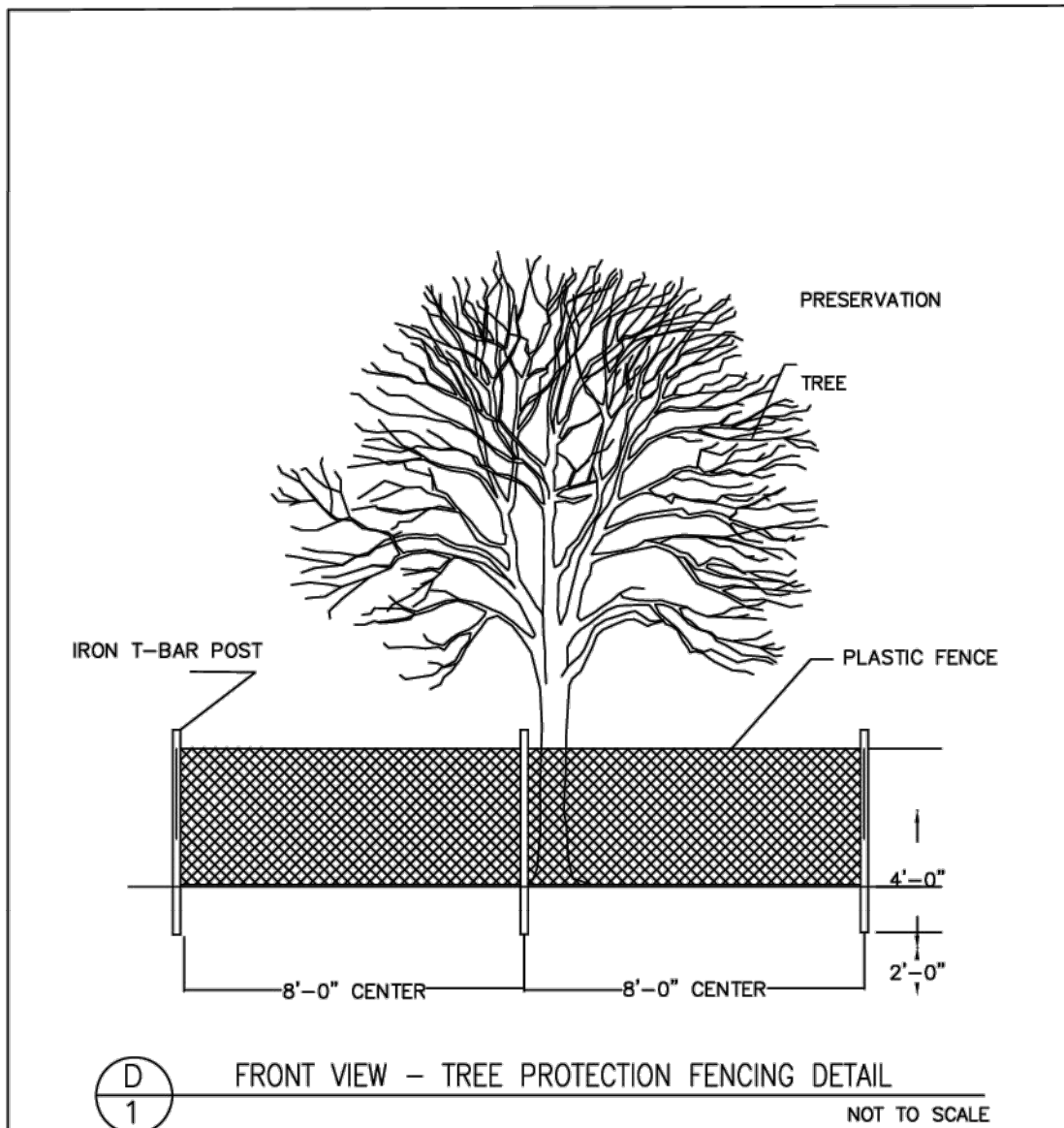
1. Replacement tree planting locations shall be indicated by the owner's representative.
2. Contractor is responsible for verifying locations of underground utilities prior to construction.
3. Trees shall be planted at least five (5') feet from any utility line, curb or sidewalk and outside all utility easements.
4. All plant material shall be maintained in a healthy growing condition, and must be replaced with plant material of similar variety and size if damaged, destroyed, diseased, or removed.
5. Measurement: Dimensions of trees and shrubs shall conform to the American Standard for Nursery Stock, latest edition (ANSI Z-60).
6. All trees shall be staked and secured according to accepted industry practice and details.
7. Each newly planted tree and shrub shall be pruned in accordance with the American Association of Nurserymen Standards or as directed by owner's representative to preserve the natural character of the plant. All dead wood, sucker, and broken or badly bruised branches shall be removed.
8. Guarantee: All plant material shall be guaranteed by the contractor for one full year from the date of installation. The owner shall be responsible for maintenance unless otherwise agreed with contractor. It shall be the contractor's responsibility to monitor the project during the guarantee period and inform the owner if problems develop with the plant material. A plant shall be considered dead if 25% or more of the crown, or main leader has died.

L. Repair/Replacement Operations

1. If any damage to preservation trees should occur beyond what is expected during the construction period, the Urban Forester or Owner's Representative shall appraise the damage and order the repair by the contractor or responsible party.
2. Trees other than those designated for removal that are destroyed or irreparably damaged as a result of construction operations, shall be removed and replaced with the same size species and variety up to and including 8 inches in diameter. Trees larger than 8 inches in diameter shall be replaced with an 8-inch diameter tree of the same species and variety and total contract amount will be reduced as determined by a qualified appraiser using the Guide for Plant Appraisal published by the International Society of Arboriculture (9th Edition 2000). Owner shall be compensated for all costs involved in mitigation of damages and the appraisal thereof by the Urban Forester or Owner's Representative.

Sidewalk Installation (Treatment M)

1. Route new sidewalks as far away from tree trunks as possible.
2. New sidewalks to be installed in the Critical Root Zone of protected trees shall be installed without excavating into grade and destroying vital roots.
3. Where possible, install new sidewalks in the footprint of the old sidewalks without disturbing underlying roots or existing grade.
4. Demolition of old sidewalks shall be done without disturbing underlying roots or existing grade.
5. All roots exposed from either demolition of an existing sidewalk or removal of vegetation cover shall be covered with 10 millimeter plastic sheeting or 2 inches of sand to prevent desiccation of roots.
6. No stabilized sand shall be used for sidewalks or in the Critical Root Zones of protected trees. Substitute geo-textile fabric for stabilized bases.
7. Positive drainage must be maintained or provided in the Critical Root Zone where new sidewalks are to be installed.



TREE PROTECTION NOTES:

1. Construction activity is restricted to areas outside protected tree Critical Root Zones as shown on drawings
2. Tree protection fencing must be maintained for duration of construction activities in the area.
3. Refer to Tree Treatment Schedule and Tree Treatment Specifications and Details for implementation of the Tree Protection Plan.
4. Refer to Landscape Planting Plan for tree mitigation plantings.

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities -- not to be used for conflict verification)

Signature valid for six months.

Date

Approved for AT&T underground conduit facilities only. Signature valid for one year.

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TP 1.03 -- TREE TREATMENT SPECIFICATIONS AND DETAILS

WBS NUMBER

M-420HUD-013A-3

DRAWING SCALE

N/A

CITY OF HOUSTON PM

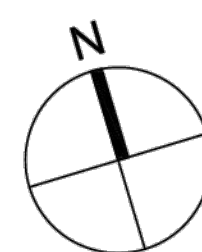
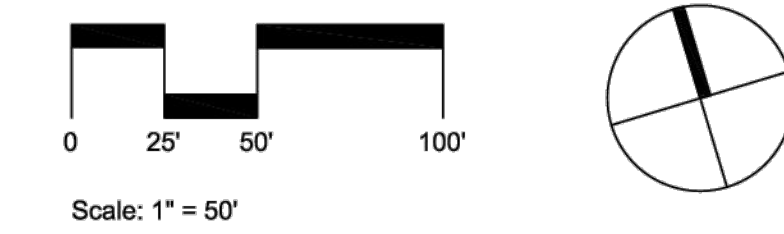
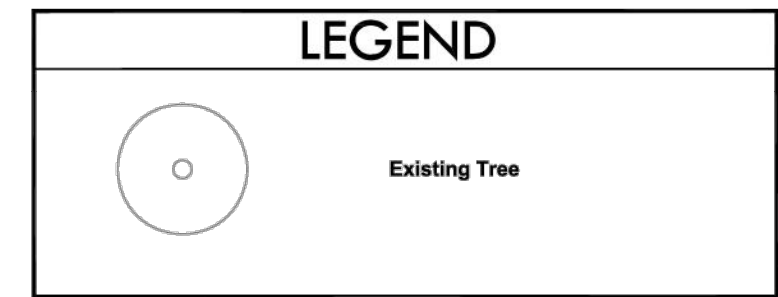
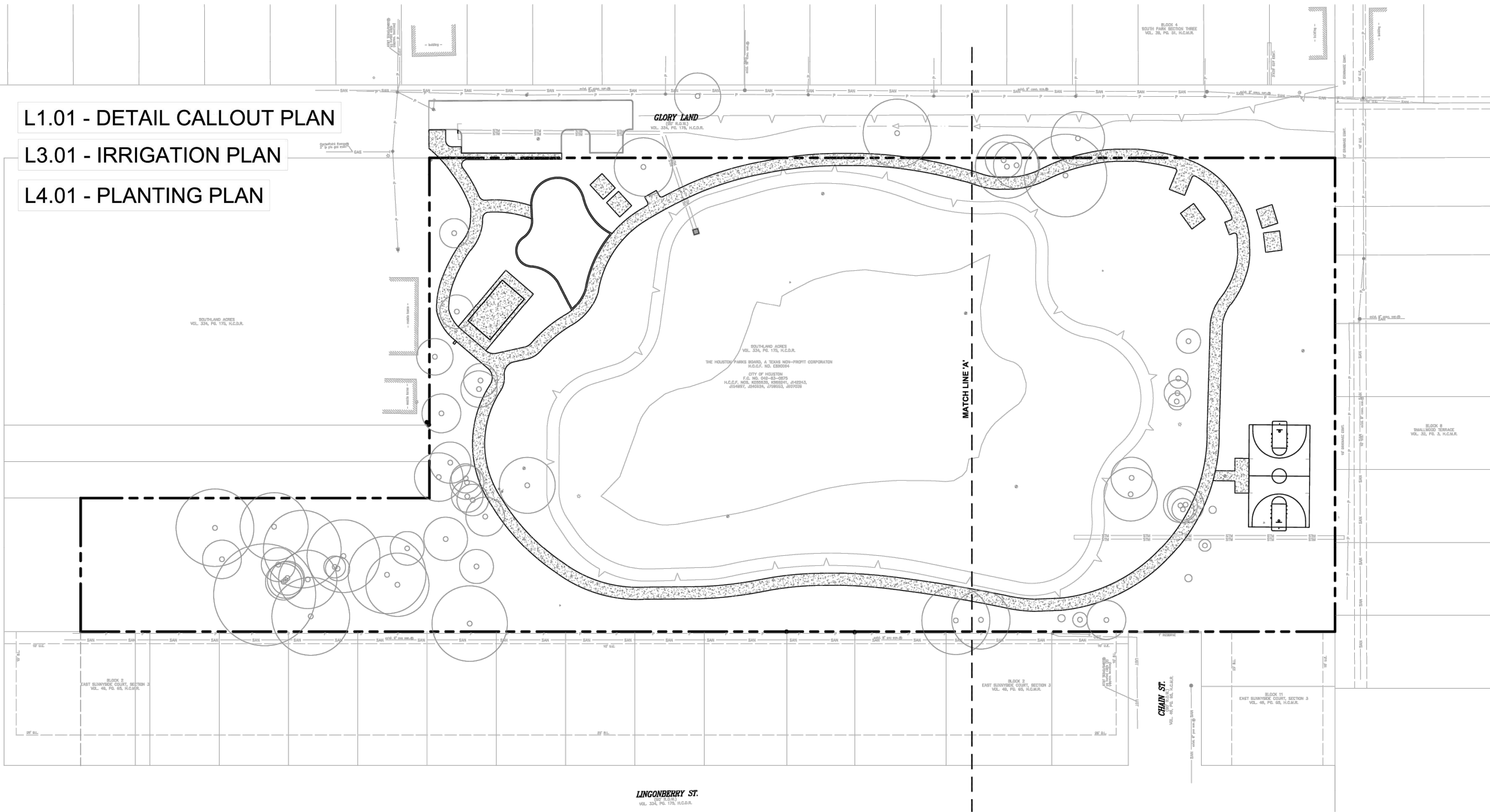
CUONG NGUYEN


SHEET NO. 35 OF 73

FOR CITY OF HOUSTON USE ONLY

L1.01 - DETAIL CALLOUT PLAN
L3.01 - IRRIGATION PLAN
L4.01 - PLANTING PLAN

L1.02 - DETAIL CALLOUT PLAN
L3.02 - IRRIGATION PLAN
L4.02 - PLANTING PLAN





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L0.00 – Orientation Plan

WBS NUMBER
M-420HUD-013A-3

DRAWING SCALE
AS NOTED

CITY OF HOUSTON PM
CUONG NGUYEN

SHEET NO. 36 OF 73






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2	07/21/25	90% CD Set		
1	04/15/25	60% CD Set		
	NO. DATE	REVISION		APP.

BASE LEGEND

- Existing Tree to remain
- Sidewalk (see civil)

FURNISHINGS SCHEDULE

SYMBOL	DESCRIPTION
	6' Pilot Rock Single Pedestal Contour Bench
	Typical H-Frame & Barrel Trash Receptacle
	6' MyTCoat Rectangular Portable Table
	8' MyTCoat Rectangular Portable Table - Accessible (1-End)
	4-1/2\"/>
	Elkay Outdoor Bl-Level Pedestal Fountain with Pet Station Non-Filtered Non-Refrigerated

Note: See detail 5 on sheet L1.22 for full furniture schedule.

GLORY LAND
(60' R.O.W.)
VOL. 334, PG. 175, H.C.D.R.

GLORY LAND
(60' R.O.W.)
VOL. 334, PG. 175, H.C.D.R.

Existing Tree (Typ.)
Ref. Tree Protection Plan

Concrete Sidewalk
Ref. Civil

Trash Receptacle
Ref. Detail 1/ L1.21

Engineered Wood Fiber Fall Surface
Concrete Edge
Ref. Detail 6/ L1.21

SOUTHLAND ACRES
VOL. 334, PG. 175, H.C.D.R.

THE HOUSTON PARKS BOARD, A TEXAS NON-PROFIT CORPORATION
H.C.C.F. NO. E880064
CITY OF HOUSTON
F.C. NO. 042-63-0875
H.C.C.F. NOS. K055639, K989241, J142243,
J154697, J240624, J759553, J807036

Playground by Kompan, Ages 5-12
See Detail 4/ L1.22

Playground by Kompan, Ages 2-5
See Detail 3/ L1.22

24' x 44' Shade Structure by Polygon
See Detail 1/ L1.23 and Detail 2/ L1.24

(7) 6' Picnic Table
Ref. Detail 4/ L1.21

(1) 8' Picnic Table
Ref. Detail 5/ L1.21

Trash Receptacle
Ref. Detail 1/ L1.21

Elkay Drinking Fountain
Ref. Detail 2/ L1.21

Existing Tree (Typ.)
Ref. Tree Protection Plan

Trash Receptacle
Ref. Detail 1/ L1.21

Concrete Sidewalk
Ref. Civil

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L1.01 – Detail Callout Plan

WBS NUMBER

M-420HUD-013A-3

DRAWING SCALE

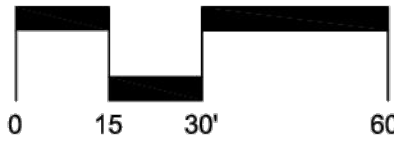
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CITY OF HOUSTON PM

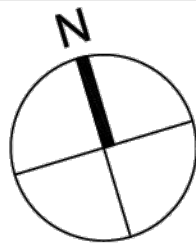
CUONG NGUYEN

SHEET NO. 37 OF 73

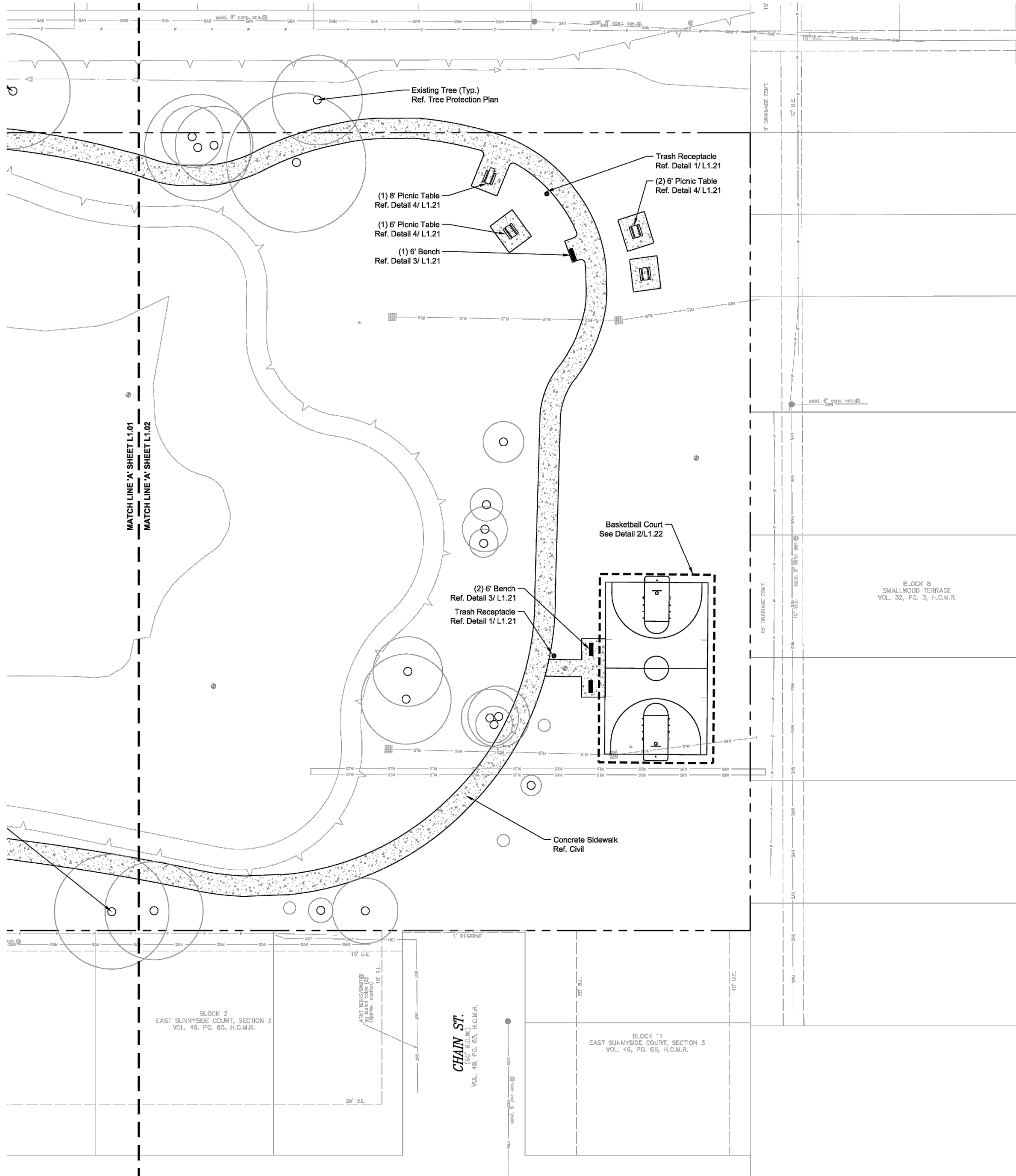
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Scale: 1" = 30'



NO.	DATE	REVISION	APP.
2	07/21/25	90% CD Set	
1	04/15/25	60% CD Set	



DARNAY DR.
(SEE PLAN)

BASE LEGEND

- Existing Tree to remain
- Sidewalk (see civil)

FURNISHINGS SCHEDULE

SYMBOL	DESCRIPTION
	6' Pilot Rock Single Pedestal Contour Bench
	Typical H-Frame & Barrel Trash Receptacle
	6' MyTCoat Rectangular Portable Table
	8' MyTCoat Rectangular Portable Table - Accessible (1-End)
	4-1/2" Heavy Duty Polycarbonate Rectangle Playground Basketball System
	Elkay Outdoor Bi-Level Pedestal Fountain with Pet Station Non-Filtered Non-Refrigerated

Note: See detail 5 on sheet L1.22 for full furniture schedule.

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L1.02 – Detail Callout Plan

WBS NUMBER

M-420HUD-013A-3

DRAWING SCALE

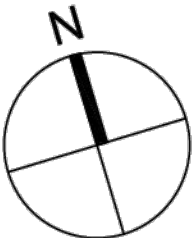
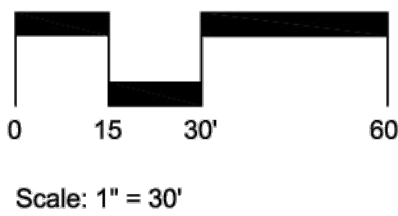
AS NOTED

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SHEET NO. 38 OF 73

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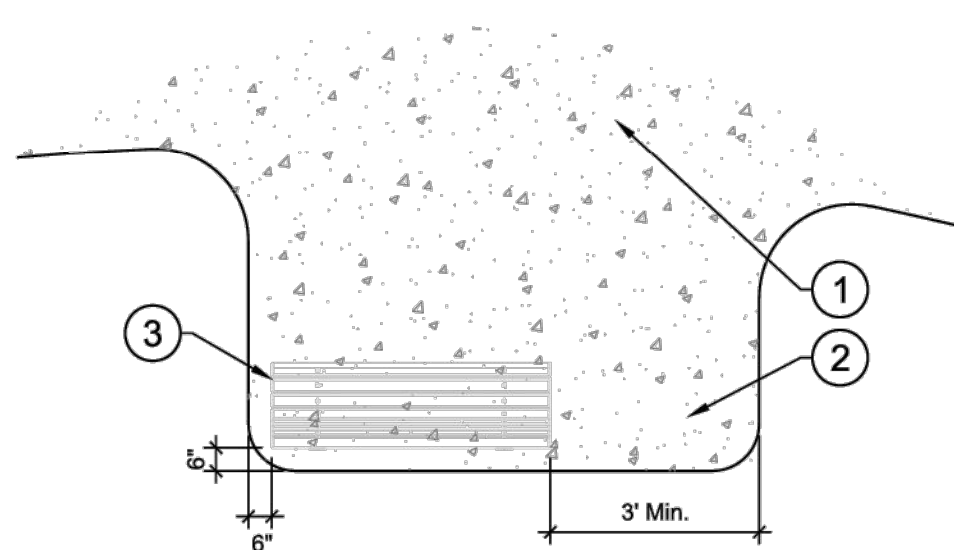


NO.	DATE	REVISION	APP.
2	07/21/25	90% CD Set	
1	04/15/25	60% CD Set	

2	07/21/25	90% CD Set	
1	04/15/25	60% CD Set	
NO.	DATE	REVISION	APP.

Detail Callout Legend:

- ① Concrete sidewalk, ref. civil
- ② ADA Access
- ③ 6' Bench by Pilot Rock, see detail 3/L1.22

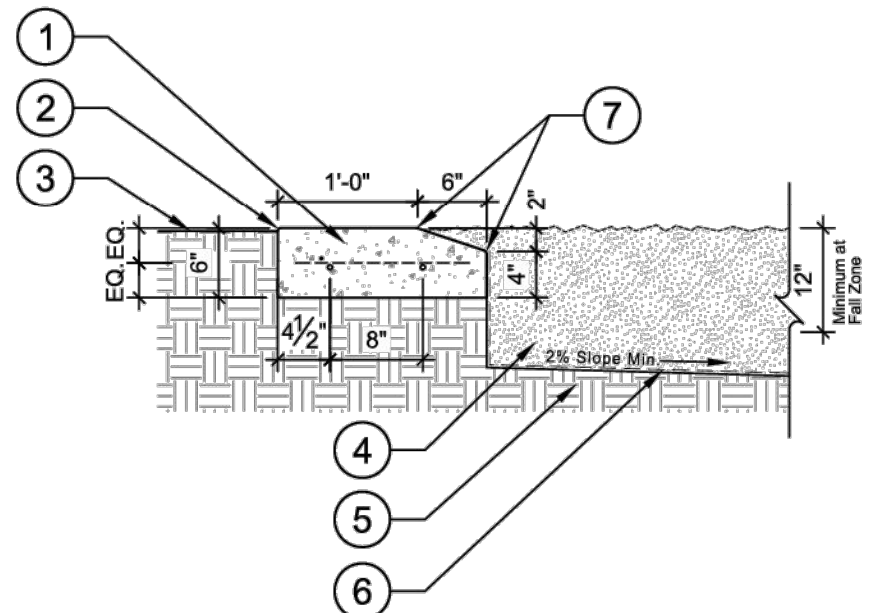


7 BENCH WITH ADA SPACE - PLAN

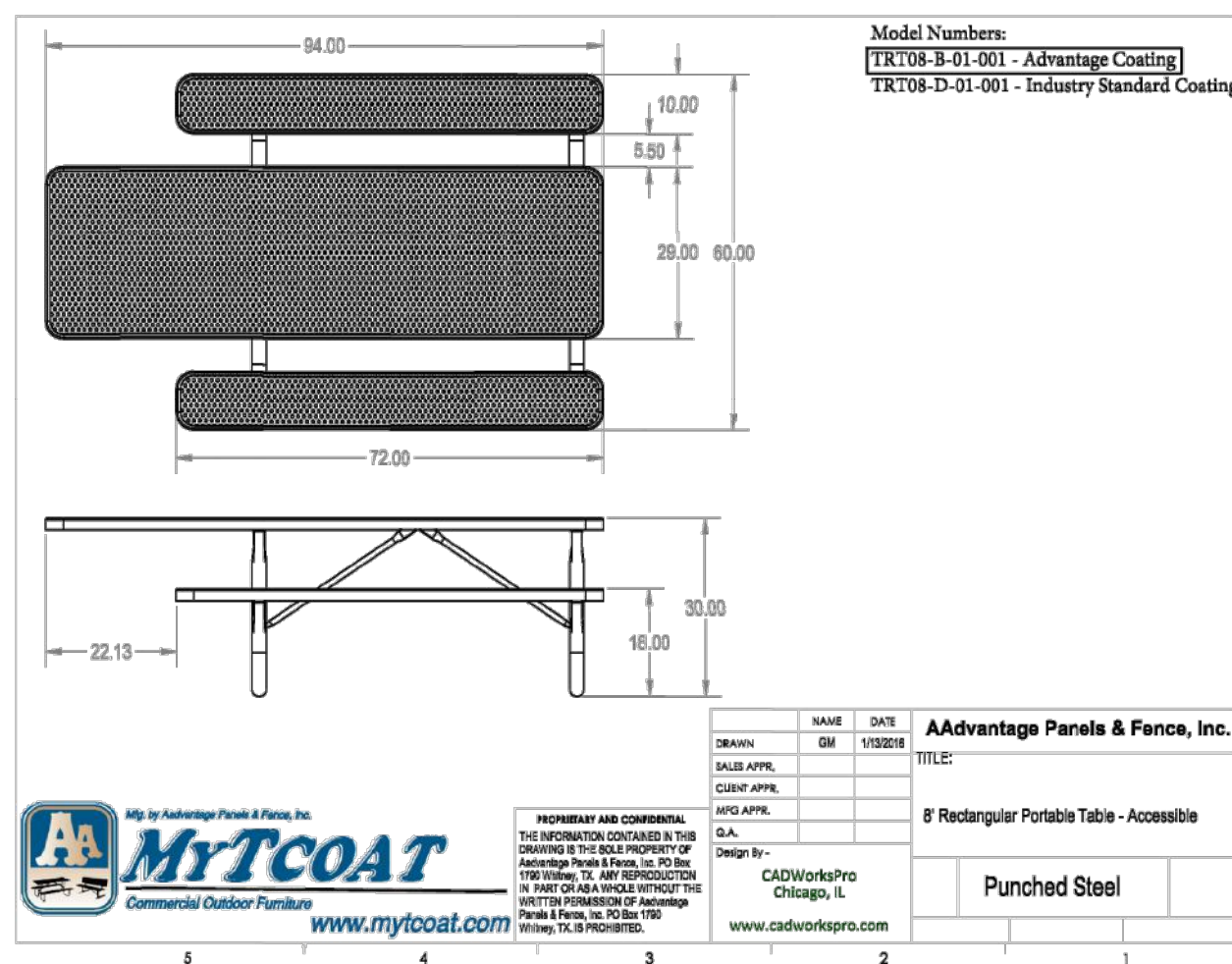
$$1/4'' = 1'-0''$$

Detail Callout Legend:

- ① 3,000 PSI Concrete play area edge. Reinforce with (2) #4 rebar cont. and #4 rebar at 24" O.C.
- ② 1/2" Tooted radius
- ③ Finish grade. Flush with adjacent concrete surface with butt joint, or 1" below top of edging at planting
- ④ Fiber or approved equal engineered wood fiber playground surface. Provide additional 3" crowned toward playground middle at install to allow for initial settlement.
- ⑤ Compacted subgrade
- ⑥ Geotextile filter fabric. Crowned at edges and sloped towards center.
- ⑦ 1' Tooted radius

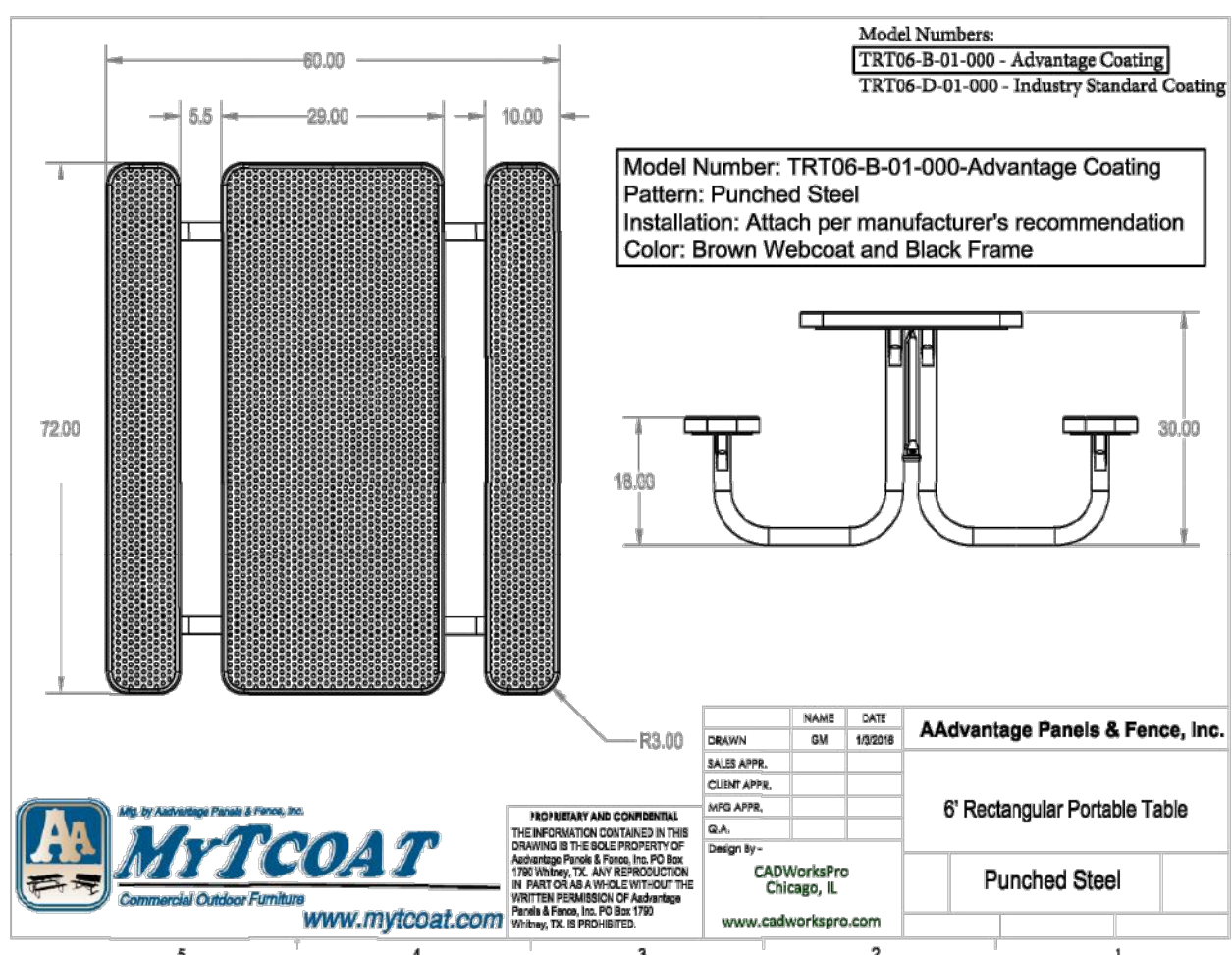


6 CONCRETE EDGE AT PLAYGROUND

$$3/4'' = 1'-0''$$


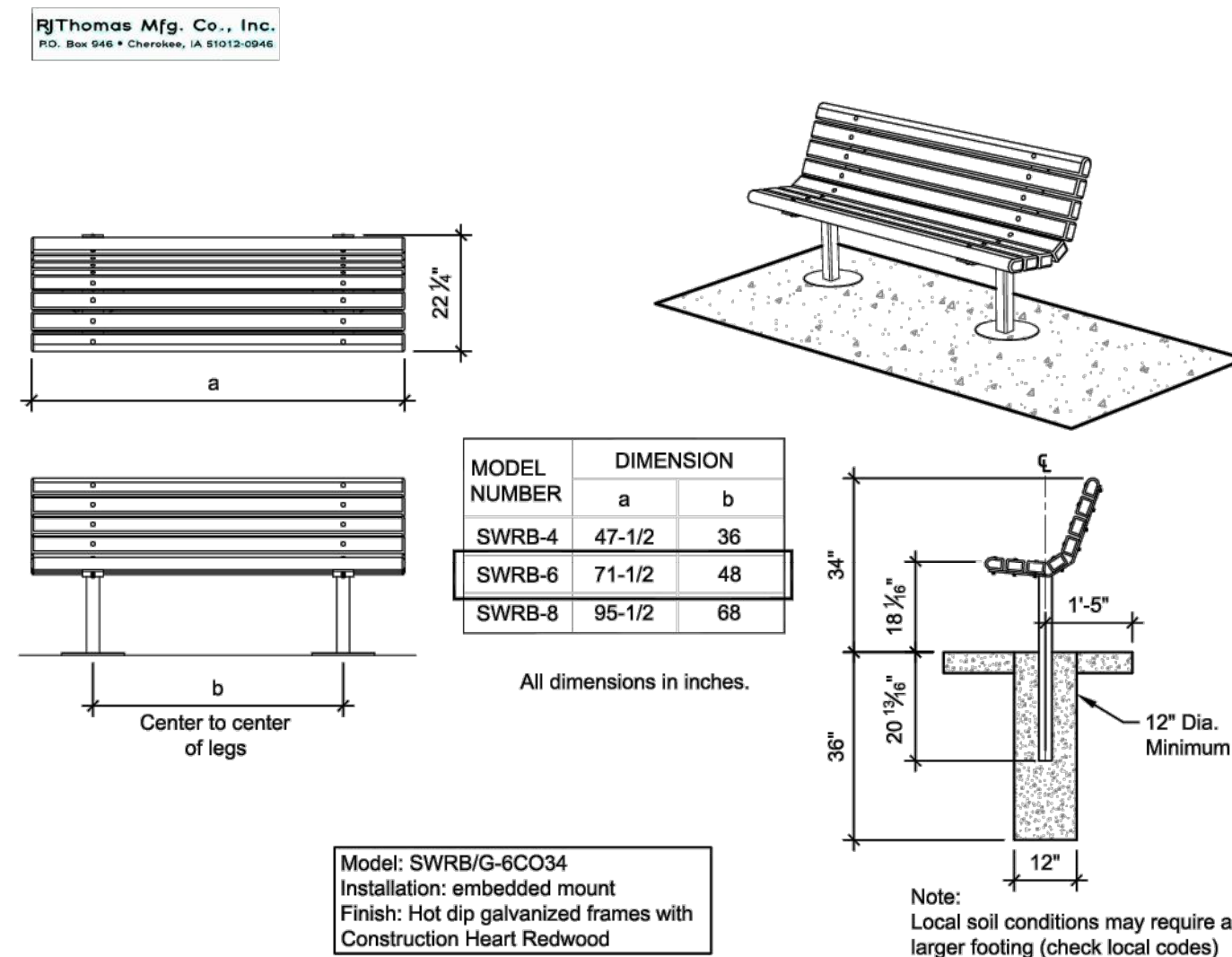
8' PICNIC TABLE BY MYTCOAT (MODEL# TRT08-B-01-000)

Not to Scale



4 6' PICNIC TABLE BY MYTCOAT (MODEL# TRT06-B-01-000)

Not to Scale



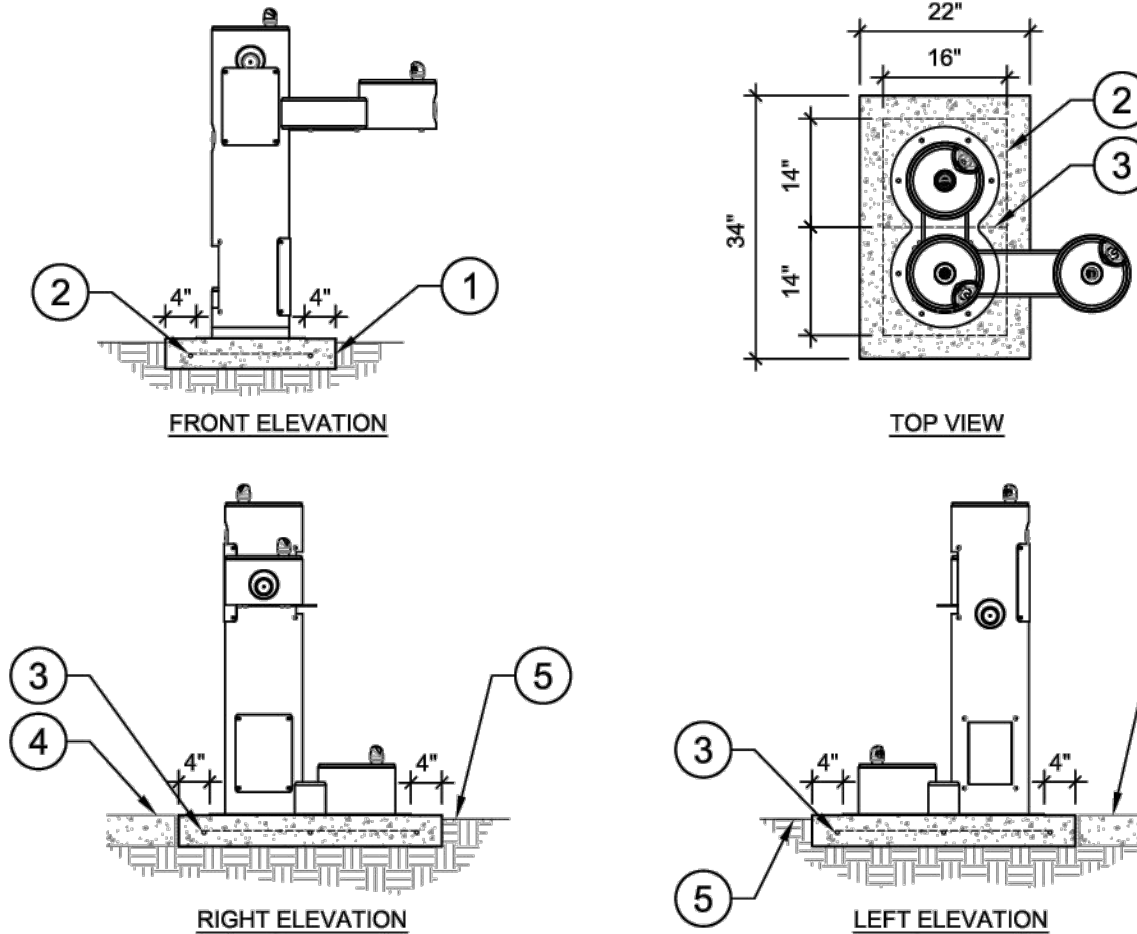
2 6' BENCH BY PILOT ROCK (MODEL #SWRB-6)

Not to Scale

MU-EP-HAR-03

Detail Callout Legend:

- ① 4" Thick concrete slab
- ② #3 rebar 16" O.C.
- ③ #3 rebar 14" O.C.
- ④ Concrete sidewalk, ref. civil
- ⑤ Adjacent planting area

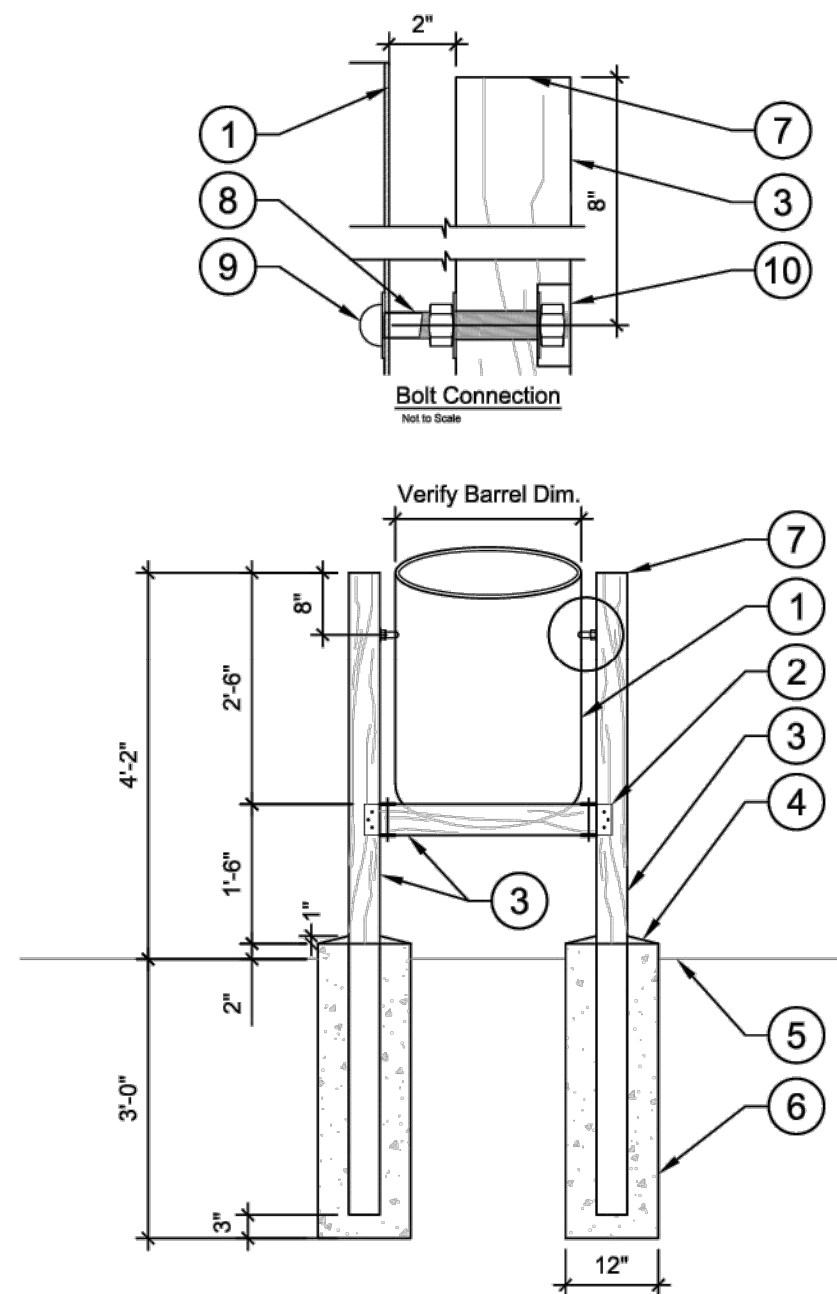


2 ELKAY OUTDOOR DRINKING FOUNTAIN (#LK4420DB)

Not to Scale

Detail Callout Legend:

- ① Trash receptacle, drill (4) 1" diameter holes at 2' minimum apart at bottom for drain
- ② Simpson BC4 post/ cap connector (galvanized)
- ③ 4x4 treated pine
- ④ Slope concrete
- ⑤ Finished grade
- ⑥ 12" dia. concrete footing
- ⑦ Slope top 1/2"
- ⑧ 3/4" diameter PVC sleeve
- ⑨ 3/4"x6" galvanized carriage bolt, with nuts & washers countersunk
- ⑩ Countersink bolt, 1/4"



1 TRASH RECEPTACLE

$$1/2'' = 1'-0''$$


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



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60% CONSTRUCTION DOCUMENTS

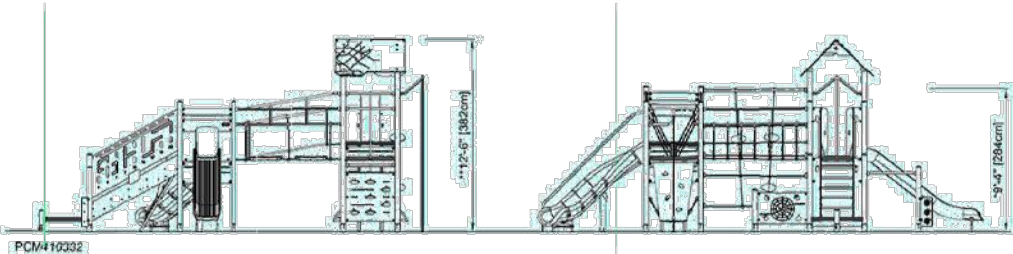
L1.21 – Furniture Details

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 39 OF 73	

FURNISHINGS SCHEDULE

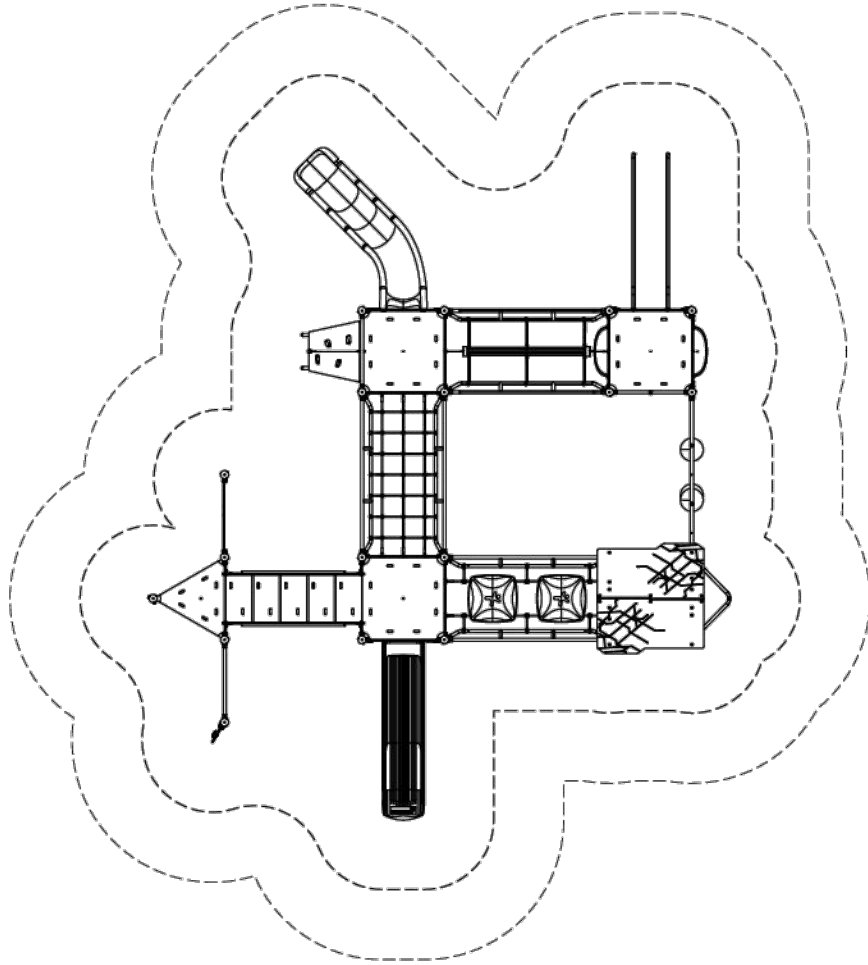
SYMBOL	DESCRIPTION	QTY	DETAIL	MANUFACTURER	MODEL	FINISH/COLOR	CONTACT	REMARKS
	6' Pilot Rock Single Pedestal Contour Bench	4	3/L1.21	Pilot Rock	OWRB	Black posts, heart redwood	BJ's Parks & Recreational Products www.bjspark.com (E) contact@bjspark.com (T) 800.392.6158	Lumber timbers, emdedded post.
	Typical H-Frame & Barrel Trash Receptacle	5	1/L1.21					
	6' MyTCoat Rectangular Portable Table	12	4/L1.21	MyTCoat	TRT06-B-01-000	Brown webcoat, black frame	BJ's Parks & Recreational Products www.bjspark.com (E) contact@bjspark.com (T) 800.392.6158	Punched steel with advantage coating, surface mount.
	8' MyTCoat Rectangular Portable Table - Accessible (1-End)	2	5/L1.21	MyTCoat	TRT08-B-01-000	Brown webcoat, black frame	BJ's Parks & Recreational Products www.bjspark.com (E) contact@bjspark.com (T) 800.392.6158	Punched steel with advantage coating, surface mount.
	4-1/2" Heavy Duty Polycarbonate Rectangle Playground Basketball System	2	1/L1.22	Bison	PR70	N/A	Bison, Inc www.bisoninc.com (T) 800.247.7668	Inground mount
	Elkay Outdoor Bi-Level Pedestal Fountain with Pet Station Non-Filtered Non-Refrigerated	1	2/L1.21	Elkay	LK4420DB	Evergreen	Miller Mays & Associates www.millermays.com (E) joseph@millermays.com (T) 713.690.7411	Surface mount

5 FURNISHINGS SCHEDULE



Detail Callout Legend:

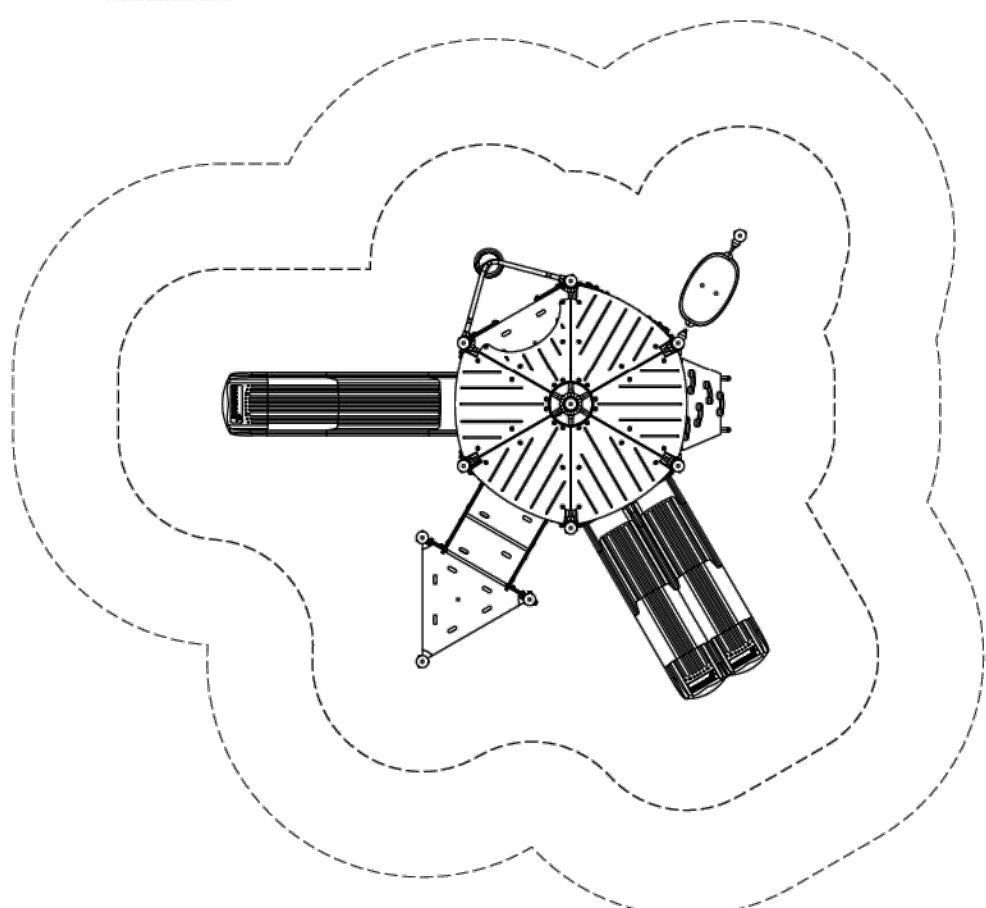
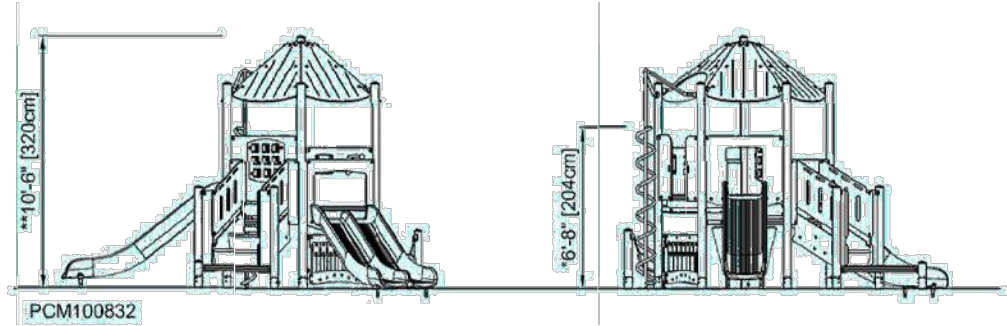
- ① Edge of paving, see civil
- ② Edge of court, see civil
- ③ Painted stripes
- ④ Concrete slab at goal post, 4" thick



4 KOMPAN FOUR TOWER WITH BRIDGES (PCM410332)

Not to Scale

MU-EP-HAR-11



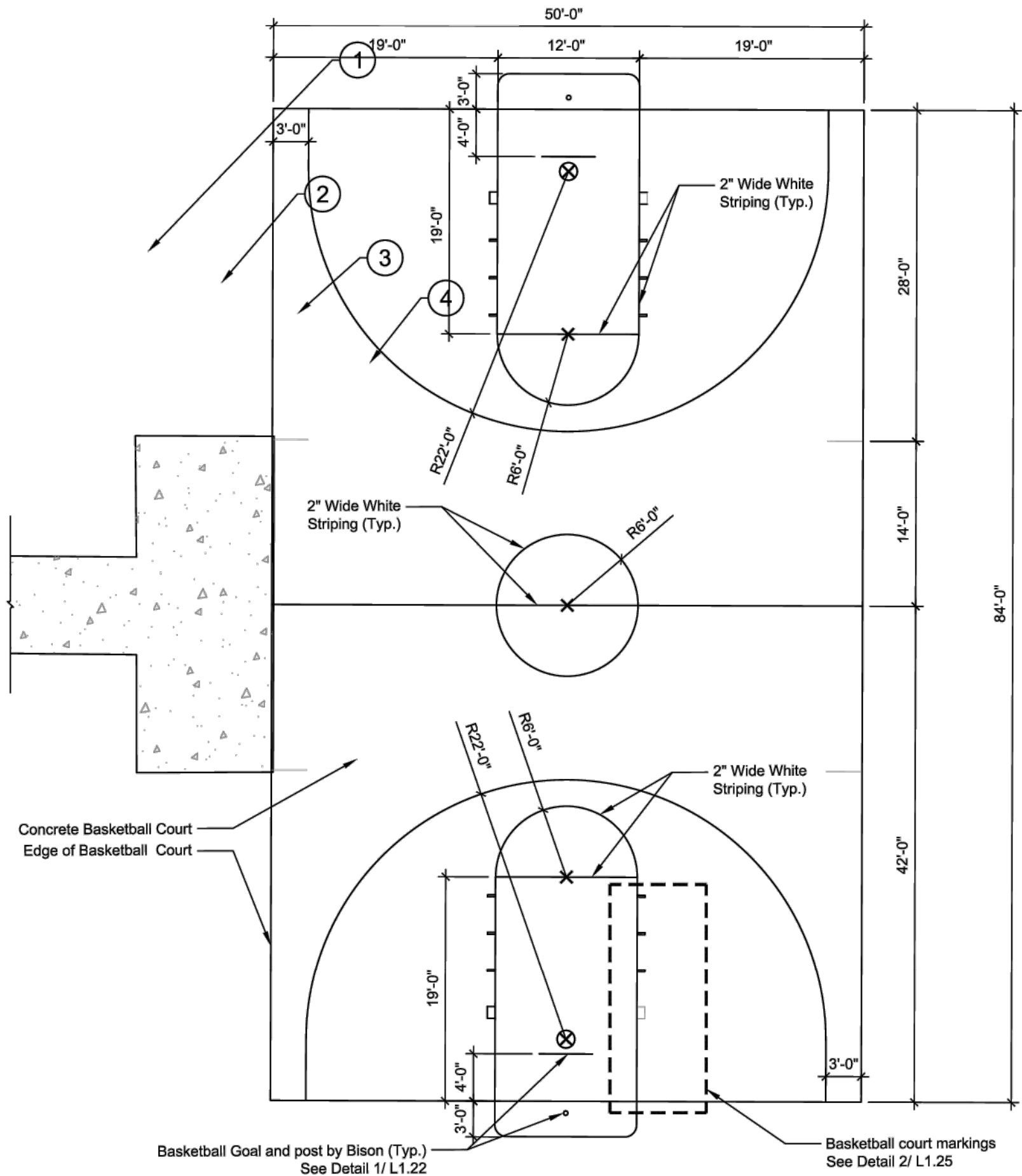
3 KOMPAN MEGA DECK WITH ROOF (PCM100832)

Not to Scale

MU-EP-HAR-10

2 BASKETBALL COURT LAYOUT PLAN

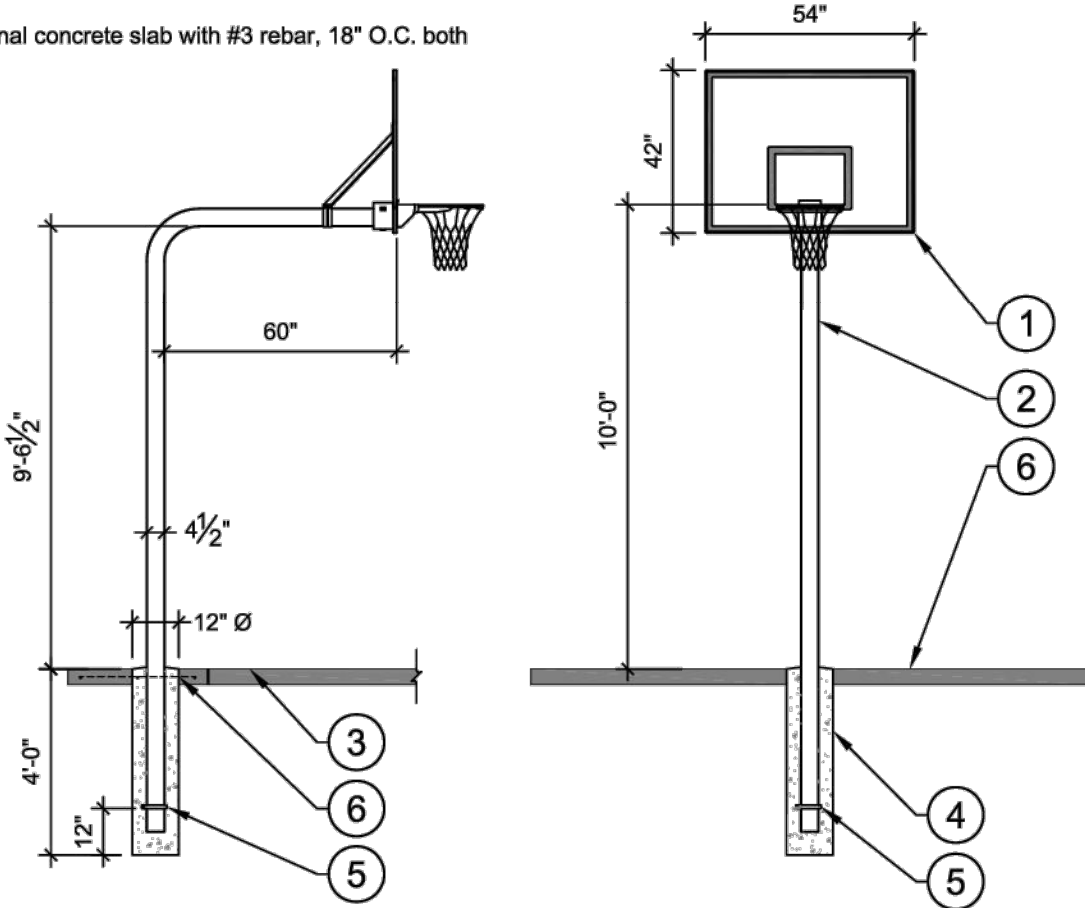
1" = 10'



Detail Callout Legend:

- ① Bison heavy duty polycarbonate backboard (#PR70)
- ② 4-1/2" Dia. gooseneck pole
- ③ Basketball court edge with expansion joint
- ④ 12" Dia. concrete footing
- ⑤ Band clamp with 5/16" x 2" carriage bolt and 5/16" flange nut
- ⑥ 4" Thick additional concrete slab with #3 rebar, 18" O.C. both ways

NOTES:
a. Gooseneck pole should be installed so that it is parallel to the playing surface.
b. See sheet L1.22 for layout plan



1 BASKETBALL GOAL BY BISON (#PR70)

1/4" = 1'-0"

MU-EP-HAR-06

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CITY OF HOUSTON
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EP HILL PARK
60% CONSTRUCTION DOCUMENTS

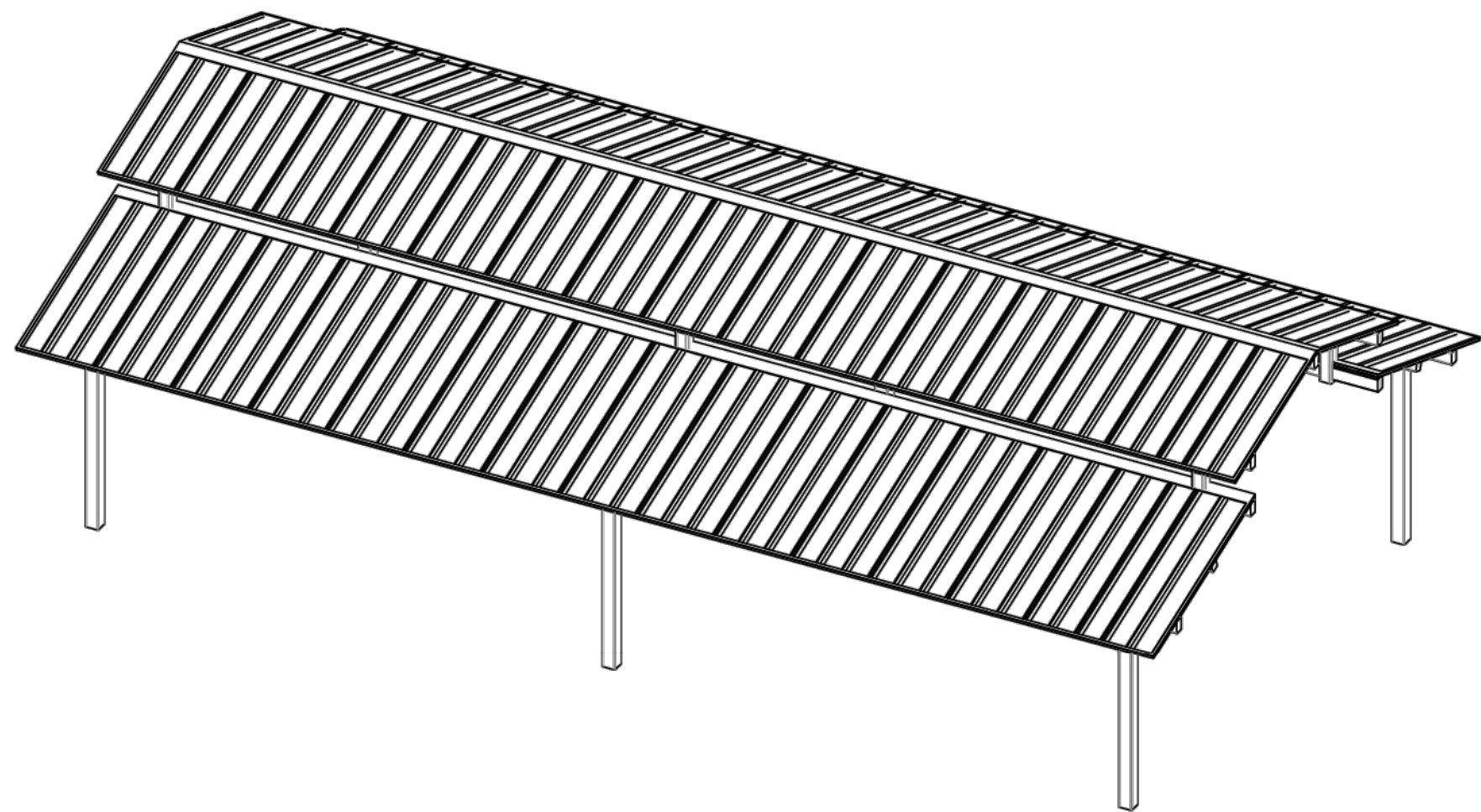
L1.22 – Furniture Details

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 40 OF 73	

MU-EP-HAR-08

poligon[®]

- NOTES:
- 24'x44' Chelsea Poligon Structure
 - Roof Type: Standing Seam
 - Roof Color: Galvalume
 - Frame Color: Barkwood



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PLANNING AND ESTIMATING
ONLY

CERTIFICATES:
Miami-Dade country certificate of competency no. 21-0819.13 PCI
(powder coating institute) 4000 certified

FABRICATOR APPROVALS:
City of Phoenix, AZ approved fabricator #C08-2010
City of Los Angeles, CA approved fabricator #FB01596
City of Riverside, CA approved fabricator #SF_000042
City of Houston, TX approved fabricator #470
Clark County, NV approved fabricator #264
State of Utah approved fabricator 02008-14
AISC approved fabricator C-00018751



MATERIALS:	ASTM DESIGNATION:
Tube Steel	A500 (Grade B)
Schedule Pipe	A53 (Grade B)
RMT Pipe	A519
Light Gage Cold Formed	A1003 (Grade 50)
Structural Steel Plate	A36
Roof Panels (Steel)	A653

GENERAL NOTES:
Unless noted otherwise, this structure was designed to only support what is shown on these drawings. The manufacturer must be contacted if anything else is to be attached to this structure (walls, column wraps, railings, etc.) so the design of this structure can be reviewed and possibly revised.

Unless noted otherwise, this structure was designed assuming a 20' separation between any adjacent structure with an eave height equal to or greater than the eave height of this structure. If that separation does not exist, the manufacturer must be contacted so the design of this structure can be reviewed and possibly revised.

Structural steel shall be detailed, fabricated, and erected in accordance with the latest edition of the American Institute of Steel Construction (AISC) specification manual.

All welding is performed by American Welding Society (AWS) certified welders and conforms to the latest edition of AWS D1.1 or D1.3 as required.

Parts shown may be upgraded due to standardized fabrication. Refer to the shipping bill of materials for possible substitutions.

For proper field installation of the building it is recommended that the primary frame installer and the roof installer have a minimum five (5) years documented experience installing this type of product.

For proper field installation of the building it is recommended that electric wiring, if required, be run through the structural members before the building is erected.

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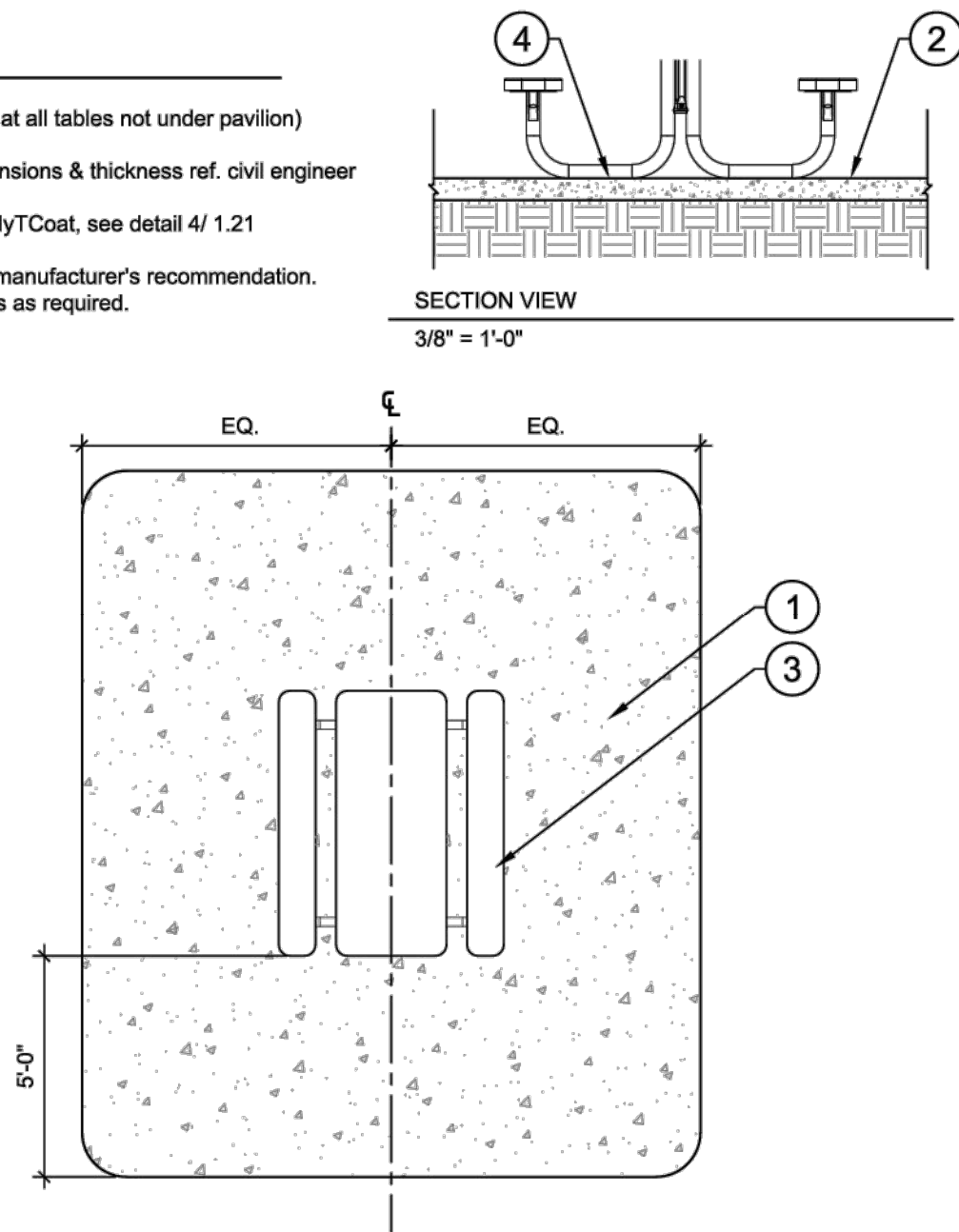
L1.23 – Furniture Details

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
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CUONG NGUYEN	
SHEET NO. 41 OF 73	

NO.	DATE	REVISION	APP.
2	07/21/25	90% CD Set	
1	04/15/25	60% CD Set	

Detail Callout Legend:

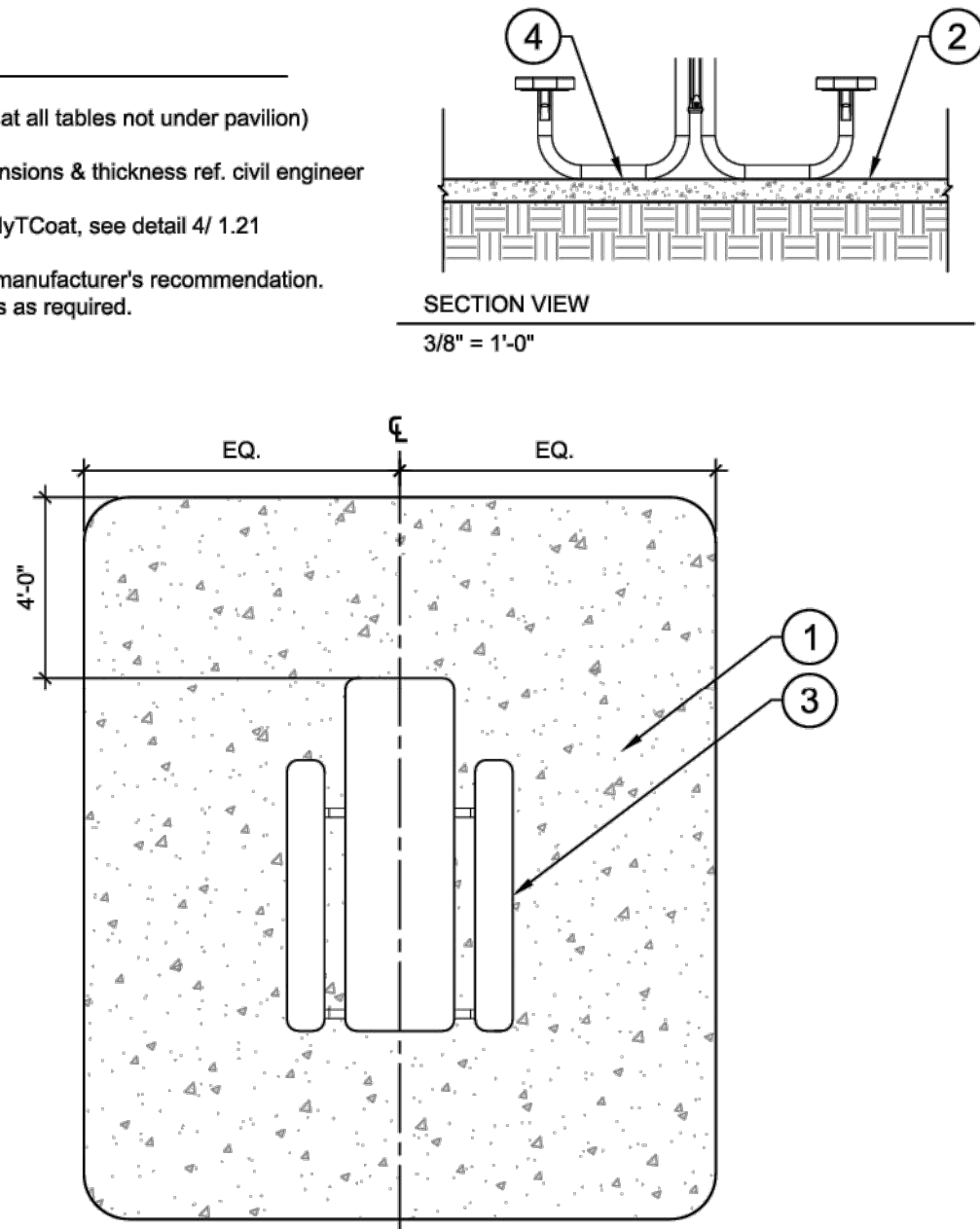
- ① Concrete pad (Typ. at all tables not under pavilion)
② Concrete pad, dimensions & thickness ref. civil engineer
③ 6' Picnic Table by MyTCoat, see detail 4/ 1.21
④ Surface mount per manufacturer's recommendation. Provide anchor bolts as required.



4 PICNIC TABLE PAD
1/4" = 1'-0"

Detail Callout Legend:

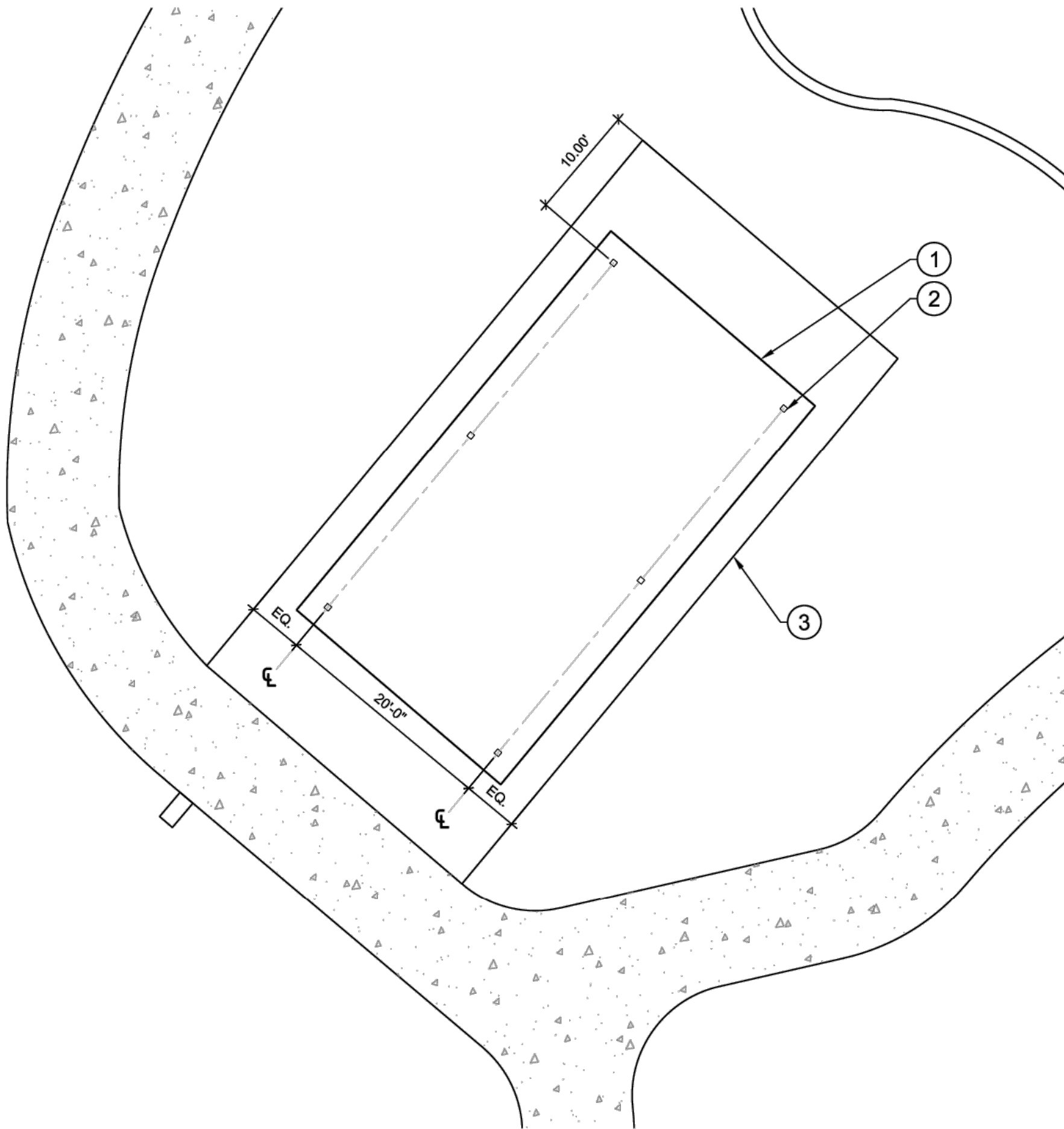
- ① Concrete pad (Typ. at all tables not under pavilion)
② Concrete pad, dimensions & thickness ref. civil engineer
③ 6' Picnic Table by MyTCoat, see detail 4/ 1.21
④ Surface mount per manufacturer's recommendation. Provide anchor bolts as required.



