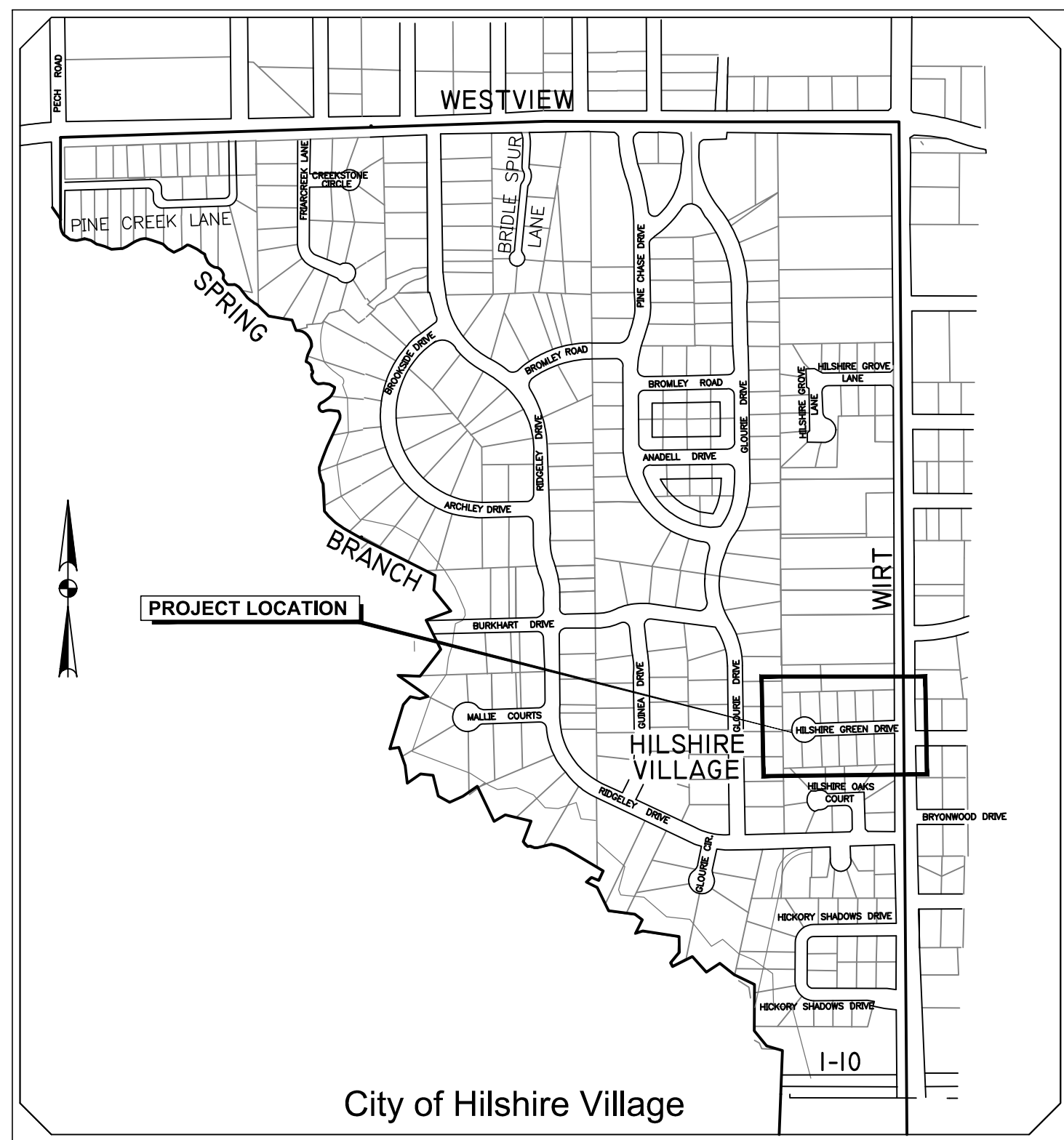


# City of Hilshire Village, Texas

## Hilshire Green Drive Paving, Drainage & Utility Improvements

August, 2024  
70% Submittal



VICINITY MAP  
NOT TO SCALE  
HARRIS COUNTY KEY MAP 491B



### MAYOR

Robert (Bob) Buesinger

### COUNCIL

Mike Gordy  
Andy Carey  
Kristi Cooper

Justin Crawford  
Mark Huber

### CITY SECRETARY

Cassie Stephens

#### SHEET SHEET TITLE No.

##### GENERAL

- |    |                                    |
|----|------------------------------------|
| 01 | COVER SHEET                        |
| 02 | GENERAL CONSTRUCTION NOTES         |
| 03 | LEGEND & ABBREVIATIONS             |
| 04 | SURVEY CONTROL MAP                 |
| 05 | BASELINE CONTROL                   |
| 06 | DRAINAGE AREA MAP AND CALCULATIONS |

##### TRAFFIC CONTROL PLAN

- |    |   |
|----|---|
| 07 | TRAFFIC CONTROL PLAN - GENERAL NOTES      |
| 08 | ONE LANE TWO-WAY TRAFFIC CONTROL DETAIL   |
| 09 | HILSHIRE GREEN DRIVE TRAFFIC CONTROL PLAN |
| 10 | TYPICAL TRAFFIC CONTROL DETAILS           |

##### PLAN & PROFILE

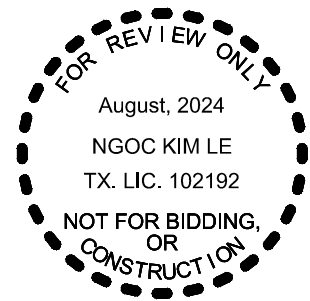
- |    |                      |                 |
|----|----------------------|-----------------|
| 11 | HILSHIRE GREEN DRIVE | STA 1+00 TO END |
|----|----------------------|-----------------|

##### STORM WATER POLLUTION PREVENTION PLAN

- |    |  |
|----|--|
| 12 | STORM WATER POLLUTION PREVENTION PLAN      |
| 13 | STORM WATER POLLUTION PREVENTION DETAILS I |

##### CONSTRUCTION DETAILS

- |    |                           |
|----|---------------------------|
| 14 | PAVING DETAILS I          |
| 15 | PAVING DETAILS II         |
| 16 | WATER DETAILS I           |
| 17 | WATER DETAILS II          |
| 18 | WATER DETAILS III         |
| 19 | SANITARY SEWER DETAILS I  |
| 20 | SANITARY SEWER DETAILS II |
| 21 | STORM SEWER DETAILS I     |
| 22 | STORM SEWER DETAILS II    |



SUBMITTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

NGOC KIM LE, PE  
HDR ENGINEERING, INC.

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

ROBERT (BOB) BUESINGER  
MAYOR, CITY OF HILSHIRE VILLAGE



HDR Engineering Inc. Texas Reg. No. 754  
4828 Loop Central Drive, Suite 700 • Houston, Texas 77081  
(713) 622-9264 • Fax (713) 622-9265 • www.hdrinc.com