3 ADA PICNIC TABLE PAD
1/4" = 1'-0"

Detail Callout Legend:

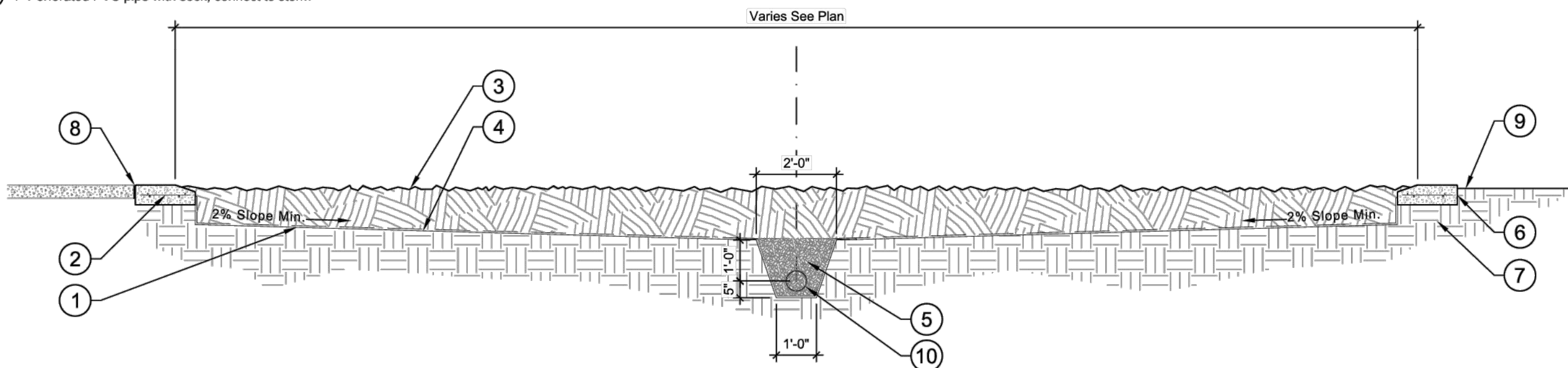
- ① Roof line
② Post (x6) (Typ.)
③ Edge of paving



2 PAVILION LOCATION
1" = 10'

Detail Callout Legend:

- ① Playground fall zone pit area. Drain bottom at 2% slope min. towards drainage trench
② 3,000 PSI concrete play area edge. Reinforce with (2) #4 rebar cont. and #4 rebar at 24" O.C. See detail 6/ L1.21
③ Fall surface (engineered wood fiber)
④ Geotextile fabric
⑤ Standard 2"-3" diameter bull rock. Minimum 2" below pipe at drainage trench. 2'-0" at top, 1"-0" at bottom. Wrap all sides with Geotextile Filter fabric
⑥ Concrete edge, see detail 6/ L1.21
⑦ Compacted subgrade
⑧ Expansion joint adjacent to sidewalk, ref. civil engineer
⑨ Adjacent planting area
⑩ 4" Perforated PVC pipe with sock, connect to storm



1 TYP. SECTION AT PLAYGROUND DRAINAGE
3/8" = 1'-0"

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L1.24 – Furniture Details

WBS NUMBER

M-420HUD-013A-3

DRAWING SCALE

AS NOTED

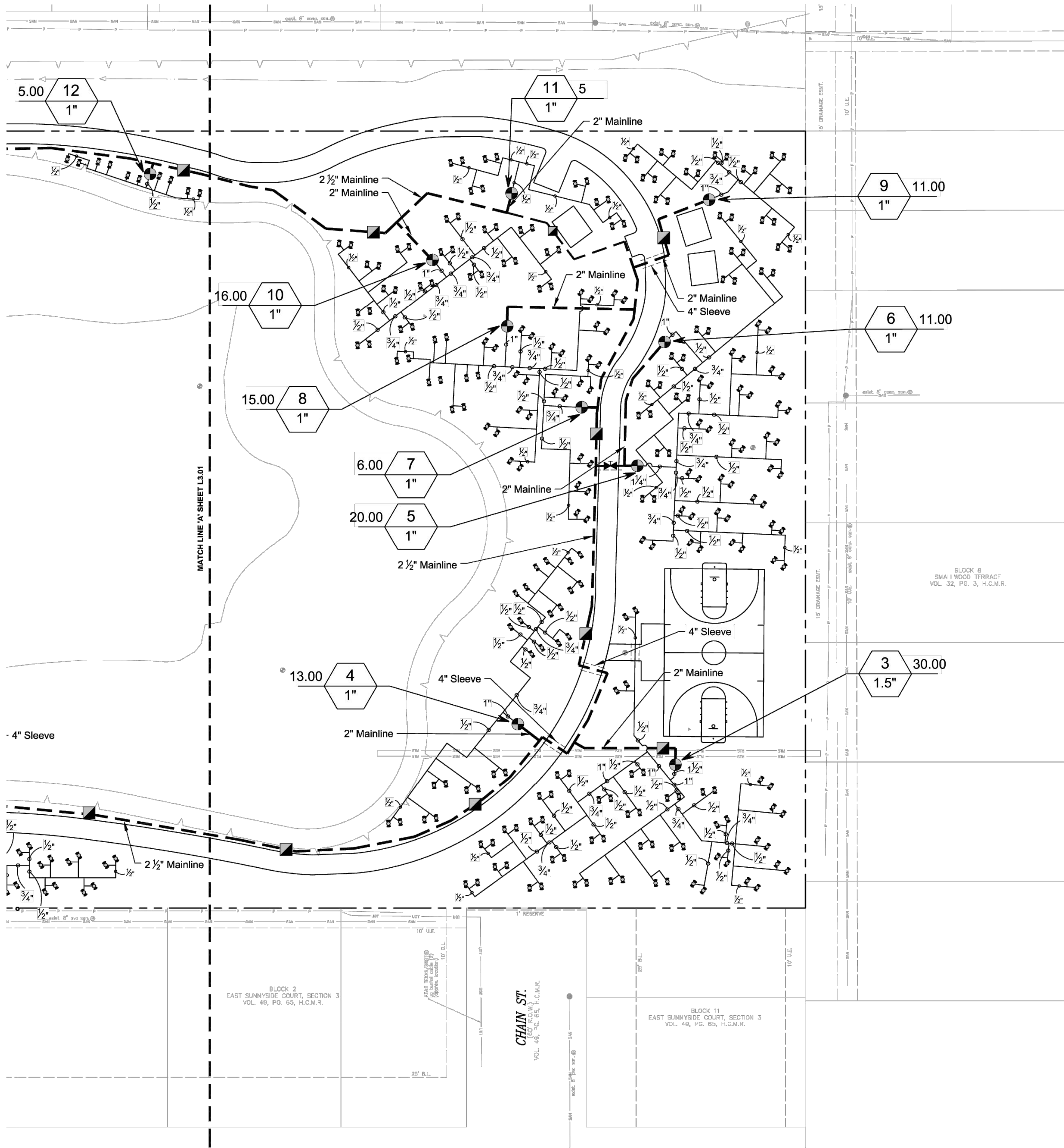
CITY OF HOUSTON PM

CUONG NGUYEN

SHEET NO. 42 OF 73

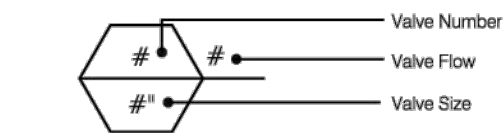
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NO.	DATE	REVISION	APP.
2	07/21/25	90% CD Set	
1	04/15/25	60% CD Set	



IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL
	Rain Bird RWS-M-B-C 1402
SYMBOL	MANUFACTURER/MODEL
	Rain Bird PEB
	Rain Bird 44-LRC Quick Coupler
	Nibco T-FP-600A-LF Ball Valve
	Rain Bird PEB Master Valve 2"
	Febco 765 2"
	WeatherTRAK LC+ Controller
	Rain Bird FS-200-P
	Water Meter 2"
	Irrigation Lateral Line: PVC Class 200 (1/2" pipe is class 315)
	Irrigation Mainline: PVC Schedule 40
	Pipe Sleeve: PVC Schedule 40



IRRIGATION NOTES:

1. Controller location and electrical requirements verify in field with contractor and owner.
2. All irrigation heads adjacent to a parking lot or street curb shall remain 12" min. away from the back of the curb.
3. The point of connection shall be verified in the field, reference civil
4. engineering drawings for actual location.
5. The drawings are diagrammatic. All irrigation mainlines, lateral lines, valves, wire, and fittings shall be placed in landscape areas.
6. The contractor shall be responsible for verifying all utility locations in the field prior to installation and shall be responsible for any damage to said utilities. Call 811

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L3.02 – Irrigation Plan

WBS NUMBER

M-420HUD-013A-3

DRAWING SCALE

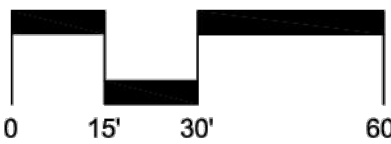
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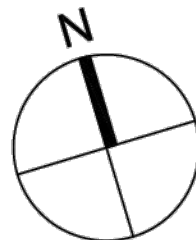
CUONG NGUYEN

SHEET NO. 45 OF 73

FOR CITY OF HOUSTON USE ONLY



Scale: 1" = 30'



NO.	DATE	REVISION	APP.
2	07/21/25	90% CD Set	
1	04/15/25	60% CD Set	

Detail Callout Legend:

- 1 Valve and piping per plans
- 2 Moisture-resistant connection to valve (DBR/Y-6 or equal)
- 3 Moisture-resistant connection for common wire to valve (DRB/Y-6 or equal)
- 4 Two-wire gauge per plans
- 5 Porous material for drainage - 3" minimum
- 6 Mainline as per plans
- 7 Two-wire red to decoder per wire using moisture-resistant connection (DBR/Y-6 or equal)
- 8 Two-wire black to decoder to decoder black wire using moisture-resistant connection (DBR/Y-6 or equal)
- 9 WeatherTrak WT2W-H2O-1VD single valve decoder attached to valve box with tie or metal screw
- 10 Corner valve box support (typical of four)

NOTES:

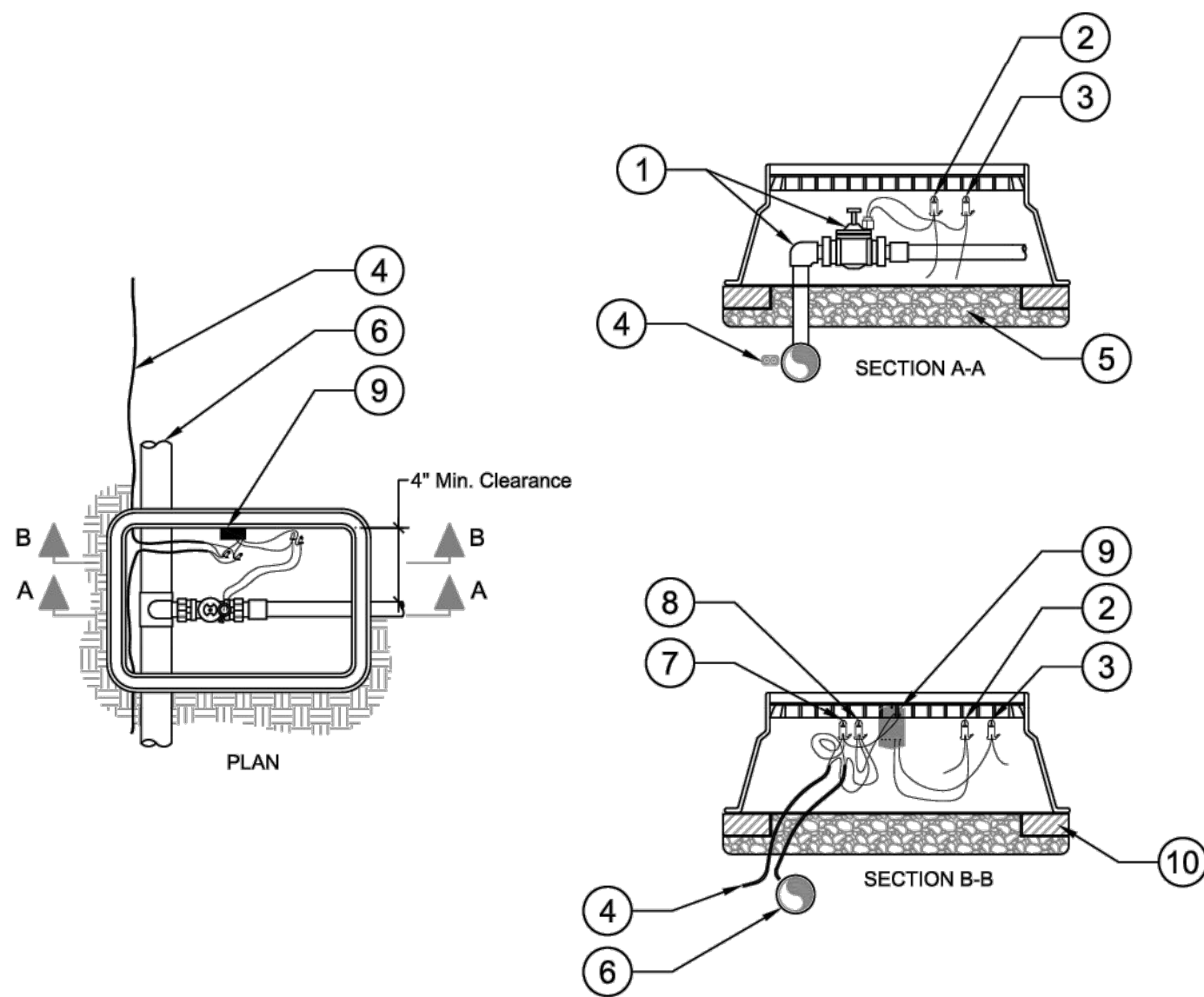
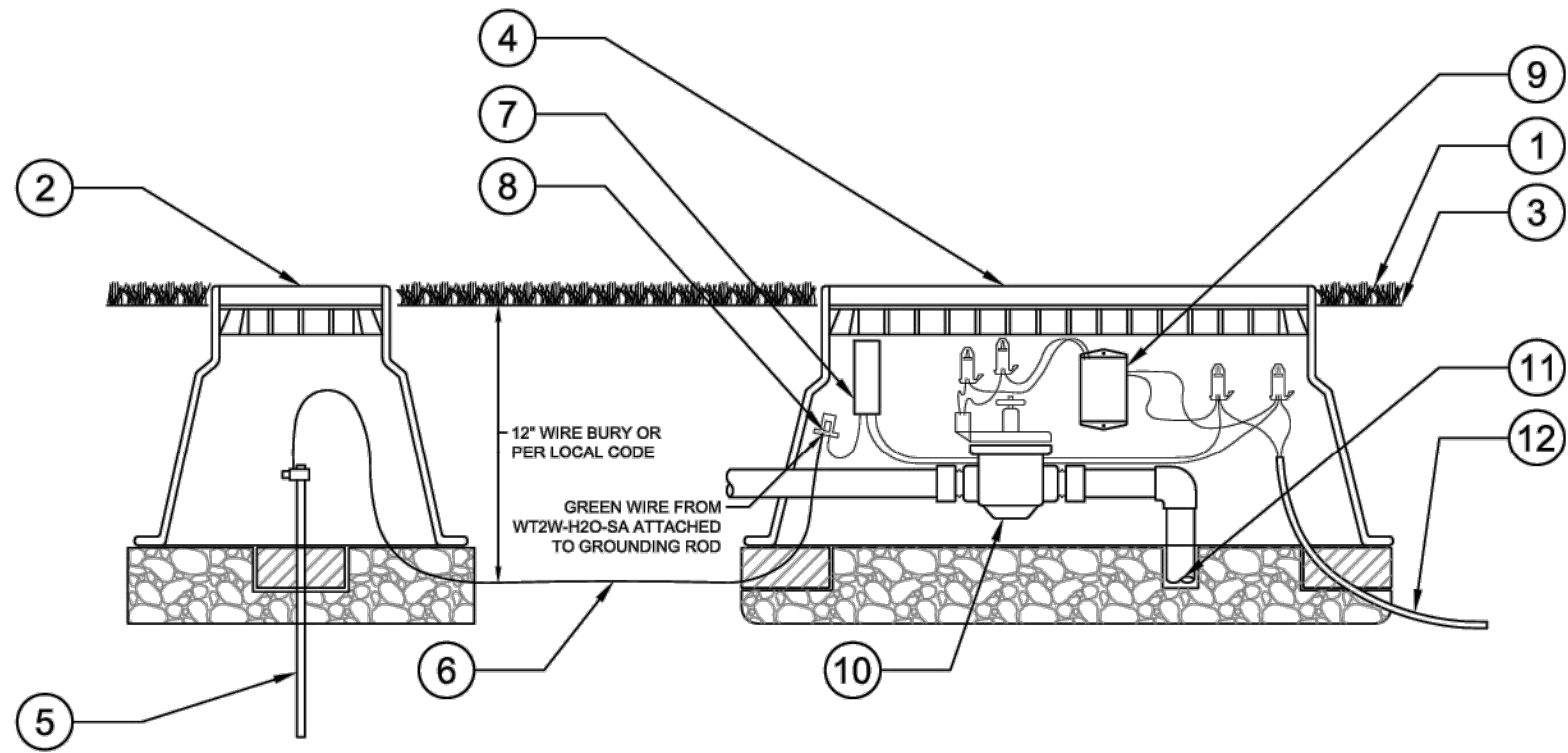
- a. Red to red and black to black wires from two-wire path to WT2W-H2O-1VD single valve decoder.
- b. White to valve solenoid wire, orange to valve solenoid wire.
- c. All connections shall be with moisture-resistant 3M DBR/Y-6 or equal connections, installed in vertical position as shown.

Detail Callout Legend:

- 1 Lawn or surface treatment
- 2 6" Junction box
- 3 Finished grade
- 4 Rectangular standard valve box
- 5 8" Grounding rod, install per cod
- 6 #8 AWG solid bare CU wire or per local code
- 7 WT2W-H2O-SA surge arrestor
- 8 Split bolt, clamp or exothermic weld connection
- 9 WeatherTrak H2O valve decoder
- 10 Remote control valve
- 11 Pressure line - size as per plans
- 12 Two-wire - gauge as per plan

NOTES:

- a. Moisture-resistant connectors 3M DBR/Y-6 or equal to be installed in vertical position as shown
- b. This box may be a valve box or a round box. If a valve box with valve, connect decoder for valves to two-wire path and wire from WT2W-H2O-SA.
- c. 8 ft. min. separation from other equipment.



2 WEATHERTRAK 2-WIRE SURGE ARRESTOR DECODER

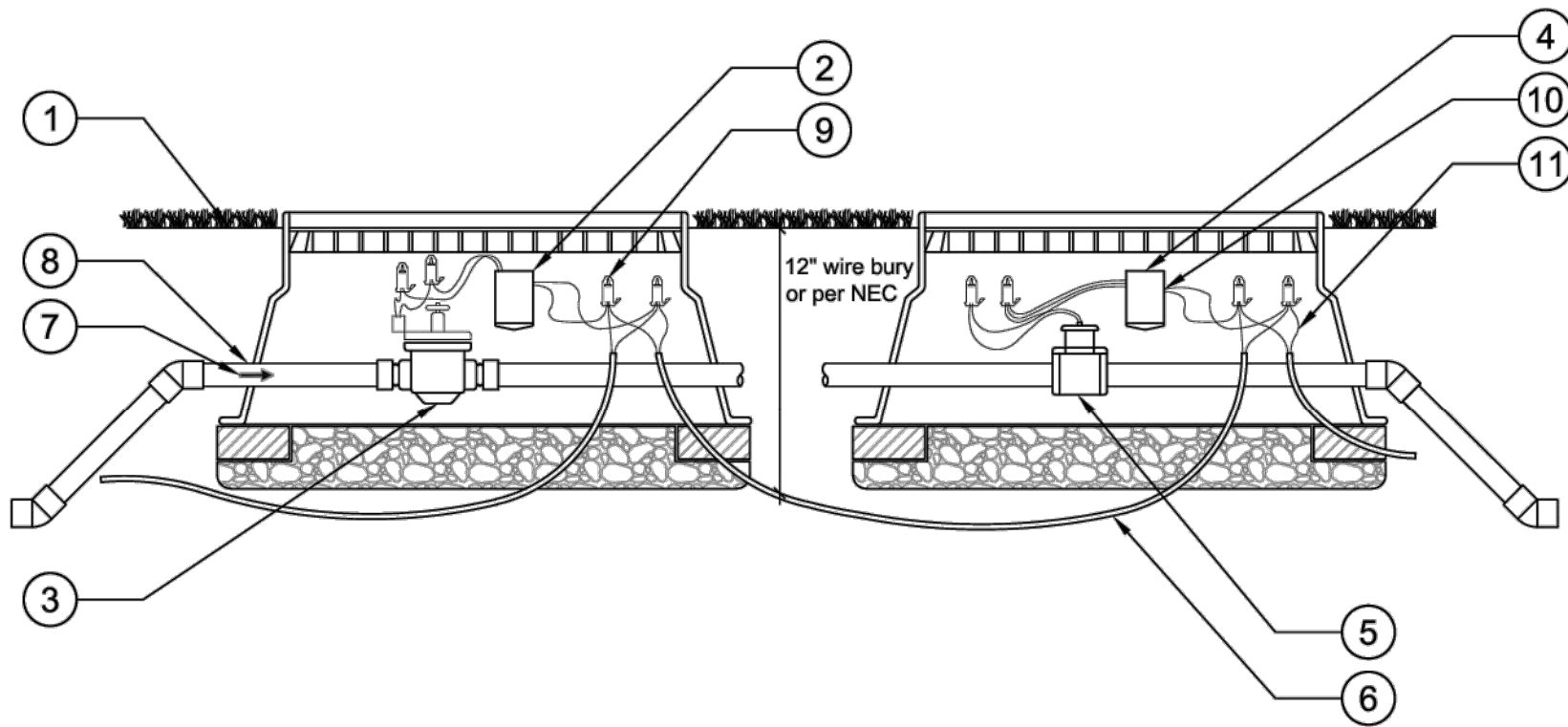
Not to Scale

Detail Callout Legend:

- 1 Finished grade
- 2 WT2W-H2O-MV Master valve decoder
- 3 Remote control valve
- 4 WT2W-H2O-FS Flow Sensor Decoder
- 5 Flow meter
- 6 Two-wire size and color per plans
- 7 Mainline - straight pipe - 10 pipe diameters upstream and 5 pipe diameters downstream
- 8 Mainline - size for flow per plans and specifications - match flow meter
- 9 Moisture-resistant wire connections with 3M DBR/Y-6 or equal (Typ.)
- 10 Refer to manufacturing's instructions for meter specific instruction
- 11 Red to red and black to black encapsulated in moisture-resistant splice cap, 3M DBR/Y-6 or equal

NOTES:

- a. Moisture-resistant connectors 3m DBR/Y-6 or equal, to be installed in vertical position as shown



3 WEATHERTRAK 2-WIRE SINGLE VALVE DECODER

1" = 1'-0"

1 WEATHERTRAL 2-WIRE MASTER VALVE DECODER AND FLOW SENSOR DECODER

Not to Scale

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L3.22 – Irrigation Details

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CUONG NGUYEN	
SHEET NO. 47 OF 73	

2	07/21/25	90% CD	Set
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NO.	DATE	REVISION	APP.

Detail Callout Legend:

- 1 Valve and piping per plans
- 2 Moisture-resistant connection to valve (DBR/Y-6 or equal)
- 3 Moisture-resistant connection for common wire to valve (DRB/Y-6 or equal)
- 4 Two-wire gauge per plans
- 5 Porous material for drainage - 3" minimum
- 6 Mainline as per plans
- 7 Two-wire red to decoder per wire using moisture-resistant connection (DBR/Y-6 or equal)
- 8 Two-wire black to decoder to decoder black wire using moisture-resistant connection (DBR/Y-6 or equal)
- 9 WeatherTrak WT2W-H2O-1VD single valve decoder attached to valve box with tie or metal screw
- 10 Corner valve box support (typical of four)

NOTES:

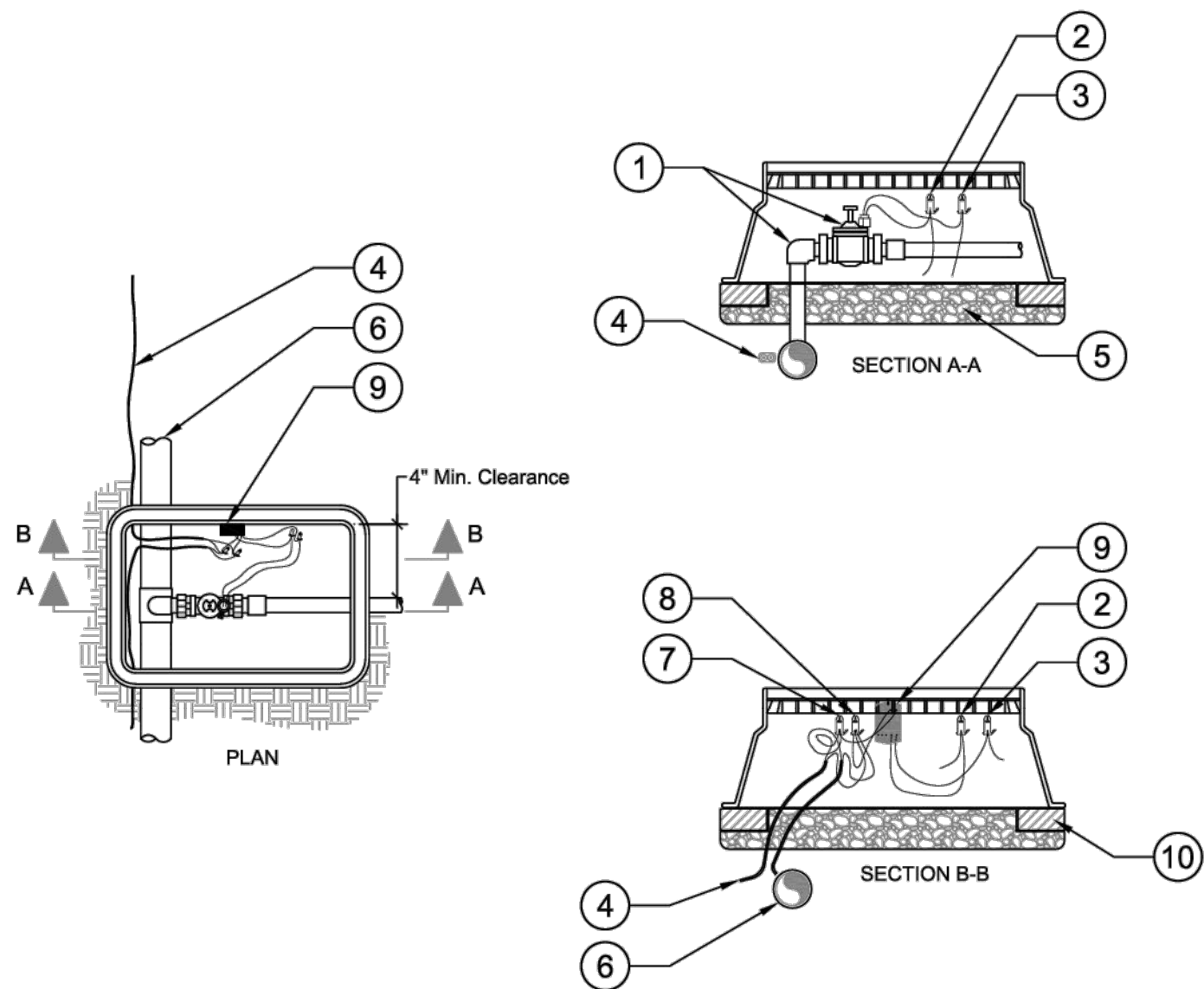
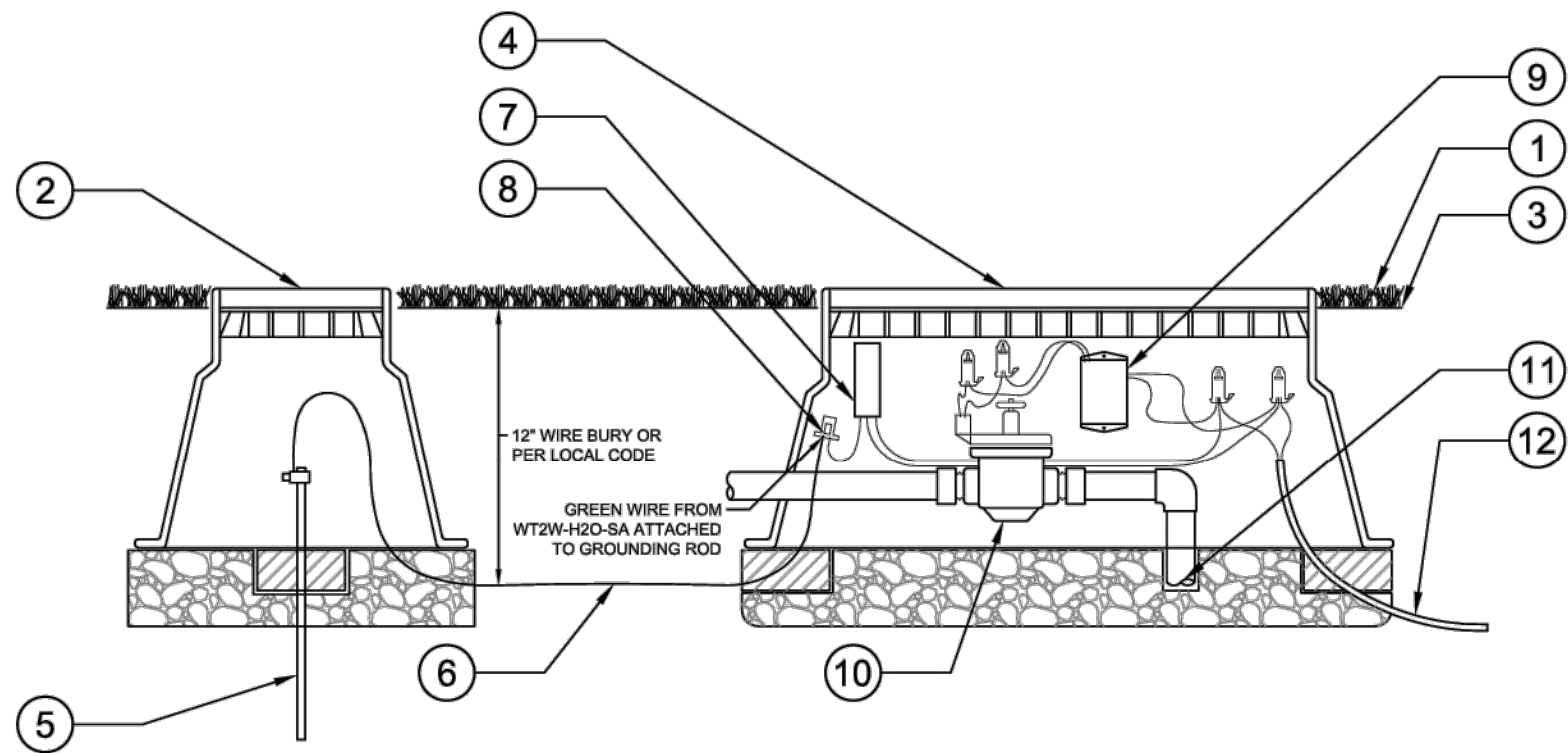
- a. Red to red and black to black wires from two-wire path to WT2W-H2O-1VD single valve decoder.
- b. White to valve solenoid wire, orange to valve solenoid wire.
- c. All connections shall be with moisture-resistant 3M DBR/Y-6 or equal connections, installed in vertical position as shown.

Detail Callout Legend:

- 1 Lawn or surface treatment
- 2 6" Junction box
- 3 Finished grade
- 4 Rectangular standard valve box
- 5 8" Grounding rod, install per cod
- 6 #8 AWG solid bare CU wire or per local code
- 7 WT2W-H2O-SA surge arrestor
- 8 Split bolt, clamp or exothermic weld connection
- 9 WeatherTrak H2O valve decoder
- 10 Remote control valve
- 11 Pressure line - size as per plans
- 12 Two-wire - gauge as per plan

NOTES:

- a. Moisture-resistant connectors 3M DBR/Y-6 or equal to be installed in vertical position as shown
- b. This box may be a valve box or a round box. if a valve box with valve, connect decoder for valves to two-wire path and wire from WT2W-H2O-SA.
- c. 8 ft. min. separation from other equipment.



2 WEATHERTRAK 2-WIRE SURGE ARRESTOR DECODER

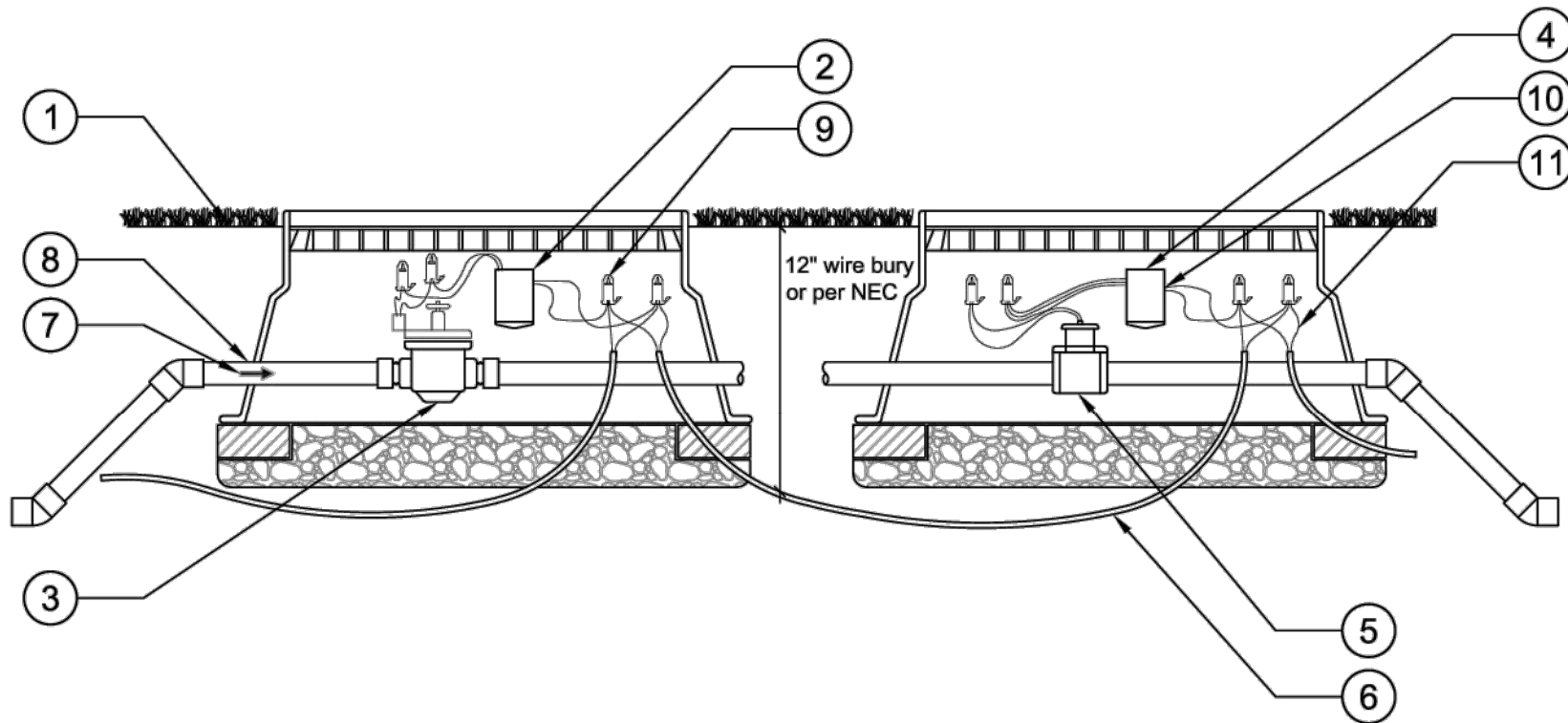
Not to Scale

Detail Callout Legend:

- 1 Finished grade
- 2 WT2W-H2O-MV Master valve decoder
- 3 Remote control valve
- 4 WT2W-H2O-FS Flow Sensor Decoder
- 5 Flow meter
- 6 Two-wire size and color per plans
- 7 Mainline - straight pipe - 10 pipe diameters upstream and 5 pipe diameters downstream
- 8 Mainline - size for flow per plans and specifications - match flow meter
- 9 Moisture-resistant wire connections with 3M DBR/Y-6 or equal (Typ.)
- 10 Refer to manufacturing's instructions for meter specific instruction
- 11 Red to red and black to black encapsulated in moisture-resistant splice cap. 3M DBR/Y-6 or equal

NOTES:

- a. Moisture-resistant connectors 3m DBR/Y-6 or equal, to be installed in vertical position as shown



3 WEATHERTRAK 2-WIRE SINGLE VALVE DECODER

Not to Scale

1 WEATHERTRAL 2-WIRE MASTER VALVE DECODER AND FLOW SENSOR DECODER

Not to Scale

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L3.23 – Irrigation Details

WBS NUMBER

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DRAWING SCALE

AS NOTED

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PLANT SCHEDULE

SYMBOL CODE COMMON / BOTANICAL NAME

LARGE TREES

- QM

Burr Oak
Quercus macrocarpa
- AD

Drummond Red Maple
Acer rubrum drummondii
- PT

Loblolly Pine
Pinus taeda
- BN

River Birch
Betula nigra
- QP

Willow Oak
Quercus phellos

SMALL TREES

- PM

Mexican Plum
Prunus mexicana
- CO

Oklahoma Texas Redbud
Cercis canadensis texensis 'Oklahoma'

TRANSPLANT TREES

- EX

Existing Tree - Transplanted

HYDROSEED

- CD

Bermuda Grass (Hydroseed)
Cynodon dactylon

Note: See sheet L4.21 for full planting schedule.

LEGEND

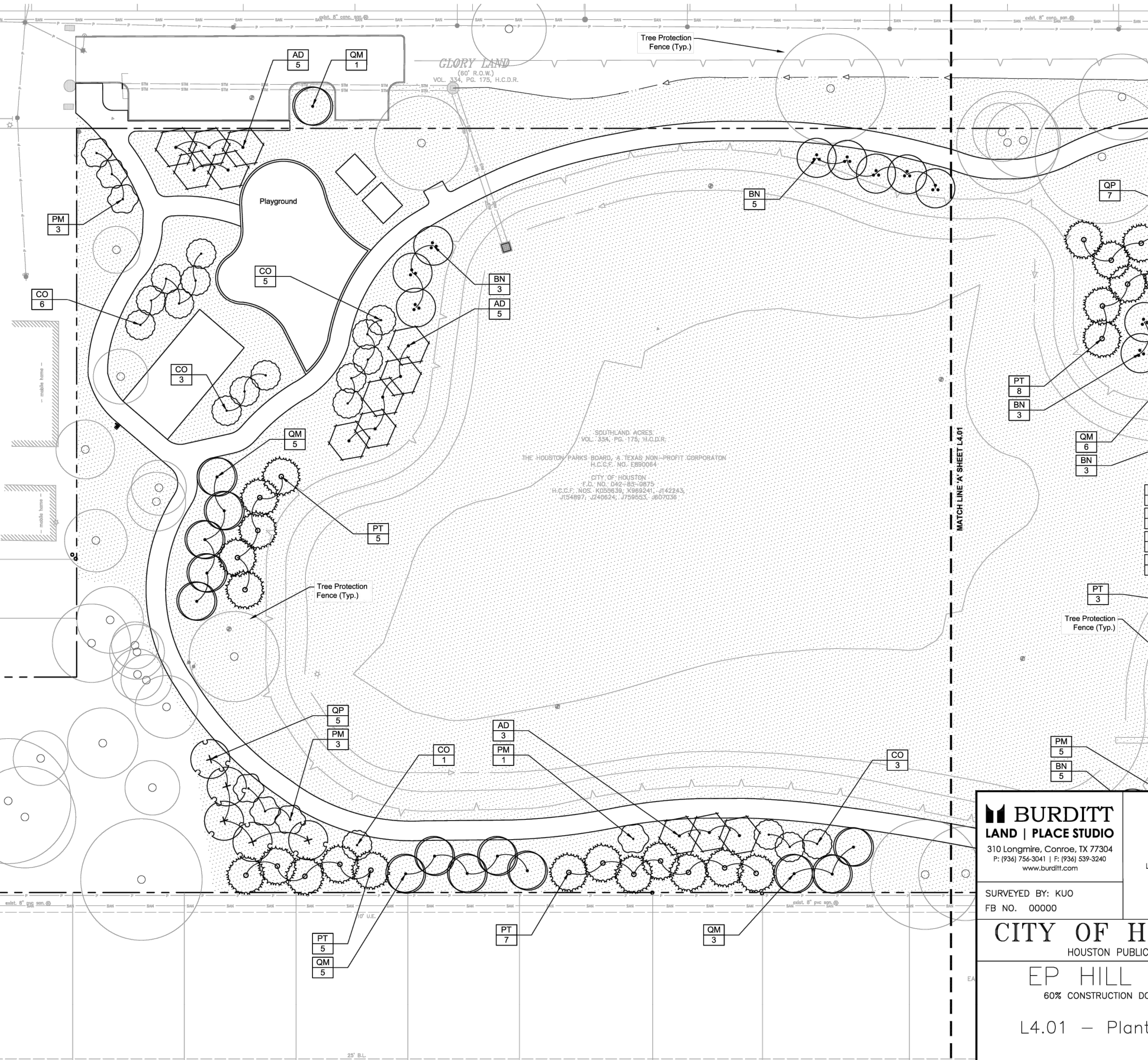
- #xx

Existing Tree to be Transplanted
- Existing Tree

GLORY LAND
(60' R.O.W.)
VOL. 334, PG. 175, H.C.D.R.

PLANTING NOTES:

- The contractor shall supply photos or samples of each plant species indicated on the planting legend, to the landscape architect, to serve as min. requirements of each species type.
- The contractor shall obtain an agricultural soils analysis by an approved lab for soils amendments and planting media recommendations. Provide one copy to the landscape architect for approval prior to installation of soil mix.
- The contractor shall be responsible for verifying all utility locations in the field prior to installation and shall be responsible for any damage to said utilities. Call 811
- Tree material shall be planted a min. of 3' from walkways, streets, or buildings unless Otherwise noted on the drawings. Install deep Root barriers at all trees within 3' of Walkways, streets, buildings, etc.
- The contractor shall stake all tree locations and planting beds and verify limits of turf in the field for approval by the landscape architect prior to installation.
- Existing soil shall be removed from planting holes. See specifications for appropriate backfill mix.
- Stabilize soil below root-ball prior to planting to prevent trees or shrubs from setting.
- The contractor is responsible for fine grading any areas disturbed by construction on site.
- Contractor to repair or replace all disturbed turf areas from landscape construction outside of proposed turf limits, within limit of work, with solid sod of matching existing species.
- See sheet L-1.2 For planting details.



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L4.01 – Planting Plan

WBS NUMBER

M-420HUD-013A-3

DRAWING SCALE

AS NOTED

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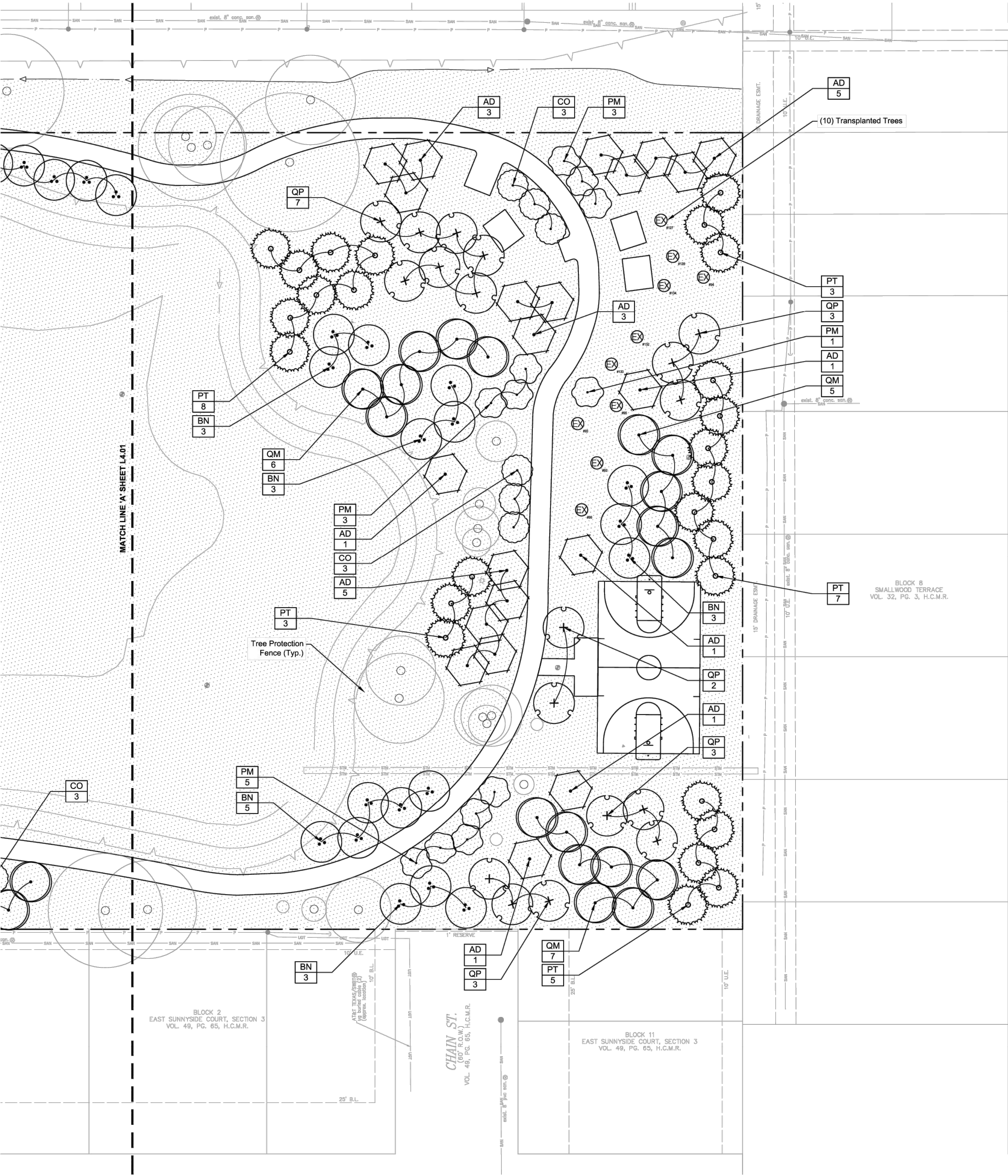
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1	04/15/25	60% CD Set	



PLANT SCHEDULE

SYMBOL CODE COMMON / BOTANICAL NAME

LARGE TREES

	QM	Burr Oak Quercus macrocarpa
	AD	Drummond Red Maple Acer rubrum drummondii
	PT	Loblolly Pine Pinus taeda
	BN	River Birch Betula nigra
	QP	Willow Oak Quercus phellos

SMALL TREES

	PM	Mexican Plum Prunus mexicana
	CO	Oklahoma Texas Redbud Cercis canadensis texensis 'Oklahoma'

TRANSPLANT TREES

	EX	Existing Tree - Transplanted
--	----	------------------------------

HYDROSEED

	CD	Bermuda Grass (Hydroseed) Cynodon dactylon
--	----	---

Note: See sheet L4.21 for full planting schedule.

LEGEND

	Existing Tree to be Transplanted
	Existing Tree

PLANTING NOTES:

- The contractor shall supply photos or samples of each plant species indicated on the planting legend, to the landscape architect, to serve as min. requirements of each species type.
- The contractor shall obtain an agricultural soils analysis by an approved lab for soils amendments and planting media recommendations. Provide one copy to the landscape architect for approval prior to installation of soil mix.
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- Tree material shall be planted a min. of 3' from walkways, streets, or buildings unless Otherwise noted on the drawings. Install deep Root barriers at all trees within 3' of Walkways, streets, buildings, etc.
- The contractor shall stake all tree locations and planting beds and verify limits of turf in the field for approval by the landscape architect prior to installation.
- Existing soil shall be removed from planting holes. See specifications for appropriate backfill mix.
- Stabilize soil below root-ball prior to planting to prevent trees or shrubs from settling.
- The contractor is responsible for fine grading any areas disturbed by construction on site.
- Contractor to repair or replace all disturbed turf areas from landscape construction outside of proposed turf limits, within limit of work, with solid sod of matching existing species.
- See sheet L-1.2 For planting details.

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L4.02 – Planting Plan

WBS NUMBER

M-420HUD-013A-3

DRAWING SCALE

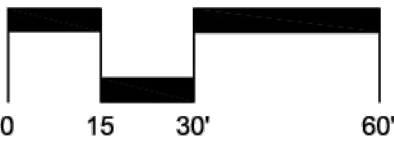
AS NOTED

CITY OF HOUSTON PM

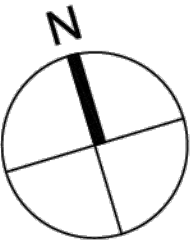
CUONG NGUYEN

SHEET NO. 50 OF 73

FOR CITY OF HOUSTON USE ONLY

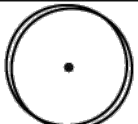
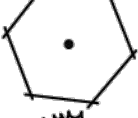
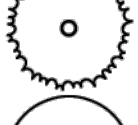


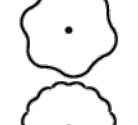

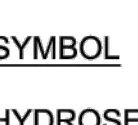



Scale: 1" = 30'



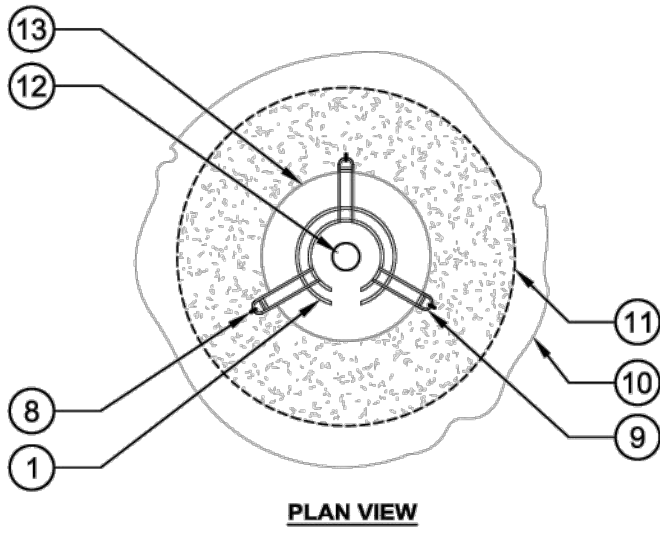
2	07/21/25	90%	CD Set			
1	04/15/25	60%	CD Set	REVISION		APP.

PLANT SCHEDULE

SYMBOL	CODE	QTY	COMMON / BOTANICAL NAME	CONT.	CAL.	HEIGHT	SPREAD	REMARKS
LARGE TREES								
	QM	32	Burr Oak Quercus macrocarpa	65 Gal.	4" Min.	10' - 12' Min.	5' - 6' Min.	Single trunk. Disease free and in vigorous condition. Tree Stake Solutions.
	AD	34	Drummond Red Maple Acer rubrum drummondii	65 Gal.	4" Min.	10' - 12' Min.	5' - 6' Min.	Single trunk. Disease free and in vigorous condition. Tree Stake Solutions.
	PT	43	Loblolly Pine Pinus taeda	65 Gal.	4" Min.	10' - 12' Min.	5' - 6' Min.	Single trunk. Disease free and in vigorous condition. Tree Stake Solutions.
	BN	25	River Birch Betula nigra	65 Gal.	4" Min.	10' - 12' Min.	5' - 6' Min.	Multi-trunk. Disease free and in vigorous condition. Tree Stake Solutions.
	QP	23	Willow Oak Quercus phellos	65 Gal.	4" Min.	10' - 12' Min.	5' - 6' Min.	Single trunk. Disease free and in vigorous condition. Tree Stake Solutions.
SMALL TREES								
	PM	19	Mexican Plum Prunus mexicana	45 Gal.	3" Min.	8' - 10' Min.	4' - 5' Min.	Single trunk. Disease free and in vigorous condition. Tree Stake Solutions.
	CO	24	Oklahoma Texas Redbud Cercis canadensis texensis 'Oklahoma'	45 Gal.	3" Min.	8' - 10' Min.	4' - 5' Min.	Single trunk. Disease free and in vigorous condition. Tree Stake Solutions.
TRANSPLANT TREES								
	EX	10	Existing Tree - Transplanted	Transplant				
SYMBOL	CODE	COMMON / BOTANICAL NAME						
HYDROSEED								
	CD	Bermuda Grass (Hydroseed) Cynodon dactylon						
REMARKS								
Reference landscape specifications.								

Detail Callout Legend:

- Tree stake solutions root anchor
- 3" Mulch saucer
- Place top of root ball min. 1" - max 2" above existing grade
- Container width dia. plus 24"
- Backfill with 50% soil mix/ 50% native soil
- Undisturbed soil
- Break through and remove any existing "hardpan" as needed to provide positive percolation and drainage
- "S" Hook
- "U" Bracket
- Tree Canopy
- Limit of hole (container plus 24")
- Tree Trunk
- Limit of root ball

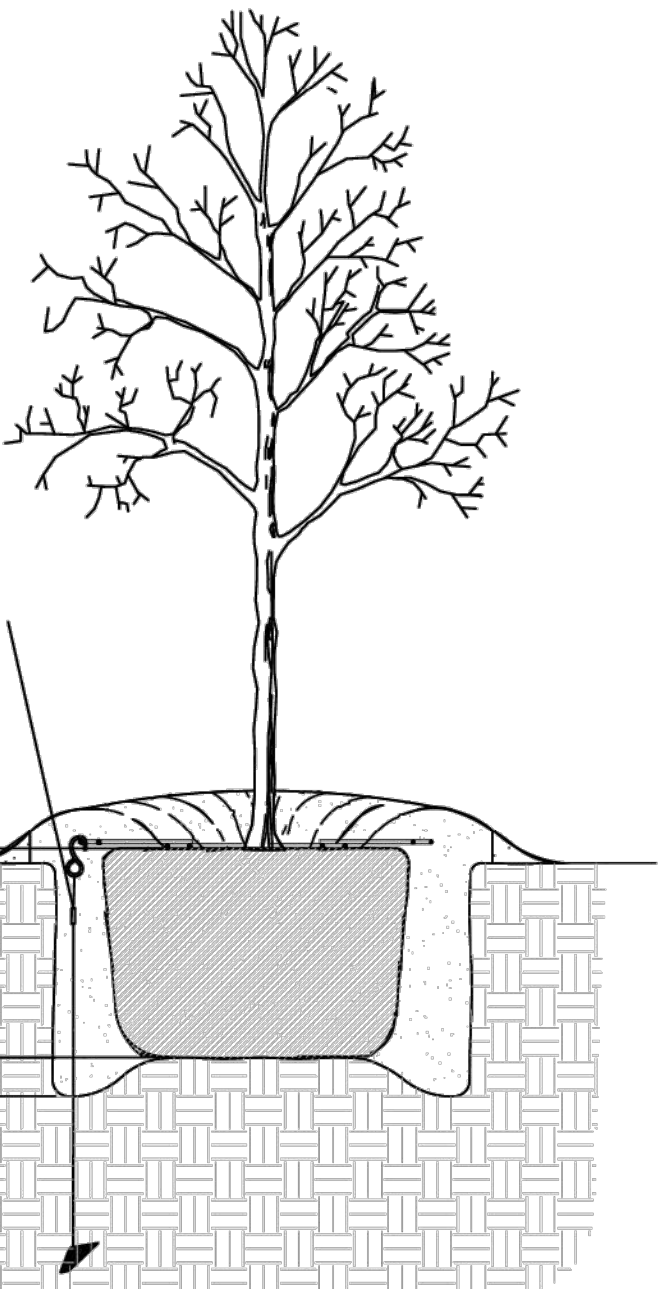


ROOT ANCHOR ITEM#	ROOT BALL & CONTAINER SIZE	QUANTITY & ANCHOR SIZE
15-BG	10 / 15 Gallon or 17" root ball	3 - V88 Anchors
30-BG	20 / 39 Gallon or 22" root ball	3 - V88 Anchors
45/65-BG	45 / 65 Gallon or 27-30" root ball	3 - V88 Anchors

TREE STAKE SOLUTIONS, LLC.
9973 FM 521 Road
Rosharon, Texas 77583
www.treestakesolutions.com

NOTE:

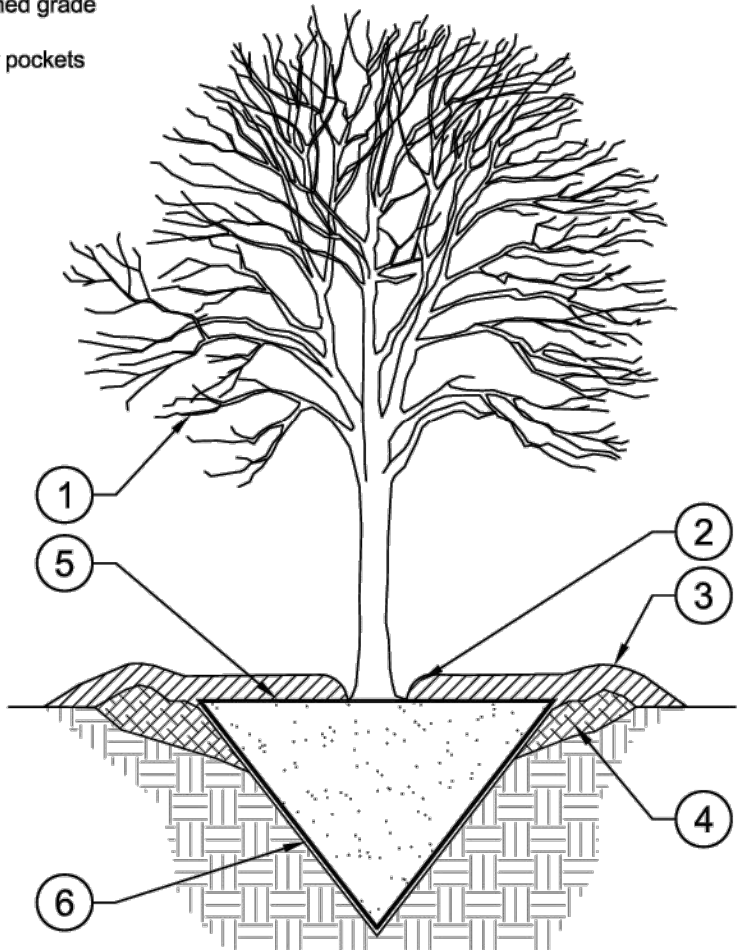
- Steel T-Posts are not an approved alternate and are subject to removal without prior approval from the landscape architect. The contractor shall be responsible for all costs associated with removal and replacement of unapproved materials.



SECTION

Detail Callout Legend:

- Machine moved tree
- 4" Shredded mulch, do not pile on trunk
- 6" - 8" Ht., sharp sand saucer ring
- Loosen up soil to encourage new root growth
- Set top of tree ball 2"-3" above finished grade
- Fill with sharp sand to remove all air pockets



2 TRANSPLANT TREE
1/2" = 1'-0"

1 TREE STAKE SOLUTIONS
Not to Scale

MU-EP-PLA-01

BURDITT
LAND | PLACE STUDIO
310 Longmire, Conroe, TX 77304
P: (936) 756-3041 | F: (936) 539-3240
www.burditt.com

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW, AGENCY APPROVAL, AND COMMENT UNDER THE AUTHORITY OF CLAUDIA T. WALKER, RLA LANDSCAPE ARCHITECT No. 2887, ON 7/18/25 THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES

SURVEYED BY: KUO
FB NO. 00000

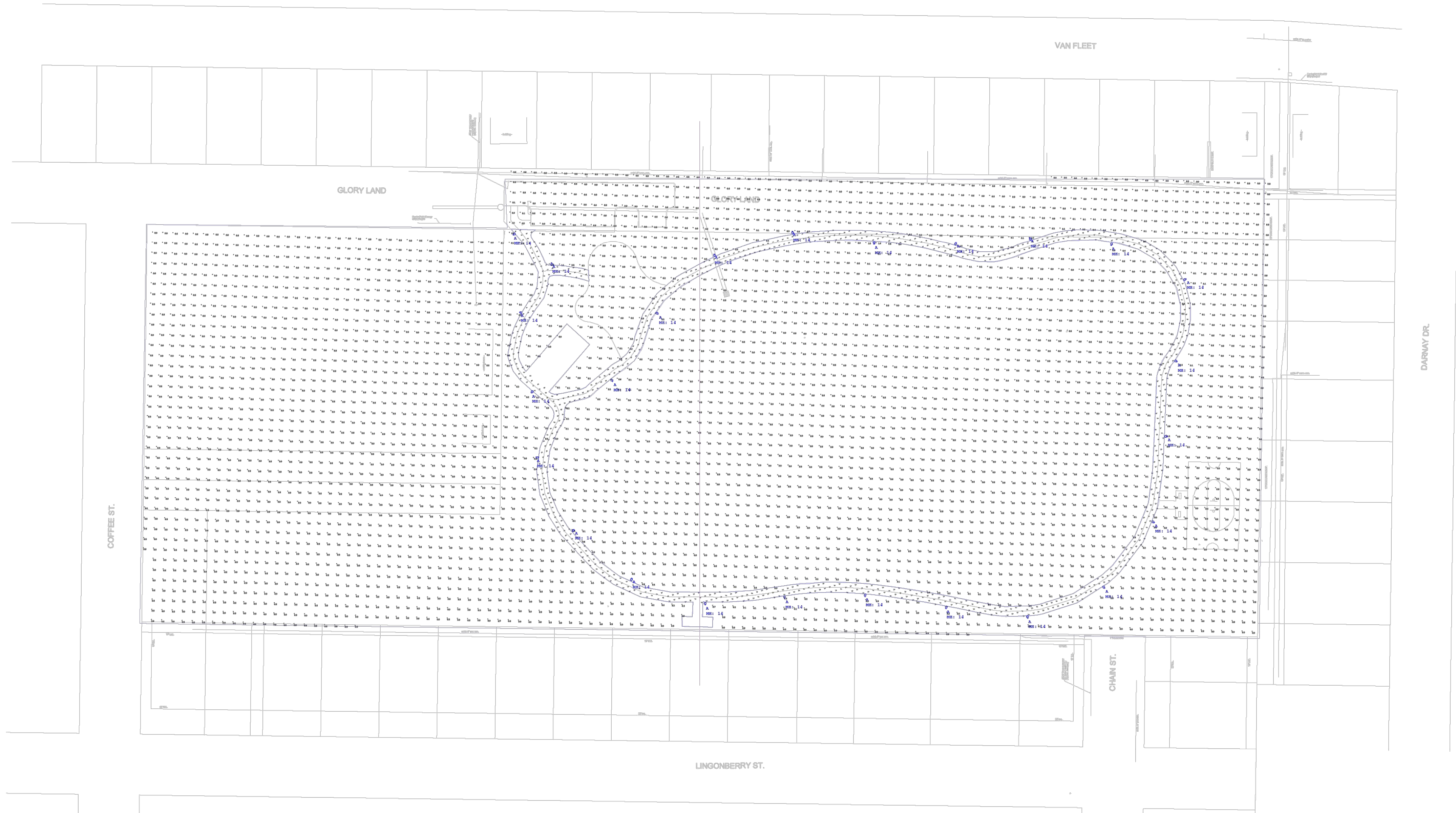
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

EP HILL PARK
60% CONSTRUCTION DOCUMENTS

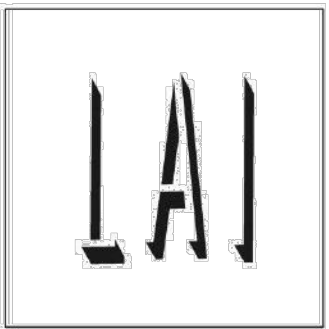
L4.21 – Planting Details

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 51 OF 73	

2	07/21/25	90% CD Set		
1	04/15/25	60% CD Set		
			NO. DATE	REVISION
				APP.



Plan View
Scale: 1 inch= 60 Ft.



LIGHTING ASSOCIATES, INC.
John Stringfellow / jstringfellow@laihouston.com

NOTICE:
FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date
CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.
Signature valid for six months.

Date
CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities - not to be used for conflict verification)
Signature valid for six months.

Approved for AT&T underground conduit facilities only.
Signature valid for one year.

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

EP HILL PARK
90% CONSTRUCTION DOCUMENTS

L2.00 - Overall Lighting Plan

WBS NUMBER

FOR CITY OF HOUSTON USE ONLY

M-420HUD-013A-3

DRAWING SCALE

AS NOTED

CITY OF HOUSTON PM

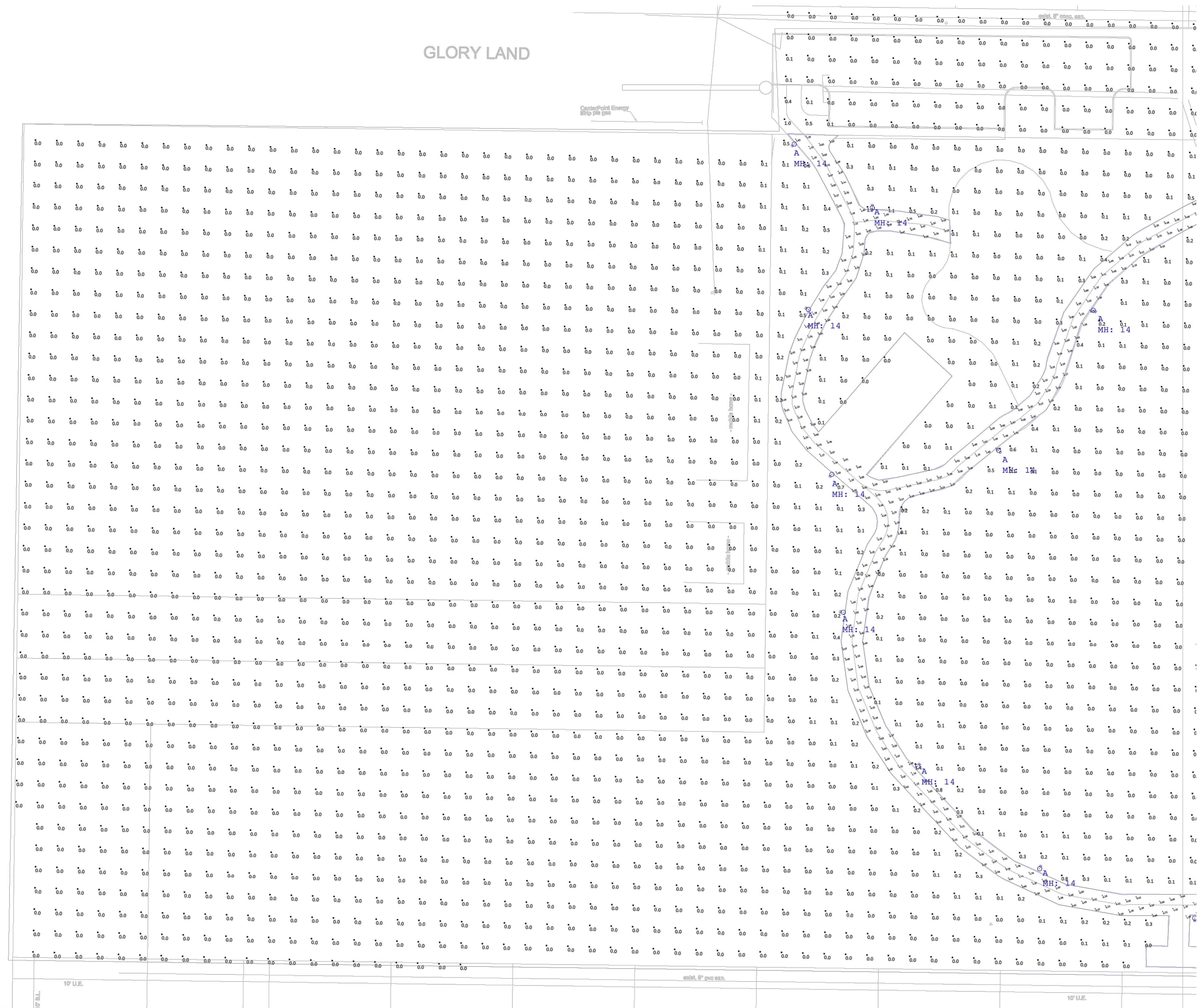
CUONG NGUYEN

SHEET NO. 52 OF 73

LIGHTING PARAMETERS:

Luminaire Schedule									
Symbol	Qty	Label	Arrangement	LLF	[MANUFAC]	Description	Arr. Watts	Arr. Lum. Lumens	Mounting Height
	25	A	Single	0.900	First Light Technologies	IPL-PTM-XX-T2-NW-XX-XX	0	1155	14

Calculation Summary												
Label	Units	Avg	Max	Min	Avg/Min	Max/Min	CV	UG	PtSpclr	PtSpctb	Grid Z	
ENTIRE PARK	Fc	0.02	1.5	0.0	N.A.	N.A.	N.A.	N.A.	10	10	0	
WALKING PATH	Fc	0.62	1.91	0.15	4.13	12.73	N.A.	N.A.	5	5	0.01	



Scale: 1 inch= 26 Ft.



LIGHTING ASSOCIATES, INC.
John Strongfellow / jstrongfellow@lajouston.com

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Signature valid for six months.

Date
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Signature valid for one year.

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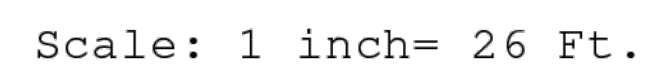
SURVEYED BY: KUO
FB NO. 00000

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

EP HILL PARK
60% CONSTRUCTION DOCUMENTS
L2.01- Lighting Plan

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 53 OF 73	

NO.	DATE	REVISION	APP.
1	07/21/25	90% CD Set	
1	04/23/25	60% CD Set	

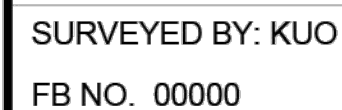


FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811
AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES
CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR
OBLIGATION TO CALL 811

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Approved for AT&T underground conduit facilities only.
Signature valid for one year.




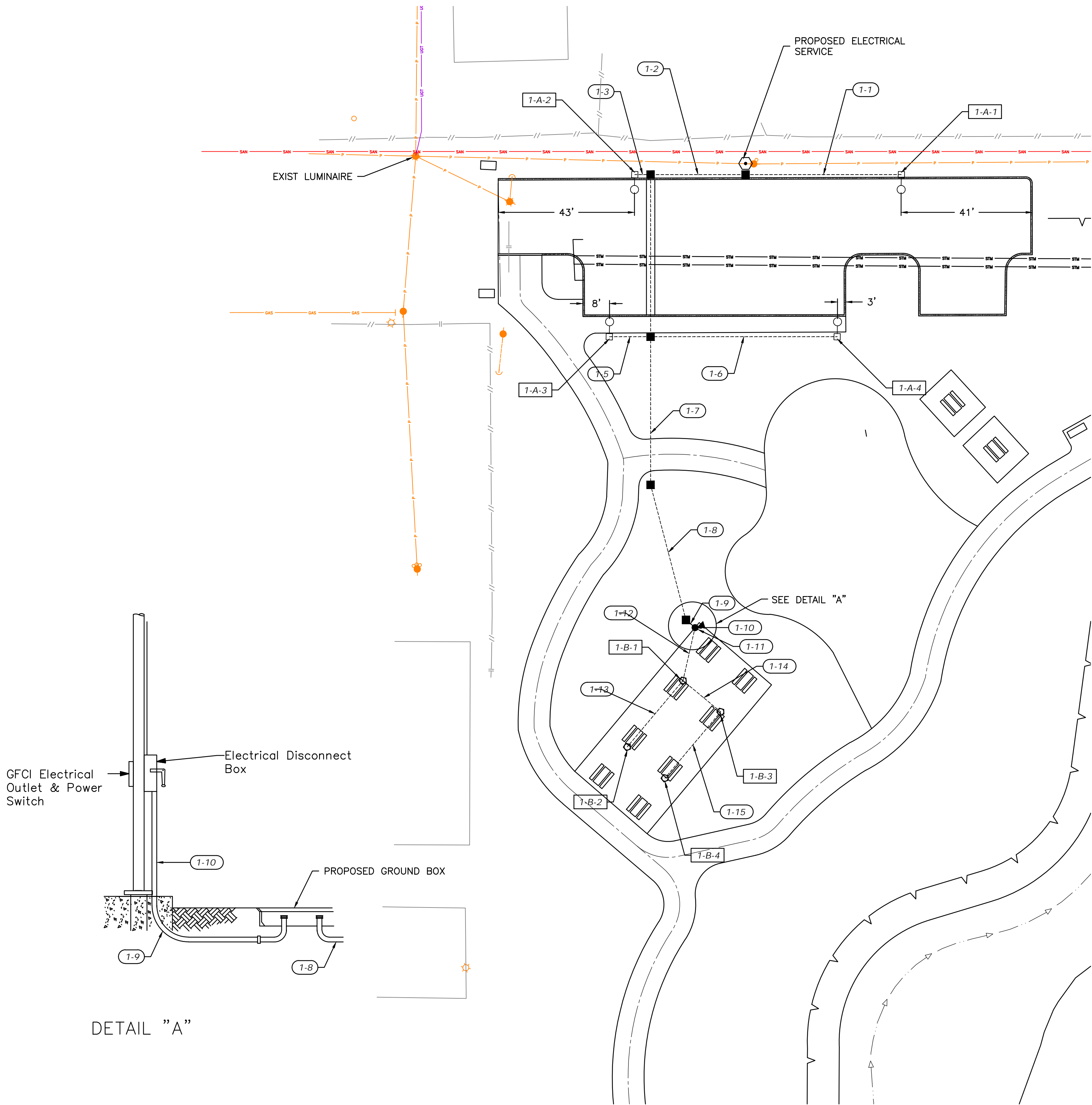
L2.02 - Lighting Plan

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 54 OF 73	

NO.	DATE	REVISION	APP.	

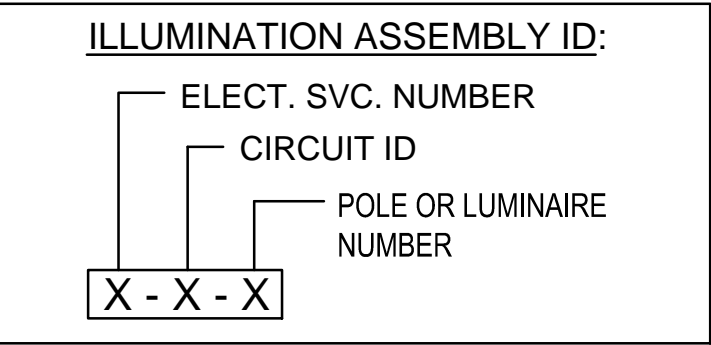
SUMMARY OF SAFETY ILLUMINATION - (EP HILL)										
PLAN SHEET NO.	416	618	618	618	620	620	620	620	624	628
	7039	7030	7055	7070	7003	7004	7007	7008	7002	7121
	DRILL SHAFT (RDWY ILL POLE) (24 IN)	CONDT (PVC) (SCH 40) (2")	CONDT (PVC) (SCH 80) (2") (BORE)	CONDT (RM) (3/4")	ELEC CONDR (NO.12) BARE	ELEC CONDR (NO.12) INSULATED	ELEC CONDR (NO.8) BARE	ELEC CONDR (NO.8) INSULATED	GROUND BOX TY A (122311)W/APRON	ELC SRV TY D 120/240 060(NS)AL(E)SP(O)
CSJ: XXXX-XX-XXX	LF	LF	LF	LF	LF	LF	LF	LF	EA	EA
SAFETY ILLUMINATION SHEET 1	24	265	50	105	105	630	315	630	5	1
PROJECT TOTAL	24	265	50	105	105	630	315	630	5	1

 GANNETT FLEMING T.B.P.E.L.S. FIRM REGISTRATION #1800 3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9270	
	SURVEYED BY: KUO FB NO. 00000
<h1 style="text-align: center;">CITY OF HOUSTON</h1> <p style="text-align: center;">HOUSTON PUBLIC WORKS</p>	
<h2 style="text-align: center;">EP HILL PARK</h2>	
<h3 style="text-align: center;">EP HILL PARK PARKING LOT ILLUMINATION SUMMARY</h3>	
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 55 OF 73	



LEGEND

- PROPOSED RDWY ILL ASSEMBLY
- PROPOSED PAVILLION LIGHTING
- PROPOSED ELECTRICAL GROUND BOX
- SERVICE POLE AND SWITCH
- PROPOSED ELECTRICAL SERVICE
- PROPOSED CONDUIT
- PROPOSED CONDUIT (BORED)
- CONDUIT RUN NUMBER



RUN NO.	CONDUIT AND CONDUCTOR RUNS													
	CONDUIT						CONDUCTOR							
	618-7030		618-7055		618-7070		620-7003		620-7004		620-7007		620-7008	
	COND'T (PVC) (SCH 40) (2")		COND'T (PVC) (SCH 80) (2") (BORE)		COND'T (RM) (3/4")		ELEC CONDR (NO.12) BARE		ELEC CONDR (NO.12) INSULATED		ELEC CONDR (NO.8) BARE		ELEC CONDR (NO.8) INSULATED	
	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
1-01	1	50							2	100	1	50	2	100
1-02	1	30							2	60	1	30	2	60
1-03	1	5							2	10	1	5	2	10
1-04			1	50					2	100	1	50	2	100
1-05	1	15							2	30	1	15	2	30
1-06	1	60							2	120	1	60	2	120
1-07	1	50									1	50	2	100
1-08	1	45									1	45	2	90
1-09	1	5									1	5	2	10
1-10	1	5									1	5	2	10
1-11					1	10	1	10	2	20				
1-12					1	20	1	20	2	40				
1-13					1	30	1	30	2	60				
1-14					1	15	1	15	2	30				
1-15					1	30	1	30	2	60				
TOTAL		265		50		105		105		630		315		630

POLE ID	EXIST/PROP	DESCRIPTION	DRILL SHAFT DIA./LENGTH
1-A-01	P	20' LED LUMINAIRE POLE ILLUMINATION ASSEMBLY (200W)	6 FT
1-A-02	P	20' LED LUMINAIRE POLE ILLUMINATION ASSEMBLY (200W)	6 FT
1-A-03	P	20' LED LUMINAIRE POLE ILLUMINATION ASSEMBLY (200W)	6 FT
1-A-04	P	20' LED LUMINAIRE POLE ILLUMINATION ASSEMBLY (200W)	6 FT
1-B-01	P	LED CANOPY LIGHT (100W)	N/A
1-B-02	P	LED CANOPY LIGHT (100W)	N/A
1-B-03	P	LED CANOPY LIGHT (100W)	N/A
1-B-04	P	LED CANOPY LIGHT (100W)	N/A

ITEM	CODE	DESCRIPTION	UNIT	QTY
416	7039	DRILL SHAFT (RDWY ILL POLE) (24 IN)	LF	24
618	7030	COND'T (PVC) (SCH 40) (2")	LF	265
618	7055	COND'T (PVC) (SCH 80) (2") (BORE)	LF	50
618	7070	COND'T (RM) (3/4")	LF	105
620	7003	ELEC CONDR (NO.12) BARE	LF	105
620	7004	ELEC CONDR (NO.12) INSULATED	LF	630
620	7007	ELEC CONDR (NO.8) BARE	LF	315
620	7008	ELEC CONDR (NO.8) INSULATED	LF	630
624	7002	GROUND BOX TY A (122311)W/APRON	EA	5
628	7121	ELC SRV TY D 120/240 060(NS)AL(E)SP(O)	EA	1

NOTES:

- REFER TO TXDOT TYPICAL STANDARD SHEETS FOR ADDITIONAL DETAILS.
- PROVIDE SAFETY LIGHTING USING 20' STEEL POLES WITH AN LED SHOE BASE LIGHT (200 WATTS) AND PAVILLION LIGHTING USING LED CANOPY LIGHTS (100 WATTS)
- CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO VERIFY THE LOCATIONS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION TO AVOID CONFLICTS OR DAMAGE TO UTILITIES.
- CONTRACTOR SHALL CALL 811 TO LOCATE UTILITIES 72 HRS PRIOR TO EXCAVATION, BORING OR TRENCHING.
- ANY UTILITIES DAMAGED BY CONTRACTOR SHALL BE REPAIRED BY CONTRACTOR AT NO COST TO THE UTILITY OWNER.
- LOCATIONS OF ILLUMINATION POLES AND CONDUIT RUNS ARE APPROXIMATE. DETERMINE THE EXACT LOCATION IN THE FIELD IN COORDINATION WITH THE ENGINEER OR INSPECTOR.



SURVEYED BY: KUO
FB NO. 00000

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

EP HILL PARK

EP HILL PARK PARKING LOT
ILLUMINATION LAYOUT

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
HORIZ: 1"=20'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 56 OF 73	

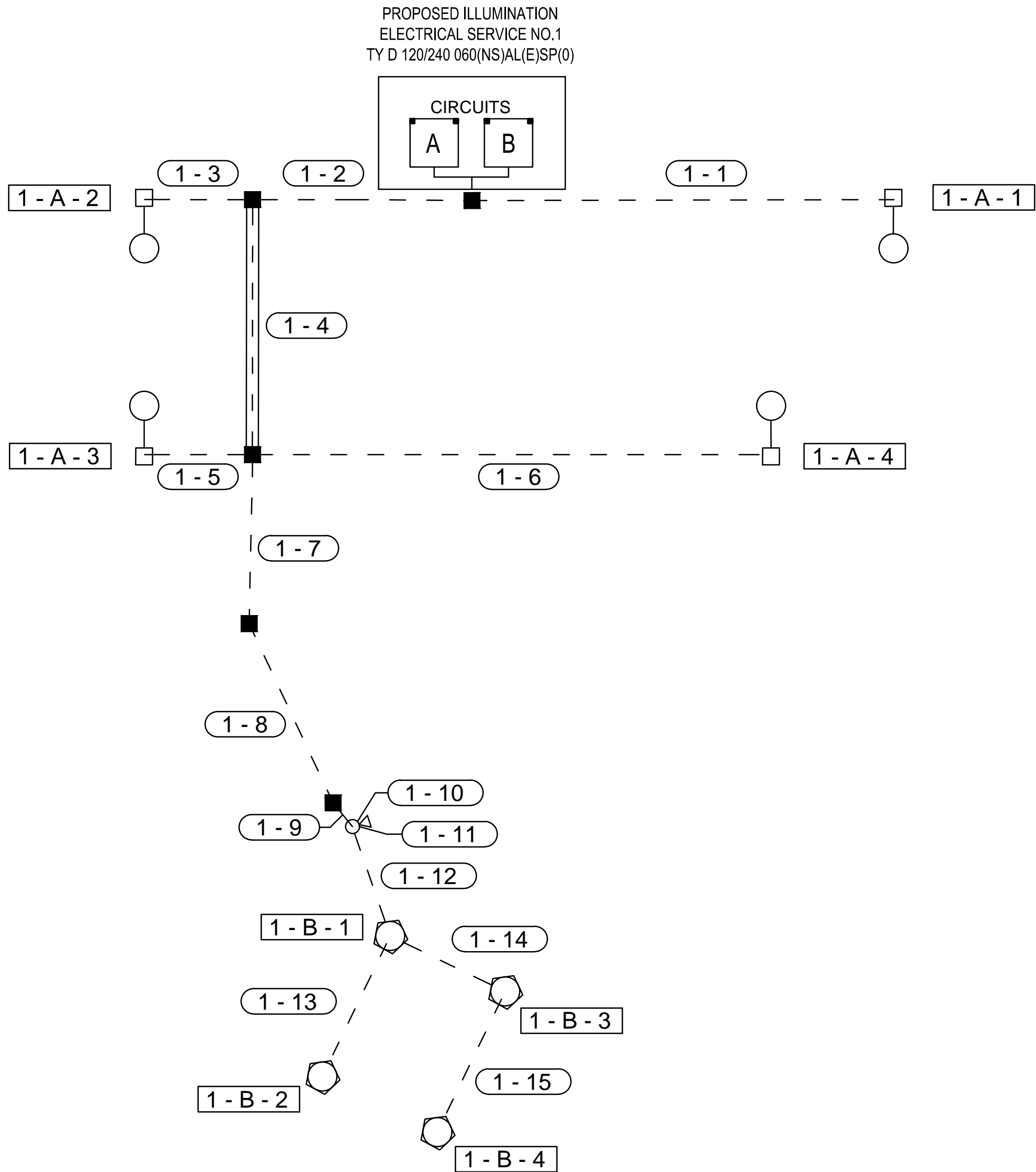
FILE PATH: C:\projectwise\dec\workdir\fidel\gambou\d0204108\EP-SP-EP HILL PARK PARKING LOT LIGHTING.dwg

PLOT STYLE: coh_ctb_230809 -- MOD.ctbPLOTTED: 7/22/2025 12:21 PM

- ELECTRICAL SERVICE DATA -

ELECTRICAL SERVICE DATA												
SERVICE POLE ID.	CALL OUT	ELECTRICAL SERVICE DESCRIPTION SEE ED (5 THRU 8)-14	SERVICE CONDUIT SIZE	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN CKT. BKR. POLE/AMP	TWO-POLE CONTRACTOR AMPS	PANELBD / LOADCENTER AMP RATING	BRANCH CIRCUIT ID	BRANCH CKT. BKR POLE/AMPS	BRANCH CIRCUIT AMPS	KVA LOAD
EP HILL	ES #1	TY D 120/240 060 (NS)AL(E)SP(O)	1 1/4"	3/#6 AWG	60	2P/60	2P/60	100	ILLUMINATION CIRCUIT "A"	2P/15	5	3.6
									CANOPY CIRCUIT "B"	1P/30	20	

- CIRCUIT DIAGRAM -



- VOLTAGE DROP CALCULATIONS -

ELECTRICAL SERVICE # 1 CIRCUIT "A" VOLTAGE DROP TABLE

RUN NO.	CURRENT THIS RUN [AMPS]	ADDTN'L BRANCH CURRENT IF ANY [AMPS]	DISTANCE TO NEXT RUN [FEET]	WIRE SIZE A.W.G. [NO.]	WIRE RESISTANCE [OHMS/FEET]	CURRENT RUNNING TOTAL [AMPS]	VOLTAGE DROP [VOLTS]	RUNNING TOTAL VOLTAGE DROP [VOLTS]
1-6	0.71		60	12	0.00336	0.71	0.14	0.14
1-4	0	0.71	50	12	0.00336	1.42	0.24	0.38
1-2	0.71		30	12	0.00336	2.13	0.21	0.60
ES1		0.71	10	12	0.00336	2.84	0.10	0.69

TOTAL VOLTAGE DROP= 0.30%

ELECTRICAL SERVICE # 1 CIRCUIT "B" VOLTAGE DROP TABLE

RUN NO.	CURRENT THIS RUN [AMPS]	ADDTN'L BRANCH CURRENT IF ANY [AMPS]	DISTANCE TO NEXT RUN [FEET]	WIRE SIZE A.W.G. [NO.]	WIRE RESISTANCE [OHMS/FEET]	CURRENT RUNNING TOTAL [AMPS]	VOLTAGE DROP [VOLTS]	RUNNING TOTAL VOLTAGE DROP [VOLTS]
1-15	0.83		30	12	0.00336	0.83	0.08	0.08
1-14	0.83		15	12	0.00336	1.66	0.08	0.17
1-12	0.83	0.83	20	12	0.00336	3.32	0.22	0.39
1-11			10	12	0.00336	3.32	0.11	0.50
1-10		16	5	8	0.001308	19.32	0.13	0.63
1-9			5	8	0.001308	19.32	0.13	0.75
1-8			45	8	0.001308	19.32	1.14	1.89
1-7			50	8	0.001308	19.32	1.26	3.16
1-4			50	8	0.001308	19.32	1.26	4.42
1-2			30	8	0.001308	19.32	0.76	5.18
ES1			5	8	0.001308	19.32	0.13	5.30

TOTAL VOLTAGE DROP= 4.42%

LEGEND

- PROPOSED RDWY ILL ASSEMBLY
- PROPOSED PAVILLION LIGHTING
- PROPOSED ELECTRICAL GROUND BOX
- SERVICE POLE AND SWITCH
- PROPOSED ELECTRICAL SERVICE
- PROPOSED CONDUIT
- PROPOSED CONDUIT (BORED)
- CONDUIT RUN NUMBER

ILLUMINATION ASSEMBLY ID:

ELECT. SVC. NUMBER
CIRCUIT ID
POLE OR LUMINAIRE
NUMBER
X - X - X



SURVEYED BY: KUO
FB NO. 00000

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

EP HILL PARK
EP HILL PARK ILLUMINATION
CIRCUIT DIAGRAM AND
ELECTRICAL SERVICE

WBS NUMBER

M-420HUD-013A-3

DRAWING SCALE

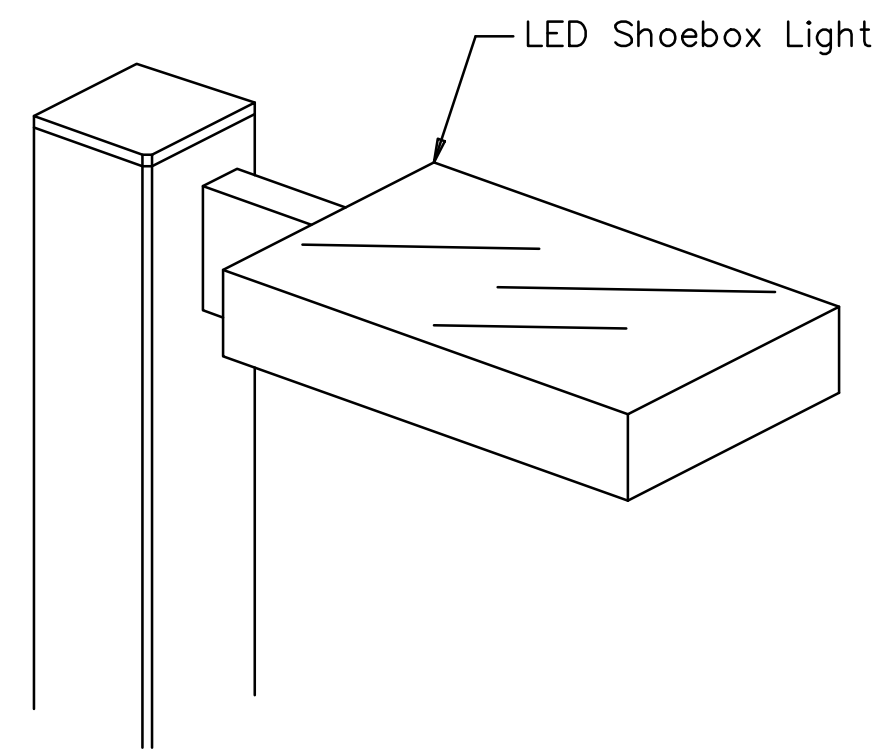
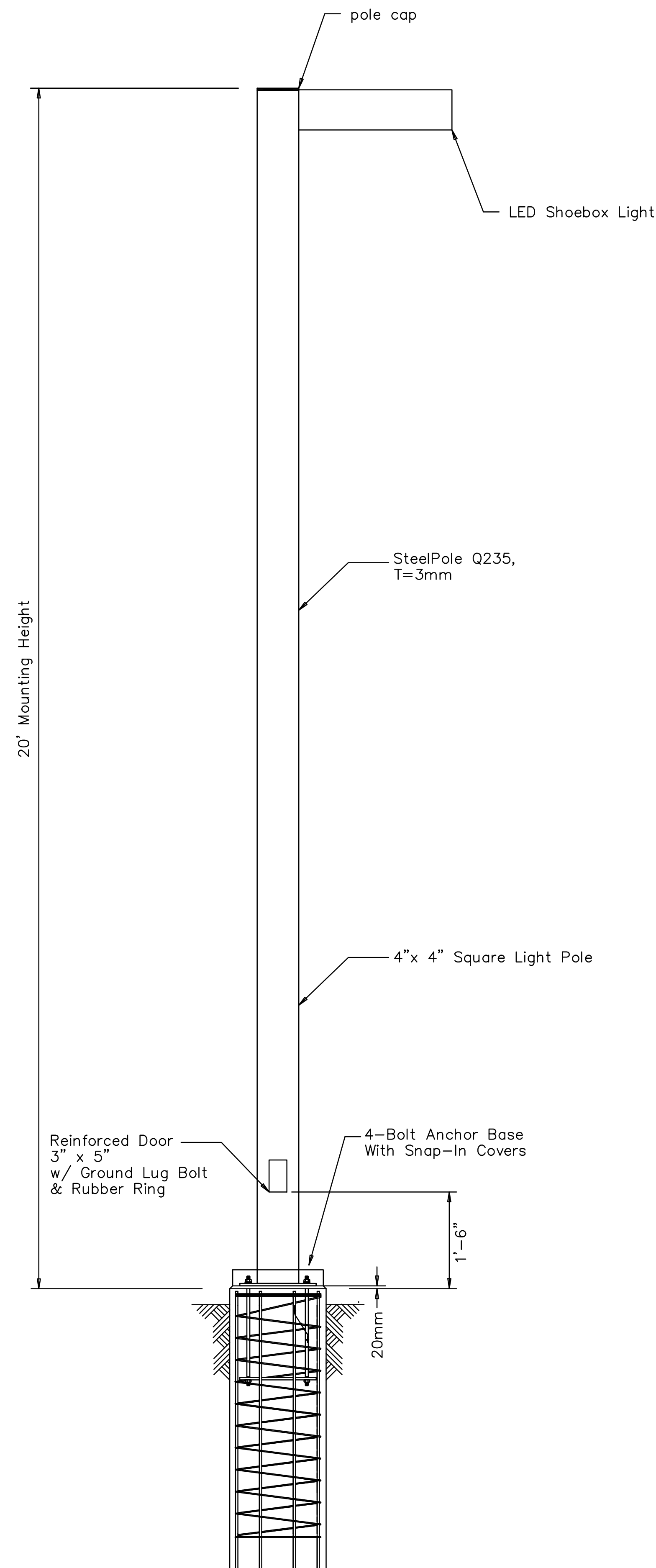
N.T.S.