HDR PROJECT NO. 10408611



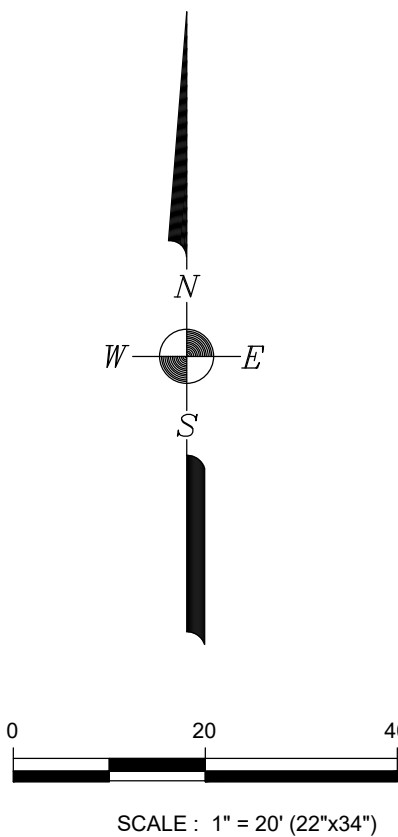
1. CONTRACTOR SHALL NOTIFY THE CITY OF HILSHIRE VILLAGE AT (713) 973-1779 AND THE ENGINEER AT (713) 622-9264 48 HOURS PRIOR TO START OF CONSTRUCTION.
2. CONTRACTOR SHALL CONTACT ALL PERTINENT UTILITY COMPANIES 48 HOURS (MINIMUM) PRIOR TO EXCAVATION IN AREA. THE HOUSTON AREA UTILITY COORDINATING COMMITTEE MAY BE CONTACTED FOR CERTAIN UTILITIES AT (713) 223-4567 OR TOLL FREE 1-800-669-8344 48 HOURS BEFORE BEGINNING WORK.
3. CONTRACTOR SHALL COORDINATE ANY UTILITY CONSTRUCTION THAT MAY DISRUPT SERVICE WITH THE CITY OF HILSHIRE VILLAGE (CASSIE STEPHENS, CITY SECRETARY, 713-973-1779.) AND THE CITY'S OPERATOR (ST SERVICES @ 281-578-4200). NOTIFY CITY 24 HOURS IN ADVANCE.
4. PROPERTY OWNERS SHALL BE NOTIFIED IN WRITING BY THE CONTRACTOR, BETWEEN 48 HOURS AND 7 DAYS IN ADVANCE OF DISTURBANCE OF DRIVEWAYS. PROPERTY OWNER SHALL BE PROVIDED THE MINIMUM FOLLOWING INFORMATION: WORK TO BE PERFORMED, STARTING AND ENDING DATES, THE NAME AND NUMBER OF CONTRACTOR'S REPRESENTATIVE, AND NAME OF HILSHIRE VILLAGE OFFICIAL TO BE CONTACTED FOR QUESTIONS. WRITTEN NOTICES SHALL BE APPROVED BY HILSHIRE VILLAGE PRIOR TO DISTRIBUTION.
5. TEXAS LAW ARTICLE 1436C, PROHIBITS ALL ACTIVITIES IN WHICH PERSONS OR EQUIPMENT MAY COME WITHIN SIX FEET OF ENERGIZED OVERHEAD POWER LINES, AND FEDERAL REGULATIONS, TITLE 29, PART 1910.180(I) AND PART 1926.550(A)(15) REQUIRE A MINIMUM CLEARANCE OF TEN FEET FROM THESE FACILITIES. THE ABOVE LAWS CARRY BOTH CRIMINAL AND CIVIL LIABILITIES, WITH CONTRACTORS AND OWNERS BEING LEGALLY RESPONSIBLE FOR THE SAFETY OF WORKERS UNDER THESE LAWS. IF YOU OR YOUR COMPANY MUST WORK NEAR OVERHEAD POWER LINES, CALL (713) 228-7400 FOR THE LINES TO BE DE-ENERGIZED AND/OR MOVED AT YOUR EXPENSE.
6. IN THE EVENT A GAS LINE IS EXPOSED DUE TO EXCAVATION AND IS IN NEED OF RELOCATION, THE APPROPRIATE GAS COMPANY SHALL BE CONTACTED BY THE CONTRACTOR TO HAVE STATUS OF THE LINE VERIFIED. CONTRACTOR IS RESPONSIBLE FOR HAVING THE GAS COMPANY RELOCATE THE GAS LINES WITHIN THE RIGHT OF WAY. SEE NOTE FOR CENTERPOINT ENERGY THIS PAGE.
7. THE PREPARATION OF THESE PLANS REFLECT INFORMATION PROVIDED BY OTHERS ON THE APPROXIMATE LOCATION AND EXISTENCE OF EXISTING UTILITIES AND ADJACENT PHYSICAL FEATURES; HOWEVER, THEY DO NOT IMPLY OR AFFIRM THAT ALL UTILITIES OR PHYSICAL FEATURES ARE SHOWN. GENERALLY, UTILITY SERVICE CONNECTIONS ARE NOT INDICATED ON THESE PLANS. CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION OF THE OWNER IMMEDIATELY UPON ENCOUNTERING UNFORESEEN CONFLICTS.
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE DEPTH, LOCATION AND EXISTENCE OF ALL EXISTING UTILITIES WHICH MAY CONFLICT WITH THE PROPOSED CONSTRUCTION, PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
9. RIGHTS OF WAY INDICATED ARE APPROXIMATE. CONTRACTOR SHALL VERIFY EXACT LIMITS OF RIGHT OF WAY PRIOR TO CONSTRUCTION.
10. THE CONTRACTOR SHALL MAINTAIN ACCESS TO RESIDENTIAL AND COMMERCIAL PROPERTIES ADJACENT TO WORK AREAS AT ALL TIMES.
11. NO EXCAVATIONS SHALL BE LEFT OPEN OVERNIGHT. ALL EXCAVATIONS WHICH CANNOT BE BACKFILLED OVERNIGHT SHALL BE COVERED. USE STEEL PLATES WHEN IN PAVED AREAS; IN OTHER AREAS USE 3/4" PLYWOOD, WOOD PLANKING OR OTHER MATERIAL APPROVED BY THE CITY. THE EXCAVATION AREA MUST BE WELL PROTECTED WITH TRAFFIC BARRICADES EQUIPPED WITH FLASHING YELLOW LIGHTS, DURING ACTIVE CONSTRUCTION PERIODS. THE EXCAVATION AREAS MUST BE COMPLETELY CORDONED OFF WITH PLASTIC TAPE OR CONSTRUCTION FENCE WHEN CONSTRUCTION IS NOT ACTIVELY PROGRESSING.
12. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN A MANNER SUCH THAT TRUCKS AND OTHER VEHICLES DO NOT CREATE A DIRT NUISANCE OR SAFETY HAZARD IN ANY STREETS, PUBLIC OR PRIVATE. CLEAN UP OF STREETS SHALL BE DONE DAILY.
13. IT IS IMPERATIVE THAT THE CONSTRUCTION IN THE PROJECT AREA INCONVENIENCE THE RESIDENTS OF THE AREA AS LITTLE AS POSSIBLE. CLEAN-UP SHALL BE COMPLETED AND MAINTAINED WITHIN ONE BLOCK BEHIND ALL CONSTRUCTION OF UTILITIES AND PAVING. CLEAN-UP INCLUDES COMPACTION OF BACKFILL, CLOSURE OF BORE PITS, AND SURFACE RESTORATION. NEW CONSTRUCTION OPERATIONS TO BE SUSPENDED TEMPORARILY IF COMPLETE CLEAN-UP IS FURTHER THAN ONE BLOCK BEHIND CONSTRUCTION.
14. ANY AREA OF GRASS WHICH IS DISTURBED OR DUG UP DURING THE CONSTRUCTION SHALL BE REPLACED WITH ST. AUGUSTINE SOD OR GRASS WHICH MATCHES THE GRASS REMOVED, AT NO ADDITIONAL COST TO THE CITY. WHEN CONSTRUCTION OCCURS IN CITY RIGHTS-OF-WAY AND EASEMENTS ON RESIDENTIAL YARD AREAS, CARE SHALL BE TAKEN TO MINIMIZE CONSTRUCTION DAMAGE TO YARD AREAS.
15. CONTRACTOR SHALL ADEQUATELY PROTECT EXISTING STRUCTURES, SPRINKLER SYSTEMS, LANDSCAPING, UTILITIES, POWER POLES, TREES, SHRUBS AND OTHER PERMANENT OBJECTS. TREES SHALL NOT BE REMOVED OR DISTURBED UNLESS OTHERWISE NOTED IN THE TREE PROTECTION PLANS. WHERE TREE ROOTS MUST BE CUT, FOLLOW THE REPAIR METHODS DESCRIBED IN THE SPECIFICATIONS AND TREE PROTECTION PLANS. ALL COST FOR REPAIRS OR REPLACEMENT OF DAMAGE DUE TO CONTRACTOR'S PERFORMANCE WILL BE PAID BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT.
16. CONTRACTOR SHALL NOT USE RESIDENTS WATER.
17. PROGRESS MEETINGS WILL BE HELD BETWEEN THE CONTRACTOR, THE CITY, AND THE ENGINEER ON A MONTHLY BASIS DURING CONSTRUCTION, AND MORE FREQUENTLY IF NEEDED.

- |                            |  |                   |
|----------------------------|--|-------------------|
| Job No.: <b>I040861</b>    | Scale:<br>HORZ : NA<br>VERT : NA<br><b>ONE INCH</b>                        | SHEET<br><b>2</b> |
| Date: <b>August, 2024</b>  | IF ABOVE MARK DOES NOT<br>MEASURE ONE INCH, THEN<br>THIS DWG. NOT TO SCALE | OF 22             |
| Dwn By: <b>G.S. Fuller</b> |  |                   |
| Chkd By: <b>E. Him</b>     |  |                   |

SYMBOL		SYMBOL	
EXISTING PLAN VIEW	DESCRIPTION	EXISTING PLAN VIEW	DESCRIPTION
	IRON PIPE OR IRON ROD MONUMENTS		HOUSTON LIGHTING & POWER CO CONDUIT & MANHOLE
	CENTERLINE OF RIGHT-OF-WAY		POWER POLE W/OVERHEAD LINES
	SURVEY BASELINE		POWER POLE W/DOWN GUY
	EXISTING RIGHT-OF-WAY LINE		TRAFFIC LIGHT POLE
	PROPERTY LINE		MARKER
	DIMENSION LINE		BUSINESS SIGN
	CURB LINE		SIGN POST
	EDGE OF ASPHALT PAVEMENT		FENCE LINE (CHAIN LINK OR OTHER)
	SIDEWALK		FENCE LINE (BARBED WIRE)
	SHRUBS		
	TREE		
	BUILDING		
	SLAB		
	POST, WOOD OR METAL		
	INDEX CONTOUR		
	WATER LINE (20" & SMALLER)		NORTH OR EAST RIGHT-OF-WAY
	WATER LINE (24" & LARGER)		SOUTH OR WEST RIGHT-OF-WAY
	WATER VALVE (GATE OR BUTTERFLY)		NORTH OR EAST DITCH OR CURB
	TAPPING SLEEVE AND VALVE		SOUTH OR WEST DITCH OR CURB
	FIRE HYDRANT		CENTER LINE OF PAVEMENT
	WATER METER		RELIANT ENERGY CONDUIT
	GAS LINE		GAS LINE
	GAS METER		SOUTHWESTERN BELL COMMUNICATION CONDUIT
	SANITARY SEWER LINE (24" & SMALLER)		WATER LINE (20" & SMALLER)
	SANITARY SEWER LINE (30" & LARGER)		WATER LINE (24" & LARGER)
	SANITARY SEWER LINE, MANHOLE & CLEANOUT		SANITARY SEWER LINE (24" & SMALLER)
	STORM SEWER LINE (24" & SMALLER)		SANITARY SEWER LINE (30" & LARGER)
	STORM SEWER LINE (30" & LARGER)		STORM SEWER LINE (24" & SMALLER)
	STORM SEWER LINE AND MANHOLE		STORM SEWER LINE (30" & LARGER)
	STORM SEWER JUNCTION BOX		RELIANT ENERGY MANHOLE
	CURB INLET		SOUTHWESTERN BELL TELEPHONE MANHOLE
	GRATE INLET		SANITARY SEWER MANHOLE & CLEANOUT
	CONCRETE DRAIN		STORM SEWER MANHOLE
	CULVERT		
	SOUTHWESTERN BELL MANHOLE & OVERHEAD & BURIED CABLE		
	TELEPHONE BOX		
	STREET LIGHT (CANTILEVERED ON WOODEN POLE)		
	STREET LIGHT (CANTILEVERED ON ORNAMENTAL POLE)		

& ⊙ AB AC AVE	AND AT ALL BELL ASBESTOS CEMENT AVENUE	RJ RT RW	RESTRAINED JOINT RIGHT RETAINING WALL
B B-B BC BSSN	BASLINE BACK TO BACK BEHIND CURB BUSINESS SIGN	S SAN SPL SPRINK ST STA	SOUTH SANITARY SPECIAL SPRINKLER STREET STATION ALONG BASELINE OR CENTERLINE STANDARD
CI C CLR CMP COH CONC CONSTR CPE CSG CTMS	CAST IRON CENTERLINE CLEAR CORRUGATED METAL PIPE CITY OF HOUSTON CONCRETE CONSTRUCTION CENTER POINT ENERGY CASING COMPUTERIZED TRANSPORTATION MANAGEMENT SYSTEM	STD STL STM SWR SWBT	STEEL STORM SEWER SOUTHWESTERN BELL COMMUNICATION COMPANY
DI DIA DR DWG	DUCTILE IRON DIAMETER DRIVE DRAWING	T TBM TOC OR TC TEMP TP TS & V TY TYP	TANGENT TEMPORARY BENCH MARK TOP OF CURB TEMPORARY TOP OF PAVEMENT TAPPING SLEEVE AND VALVE TYPE TYPICAL
E EL OR ELEV EOP ESP E/R ESMT EXIST	EAST ELEVATION EDGE OF PAVEMENT EXTRA STRENGTH PIPE END OF CURB RETURN EASEMENT EXISTING	UE UG  VC	UTILITY EASEMENT UNDERGROUND  VERTICAL CURVE
FC F-F FH ? FT	FACE OF CURB FACE-TO-FACE FIRE HYDRANT FLOWLINE FEET	W W/ WL WLE WM WP WV	WEST WITH WATER LINE WATER LINE EASEMENT WATER METER WOOD POLE WATER VALVE
GV & B	GATE VALVE AND BOX		
HL & P HMAC HPS HWY	HOUSTON LIGHTING AND POWER HOT MIXED ASPHALTIC CONCRETE HIGH-PRESSURE SODIUM HIGHWAY		
ID IE IP IR	INSIDE DIAMETER INVERT ELEVATION IRON PIPE IRON ROD		
JT JUNC	JOINT JUNCTION		
LF LN LPST LT	LINEAR FEET LANE LEAKING PETROLEUM STORAGE TANK LEFT		
MAX METRO MH MIN MON MRC	MAXIMUM METROPOLITAN TRANSIT AUTHORITY MANHOLE MINIMUM MONUMENT MONOLITHIC REINFORCED CONCRETE		
N NFV NO NTS	NORTH NOT FIELD VERIFIED NUMBER NOT TO SCALE		
OCEL OFS OLE OH	ON CURVE ELEVATION OFFSET OVERHEAD ELECTRICAL OVERHEAD		
PC PCC PCCP PERM PI PPCA PROP PT PVC	POINT OF CURVATURE POINT OF COMPOUND CURVATURE PRESTRESSED CONCRETE CYLINDER PIPE PERMANENT POINT OF INTERSECTION POTENTIALLY PETROLEUM CONTAMINATED AREA PROPOSED POINT POINT OF TANGENCY POINT OF VERTICAL CURVATURE, POLYVINYL CHLORIDE PIPE POINT OF VERTICAL INTERSECTION PAVEMENT POINT OF VERTICAL TANGENCY		
PVI PVMT PVT			
® R RCB RCP REINF REMOV ROW RD RRPM	RECORD DRAWING RADIUS OF CIRCULAR CURVE REINFORCED CONCRETE BOX REINFORCED CONCRETE PIPE REINFORCED REMOVABLE RIGHT OF WAY ROAD REFLECTIVE REMOVABLE PAVEMENT MARKERS		