CITY OF HOUSTON PM

CUONG NGUYEN

SHEET NO. 57 OF 73

FOR CITY OF HOUSTON USE ONLY

[illegible]

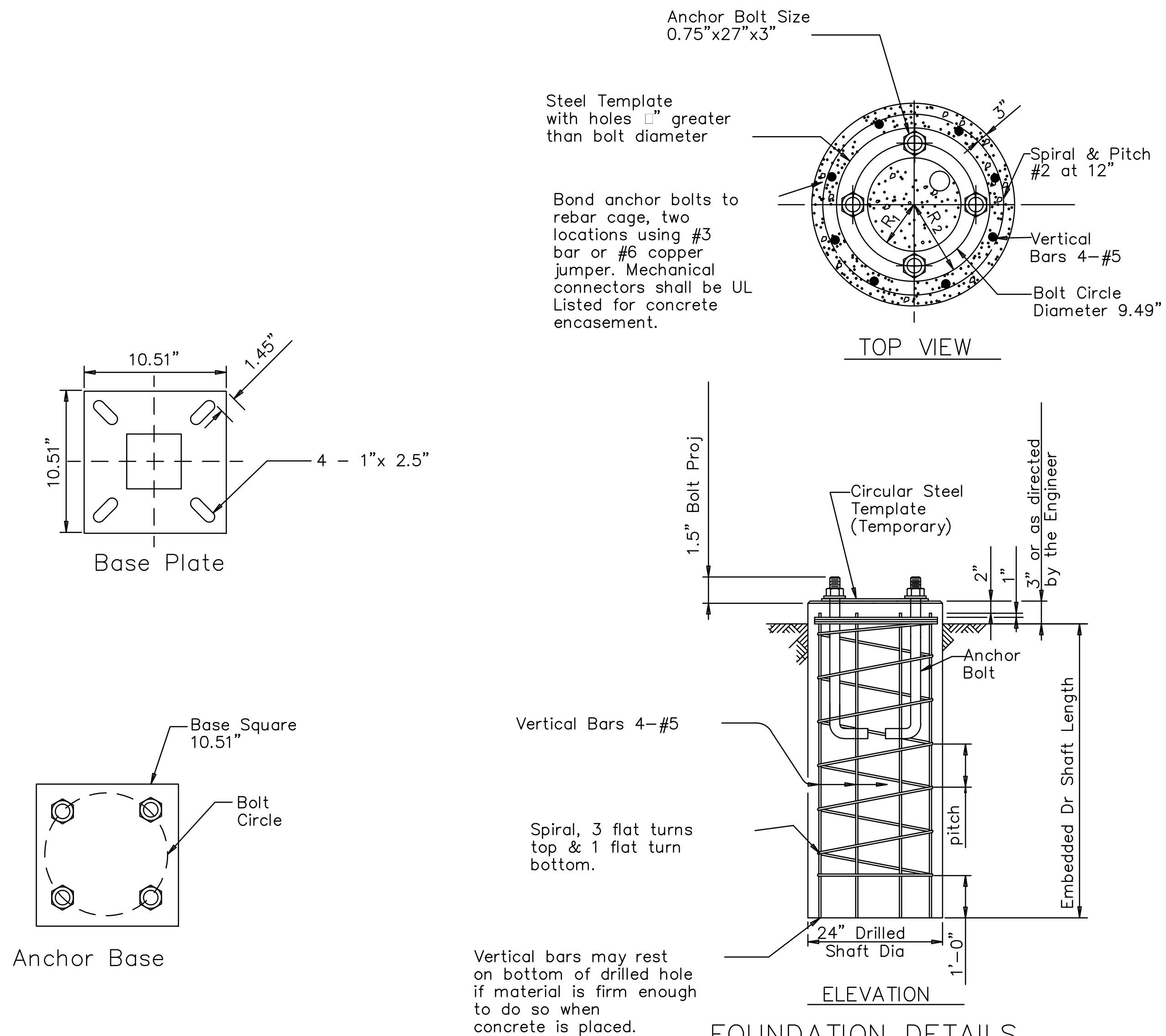
GENERAL NOTES:

Reinforcing steel shall conform to Item 440, "Reinforcing Steel".


Concrete shall be Class "C".

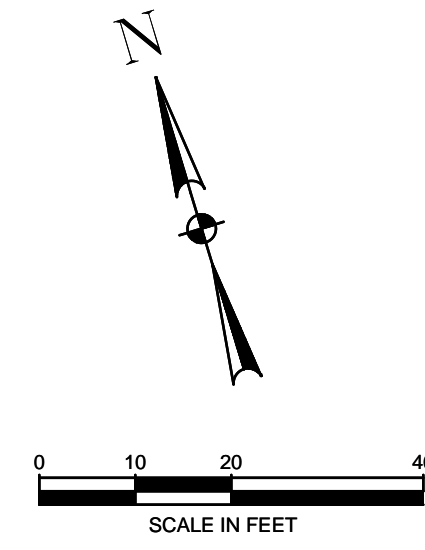
Anchor bolts shall conform to ASTM A36. Galvanize a minimum of the top end thread length plus 6" for all anchor bolts unless otherwise noted. Exposed washers and exposed nuts shall be galvanized. All galvanizing shall be in accordance with Item 445, "Galvanizing".






Illumination Pole to be paid by Item COS1-6001.
Electrical Conductors internal to the pole will be subsidiary to Item COS1.




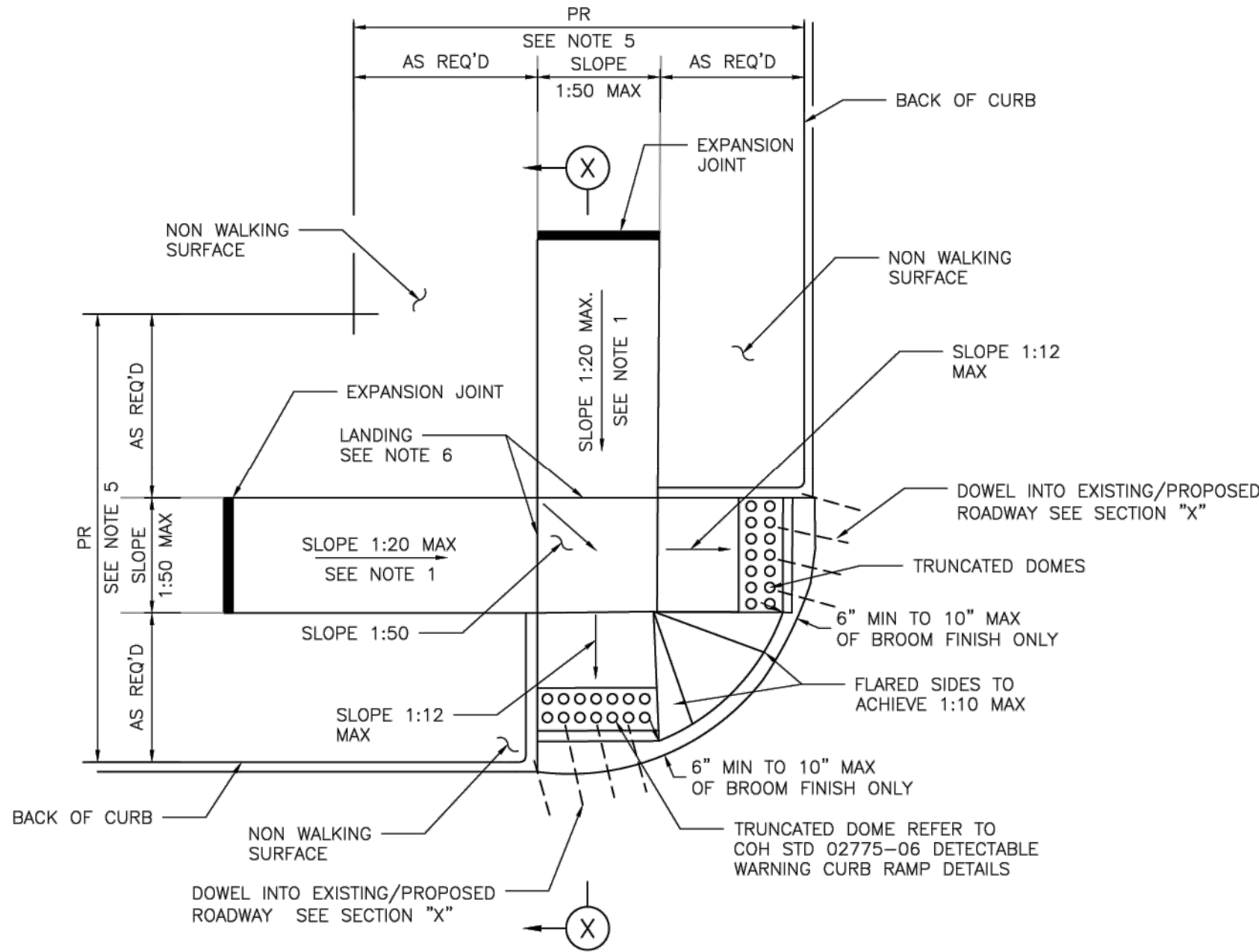
ILLUMINATION POLE DETAILS

 <p>GANNETT FLEMING</p> <p>T.B.P.E.L.S. FIRM REGISTRATION #1800 3100 WEST ALABAMA HOUSTON, TEXAS 77058 (713) 520-9570</p>	
<p>SURVEYED BY: KUO</p> <p>FB NO. 00000</p>	
<p>CITY OF HOUSTON</p> <p>HOUSTON PUBLIC WORKS</p>	
<p>EP HILL PARK</p> <p>EP HILL PARK ILLUMINATION POLE DETAILS</p>	
<p>WBS NUMBER</p>	<p>FOR CITY OF HOUSTON USE ONLY</p>
<p>M-420HUD-013A-3</p>	
<p>DRAWING SCALE</p>	
<p>N.T.S.</p>	
<p>CITY OF HOUSTON PM</p>	
<p>CUONG NGUYEN</p>	
<p>SHEET NO. 58 OF 73</p>	

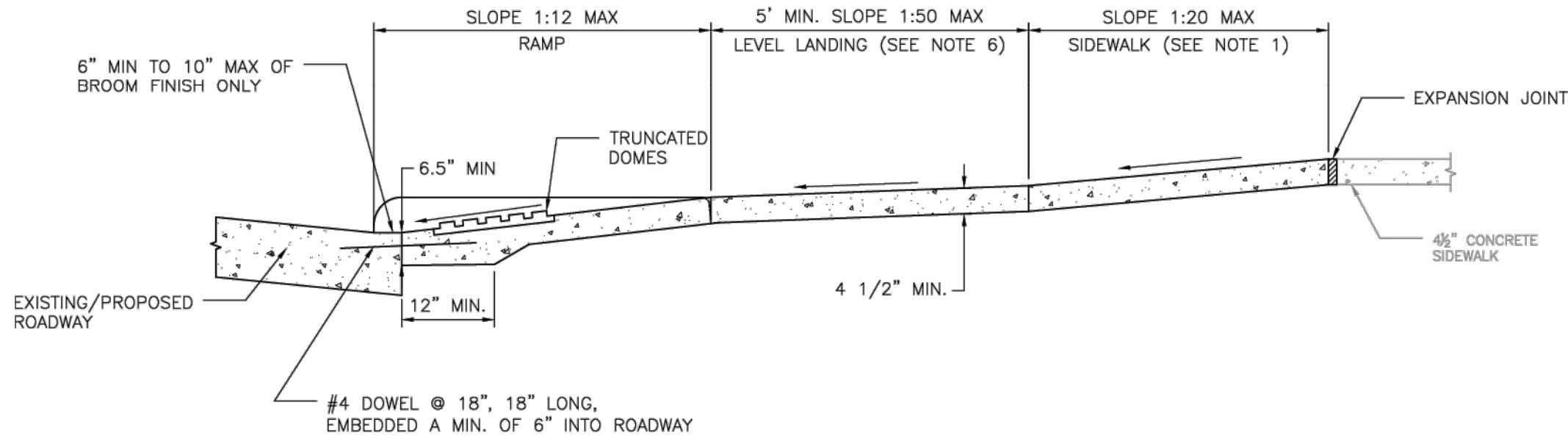
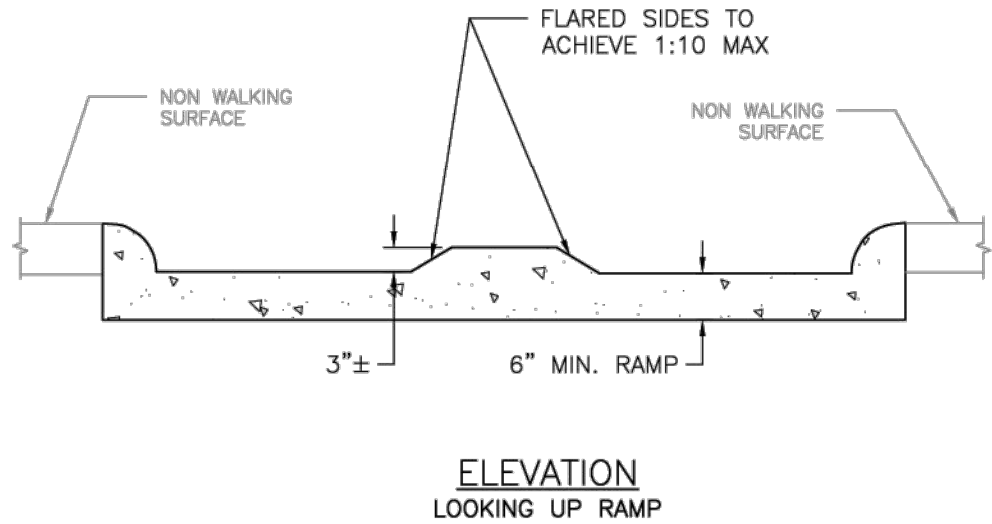


-  PROPOSED RDWY ILL ASSEMBLY
-  PROPOSED PAVILLION LIGHTING
-  .20 FOOT CANDLES
-  .40 FOOT CANDLES
-  .60 FOOT CANDLES

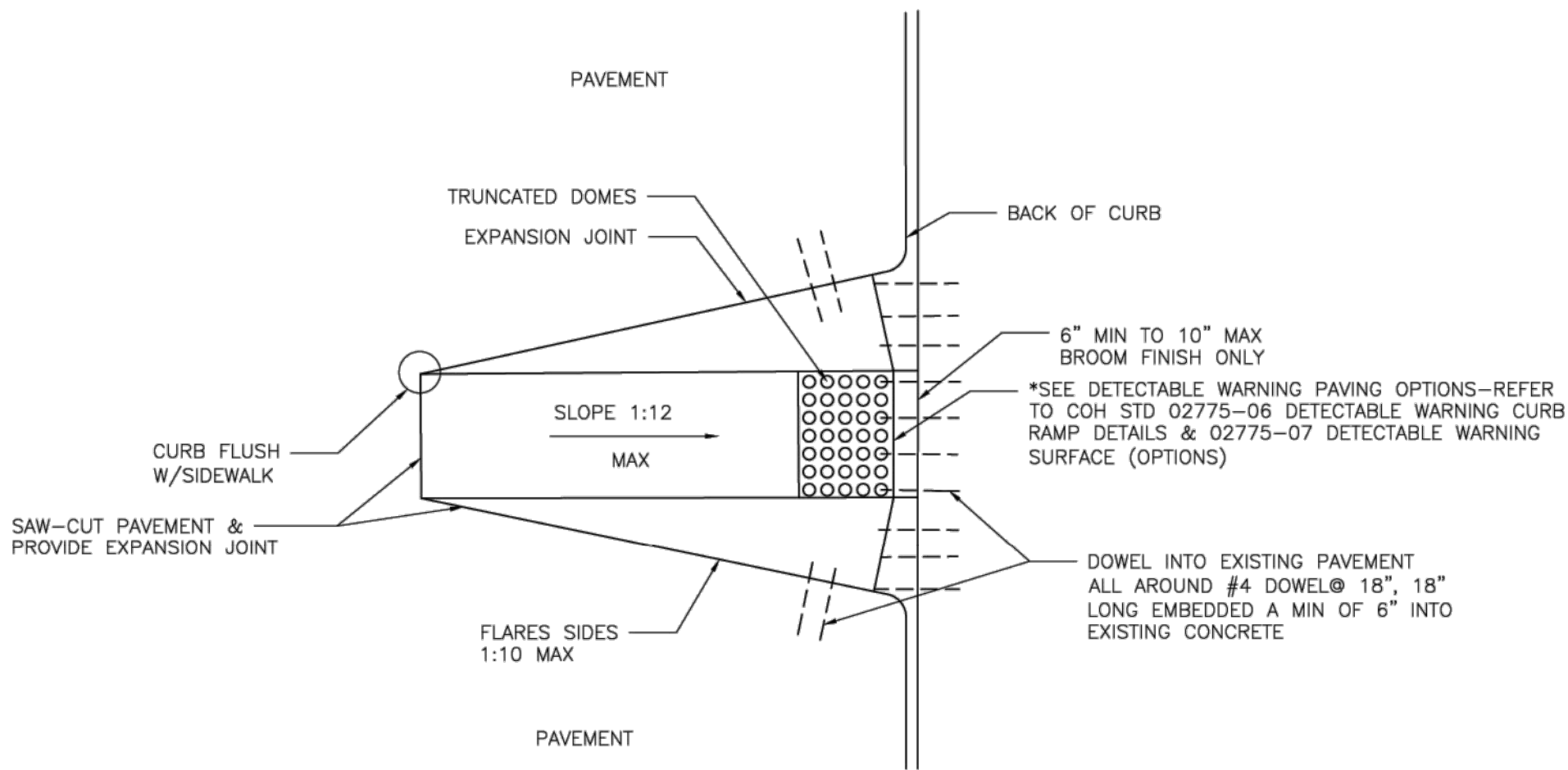
 GANNETT FLEMING T.B.P.E.L.S. FIRM REGISTRATION #1800 3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570	
	SURVEYED BY: KUO FB NO. 00000
CITY OF HOUSTON HOUSTON PUBLIC WORKS	
EP HILL PARK	
EP HILL PARK PHOTOMETRICS	
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
HORIZ: 1"=20'	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 59 OF 73	



STREETS WITH NON- WALKING SURFACE BEHIND CURB
SEE NOTE-7



SECTION X-X



CURB RAMP CONSTRUCTION FOR EXISTING PAVEMENT

NOTES:

1. REPLACE EXISTING SIDEWALK FROM LEVEL LANDING AS NECESSARY TO ACHIEVE 1:20 SLOPE
2. BROOM FINISH IS MEASURED FROM FACE OF CURB.
3. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
4. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON UNLESS NOTED OTHERWISE.
5. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR) WIDTH.
6. MINIMUM 5'x5' LANDING PAD ACCORDING TO ADA REQUIREMENTS. WHEN THE APPROACHING SIDEWALK IS WIDER THAN 5', THE LANDING PAD AND RAMP WIDTH MUST MATCH THE SIDEWALK WIDTH.
7. FOR STREETS WITH WALKABLE SURFACES IMMEDIATELY BEHIND THE CURB A FLARE IS REQUIRED ON BOTH SIDES OF THE RAMP.

APPROVED BY: CITY ENGINEER	APPROVED BY: CITY TRAFFIC ENGINEER
APPROVED BY: DIRECTOR OF HOUSTON PUBLIC WORKS	
EFF DATE: NOV-27-2023	DWG NO: 02775-02
CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
TYPICAL CURB RAMP DETAILS	
FOR CITY OF HOUSTON USE ONLY	
DRAWING SCALE	
NOT TO SCALE	

GANNETT FLEMING
T.B.P.E.L.S. FIRM REGISTRATION #1800
3100 WEST ALABAMA HOUSTON, TEXAS 77098 (713) 520-9570

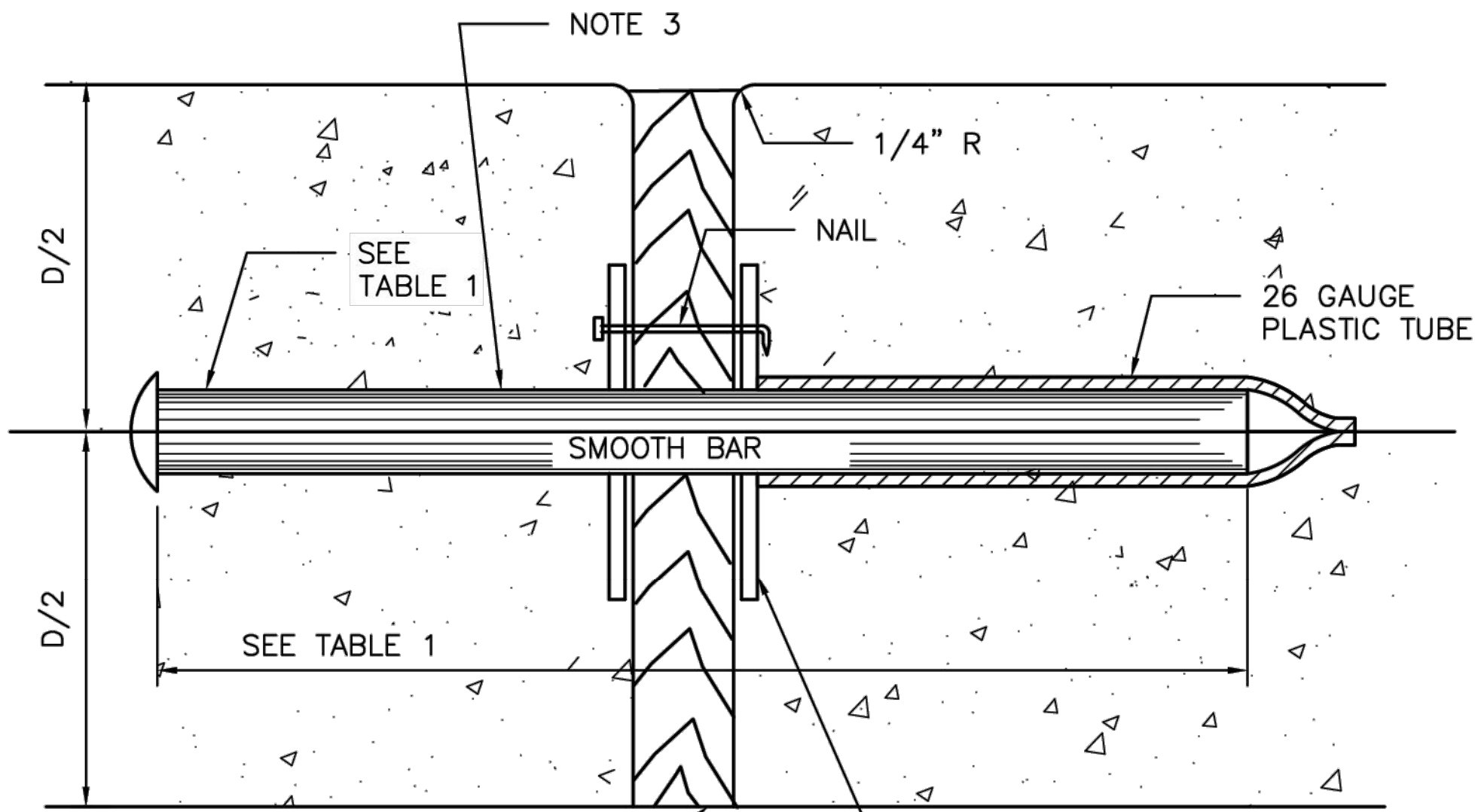
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FB NO. 00000

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

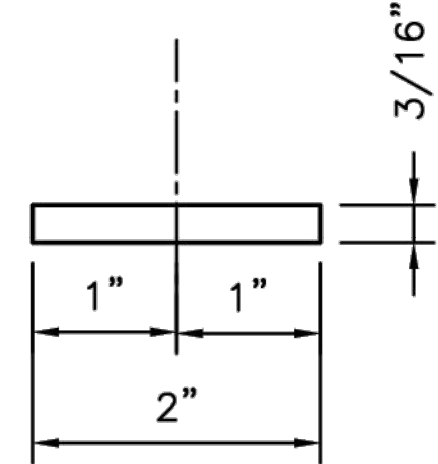
EP HILL PARK

PAVING DETAILS
(SHEET 1 OF 2)

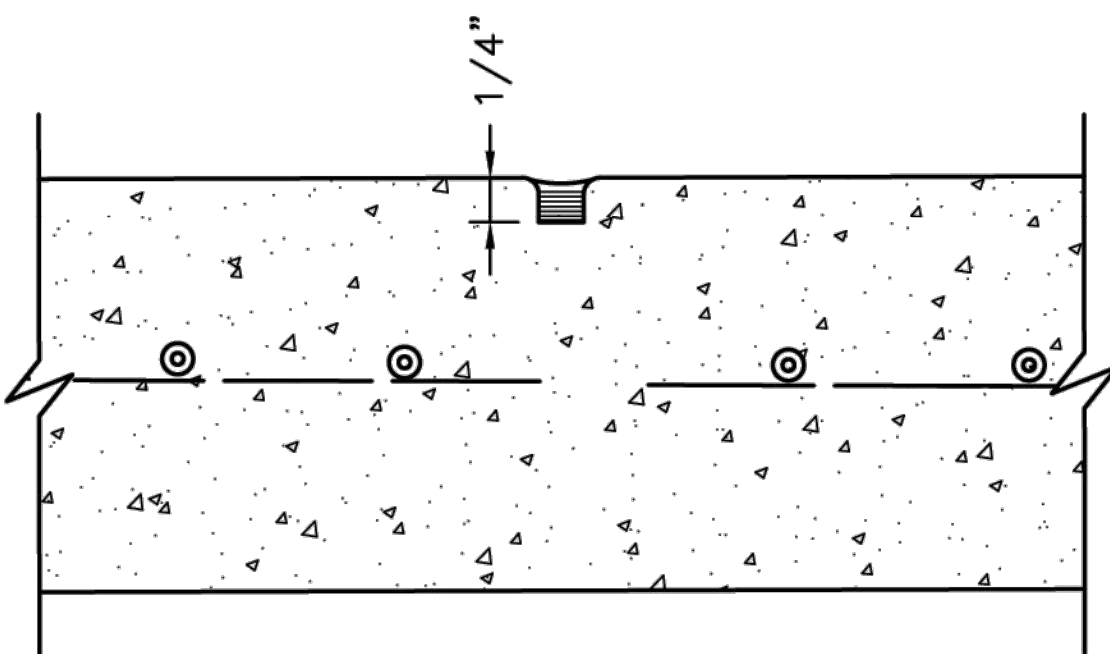
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 60 OF 73	



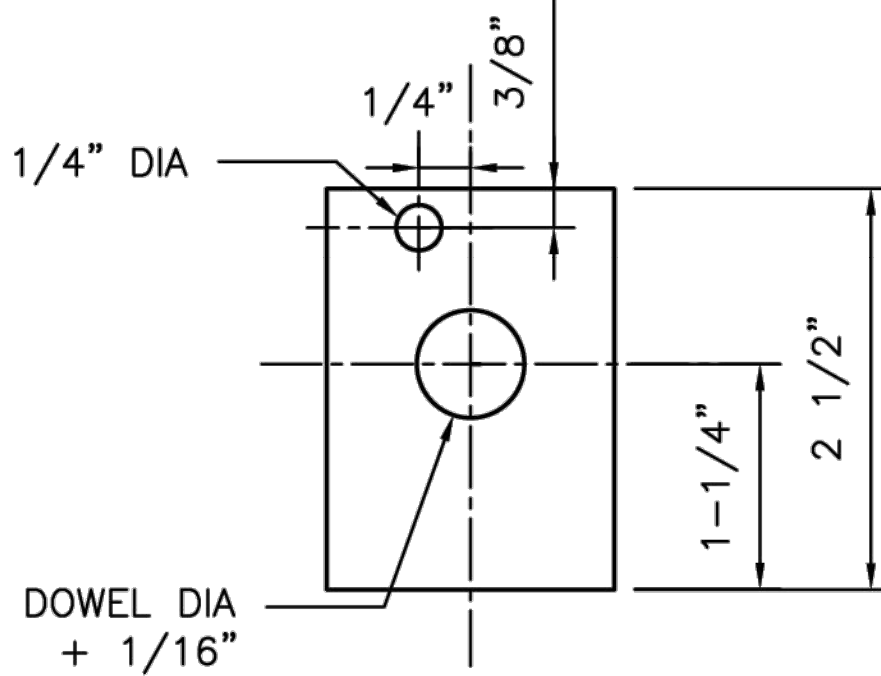
SECTION
DOWEL TYPE EXPANSION JOINT



PLAN VIEW
JOINT PLATE



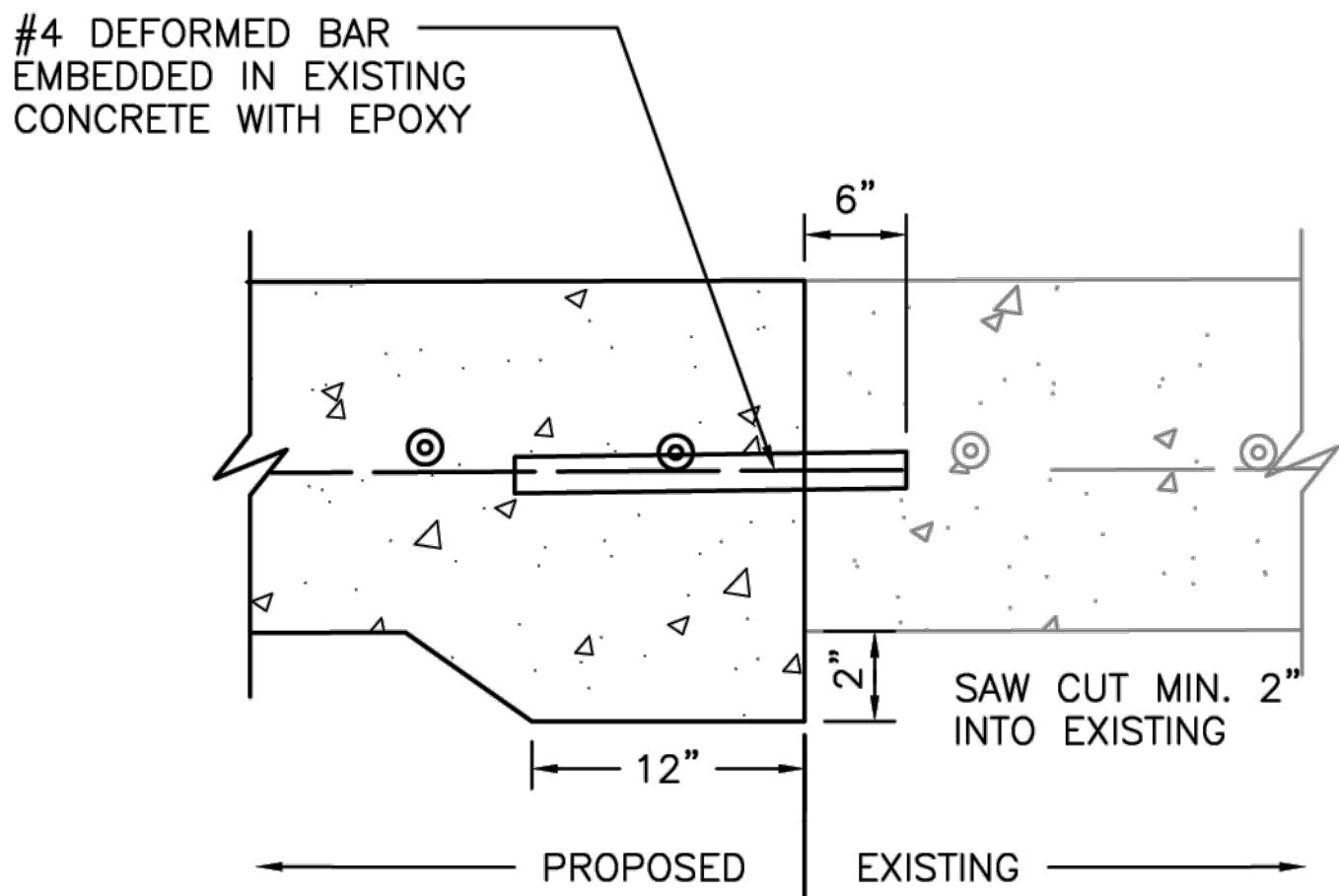
SECTION
CONTROL JOINT



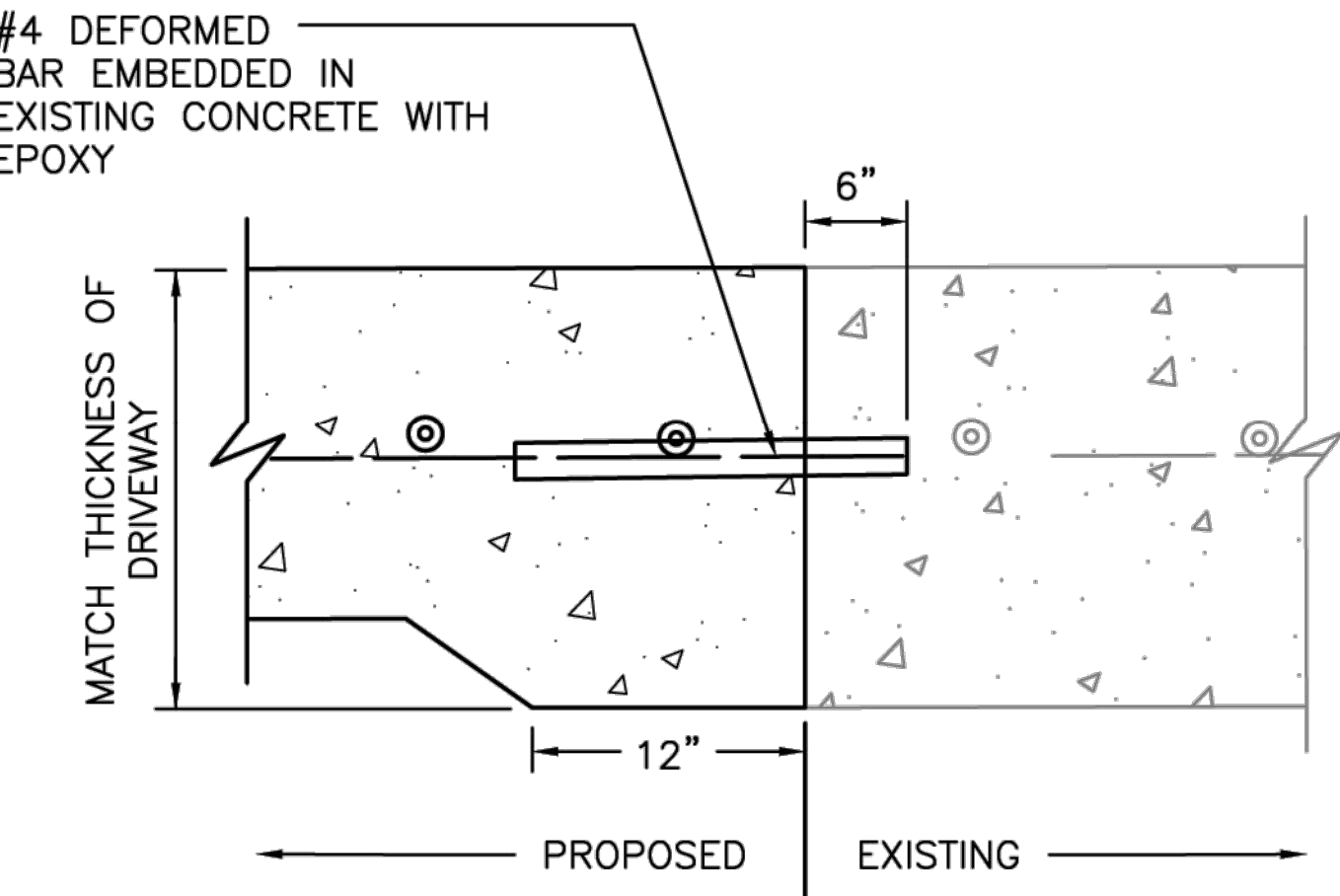
ELEVATION VIEW
JOINT PLATE

TABLE 1

PAVEMENT THICKNESS (IN)	DOWEL SIZES AND SPACINGS		
	DIAMETER (IN)	LENGTH (IN)	SPACING (IN)
4 1/2	1/2	18	12
5	1/2	18	12
6	3/4	18	12
7	1	18	12



SECTION
SIDEWALK TO EXISTING SIDEWALK



SECTION
SIDEWALK TO EXISTING DRIVEWAY

NOTES:

1. STEEL TO MEET ASTM STANDARD SPECIFICATIONS FOR CONCRETE REINFORCING BARS.
2. EXPANSION JOINT TO BE PLACED AT THE END OF EACH CURB RADIUS AND SPACED AT A MAXIMUM DISTANCE OF 3 FEET MAXIMUM SPACING FOR CONTROL JOINTS SHALL BE 5 FEET.
3. CENTER DOWEL HORIZONTALLY ON JOINT.
4. CENTER DOWEL VERTICALLY IN CONCRETE AS NEEDED TO MAINTAIN A 2 INCH MINIMUM COVER.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

SIDEWALK EXPANSION AND CONSTRUCTION JOINT DETAILS
(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by:
Sulail Kanwar
9EF8B0C641F5478
CITY ENGINEER