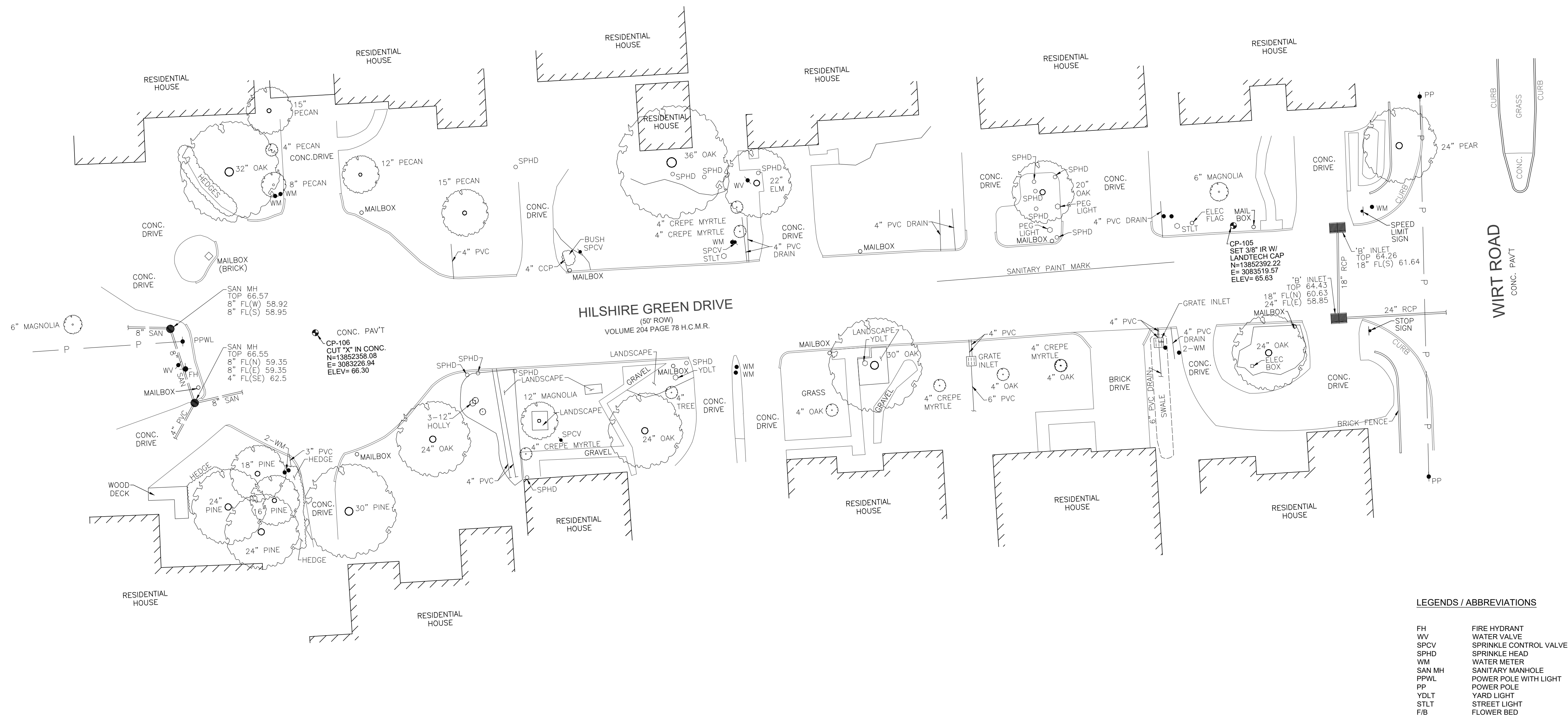




# SURVEY CONTROL SHEET

## BENCHMARK

CITY OF HOUSTON MONUMENT  
5159-0303 BRASS DISK ON  
ESPLANADE AT THE INTERSECTION  
OF WIRT ROAD AND JANAK DRIVE  
ELEVATION= 68.66 FT.  
NAVD 88 (2001 ADJUSTMENT)



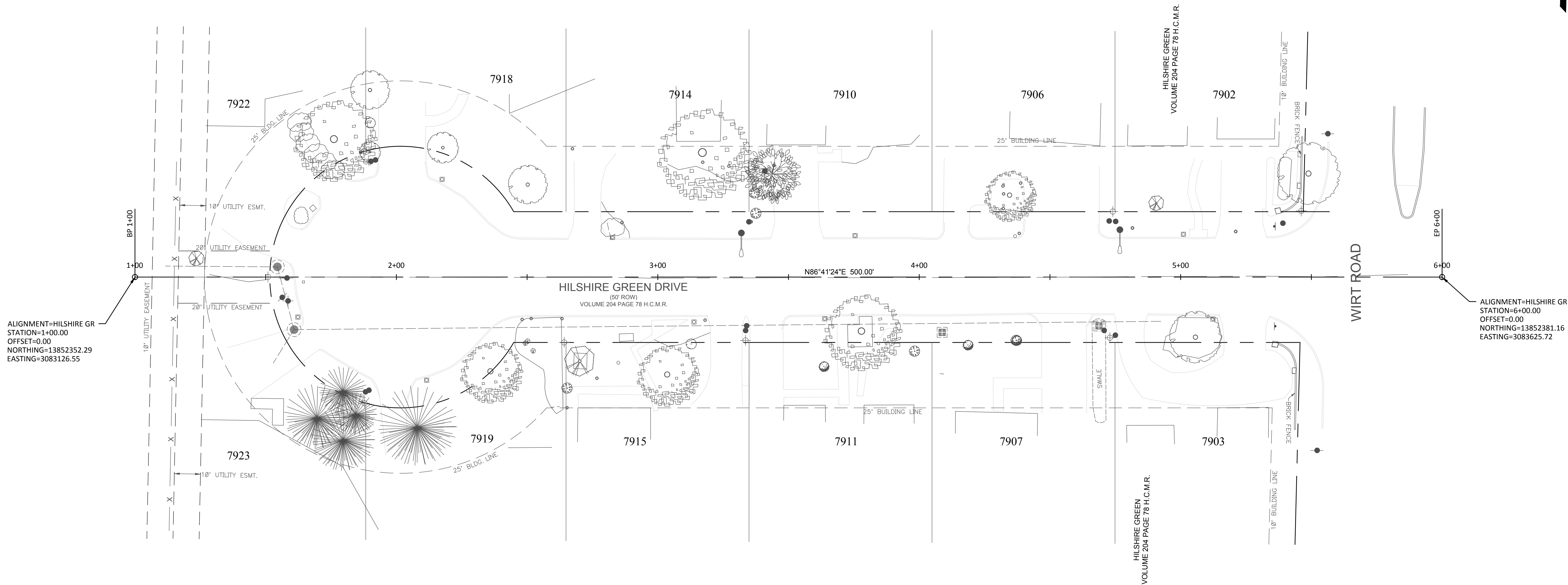
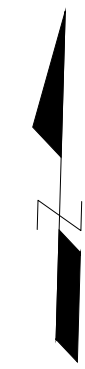
**LANDTECH**

1315 W SAM HOUSTON PARKWAY N, Suite 100  
Houston, Texas 77008  
T: 713-861-7068  
F: 713-861-4131

TBPELS Registration No. 1001910

DATE: 8/8/24  
SCALE: 1" = 20'  
DRAWING No.:  
JOB No.: 2420005  
SHEET No. : 4 OF 22





MK.	DESCRIPTION	DATE	DWN.	CHK.

FOR REVIEW ONLY

August, 2024

NGOC KIM LE

TX. LIC. 102192

NOT FOR BIDDING, OR CONSTRUCTION

**HDR**

HDR Engineering Inc. Texas Reg. No. 754  
4828 Loop Central Drive, Suite 700 • Houston, Texas 77081  
(713) 622-9264 • Fax (713) 622-9265 • www.hdrinc.com

City of Hilshire Village, Texas

Hilshire Green Drive  
Paving, Drainage & Utility Improvements

Hilshire Green Drive  
Baseline Control

Job No.: 10408611	Scale: HORZ : 20' VERT : 2'	SHEET <b>5</b> OF 22
Date: August, 2024	<b>ONE INCH</b> IF ABOVE MARK DOES NOT MEASURE ONE INCH, THEN THIS DWG. NOT TO SCALE	
Dwn By: G.S. Fuller		
Chkd By: E. Him		





## GENERAL TRAFFIC CONTROL NOTES:

1. IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF "TRAFFIC CONTROL PLAN" DURING CONSTRUCTION THAN WHAT IS OUTLINED IN CONTRACT DRAWINGS HE/SHE SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT AN ALTERNATIVE SET OF PLANS TO PLAN REVIEW FOR APPROVAL THREE WEEKS PRIOR TO BEGINNING CONSTRUCTION. THESE PLANS SHALL BE DRAWN TO SCALE AND SEALED BY A P.E. IN THE STATE OF TEXAS.
2. THE CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TXMUTCD - LATEST EDITION WITH REVISIONS) DURING CONSTRUCTION. FOR A 30 MPH ROADWAY, SIGNS SHALL BE PLACED MIN. 120' APART PER MINIMUM SIGN SPACING DISTANCE 'X' FROM "TRAFFIC CONTROL PLAN ONE-LANE TWO-WAY TRAFFIC CONTROL" DETAIL.
3. CONTRACTOR SHALL NOTIFY CITY 72 HOURS PRIOR TO INSTALLING TRAFFIC CONTROL DEVICES.
4. THE TCP PLAN SHALL BE COORDINATED WITH ALL LOCAL AGENCIES AND SERVICES THAT MAY BE IMPACTED BY THE CONSTRUCTION, INCLUDING BUT NOT LIMITED TO EMERGENCY RESPONSE AGENCIES SUCH AS CITY POLICE DEPARTMENT, FIRE DEPARTMENT, TRASH PICKUP, USPS, SCHOOLS, AND TXDOT.
5. NO WORK WILL BE ALLOWED ON SATURDAYS OR HOLIDAYS, WITHOUT PRIOR AUTHORIZATION BY CITY STAFF.
6. THE CONTRACTOR SHALL NOT STORE ANY CONSTRUCTION MATERIALS IN SUCH A MANNER AS TO OBSTRUCT VEHICLE DRIVER SIGHT DISTANCES.
7. ALL SIGNS, WARNING DEVICES, AND BARRICADES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR, INCLUDING ACTS OF VANDALISM OR ACCIDENT. THE CONTRACTOR SHALL INSURE THAT ALL BARRICADES, SIGNS, CHANNELIZING DEVICES, WARNING LIGHTS, TRAFFIC HANDLING DEVICES, AND TEMPORARY AND EXISTING PAVEMENT MARKINGS ARE MAINTAINED IN A CLEAN FUNCTIONAL CONDITION AT ALL TIMES.
8. THE CONTRACTOR SHALL REMOVE ALL EXISTING SIGNS WHICH ARE IN CONFLICT WITH THE CONSTRUCTION SIGNS.
9. 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. PROJECT SITE AND PROPOSED IMPROVEMENTS TO BE MAINTAINED AND CONTRACTOR TO CLEAN UP AT THE END OF EACH DAY AS APPROVED BY THE ENGINEER AND CITY.
10. THE CITY HAS 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.
11. WHEN ENTERING OR LEAVING ROADWAYS CARRYING PUBLIC TRAFFIC, THE CONTRACTOR'S EQUIPMENT WHETHER EMPTY OR LOADED SHALL IN ALL CASES YIELD TO PUBLIC TRAFFIC WITH ASSISTANCE OF CONTRACTOR PROVIDED CERTIFIED FLAGGER/OFF-DUTY OFFICER.
12. ACCESS TO DRIVEWAYS ADJACENT TO THE CONSTRUCTION WORK ZONE SHALL BE MAINTAINED AT ALL TIMES. ADDITIONAL CONES AND DELINEATORS MAY BE REQUIRED TO DELINEATE THE DRIVEWAY ACCESS ROUTE THROUGH THE CONSTRUCTION ZONE. A MINIMUM OF A 10' TRAVEL LANE SHALL BE MAINTAINED AT ALL TIMES.
13. CONTRACTOR SHALL PROVIDE A TEMPORARY DRIVEWAY FOR RESIDENTS UNTIL THE DRIVEWAY HAS BEEN REPLACED. THIS SHALL BE INCIDENTAL TO THE TRAFFIC CONTROL PAY ITEM.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE RESIDENTS A MINIMUM OF 7 DAYS PRIOR TO WORKING IN FRONT OF THEIR PROPERTY.
15. SPILLAGE RESULTING FROM HAULING OPERATIONS ALONG OR ACROSS ANY PUBLIC TRAVELED WAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
16. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE THROUGHOUT THE PROJECT AT ALL TIMES.
17. THE CONTRACTOR SHALL COORDINATE HIS SCHEDULE OF WORK WITH UTILITY OWNERS, BOTH PUBLIC AND PRIVATE. UTILITY OWNERS MAY HAVE THEIR OWN FORCES OR CONTRACTORS RELOCATING FACILITIES REQUIRED BY THE NEW CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH THESE OTHER FORCES OR CONTRACTORS.
18. FLASHING WARNING LIGHTS AND/OR FLAGS MAY BE USED TO CALL ATTENTION TO THE ADVANCE WARNING SIGNS.
19. ALL WORK SHALL BE PURSUED IN ACCORDANCE WITH CITY ORDINANCE NO. 40-28. NO WORK SHALL BE DONE ON HILSHIRE GREEN DRIVE IN THE ROADWAY BETWEEN HOURS OF 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM, MONDAY-FRIDAY. ALL OTHER ROADWAYS SHALL HAVE WORKING HOURS OF 7:00 AM TO 6:00 PM.
20. CONTRACTOR SHALL COVER OPEN EXCAVATIONS DURING NON-WORKING HOURS. ANCHORED STEEL PLATES SHALL BE USED TO COVER EXCAVATION WITHIN THE PAVEMENT, EXCAVATIONS OUTSIDE OF PAVEMENT SHALL BE COVERED AND ENCLOSED IN CONSTRUCTION FENCING AND OPEN THE LANES FOR TRAFFIC.

MK.	DESCRIPTION				DATE	DWN.	CHK.		
<div>FOR REVIEW ONLY</div> <div>August, 2024</div> <div>NGOC KIM LE</div> <div>TX. LIC. 102192</div> <div>NOT FOR BIDDING OR CONSTRUCTION</div>									
<div>HDR</div> <div>HDR Engineering Inc., Texas Reg. No. 754</div> <div>4828 Loop Central Drive, Suite 700 • Houston, Texas 77081</div> <div>(713) 622-9262 • Fax (713) 622-9265 • <a href="http://www.hdrinc.com">www.hdrinc.com</a></div>									
City of Hillshire Village, Texas									
Hillshire Green Drive Paving, Drainage & Utility Improvements									
TRAFFIC CONTROL PLAN GENERAL NOTES									
Job No.: I04086II					Scale: HORZ : <b>NA</b> VERT : <b>ONE INCH</b>			SHEET  <b>7</b>	
Date: August, 2024									
Dwn By: G.S. Fuller									
Chkd By: E. Him					IF ABOVE MARK DOES NOT MEASURE ONE INCH, THEN THIS DWG. NOT TO SCALE			OF 22	

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DATE: FILE:

Warning Sign Sequence in Opposite Direction Same as Below

R1-2  
42" X 42" X 42"  
TO  
ONCOMING  
TRAFFIC  
R1-2aP  
48" X 36"  
(See note 8)

Channelizing devices  
separate work space  
from traveled way

END  
ROAD WORK  
G20-2  
48" X 24"

R1-2  
42" X 42" X 42"  
TO  
ONCOMING  
TRAFFIC  
R1-2aP  
48" X 36"  
(See note 8)

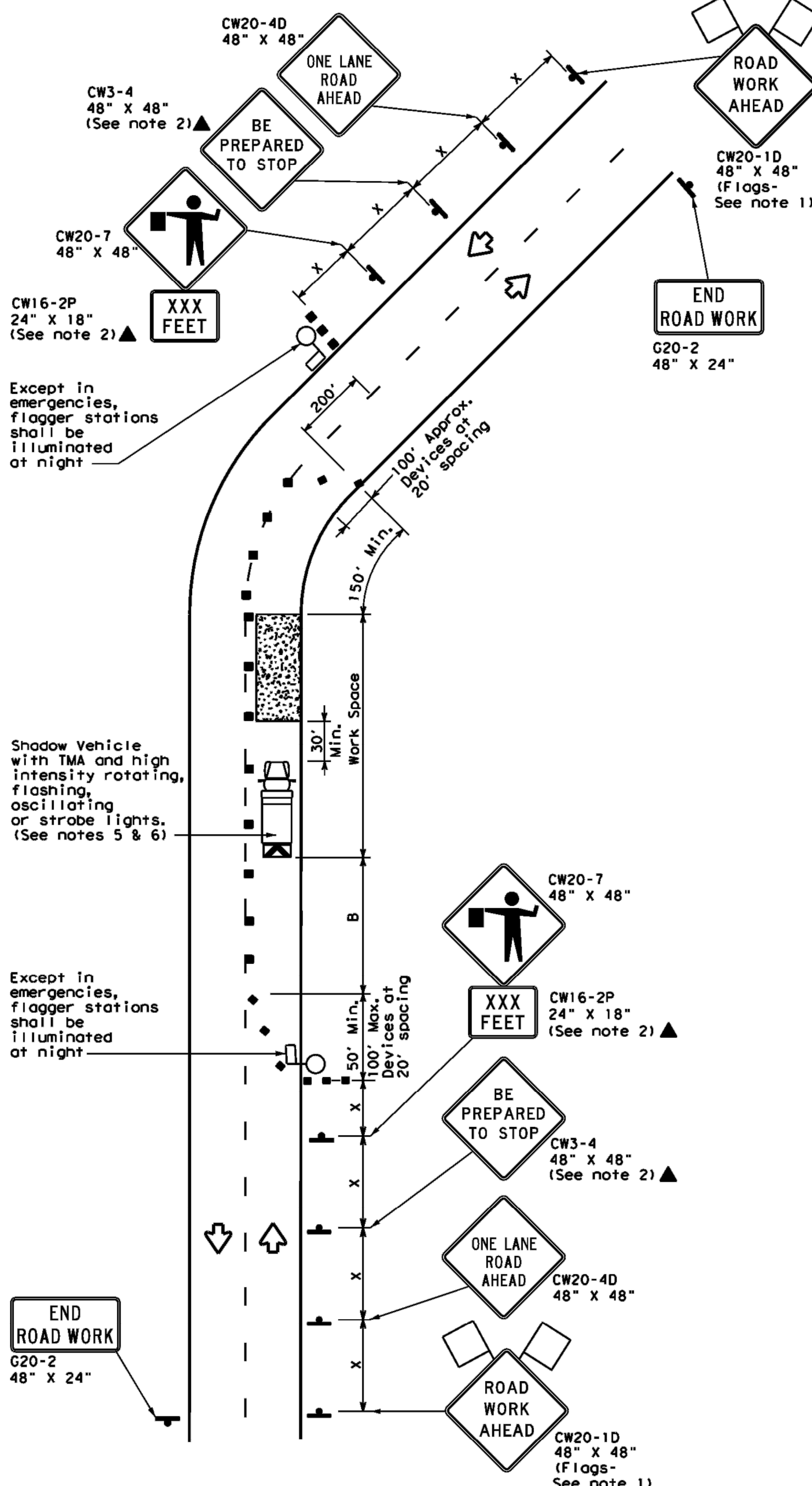
CW3-2  
48" X 48"