DocuSigned by:
Khang Nguyen
95A29EFD75B4CD
CITY TRAFFIC ENGINEER

DocuSigned by:
Carol Haddock
A93C410B72B3453
DIRECTOR OF HPW

EFF DATE: NOV-27-2023 DWG NO: 02752-02

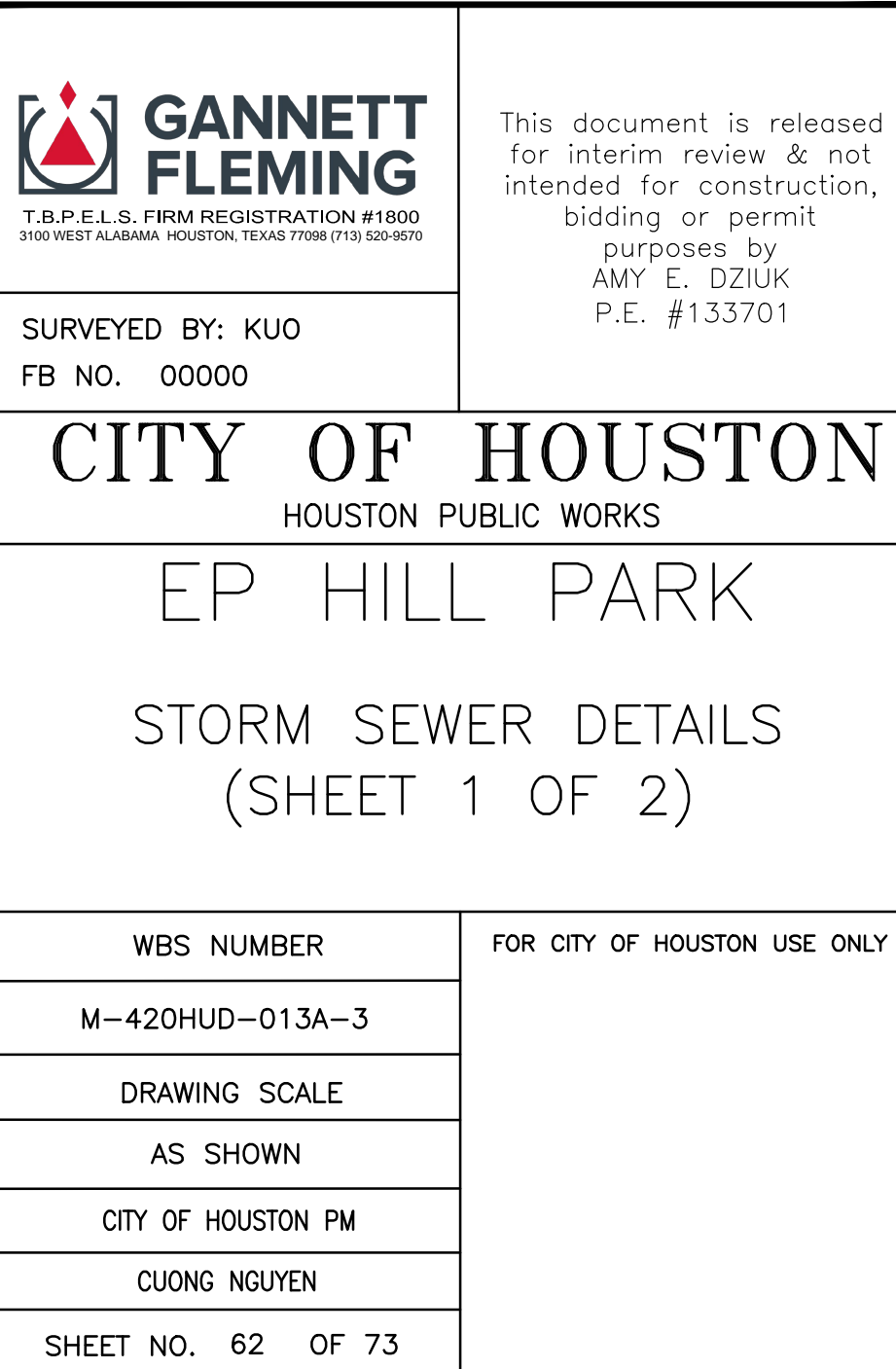
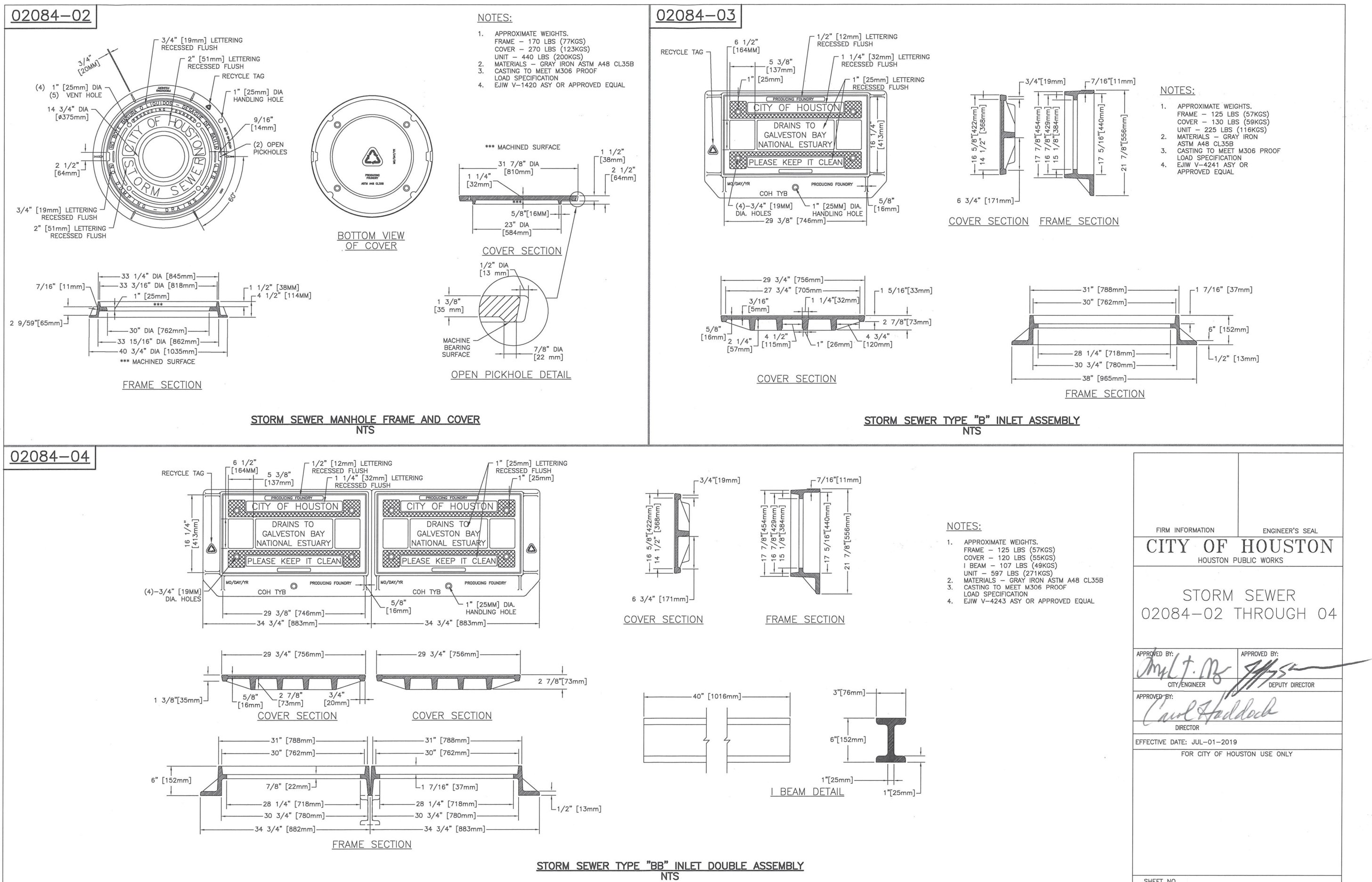
GANNETT FLEMING
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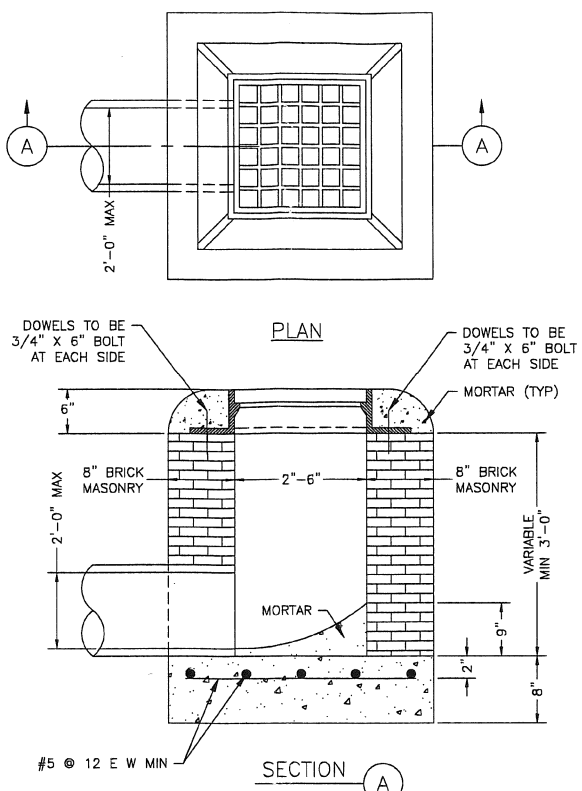
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

EP HILL PARK
PAVING DETAILS
(SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-420HUD-013A-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 61 OF 73	



02632-01

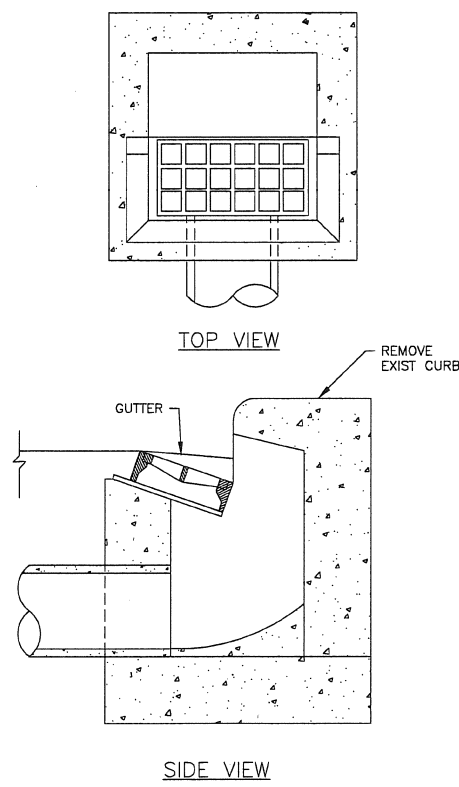


COH IS PHASING OUT BRICK, NEW DETAILS TO BE POSTED END OF 2019

STORM SEWER TYPE "A" GRATE INLET
NTS

02632-03

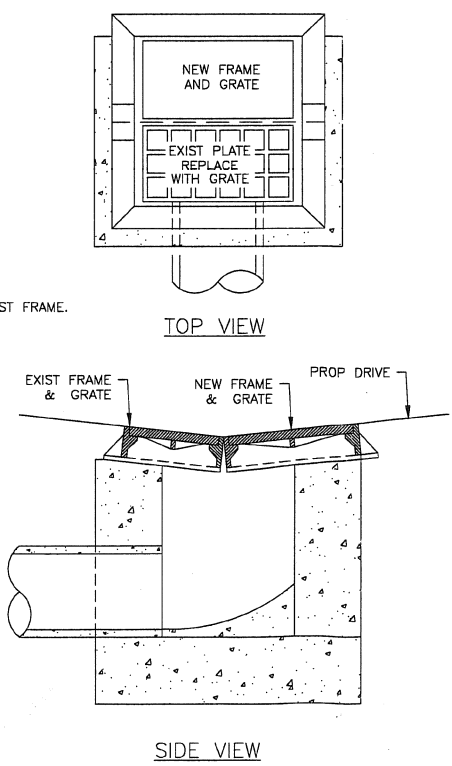
STEP 1: EXIST TYPE "B" INLET



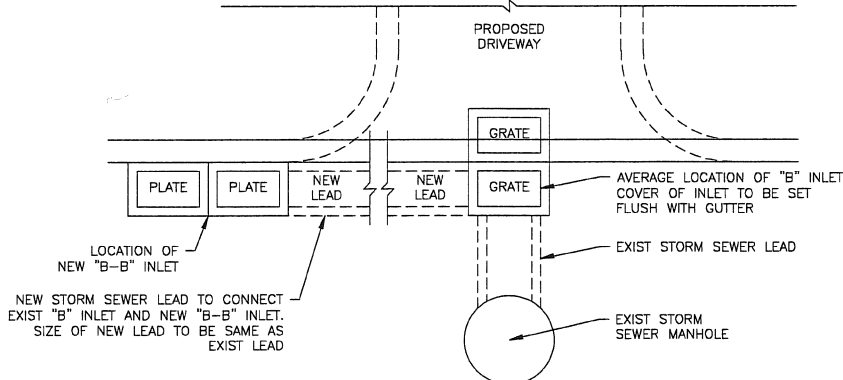
STEP 2:

NOTES:

1. AFTER REMOVING EXIST CURB, RAISE EXIST FRAME TO GUTTER GRADE.
2. REPLACE EXIST PLATE WITH A GRATE.
3. ADD NEW FRAME AND GRATE NEXT TO EXIST FRAME.
4. BACKFILL INLET TO A POINT ONE FOOT BEHIND THE CURB WITH 1 SACK/TON CEMENT STABILIZED SAND.



STEP 3: CONSTRUCT NEW TYPE "B-B" INLET ON CURB RETURN OF PROPOSED DRIVEWAY

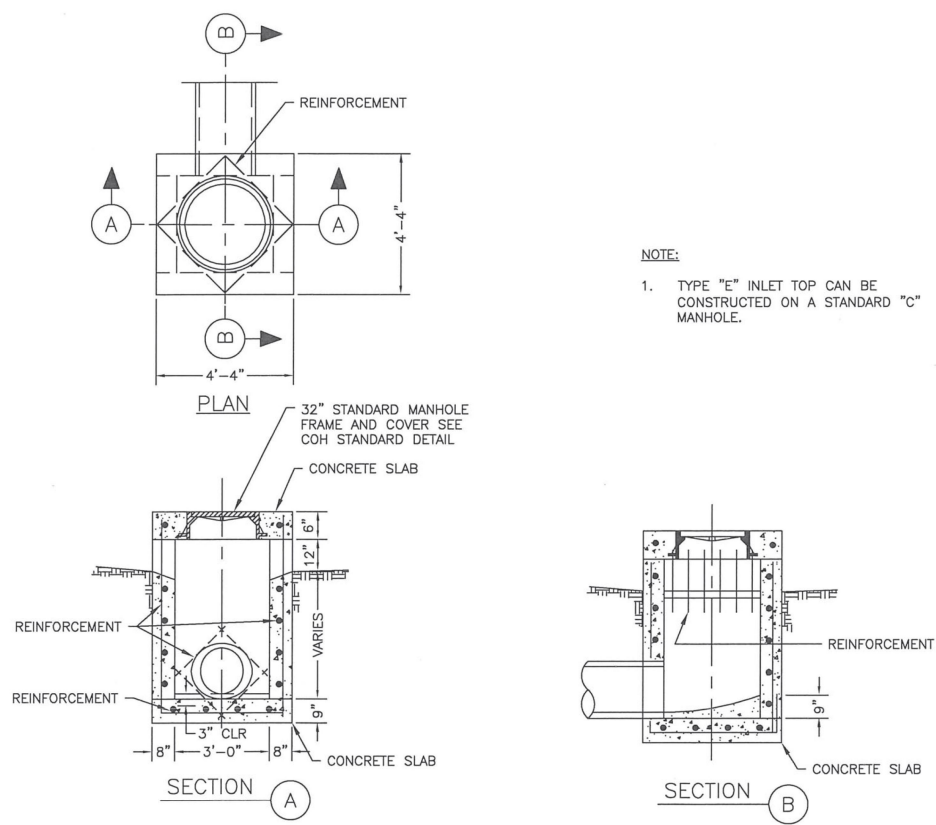


FIRM INFORMATION
CITY OF HOUSTON
HOUSTON PUBLIC WORKS
STORM SEWER
02632-01 AND 03

APPROVED BY: [Signature]
CITY ENGINEER
APPROVED BY: [Signature]
DEPUTY DIRECTOR
APPROVED BY: [Signature]
DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFFECTIVE DATE: JUL-01-2019
FOR CITY OF HOUSTON USE ONLY

SHEET NO. XX OF XX

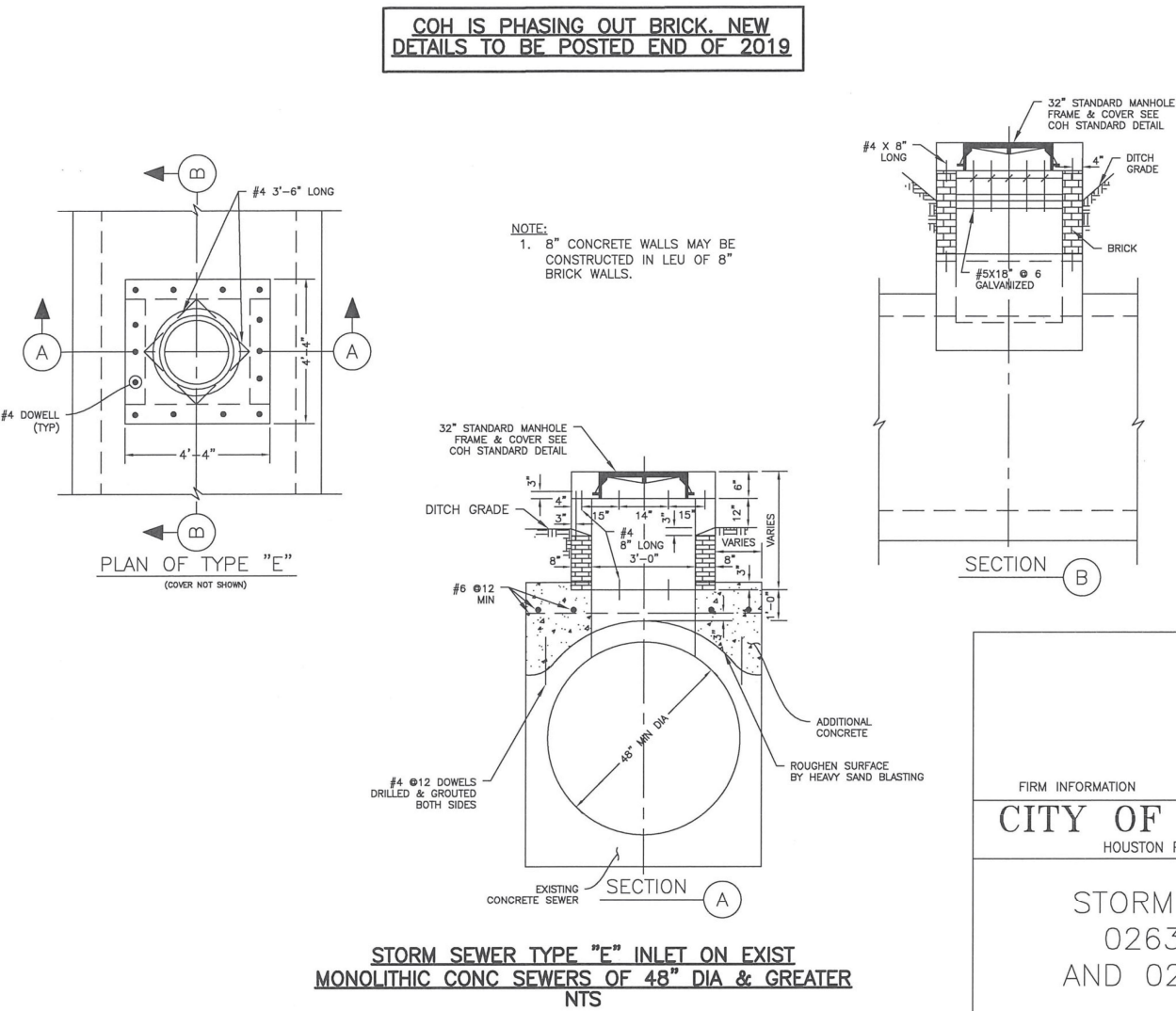
02632-09



- NOTE:
1. TYPE "E" INLET TOP CAN BE CONSTRUCTED ON A STANDARD "C" MANHOLE.

STORM SEWER TYPE "E" INLET
NTS

Q2632-10



- NOTE:
1. 8" CONCRETE WALLS MAY BE CONSTRUCTED IN LEU OF 8" BRICK WALLS.

STORM SEWER TYPE "E" INLET ON EXIST
MONOLITHIC CONC SEWERS OF 48" DIA & GREATER
NTS

FIRM INFORMATION
CITY OF HOUSTON
HOUSTON PUBLIC WORKS
STORM SEWER
02632-09
AND 02632-10

APPROVED BY: [Signature]
CITY ENGINEER
APPROVED BY: [Signature]
DEPUTY DIRECTOR
APPROVED BY: [Signature]
DIRECTOR
EFFECTIVE DATE: JUL-01-2019
FOR CITY OF HOUSTON USE ONLY

SHEET NO.



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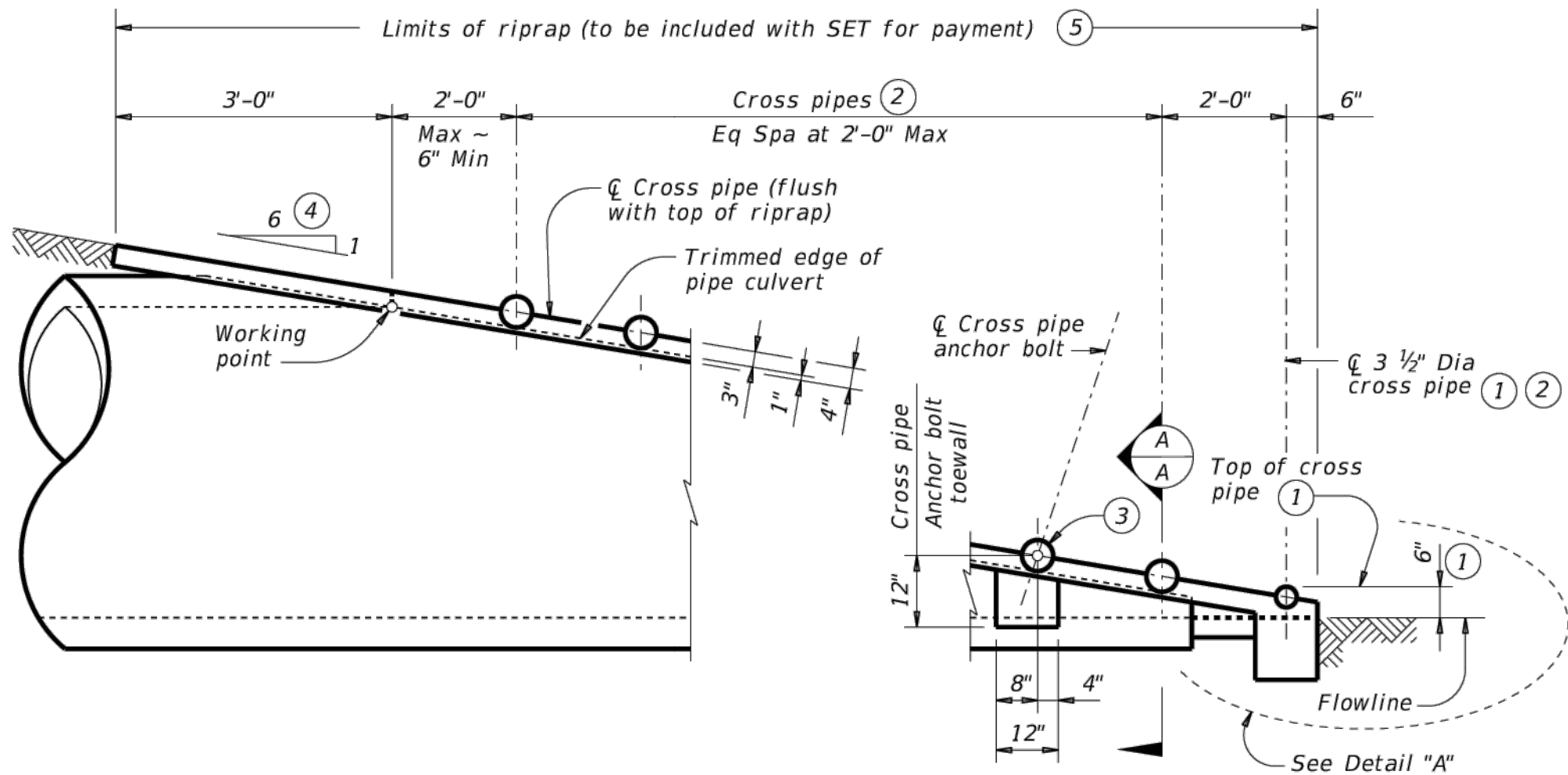
This document is released for interim review & not intended for construction, bidding or permit purposes by
AMY E. DZIUK
P.E. #133701

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

EP HILL PARK

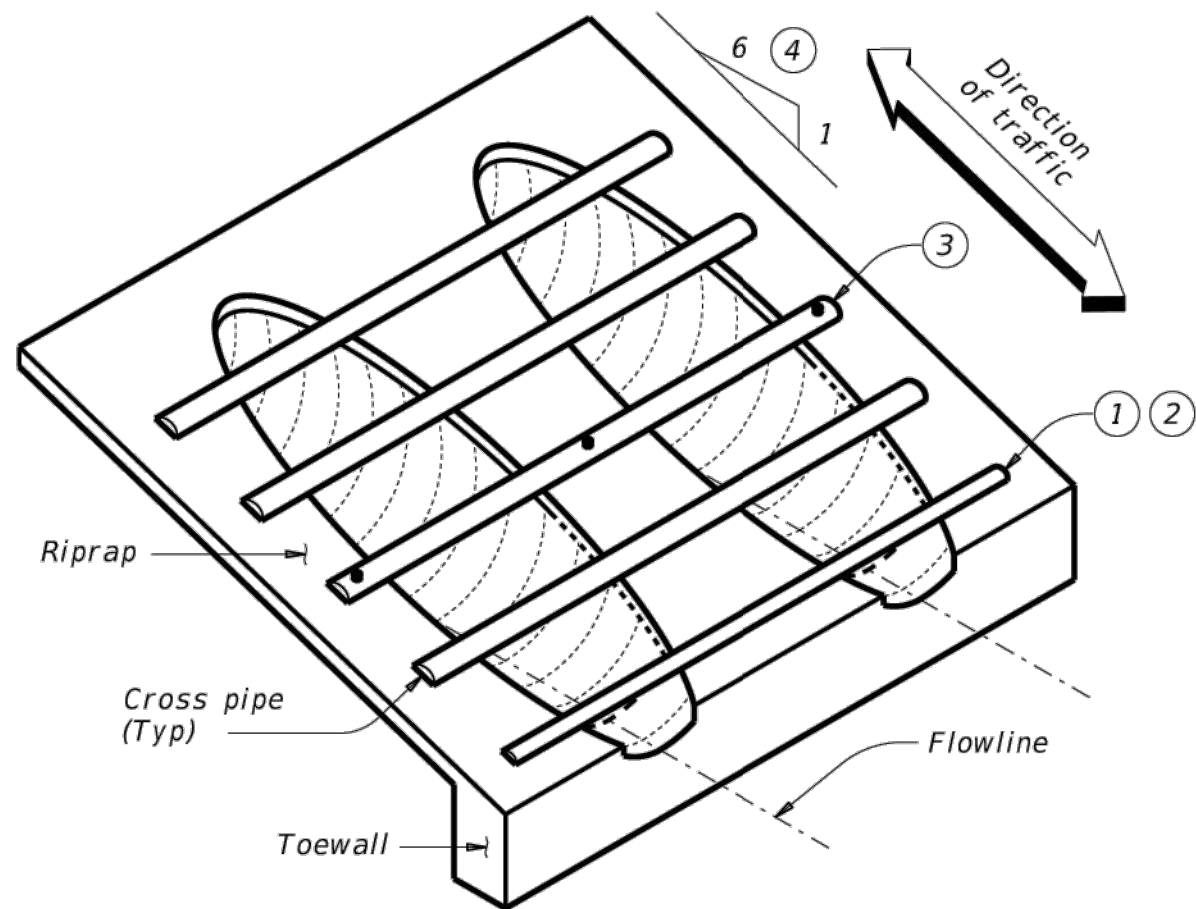
STORM SEWER DETAILS
(SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS SHOWN	
CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 63 OF 73	

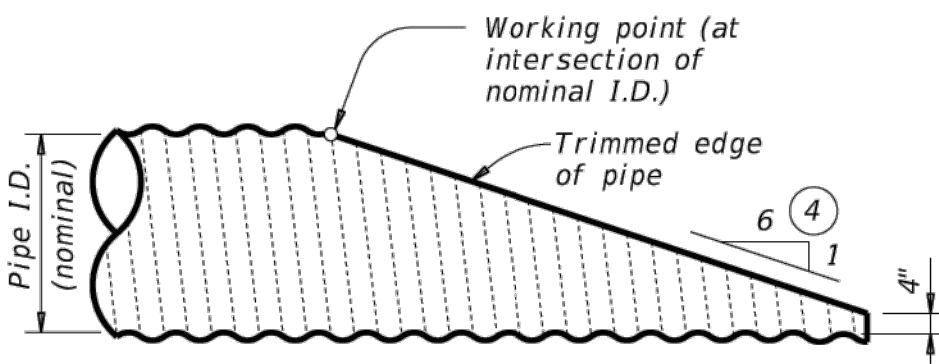


SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

(Showing reinforced concrete pipe (RCP) culvert. Details of corrugated metal pipe (CMP) culvert are similar. pipe runners not shown for clarity.)



ISOMETRIC VIEW OF TYPICAL INSTALLATION



NOTE: All cross pipes, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

(Showing corrugated metal pipe (CMP) culvert. Details at reinforced concrete pipe (RCP) culvert are similar.)

CROSS PIPE LENGTHS AND REQUIRED PIPE SIZES ②

Corrugated Metal Pipe (CMP) Culverts										
Design	Conc Riprap (CY) ⑥	Pipe Culvert Span	Pipe Culvert Rise	Pipe Culvert Spa ~ G	Single Barrel ~ Q1	Multi- Barrel ~ Q1	Q2	Conditions for Use of Cross Pipes	Cross Pipe Sizes	
1	0.6	17"	13"	1' - 0"	N/A	2' - 8"	2' - 5"	3 or more pipe culverts	3" Std (3.500" O.D.)	
2	0.7	21"	15"	1' - 2"	N/A	3' - 1"	2' - 11"		3 or more pipe culverts	3 ½" Std (4.000" O.D.)
3	0.9	28"	20"	1' - 5"	N/A	3' - 9"	3' - 9"			All pipe culverts
4	1.0	35"	24"	1' - 8"	4' - 4"	4' - 6"	4' - 7"	5" Std (5.563" O.D.)		
5	1.2	42"	29"	1' - 11"	4' - 11"	5' - 2"	5' - 5"			
6	1.4	49"	33"	2' - 2"	5' - 6"	5' - 11"	6' - 3"			
7	1.6	57"	38"	2' - 5"	6' - 2"	6' - 8"	7' - 2"			
8	1.8	64"	43"	2' - 10"	6' - 9"	7' - 6"	8' - 2"			
9	1.9	71"	47"	3' - 2"	7' - 4"	8' - 3"	9' - 1"			
Reinforced Concrete Pipe (RCP) Culverts										
Design	Conc Riprap (CY) ⑥	Pipe Culvert Span	Pipe Culvert Rise	Pipe Culvert Spa ~ G	Single Barrel ~ Q1	Multi- Barrel ~ Q1	Q2	Conditions for Use of Cross Pipes	Cross Pipe Sizes	
1	0.6	22"	13 ½"	1' - 0"	N/A	3' - 1"	2' - 10"	3 or more pipe culverts	3" Std (3.500" O.D.)	
2	0.7	26"	15 ½"	1' - 2"	N/A	3' - 6"	3' - 4"		3 or more pipe culverts	3 ½" Std (4.000" O.D.)
3	0.9	28 ½"	18"	1' - 5"	N/A	3' - 10"	3' - 9 ½"			All pipe culverts
4	1.0	36 ¼"	22 ½"	1' - 8"	4' - 5"	4' - 7"	4' - 8 ¼"	5" Std (5.563" O.D.)		
5	1.2	43 ¾"	26 ¾"	1' - 11"	5' - 1"	5' - 4"	5' - 6 ¾"			
6	1.4	51 ⅛"	31 ⅝"	2' - 2"	5' - 8"	6' - 1"	6' - 5 ¼"			
7	1.6	58 ½"	36"	2' - 5"	6' - 4"	6' - 10"	7' - 3 ½"			
8	1.8	65"	40"	2' - 10"	6' - 10"	7' - 7"	8' - 3"			
9	1.9	73"	45"	3' - 2"	7' - 6"	8' - 5"	9' - 3"			

- ① The proper installation of the first cross pipe is critical for vehicle safety. Place the top of the first cross pipe no more than 6" above the flow line.
- ② Provide cross pipes, except the first bottom pipe, of the size shown in the table. Provide a 3 1#2" standard pipe (4" O.D.) for the first bottom pipe.
- ③ Install the third Cross Pipe from the bottom of the culvert using a bolted connection. Ensure that riprap concrete does not flow into the cross pipe so as to permit disassembly of the bolted connection to allow cleanout access. At the Contractor's option, install all other cross pipes using the bolted connection details.
- ④ Match cross slope as shown elsewhere in the plans. Cross slope of 6:1 or flatter is required for vehicle safety.
- ⑤ Riprap placed beyond the limits shown will be paid as concrete riprap in accordance with Item 432, "Riprap."
- ⑥ Quantities shown are for one end of one pipe culvert. For multiple Pipe Culverts, quantities will need to be adjusted. Riprap quantities are for Contractor's information only.

MATERIAL NOTES:

Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.
Provide cross pipes that meet the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 Gr B, or API 5LX52.
Provide ASTM A307 bolts and nuts.
Galvanize all steel components, except concrete reinforcing, after fabrication. Repair galvanizing damaged during transport or construction in accordance with the specifications.

GENERAL NOTES:

Pipe runners are designed for a traversing load of 10,000 pounds at yield as recommended by Research Report 280-2F, "Safety Treatment of Roadside Parallel-Drainage Structures", Texas Transportation Institute, March 1981.
Safety end treatments (SET), shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the Pipe Runners.
Construct concrete riprap and all necessary inverts in accordance with the requirements of Item 432, "Riprap."
Payment for riprap and toewall is included in the price bid for each safety end treatment.

SHEET 1 OF 2

Texas Department of Transportation		Bridge Division Standard	
SAFETY END TREATMENT FOR DESIGN 1 TO 9 ARCH PIPE CULVERTS TYPE II ~ PARALLEL DRAINAGE SETP-PD-A			
FILE: CD-SETP-PD-A-20.dgn	DW: GAF	CK: TxDOT	DW: JRP
©TxDOT February 2020	CONT	SECT	JOB
REVISONS		HIGHWAY	
DIST		COUNTY	
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HOUSTON PUBLIC WORKS

EP HILL PARK

SAFETY END TREATMENT DETAIL
(SHEET 1 OF 2)

WBS NUMBER

M-420HUD-013A-3

DRAWING SCALE

N.T.S.

CITY OF HOUSTON PM

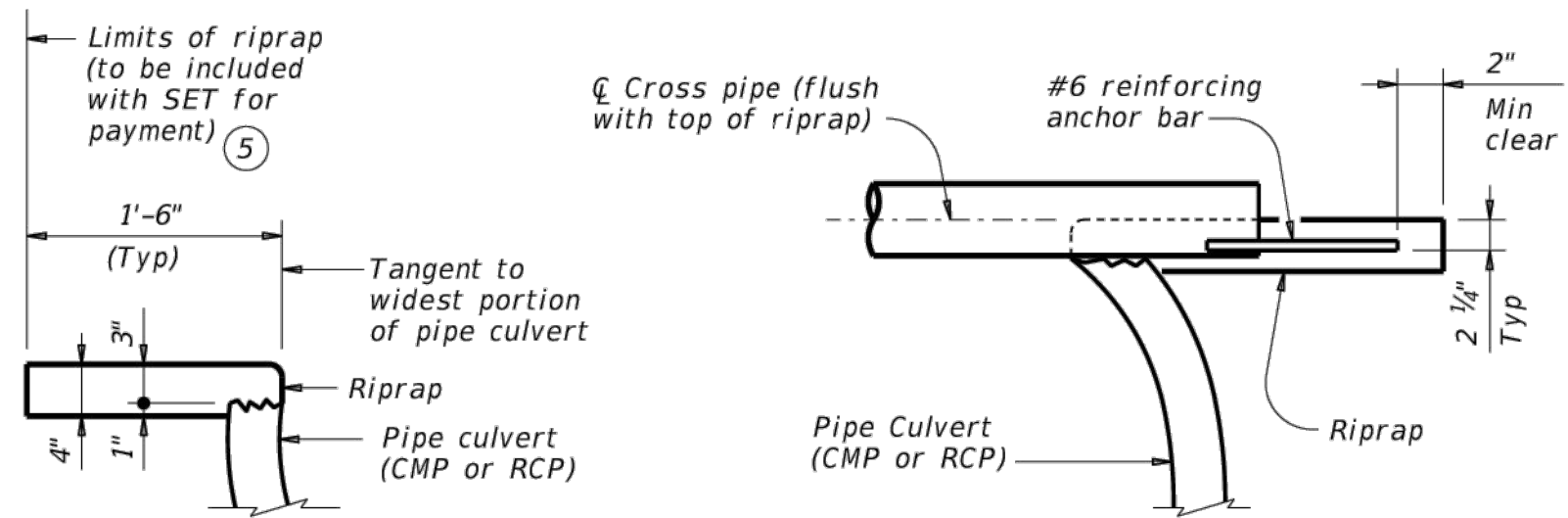
CUONG NGUYEN

SHEET NO. 64 OF 73

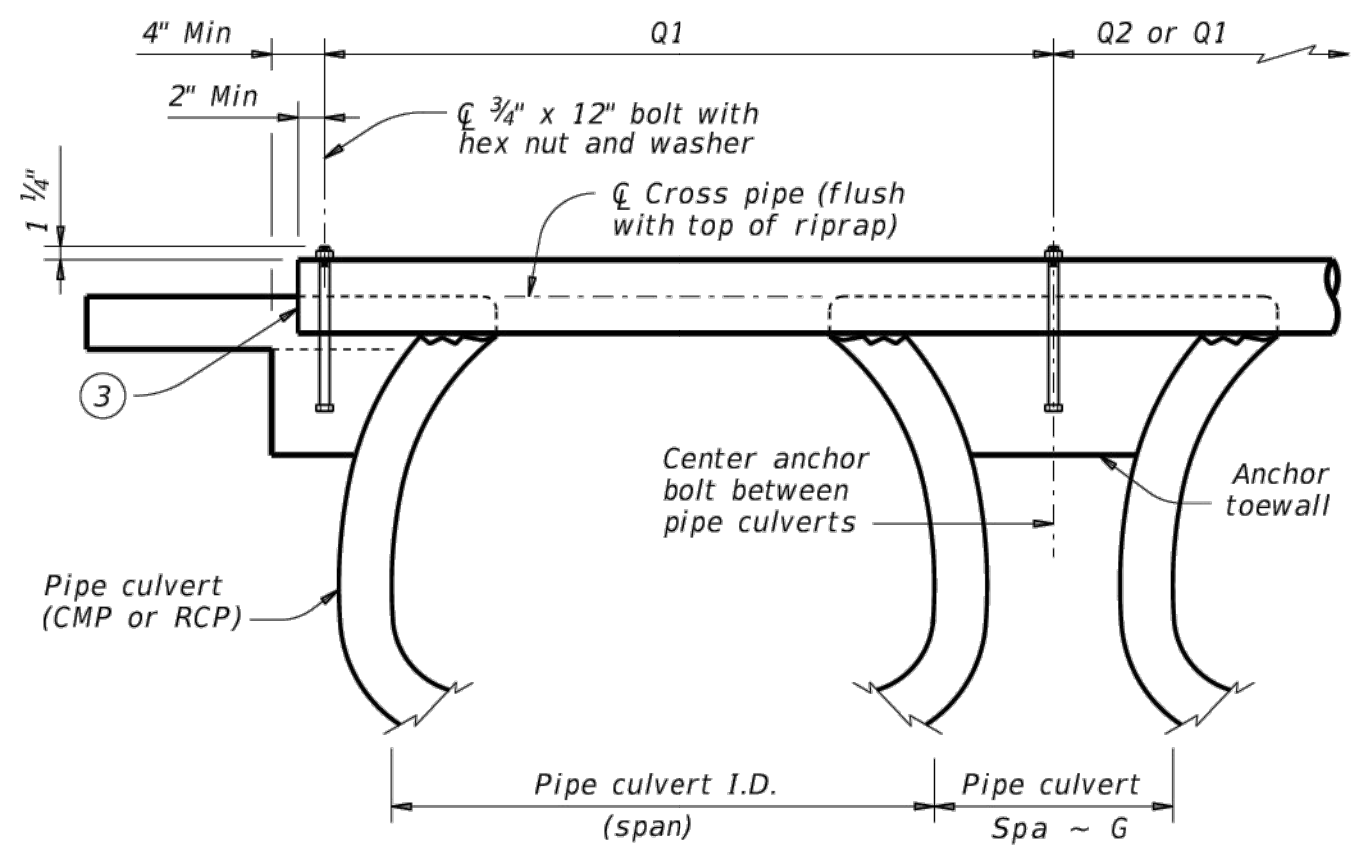
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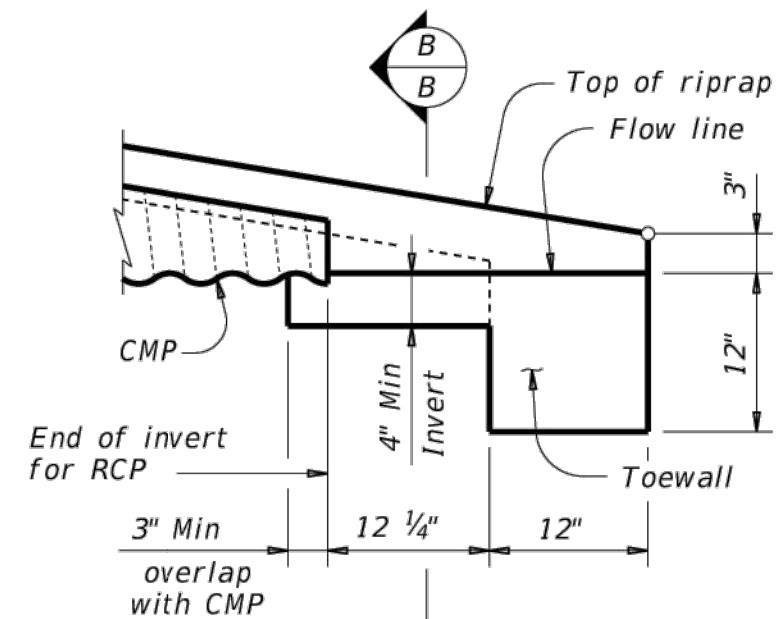


SHOWING TYPICAL PIPE
CULVERT AND RIPRAP



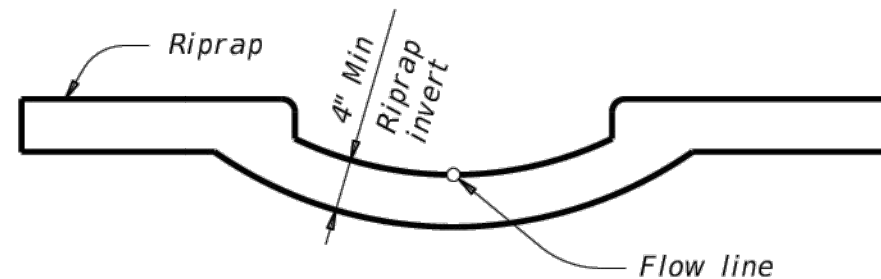
SHOWING CROSS PIPE
WITH BOLTED ANCHOR

SECTION A-A



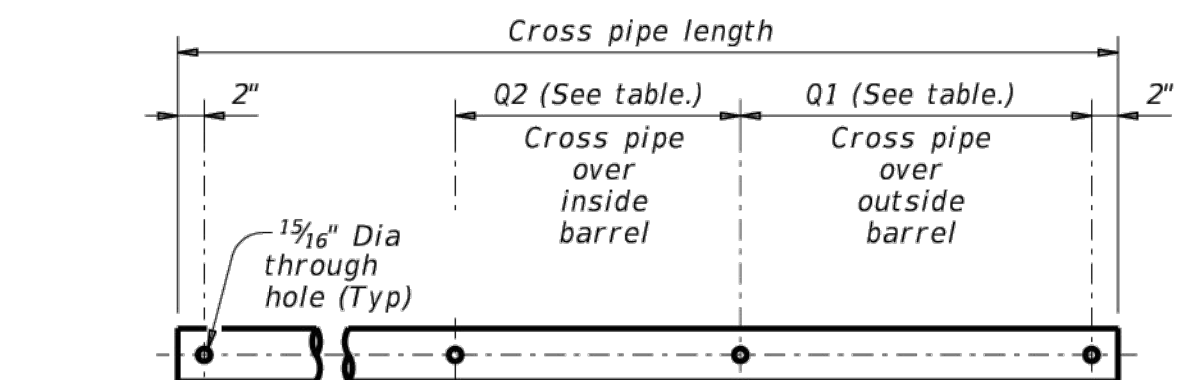
DETAIL "A"

(Showing invert with corrugated metal pipe (CMP) culvert.
Reinforced concrete pipe (RCP) culvert details are similar.
Cross pipes not shown for clarity.)