ONE LANE  
ROAD  
AHEAD  
CW20-4D  
48" X 48"

ROAD  
WORK  
AHEAD  
CW20-1D  
48" X 48"  
(Flags-  
See note 1)

TCP (1-2a)

ONE LANE TWO-WAY  
CONTROL WITH YIELD SIGNS  
(Less than 2000 ADT - See note 7)



ONE LANE TWO-WAY  
CONTROL WITH FLAGGERS

LEGEND					
	Type 3 Barricade		Channelizing Devices		Truck Mounted Attenuator (TMA)
	Heavy Work Vehicle		Trailer Mounted Flashing Arrow Board		Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "A"	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent			
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L = WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

\* Conventional Roads Only

\*\* Taper lengths have been rounded off.

L=Length of Taper (FT) W=Width of Offset (FT) S=Posted Speed (MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

#### GENERAL NOTES

- Flags attached to signs where shown are REQUIRED.
- All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
- The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
- Sign spacing may be increased or an additional CW20-1D "ROAD WORK AHEAD" sign may be used if advance warning ahead of the flagger or R1-2 "YIELD" sign is less than 1500 feet.
- A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
- Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

#### TCP (1-2a)

- R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work spaces should be no longer than one half city block. In rural areas on roadways with less than 2000 ADT, work spaces should be no longer than 400 feet.
- R1-2 "YIELD" sign with R1-2aP "TO ONCOMING TRAFFIC" plaque shall be placed on a support at a 7 foot minimum mounting height.

#### TCP (1-2b)

- Flaggers should use two-way radios or other methods of communication to control traffic.
- Length of work space should be based on the ability of flaggers to communicate.
- If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
- Channelizing devices on the center-line may be omitted when a pilot car is leading traffic and approved by the Engineer.
- Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.



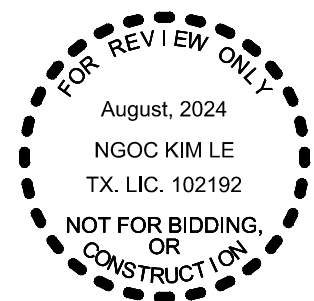
Traffic  
Operations  
Division  
Standard

TRAFFIC CONTROL PLAN  
ONE-LANE TWO-WAY  
TRAFFIC CONTROL

TCP (1-2) - 18

FILE: tcp1-2-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
4-90 4-98	REVISIONS			
2-94 2-12				
1-97 2-18				
	DIST	COUNTY	SHEET NO.	

PK.	DESCRIPTION	DATE	DWN.	CHK.



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City of Hilshire Village, Texas

Hilshire Green Drive  
Paving, Drainage & Utility Improvements

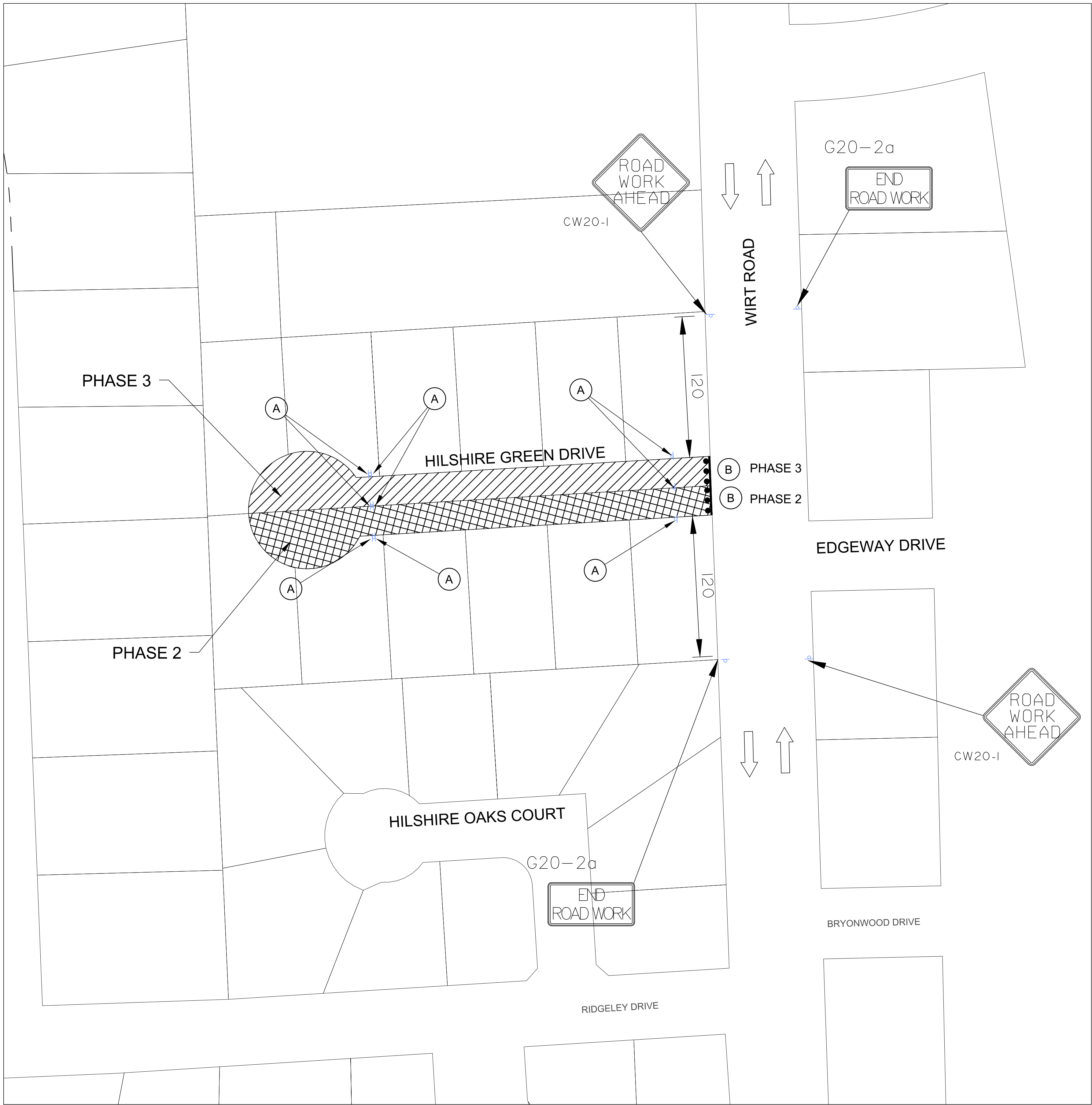
ONE-LANE TWO-WAY  
TRAFFIC CONTROL DETAIL

Job No.: 10408611  
Date: August 1, 2024  
Dwn By: G.S. Fuller  
Chkd By: E. Him

Scale:  
HORZ :  
VERT :  
ONE INCH  
IF ABOVE MARK DOES NOT  
MEASURE ONE INCH, THEN  
THIS DWG. NOT TO SCALE

SHEET  
8  
OF 22



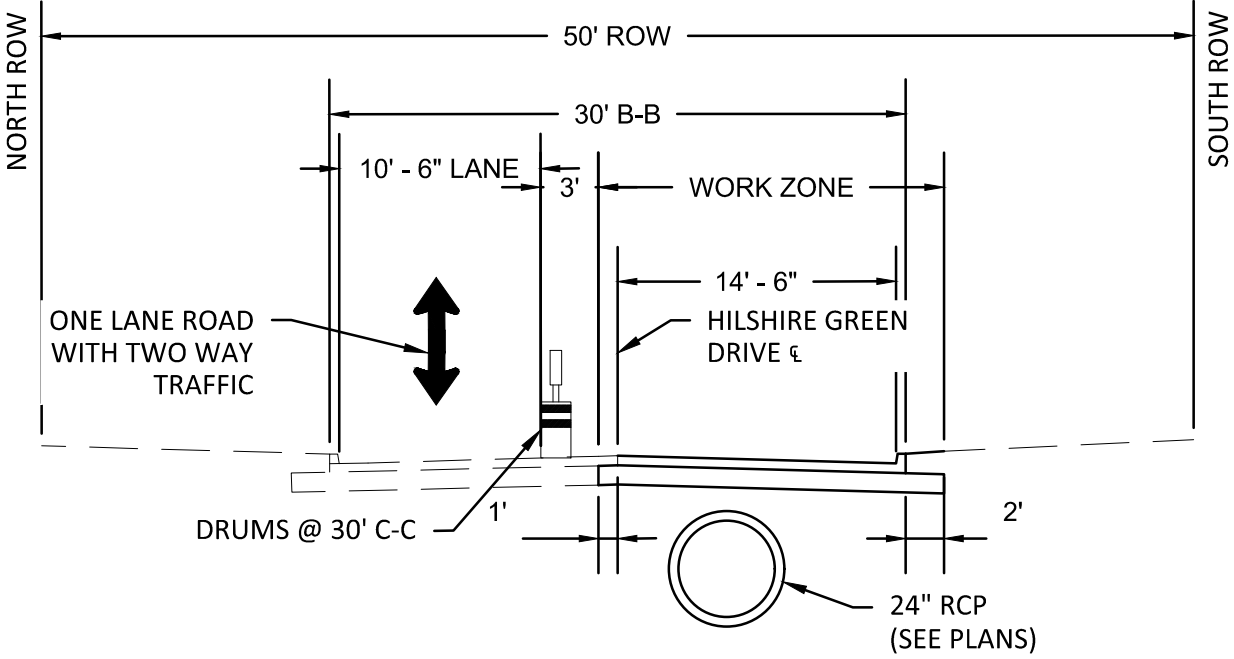


NOTES:

- UTILIZE FLAGMEN AS NECESSARY AND INSTALL STORM WATER POLLUTION PREVENTION AND TREE PROTECTION ITEMS.
- CONTRACTOR SHALL COORDINATE WITH THE POLICE & FIRE DEPARTMENT DURING THE CONSTRUCTION PHASE FOR ROAD CLOSURE AND EMERGENCY ACCESS.

PHASE 1 NOTES:

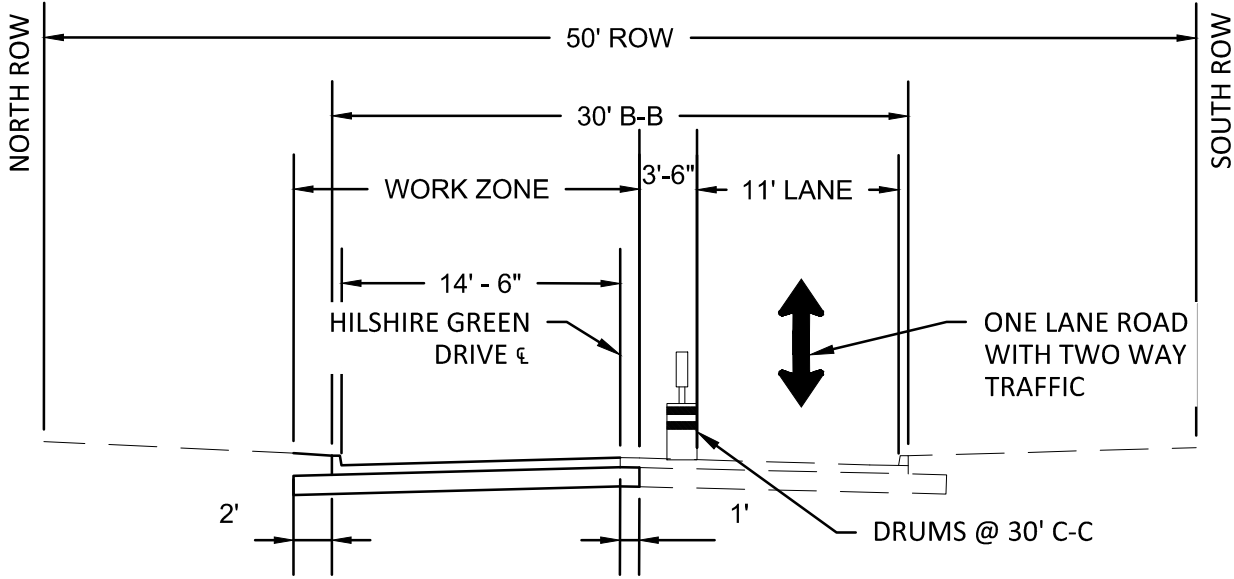
- PLACE EROSION CONTROL ITEMS WHERE APPLICABLE (TYPICAL OF ALL TRAFFIC CONTROL PLAN NARRATIVE SEQUENCE ITEMS.)
- INSTALL UTILITIES ON A ROLLING OPERATION PER "TRAFFIC CONTROL PLAN ONE-LANE TWO-WAY TRAFFIC CONTROL" ONLY ONE UTILITY (WATER LINE OR SANITARY SEWER REHABILITATION) TO BE INSTALLED AT A TIME. CONTRACTOR SHALL COORDINATE WITH CITY PRIOR TO INSTALLING UTILITIES. WHERE INSTALLATION OF UTILITIES ARE UNDER PAVEMENT, CONTRACTOR SHALL BACKFILL AND PLACE TEMPORARY PAVEMENT OR STEEL PLATES TO MAINTAIN ACCESS TO BOTH LANES OF TRAFFIC AT THE END OF EACH WORK DAY (NO SEPARATE PAYMENT).



PHASE 2

PHASE 2 NOTES:

- PLACE EROSION CONTROL ITEMS WHERE APPLICABLE (TYPICAL OF ALL TRAFFIC CONTROL PLAN NARRATIVE SEQUENCE ITEMS.)
- PLACE TRAFFIC CONTROL SIGNS AND DEVICES FOR PHASE 2 IN ACCORDANCE WITH TYPICAL SECTIONS AND PLANS.
- CONSTRUCT STORM SEWER, PAVEMENT, WALKWAYS AND DRIVEWAYS ON SOUTH SIDE OF HILSHIRE GREEN DRIVE.



PHASE 3

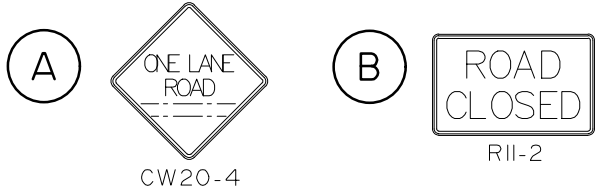
PHASE 3 NOTES:

- PLACE EROSION CONTROL ITEMS WHERE APPLICABLE (TYPICAL OF ALL TRAFFIC CONTROL PLAN NARRATIVE SEQUENCE ITEMS.)
- PLACE TRAFFIC CONTROL SIGNS AND DEVICES FOR PHASE 3 IN ACCORDANCE WITH TYPICAL SECTIONS AND PLANS.
- CLOSE WESTBOUND LANE OF HILSHIRE GREEN DRIVE WHILE ALLOWING ONE LANE ROAD FOR TWO-WAY LOCAL TRAFFIC.
- CONSTRUCT STORM SEWER, PAVEMENT, WALKWAYS AND DRIVEWAYS ON NORTH SIDE OF HILSHIRE GREEN DRIVE.



LEGEND

- PHASE TWO CONSTRUCTION
- PHASE THREE CONSTRUCTION
- BARRELS OR DRUMS
- GROUND MOUNTED SIGN
- TYPE III BARRICADE
- PROP DIRECTION OF TRAFFIC
- EXIST DIRECTION OF TRAFFIC



\* LOCAL TRAFFIC ONLY.

NO.	DATE	DESCRIPTION	DATE	DWN.	CHK.