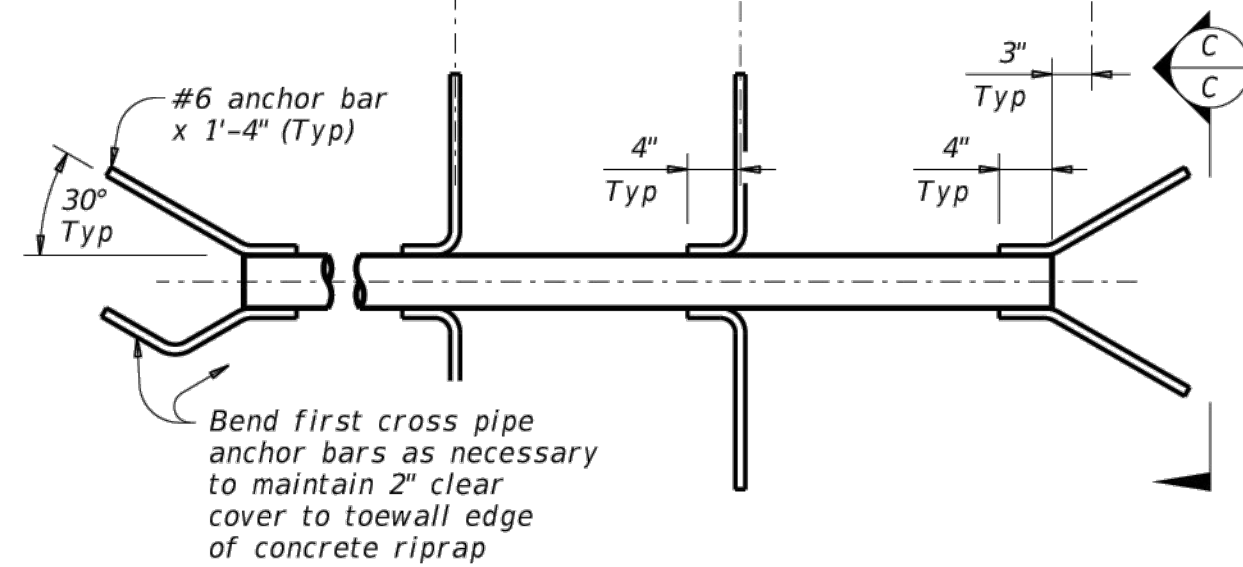


SECTION B-B

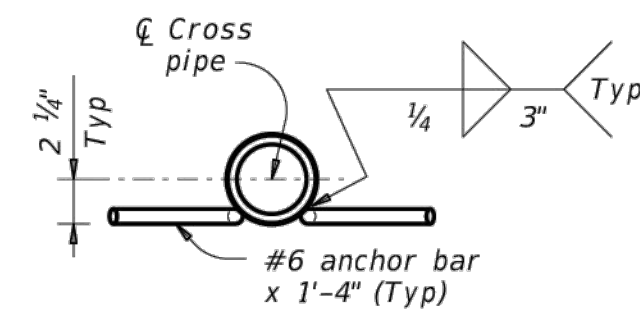
(Cross pipes not shown for clarity.)



PIPE WITH BOLTED ANCHOR



PIPE WITH ANCHOR BARS



SECTION C-C

CROSS PIPE DETAILS

SHEET 2 OF 2

		Bridge Division Standard	
SAFETY END TREATMENT FOR DESIGN 1 TO 9 ARCH PIPE CULVERTS TYPE II ~ PARALLEL DRAINAGE SETP-PD-A			
FILE: CD-SETP-PDA-20.dgn	DN: GAF	CK: TxDOT	DW: JRP
©TxDOT February 2020	CONT	SECT	JOB
REVISIONS		HIGHWAY	
DIST		COUNTY	
SHEET NO.		SHEET NO.	

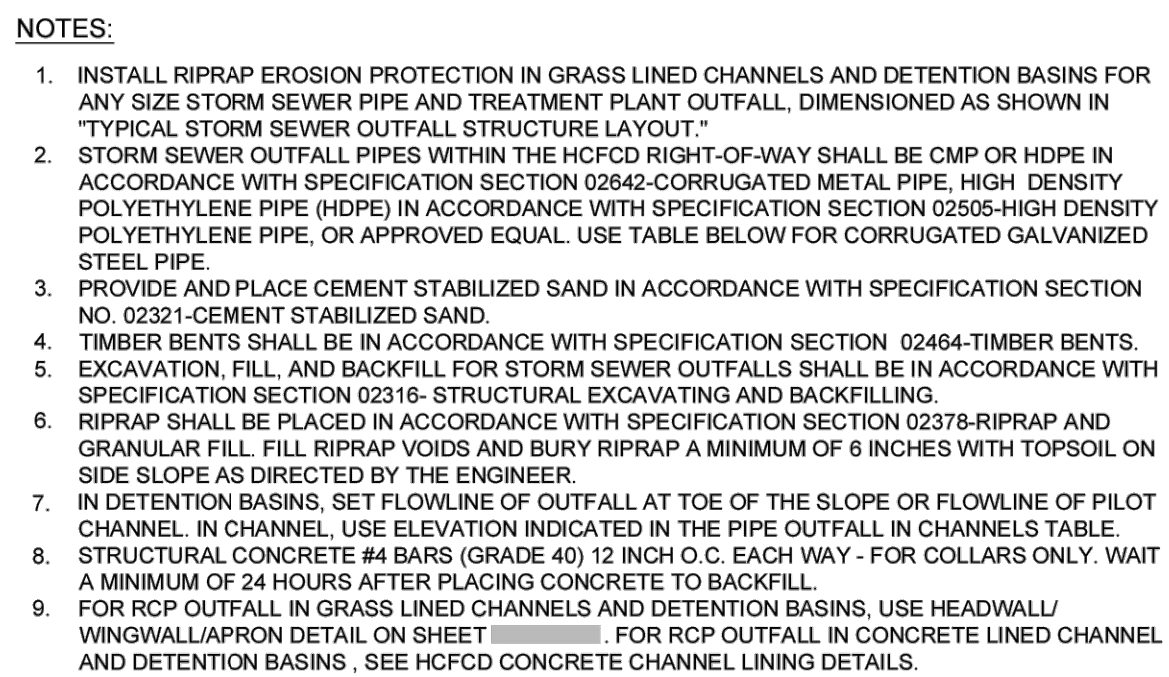
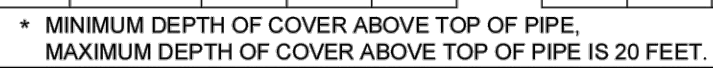
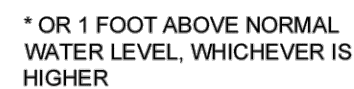
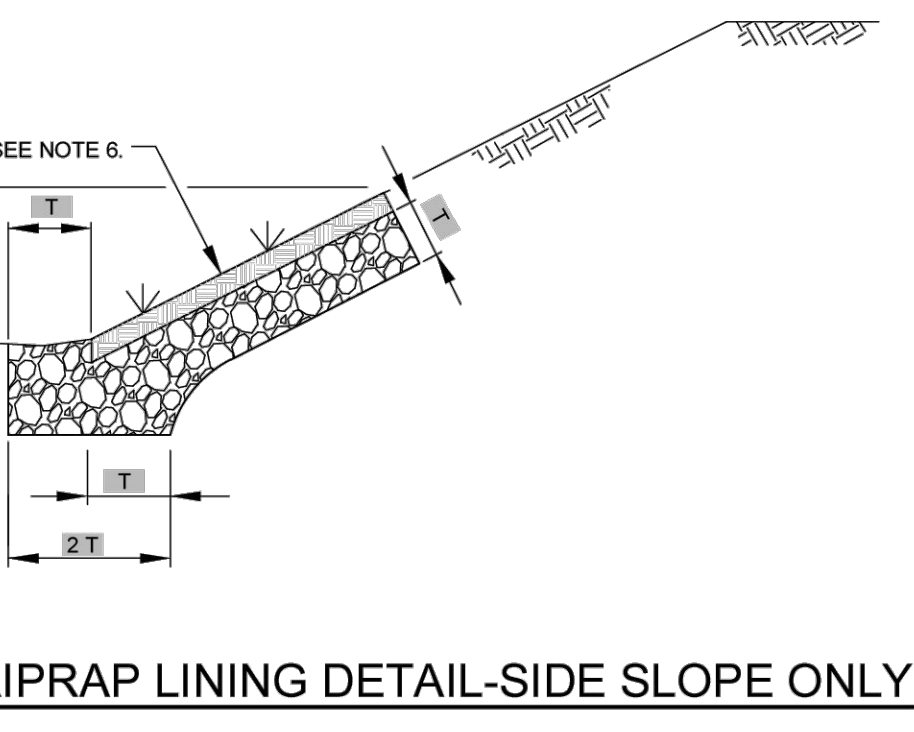
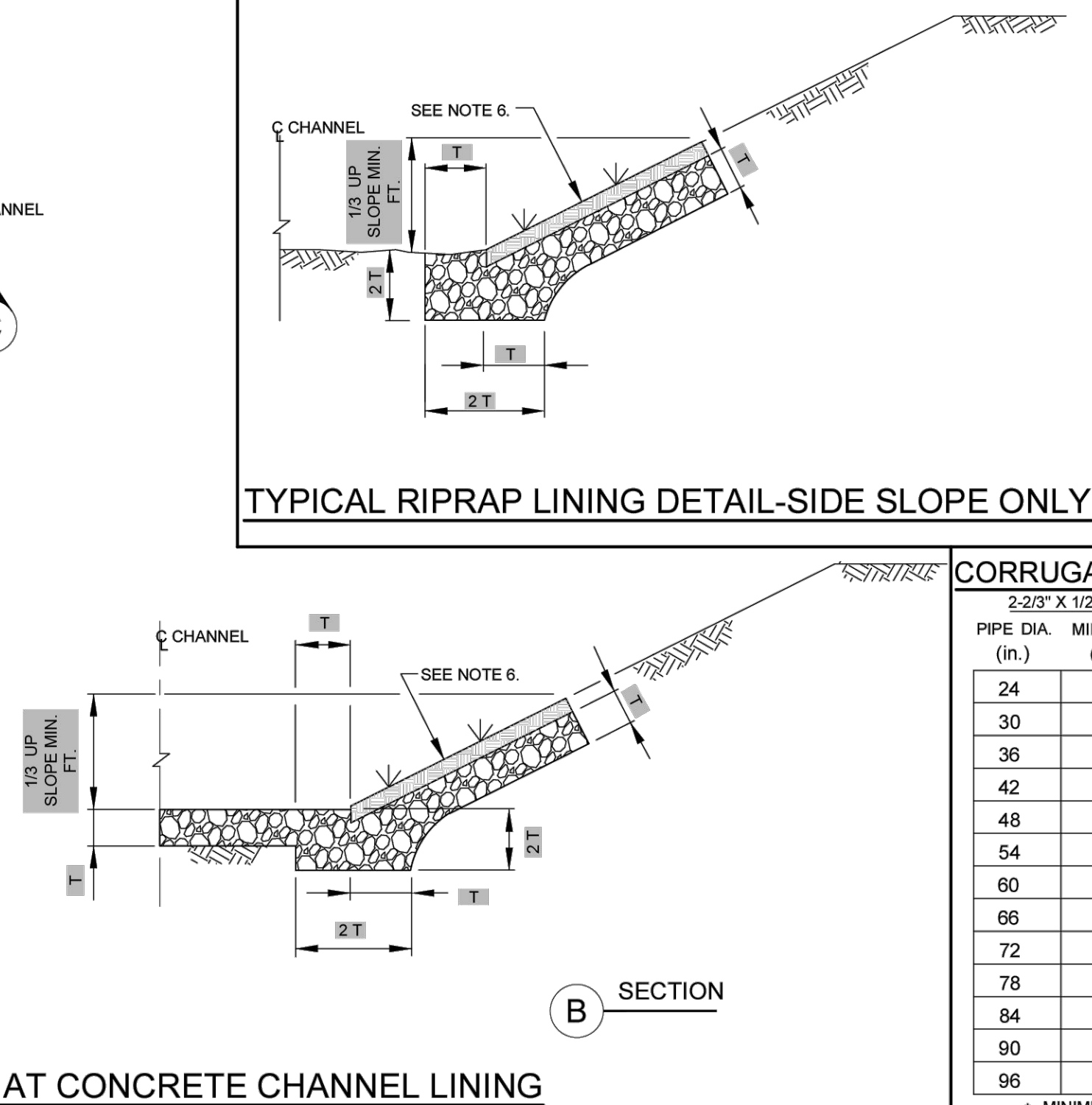
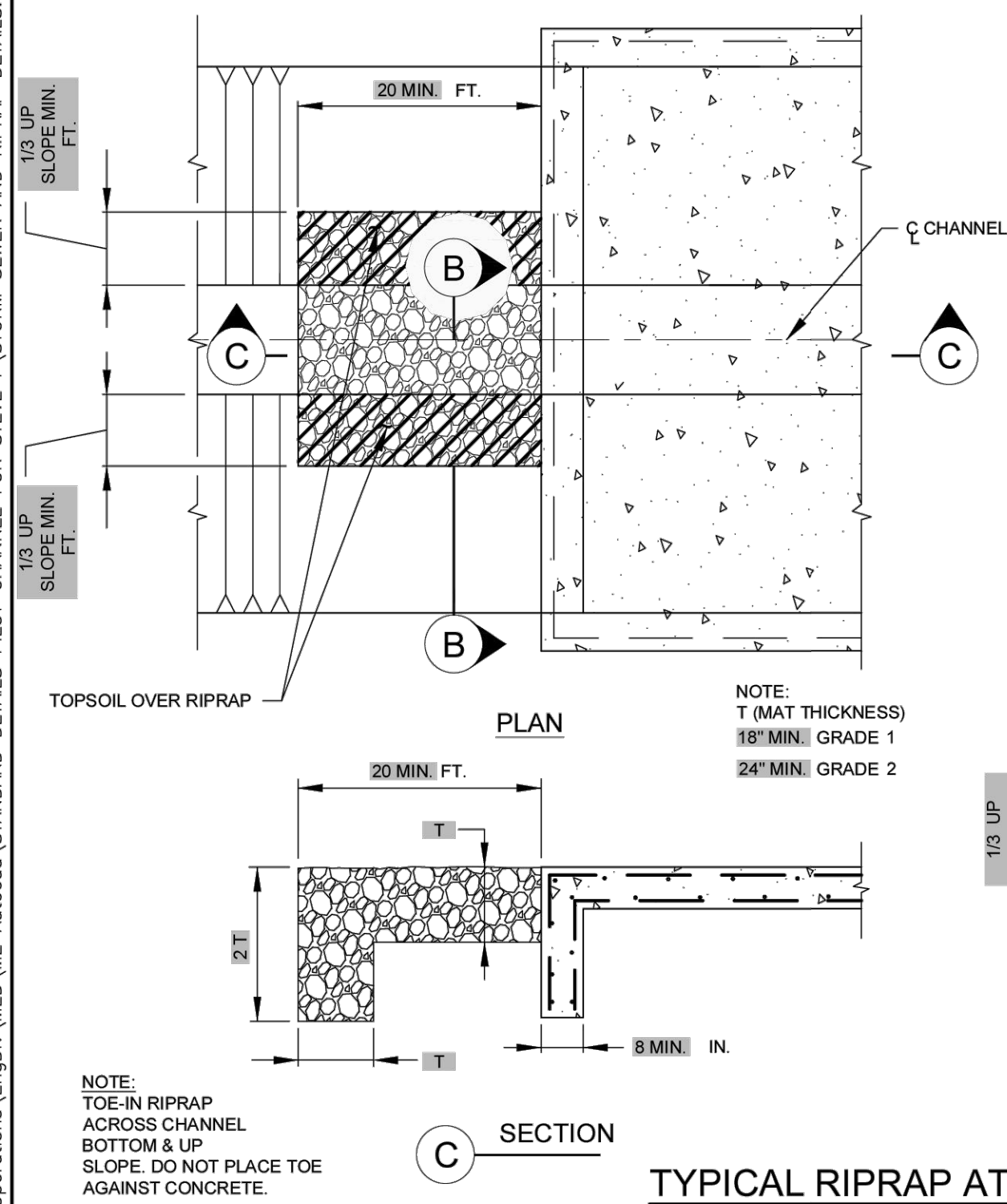


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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

EP HILL PARK
SAFETY END TREATMENT DETAIL
(SHEET 2 OF 2)

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M-420HUD-013A-3	
DRAWING SCALE	
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CITY OF HOUSTON PM	
CUONG NGUYEN	
SHEET NO. 65 OF 73	



9900 Northwest Freeway
Houston, Texas 77092

DATE: 10-23-2018
SCALE: NTS

SHEET NUMBER
 OF

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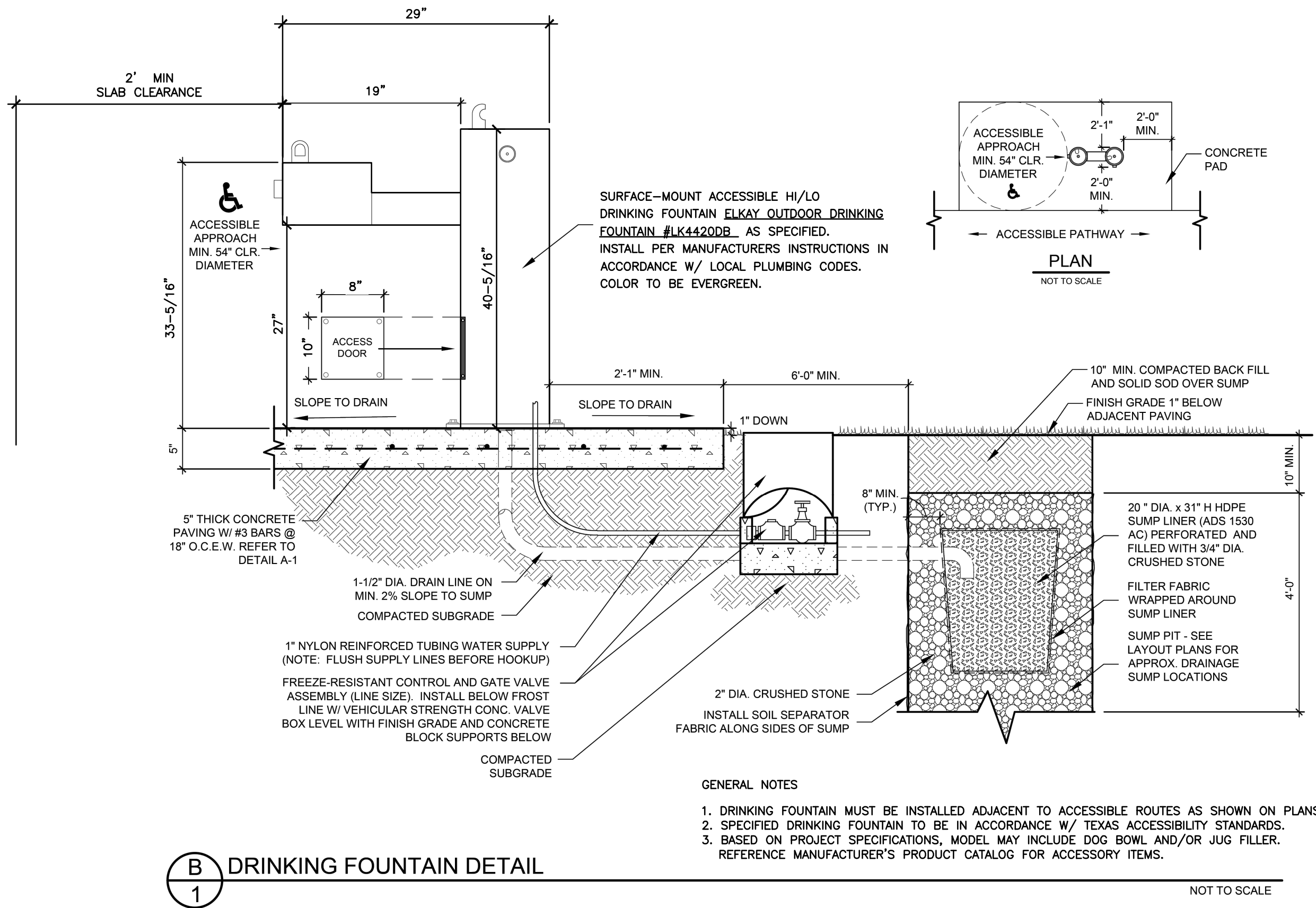
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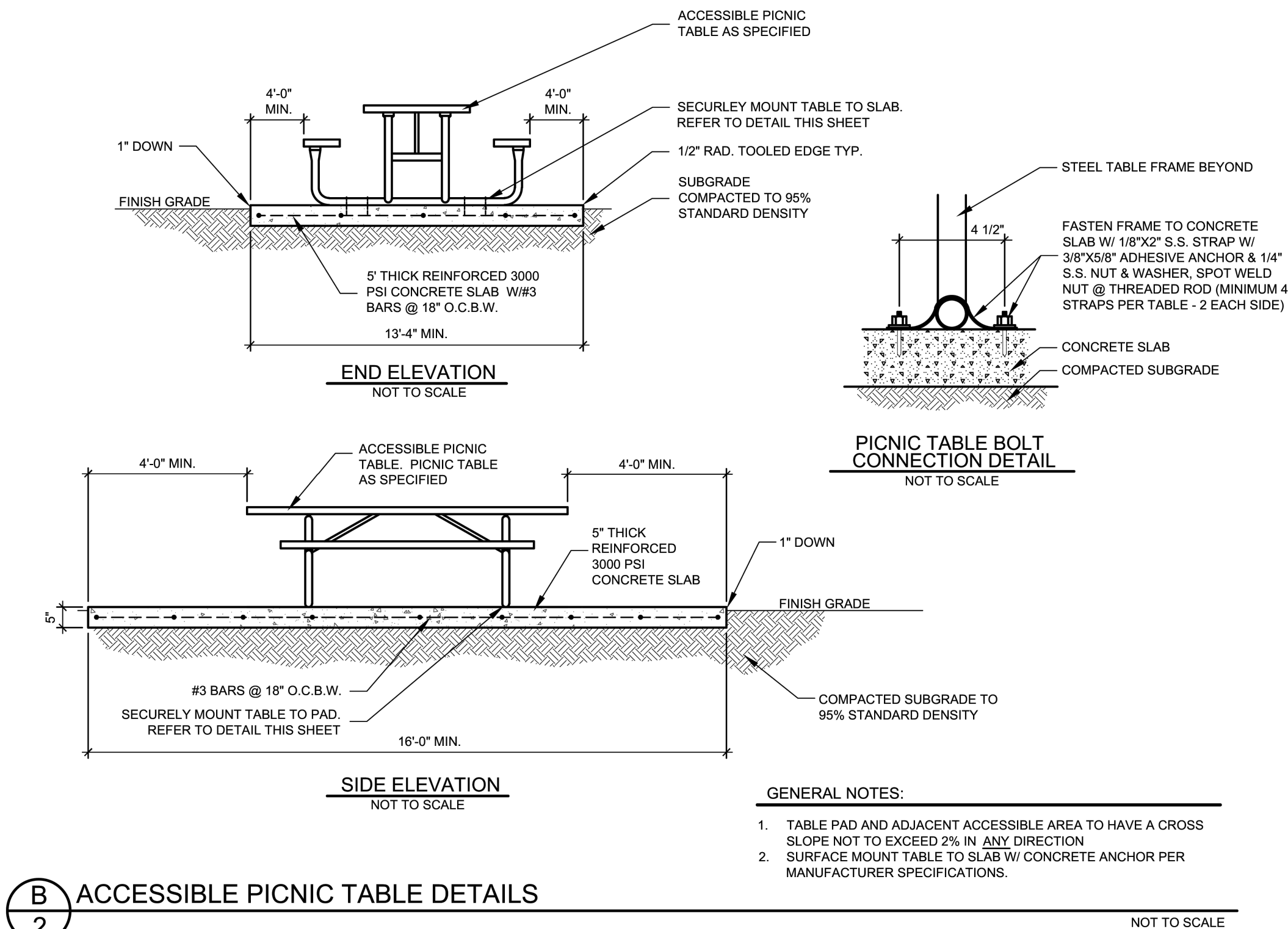
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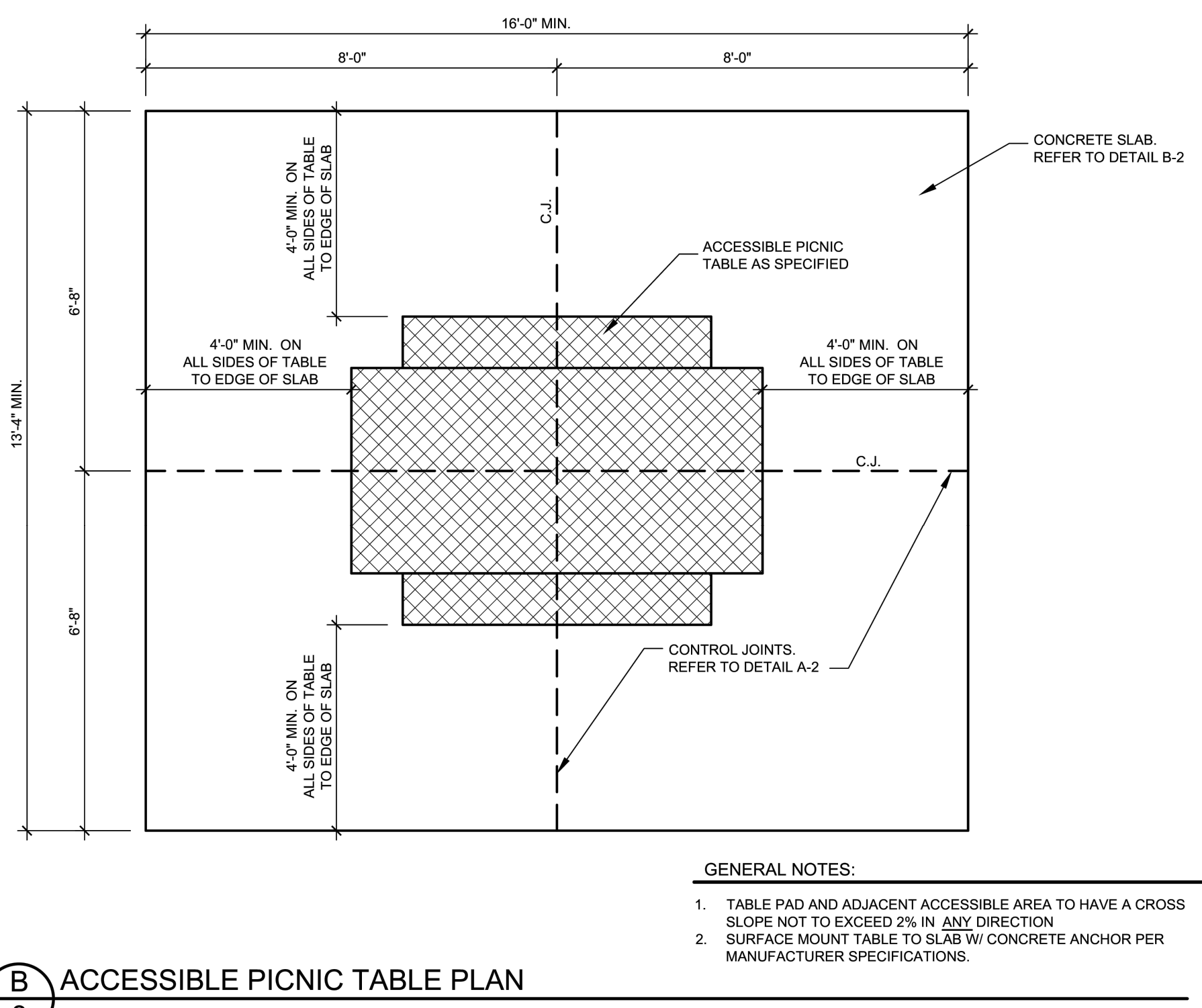
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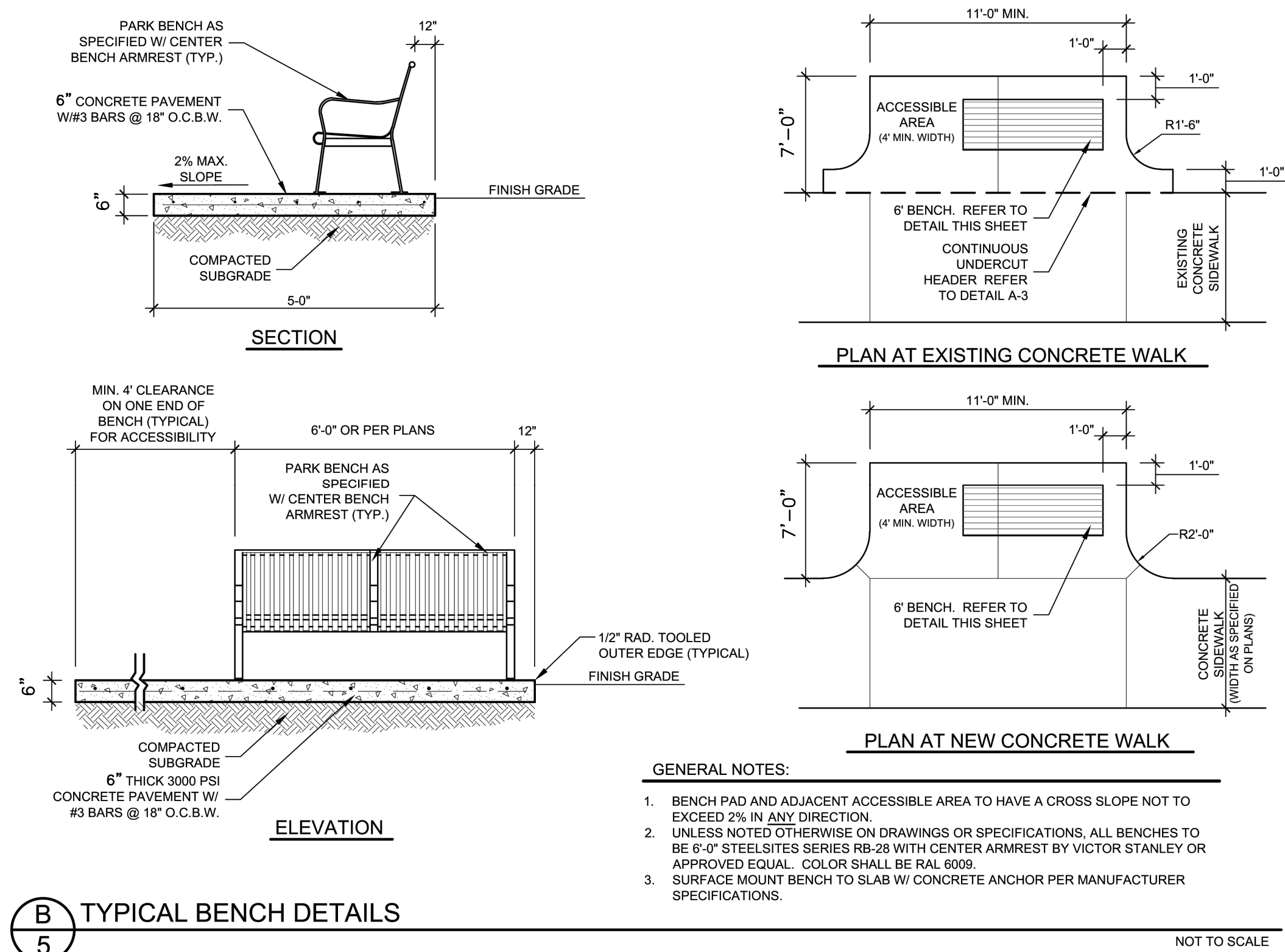
B
1 DRINKING FOUNTAIN DETAIL




B
2 ACCESSIBLE PICNIC TABLE DETAILS



B
3 ACCESSIBLE PICNIC TABLE PLAN



B
5 TYPICAL BENCH DETAILS



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AMY E. DZIUK
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MISCELLANEOUS DETAILS

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ELECTRICAL CONDUCTORS

A. MATERIAL INFORMATION

1. Provide Type XHHW insulated copper conductors in accordance with Departmental Material Specification DMS-11040, "Conductors" and Item 620, "Electrical Conductors." Provide conductors as listed on the Material Producer List (MPL) on the Department web site under "Roadway Illumination and Electrical Supplies" Item 620.
2. Identify grounded (neutral) conductors with white insulation. Identify grounding conductors (ground wires) with green insulation or bare conductors. Identify ungrounded (hot) conductors with any color insulation except green, white, or gray. Keep color scheme consistent throughout the wiring system. Identify conductors 6 American Wire Gauge (AWG) and smaller by continuous color jacket. Identify electrical conductors 4 AWG and larger by continuous color jacket or by colored tape. When identifying conductors with colored tape, mark at least 6 in. of the conductor's insulation with half laps of tape at each accessible location.
3. Insulated grounding conductors may be substituted for bare conductors, unless otherwise shown in the plans. Insulated grounding conductors must be color coded green in accordance with Note 2.
4. Provide a 6 AWG bare solid copper grounding electrode conductor to bond the electrical service equipment to the concrete encased grounding electrode or the ground rod at the service location. Connect the grounding electrode conductor to the ground rod with a UL listed connector in accordance with DMS-11040. Connect the grounding electrode conductor to the concrete encased grounding electrode as shown in the plans.
5. Where two or more circuits are present in one conduit or enclosure, permanently label the conductors of each branch circuit by attaching a non-metallic, weather resistant tag around both circuit conductors at each accessible location. Provide one-piece tags with two 7/16" straps, large enough to indicate circuit number, letter, or other identification as shown in the plans. Print circuit identification on the tag with a permanent marker.
6. Use listed compression connectors, mechanical lugs, terminal blocks, or split bolt connectors for splicing as specified in DMS-11040. Use hot melt adhesive tape to fill the gap and seal the ends of heat shrink tubing. Provide UL listed gel-filled insulating splice covers. Splicing materials, insulating materials, breakaway disconnects, splice covers, and fuse boxes are listed as supplementary to various bid items.

B. CONSTRUCTION METHODS

1. Use only a flat, high tensile strength polyester fiber pull tape for pulling conductors through the conduit system.
2. Leave 2 ft. to 3 ft. of length for each conductor up to the splice in ground boxes. Leave 3 ft. to 4 ft. of length for each conductor in ground boxes when pulled through with no splice. Leave 1 ft. to 1.5 ft. of length for each conductor at enclosures and pole bases. Leave 1.5 ft. to 3 ft. of length as required by electric utility for conductors exiting weatherheads.
3. Make splices only in junction boxes, ground boxes, pole bases, or electrical enclosures and use only listed compression connectors, mechanical lugs, terminal blocks, or split bolt connectors. Insulate splices with heavy wall heat shrink tubing or gel-filled insulating splice covers to provide a watertight splice. Overlap conductor insulation with heat shrink tubing a minimum of 2 in. past both sides of the splice. Where heat shrink tubing may not shrink sufficiently to provide a watertight seal around the individual conductors, prior to heating the tubing, increase the diameter of the conductor insulation using hot melt adhesive tape to provide a watertight seal between each conductor and the heat shrink tubing. Ensure the tape extends past the heat shrink tubing. Use hot melt adhesive tape to fill the gap and seal the ends of heat shrink tubing. Heat shrink tubing that appears to have been burned or overheated is considered defective and must be replaced.
4. Size and install gel-filled insulating splice covers according to manufacturer's specifications when used in place of heat shrink tubing.
5. Wire nuts with factory applied waterproof sealant may be used for 8 AWG or smaller conductors in above ground junction boxes, but not in pole bases or ground boxes. Install wire nuts in an upright position to prevent the accumulation of water.
6. Support conductors in illumination poles with a J-hook at the top of the pole.
7. When terminating conductors, remove the insulation and jacketing material without nicking the individual strands of the conductor. Conductors with nicked individual conductor strands or removed strands will be considered damaged.
8. Replace conductors and cables that are damaged or that fail an insulation resistance test at no additional cost to the Department.
9. Do not repair damaged conductors with duct tape, electrical tape, or wire nuts. Use only approved splicing methods.

B. CONSTRUCTION METHODS (CONTINUED)

10. Do not terminate more than one conductor under a single lug unless it is rated for multiple conductors. Do not exceed the lug's listing for maximum number and size of conductors allowed.
11. Follow manufacturer's instructions when terminating conductors to breakaway connectors. Properly torque threaded connections. Proper terminations are critical to the safe operation of breakaway devices. Trim waterproofing boots on breakaway connectors to fit snugly around the conductor to ensure a waterproof connection. Only one conductor may enter a single opening in a boot. Provide waterproof boots with the correct number of openings. Leave unused openings factory sealed. Use prequalified breakaway connectors as shown on the MPL.
12. Provide and install a separate stranded equipment grounding conductor (EGC) in all conduits that contain circuit wiring of 50 volts or more. Unless shown elsewhere, size the EGC to be the same size as the largest current carrying conductor in the conduit. Bond all EGCs together at every accessible location. For ITS installations, bond and ground metal ground box covers and other metal equipment as shown on ITS standards.

C. TEMPORARY WIRING

1. Install temporary conductors and electrical equipment in accordance with the NEC article "Temporary Installations" and Department standard sheets.
2. Provide a ground fault circuit interrupter (GFCI) for powering portable electrical equipment, power tools, ice machines, ice storage bins and refrigerators located outdoors at grade. GFCI may be any one of the following: molded cord and plug set, receptacle, or circuit breaker type.
3. Use listed wire nuts with factory applied sealant for temporary wiring where approved.
4. Enclose conductor splices within a listed enclosure or ground box, or ensure the splices are more than 10 ft. above grade vertically and more than 5 ft. horizontally from any metal structure. When installing temporary conductors in areas subject to vehicle traffic or mobile construction equipment, ensure the vertical clearance to ground is at least 18 ft. when measured at the lowest point. Ground messenger wires that support power conductors in conformance with the NEC.
5. Protect and when necessary repair any existing electrical conduits uncovered during the construction process in a timely manner and in conformance with the NEC.

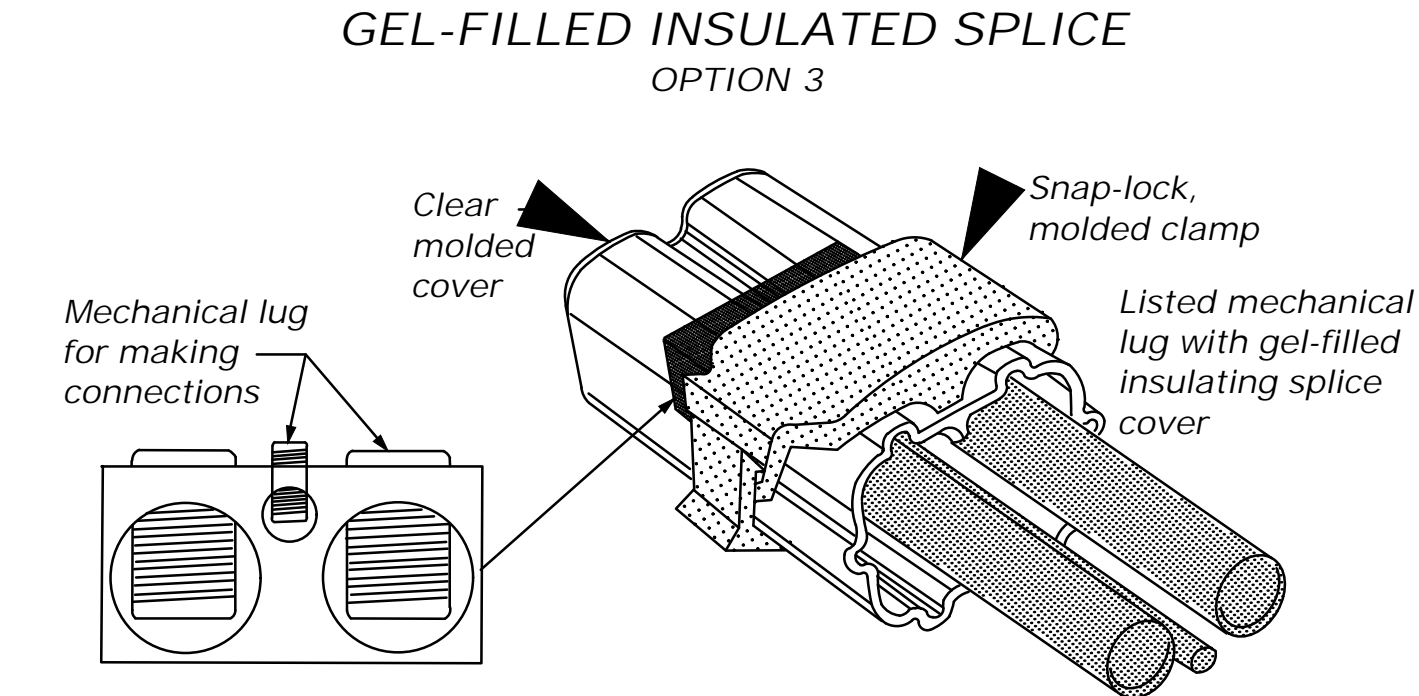
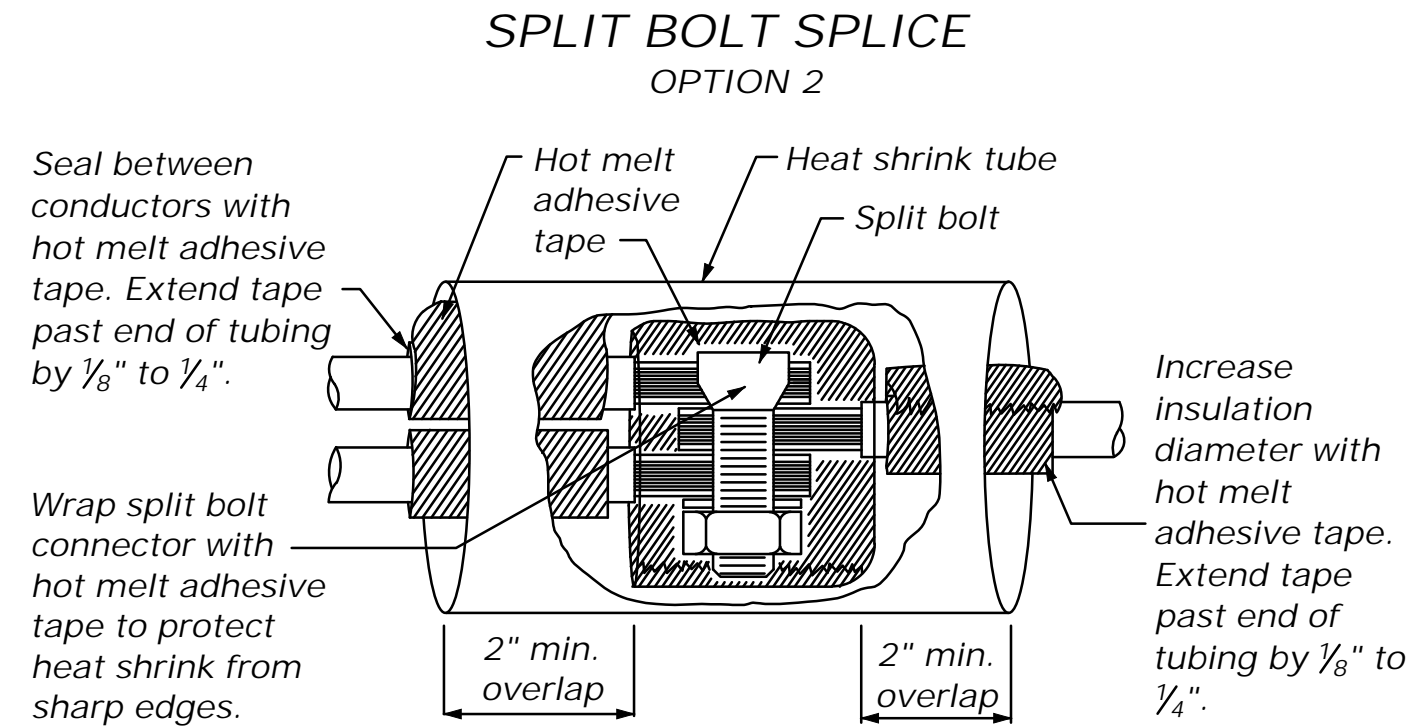
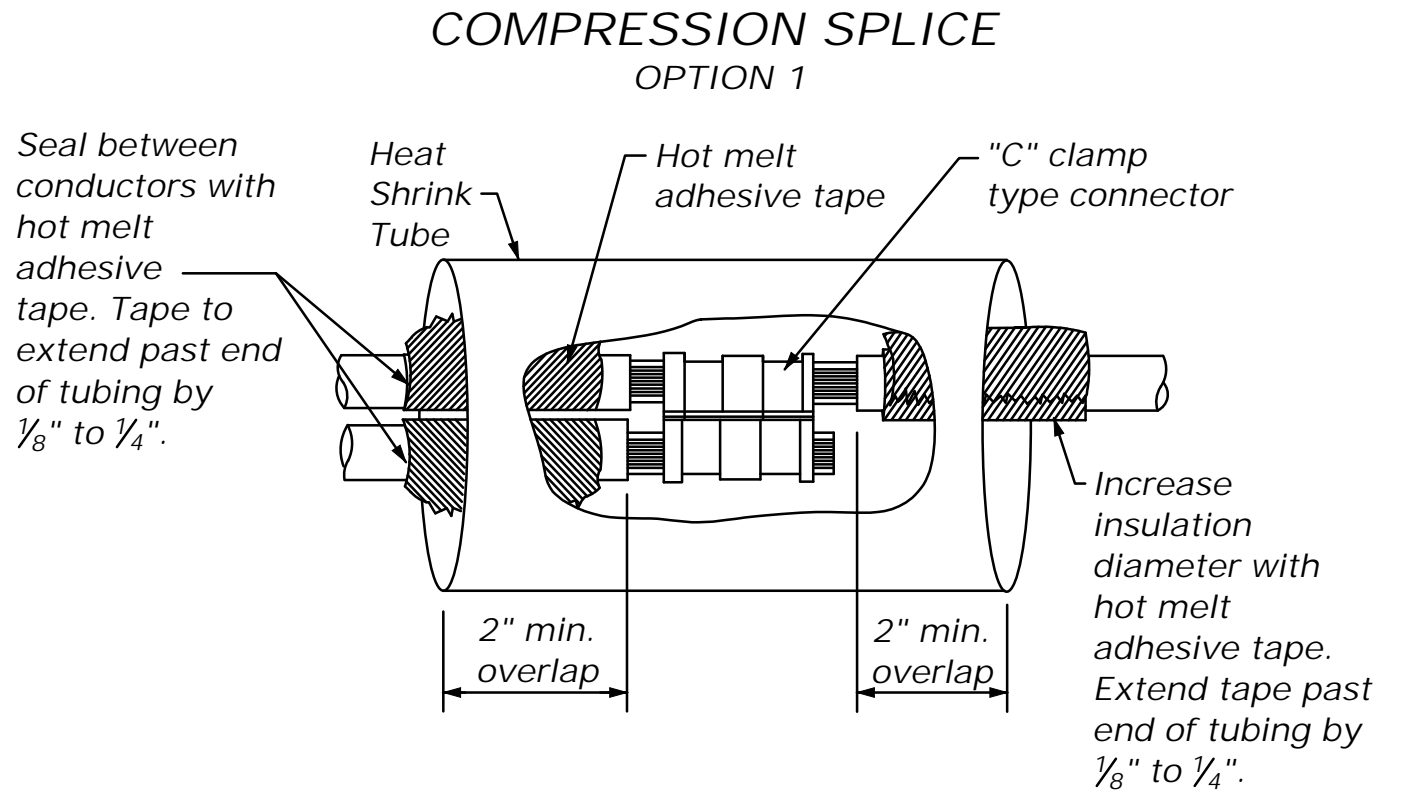
GROUND RODS & GROUNDING ELECTRODES


A. MATERIAL INFORMATION

1. Provide and install a grounding electrode at electrical services. Provide ground rods according to DMS-11040 and the plans. Larger diameter or longer length rods may be called for in some locations. Concrete encased grounding electrodes may be called for in some locations including electrical services — see plan sheets.

B. CONSTRUCTION METHODS

1. Furnish and install ground rods in soil, concrete, or both, as called for in the plans. For ground rods installed in concrete, ensure the connection of the conductor to the ground rod is readily accessible for inspection or repairs. For ground rods installed in soil, ensure that the upper end is between 2 to 4 in. below finished grade.
2. Do not place ground rods in the same drilled hole as a timber or concrete pole.
3. Install ground rods so the imprinted part number is at the upper end of the rod.
4. Remove all non-conductive material such as concrete splatter from the rod at the clamp location.
5. Route all conductors as short and straight as possible for connection to lightning protection ground rods. When a bend is required, ensure a minimum radius bend of 4 in.
6. Unless otherwise called for in the plans, protect grounding electrode conductors with non-metallic conduit. When protecting grounding electrode conductors with metal conduit, provide and install a grounding bushing and properly sized bonding jumper on each end of the metal conduit.
7. Written authorization is required before installing a ground rod in a horizontal trench for rocky soil or a solid rock bottom.

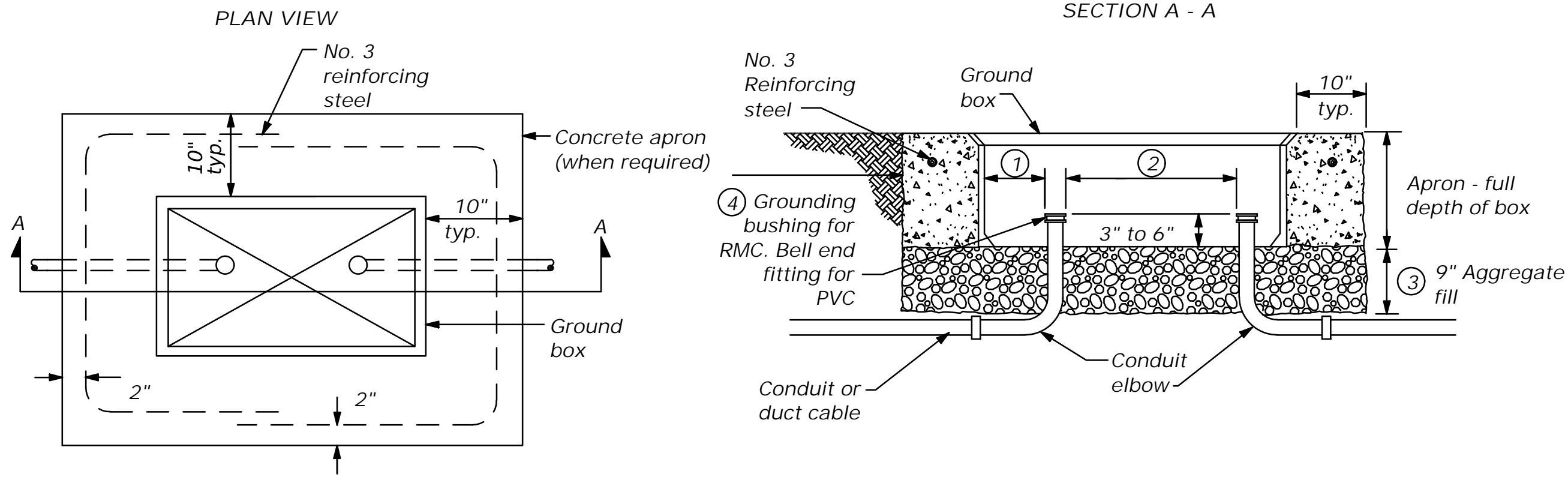


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APRON FOR GROUND BOX



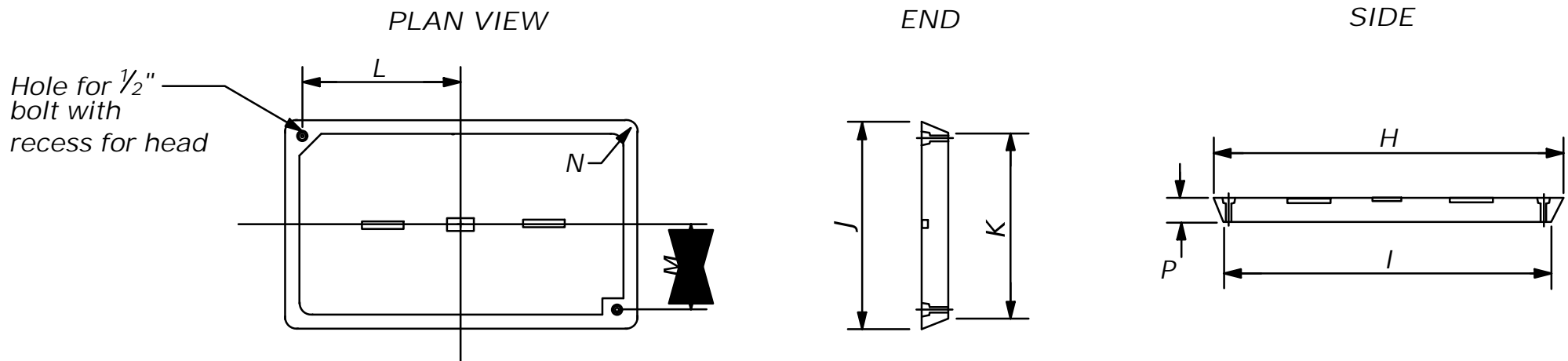
SECTION A - A NOTES:

- ① Uniformly space ends of conduits within the ground box. Position ends of conduits so that ground box walls do not interfere with the installation of grounding bushings or bell end fittings.
- ② Maintain sufficient space between conduits to allow for proper installation of bushing.
- ③ Place aggregate under the box, not in the box. Aggregate should not encroach on the interior volume of the box.
- ④ Install a grounding bushing on the upper end of all RMC terminating in a ground box. Ground RMC elbows when any part of the elbow is less than 18 in. below the bottom of the ground box. Install a PVC bushing or bell end fitting on the upper end of all PVC conduits terminating in a ground box.

GROUND BOXES	
TYPE	OUTSIDE DIMENSIONS (Width x Length X Depth)
A	12" X 23" X 11"
B	12" X 23" X 22"
C	16" X 29" X 11"
D	16" X 29" X 22"
E	12" X 23" X 17"

GROUND BOX COVERS								
TYPE	DIMENSIONS							
	H	I	J	K	L	M	N	P
A, B & E	23 1/4"	23"	13 3/4"	13 1/2"	9 7/8"	5 1/8"	1 3/8"	2"
C & D	30 1/2"	30 1/4"	17 1/2"	17 1/4"	13 1/4"	6 3/4"	1 3/8"	2"

GROUND BOX COVER



NOTES:

A. MATERIALS

1. Provide polymer concrete ground boxes measuring 16 in. x 30 in. x 24 in. (W x L x D) or smaller in accordance with Departmental Material Specification DMS-11070, "Ground Boxes" and Item 624, "Ground Boxes."
2. Provide Type A, B, C, D, and E ground boxes as shown in the plans and as listed on the Material Producers List (MPL) on the Department web site under "Roadway Illumination and Electrical Supplies," Item 624.
3. Ensure ground box cover is correctly labeled in accordance with DMS-11070.
4. Provide larger ground boxes in accordance with Item 624 and as shown in the plans.

B. CONSTRUCTION METHODS

1. Before setting ground box and after placing and capping conduits, lay an aggregate bed a minimum of 9 in. deep that extends 10 in. beyond the sides of the ground box. Provide coarse aggregate sized 3/4 in. to 2 in., with no more than 20% material passing through a no. 8 sieve, and as defined by the current ASTM C33/33M standard. Clean aggregate and dirt from conduits according to Item 618.
2. Cast ground box aprons in place. Reinforcing steel may be field bent. Ensure the depth of concrete for the apron extends from finished grade to the top of the aggregate bed under the box. Ground box aprons, including concrete and reinforcing steel, are subsidiary to ground boxes when called for by descriptive code.
3. Keep bolt holes in the box clear of dirt. Bolt covers down when not working in ground boxes.
4. Install all conduits and elbows in a professional and skillful manner. Uniformly space conduits so grounding bushings and bell end fittings can easily be installed.
5. Temporarily seal all conduits in the ground box until conductors are installed.
6. Permanently seal conduits immediately after the completion of conductor installation. Permanently seal the ends of all conduits with duct seal, expandable foam, or other method as approved. Do not use duct tape as a permanent conduit seal. Do not use silicone caulk as a sealant.
7. Bond all equipment grounding conductors in a ground box together with listed connectors.
8. When a Type B or D ground box is stacked to meet volume requirements, an appropriately sized hole may be cut for conduit entry in the side wall at least 18 in. below grade.
9. If an existing ground box in the contract has a metal cover, bond the cover to the equipment grounding conductor with a 3 ft. long stranded bonding jumper that is the same size as the grounding conductor. The bonding jumper is subsidiary to various bid items. Verify existing ground boxes with metal covers are shown on the plans, with notes fully describing the work required.
10. If other ground boxes with metal covers are within the project limits but are not part of the contract, the Engineer may direct the Contractor to bond the metal covers, identifying the specific boxes in writing. This work will be paid for separately.
11. Bond metal ground box covers to the grounding conductor with a tank ground type lug.

Texas Department of Transportation

Traffic Safety Division Standard

**ELECTRICAL DETAILS
GROUND BOXES**

ED(4)-25

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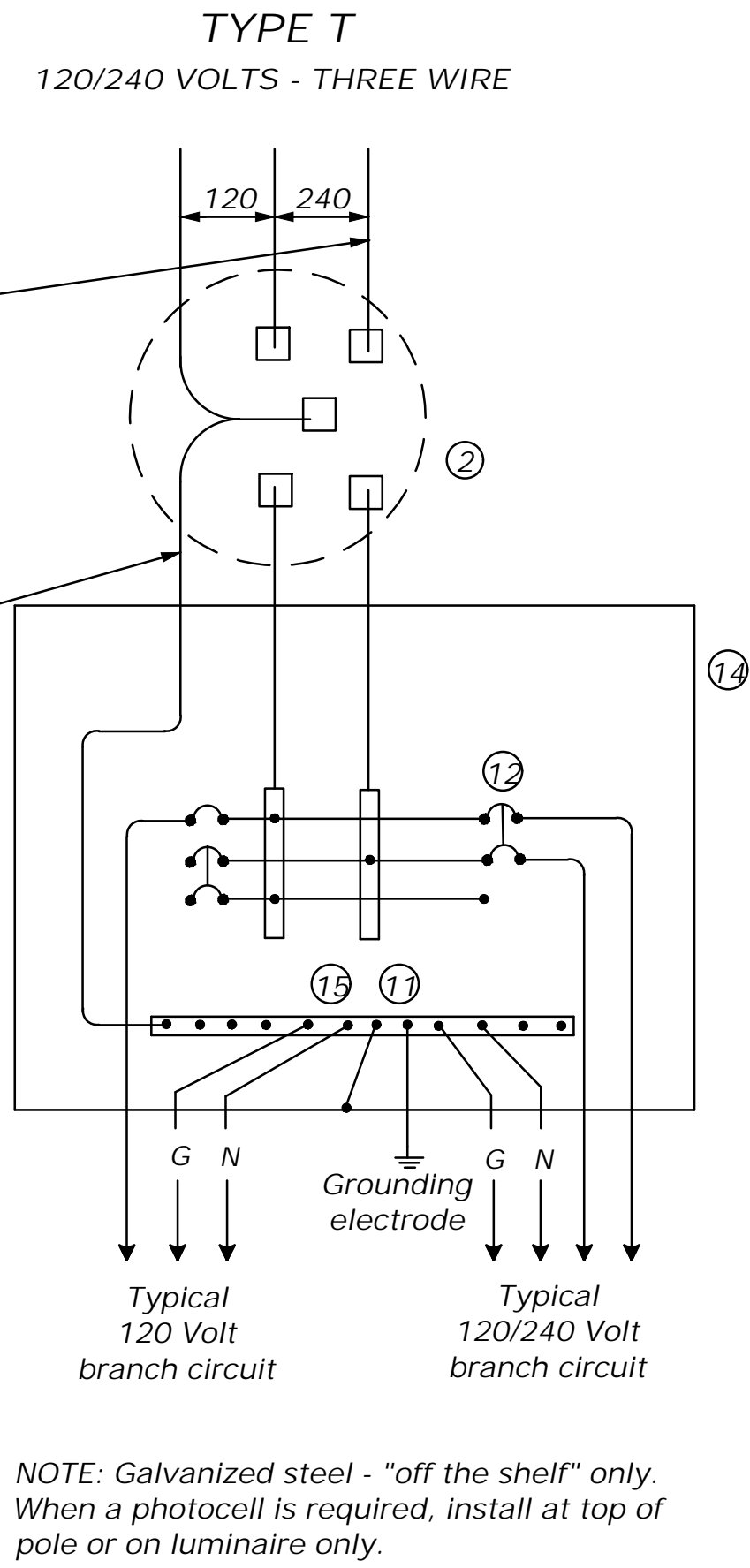
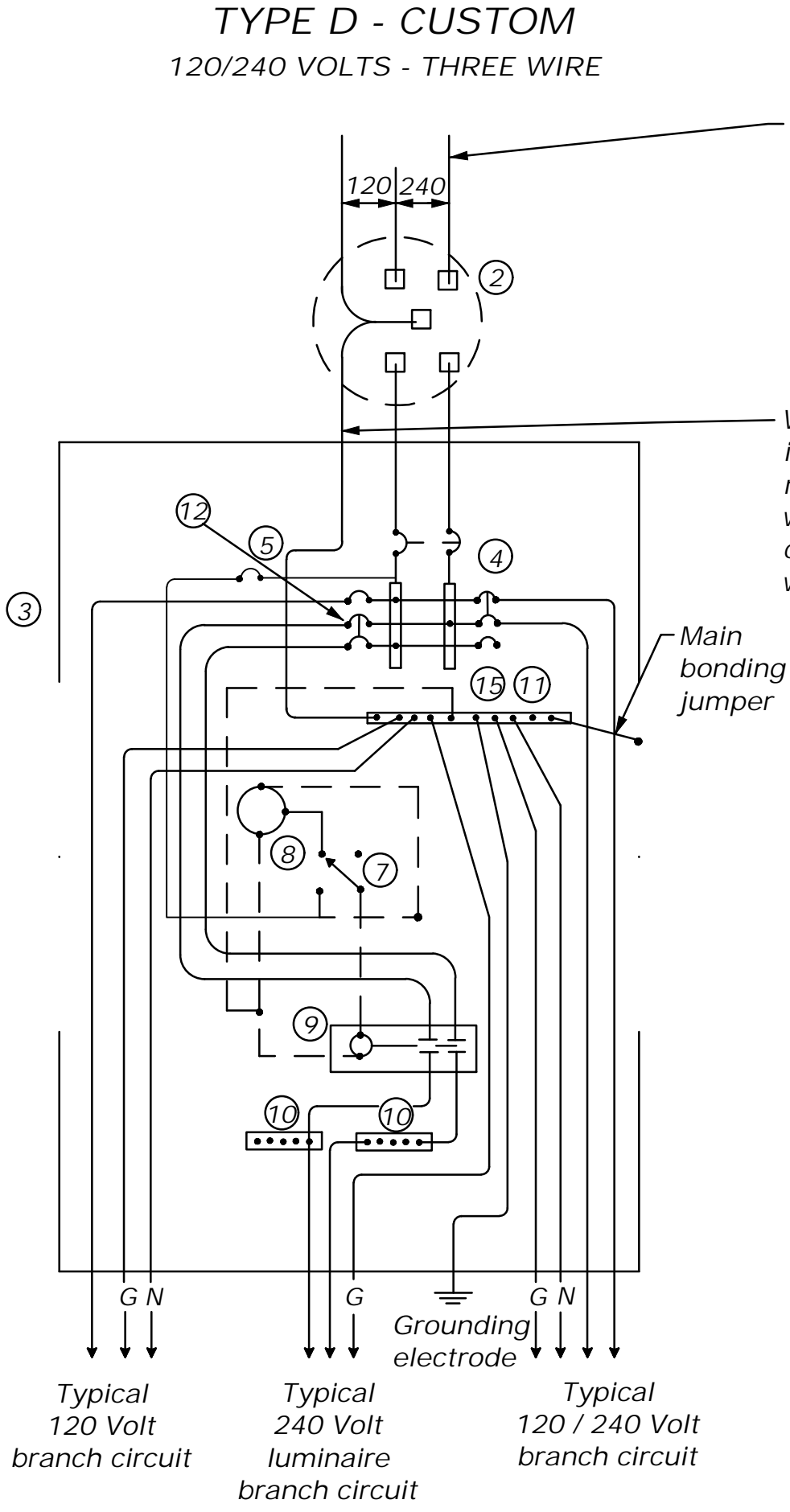
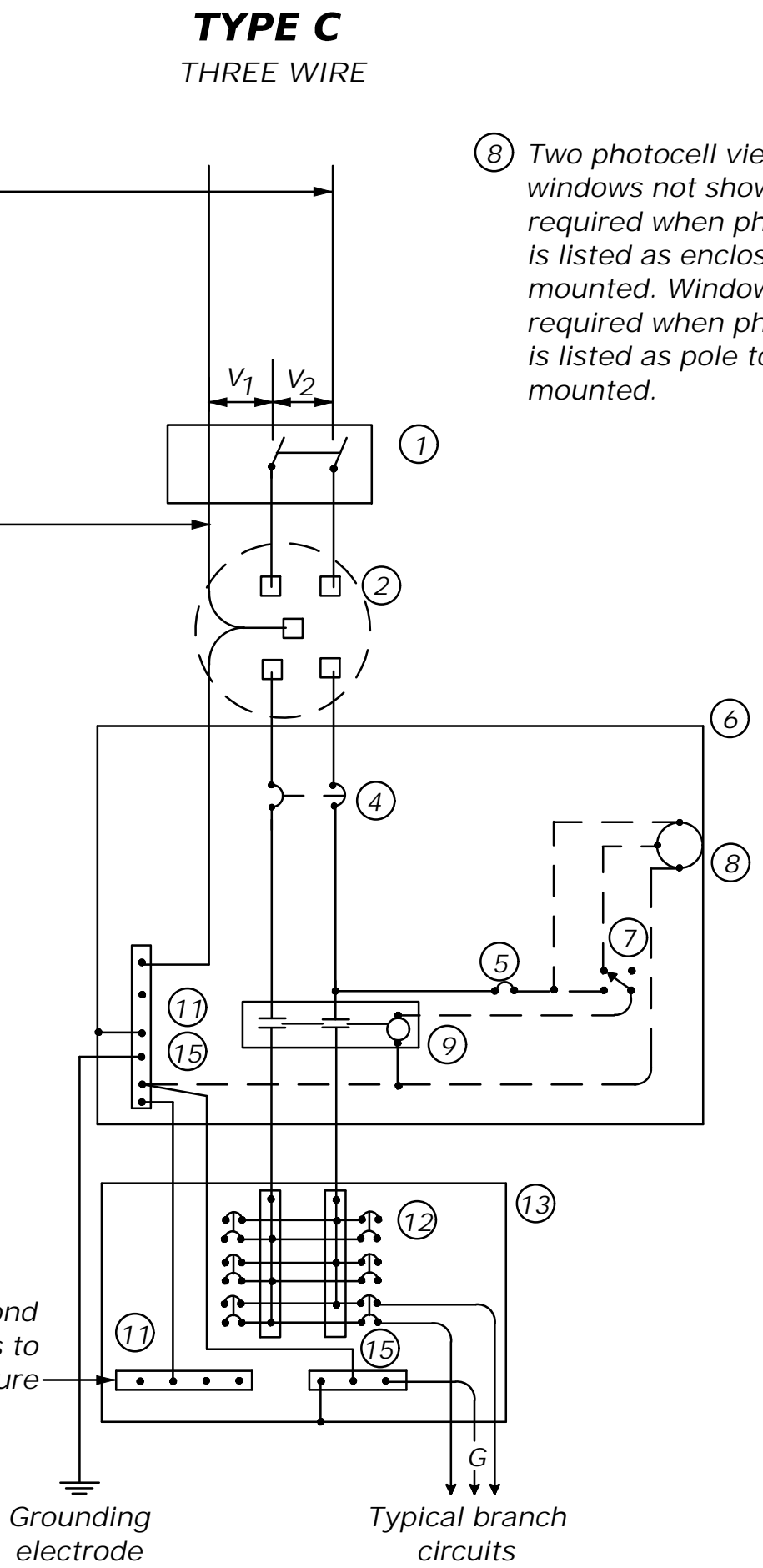
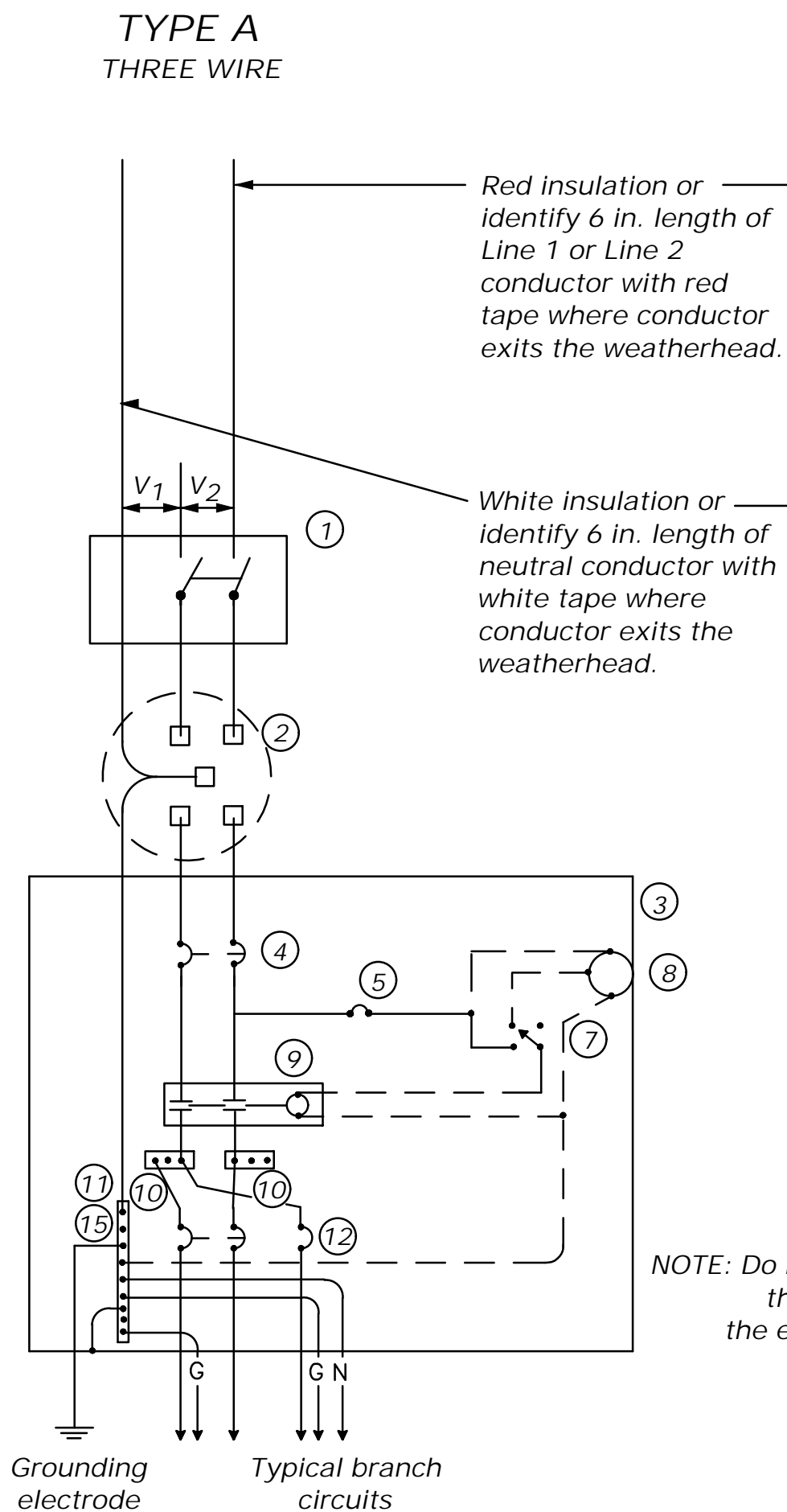
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NOTE: Galvanized steel - "off the shelf" only. When a photocell is required, install at top of pole or on luminaire only.

SCHEMATIC NOTES:

- ① Safety Switch (when required)
- ② Meter (when required - verify with electric utility provider)
- ③ Service Assembly Enclosure
- ④ Main Disconnect Breaker (See Electrical Service Data)
- ⑤ Circuit Breaker, 15 Amp (Control Circuit)
- ⑥ Auxiliary Enclosure
- ⑦ Control Station ("H-O-A" Switch)
- ⑧ Photo Electric Control (enclosure-mounted shown)
- ⑨ Lighting Contactor
- ⑩ Power Distribution Terminal Blocks
- ⑪ Neutral Bus
- ⑫ Branch Circuit Breaker (See Electrical Service Data)
- ⑬ Separate Circuit Breaker Panelboard
- ⑭ Load Center
- ⑮ Ground Bus

WIRING LEGEND	
— — — —	Power Wiring
- - - -	Control Wiring
— N —	Neutral Conductor
— G —	Equipment grounding conductor (always required)

**ELECTRICAL DETAILS
SERVICE SCHEMATICS
AND NOTES**
ED(6)-25

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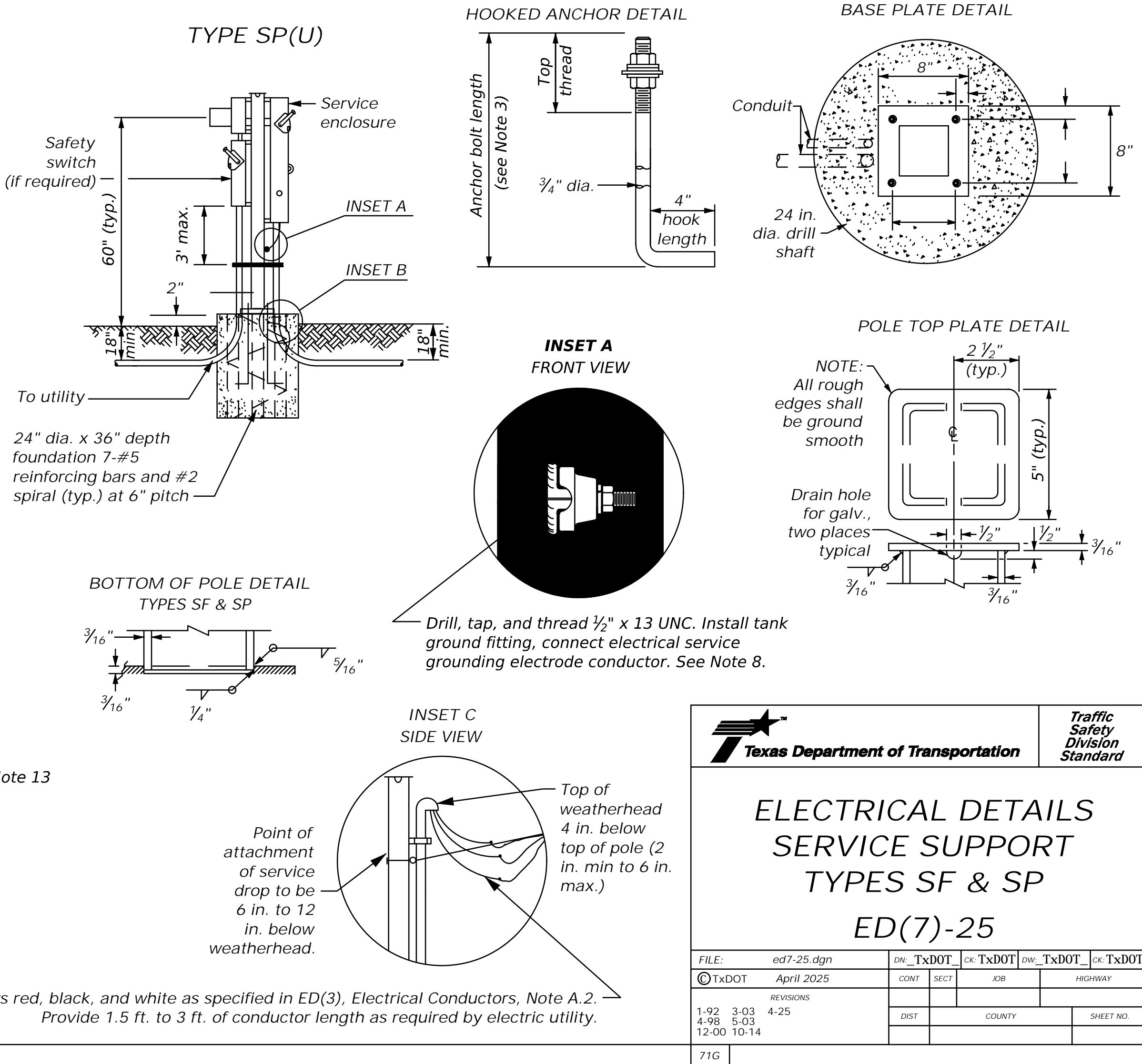
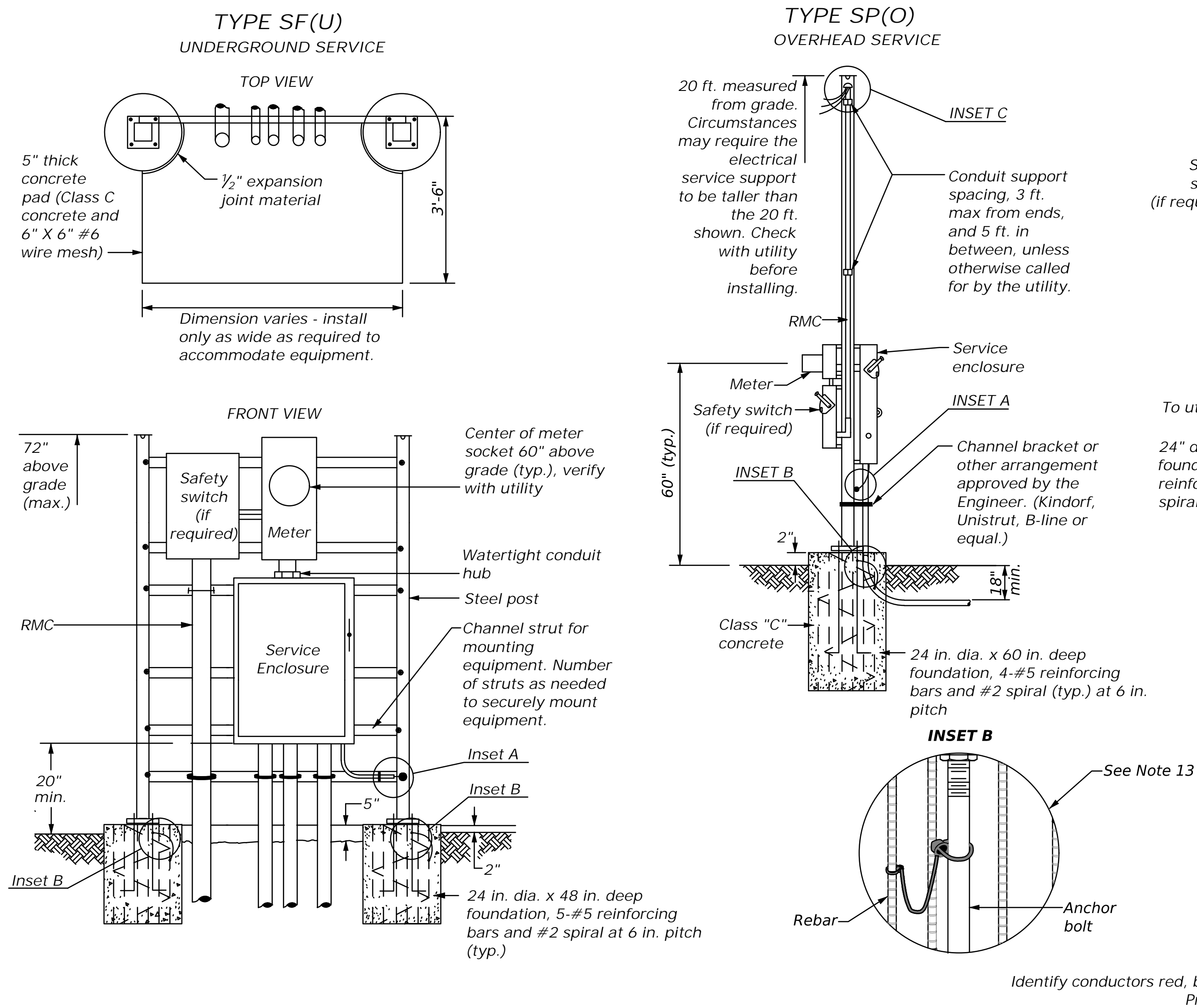
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SUPPORT TYPE STEEL POLE (SP) AND STEEL FRAME (SF) NOTES:

1. Provide steel pole and steel frame supports as per TxDOT Departmental Material Specification DMS-11080, "Electrical Services." Mount all equipment and conduit on 12 gauge galvanized steel or stainless steel channel strut, 1 1/2 in. or 1 5/8 in. wide by 1 in. to 3 3/4 in. deep Unistrut, Kindorf, B-line or equal. Drill, tap, and bolt or weld all channel and hardware to vertical members as approved. Do not stack channel. File smooth and paint field-cut ends of all channel with zinc-rich paint before installing.
2. Install a one point rack or eye bolt bracket 6 in. to 12 in. below the weatherhead as an overhead service drop anchoring point for the electric utility. Attaching bolt must pass through the pole and use a nut, washer, and locking washer on the other size. Self-tapping screws or lag bolts are not allowed.
3. Provide and install galvanized 3/4 in. x 18 in. x 4 in. (dia. x length x hook length) anchor bolts for underground service supports. Provide and install galvanized 3/4 in. x 56 in. x 4 in. anchor bolts for overhead service supports. Ensure anchor bolts have 3 in. of thread, with 3 1/4 in. to 3 1/2 in. of the exposed anchor bolt projecting above finished foundation. Provide and install leveling nuts for all anchor bolts.
4. Use Class C concrete for foundations. Ensure reinforcing steel is Grade 60 with 3 in. of unobstructed concrete cover.
5. Shop drawings are not required for service support structure unless specifically stated elsewhere or directed by the Engineer.
6. Avoid contact of the service drop and service entrance conductors with the metal pole to prevent abrasion of the insulated conductors.
7. Placement of the meter and service enclosure may vary based on the installation of a safety switch.

8. Drill and tap steel poles and frames for 1/2 in. x 13 UNC tank ground fitting. For steel pole service supports, provide and install tank ground fitting 4 in. to 6 in. directly below the electrical service enclosure. Provide properly sized hole through the bottom of the enclosure for the service grounding electrode conductor. Ensure electrical service grounding electrode conductor is as short and straight as possible from the enclosure to the tank ground fitting.
9. For steel frame service supports, provide and install tank ground fitting on steel frame post. Install service grounding electrode conductor in a non-metallic conduit or tubing from the enclosure to the steel frame post. Connect electrical service grounding electrode conductor to the tank ground fitting. See SF, SP details and Inset A for more information.
10. Provide and install grounding bushings where RMC terminates in the enclosure. Grounding bushings are not required when RMC is fitted into a watertight conduit hub or meter hub.
11. If steel pole or frame is painted, bond each separate painted piece with a bonding jumper and lugs screwed into tapped holes.
12. Provide 1/4 in. x 20 UNC machine screws for bonding. Do not use sheet metal screws. Remove all non-conductive material at contact points. Terminate bonding jumpers with listed devices. Install 6 AWG or larger stranded copper bonding jumpers. Make up all threaded bonding connections wrench-tight.
13. Bond one of the anchor bolts to the rebar cage with 6 AWG bare stranded copper conductor. Use listed mechanical connectors rated for embedment in concrete. See Inset B.



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