FOR REVIEW ONLY

August, 2024  
NGOC KIM LE  
TX. LIC. 102192  
NOT FOR BIDDING,  
OR  
CONSTRUCTION

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City of Hilshire Village, Texas

Hilshire Green Drive  
Paving, Drainage & Utility Improvements

Hilshire Green Drive  
Traffic Control Plan

Job No.: 10408611	Scale: HORZ : 40 VERT : 1" = 40'	SHEET 9 OF 22
Date: August, 2024	IF ABOVE MARK DOES NOT MEASURE ONE INCH, THEN THIS DWG. NOT TO SCALE	
Dwn By: G.S. Fuller		
Chkd By: E. Him		

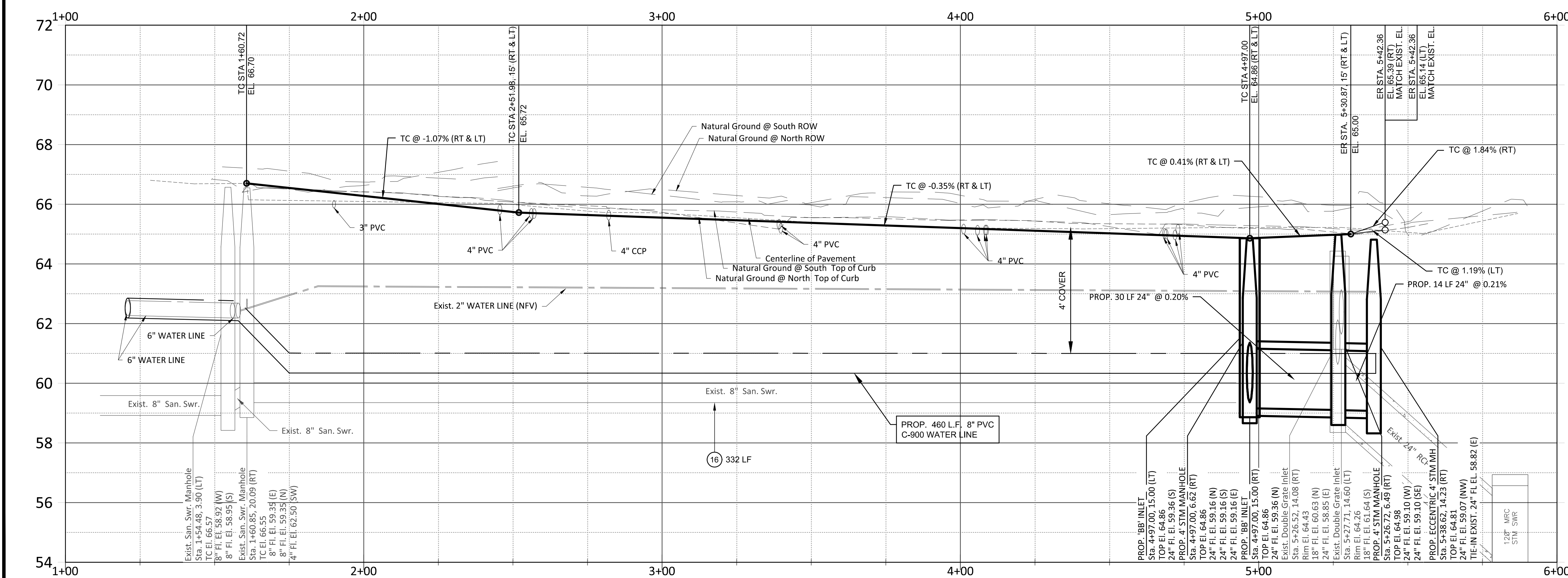
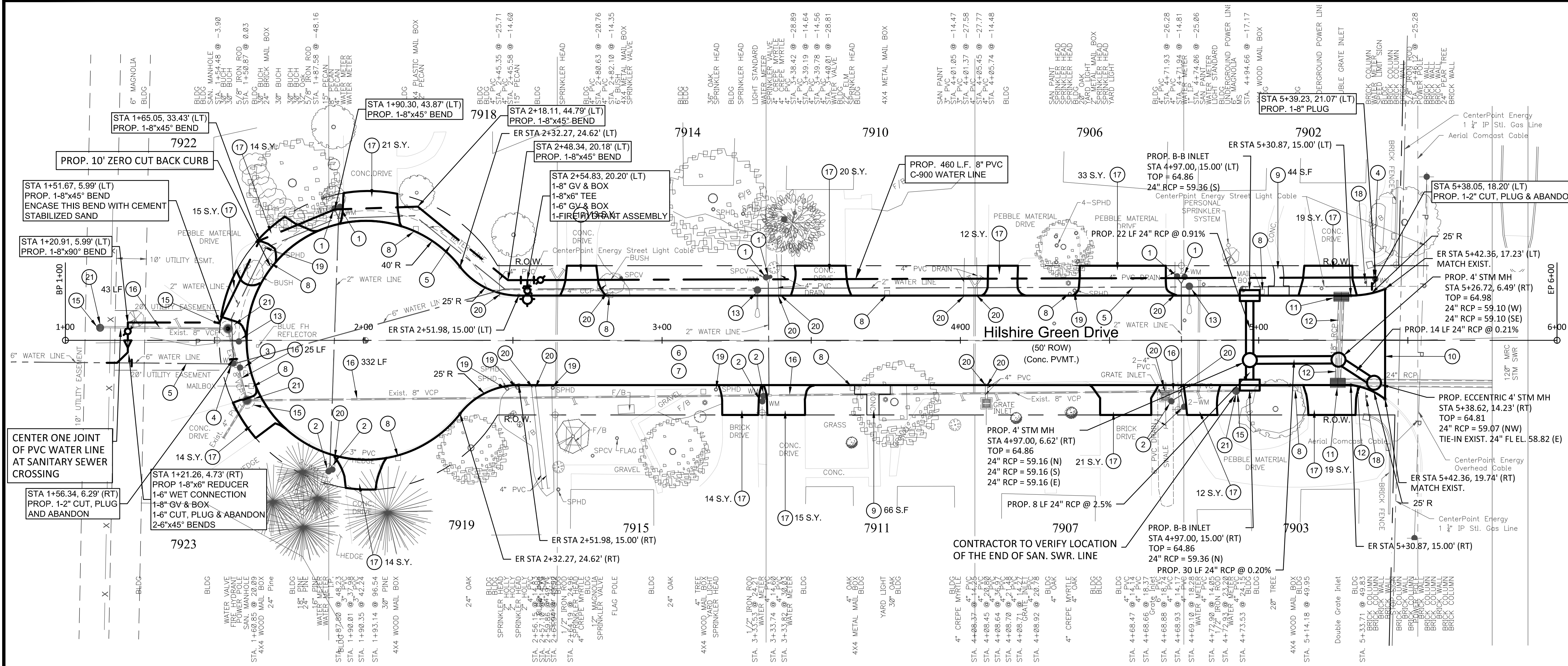




IMPROVEMENTS LEGEND:  
UTILITIES, PAVING & DRAINAGE

- Proposed 1<sup>st</sup> Short Side Water Service Replacement with New Meter Box.
- Proposed 1<sup>st</sup> Long Side Water Service Replacement with New Meter Box.
- Remove and Salvage Existing Fire Hydrants.
- Abandon Existing Water Valve as Per Specifications.
- Abandon Existing Water Line Per Specifications.
- Proposed Concrete pavement.
- Remove and Dispose of Existing Concrete Pavement and Base Course with Curb.
- Remove and Reset Mailboxes.
- Proposed Walkway Replacement.
- Proposed Pavement Header.
- Remove Existing Storm Sewer Inlet.
- Remove Existing Storm Sewer.
- Contractor Shall Coordinate Support, Adjustment or Relocation of Power/Light Poles and/or Guy Anchors w/Owner of Poles, as Required.
- Adjust Exist. Valve Box, Meter Box or Cleanout to be Flush With Top of Proposed Pvmnt or Finished Grade as Noted in Plans. (No Separate Pay)
- San Cementitious Wall Liner.
- Proposed Sewer Rehab by Pipebursting.
- Remove and Replace Driveway with Concrete.
- Remove and Relocate Sign.
- Cut and Plug Sprinkler Head at R.O.W. - No Replacement.
- Remove and Replace existing Yard Drain using 4" PVC Pipe to penetrate through Proposed Curb.
- Adjust MH to Grade and replace with 32" ring and cover.

Wirt Road  
(Conc. PVMT.)



MK.	DESCRIPTION	DATE	DWN.	CHK.

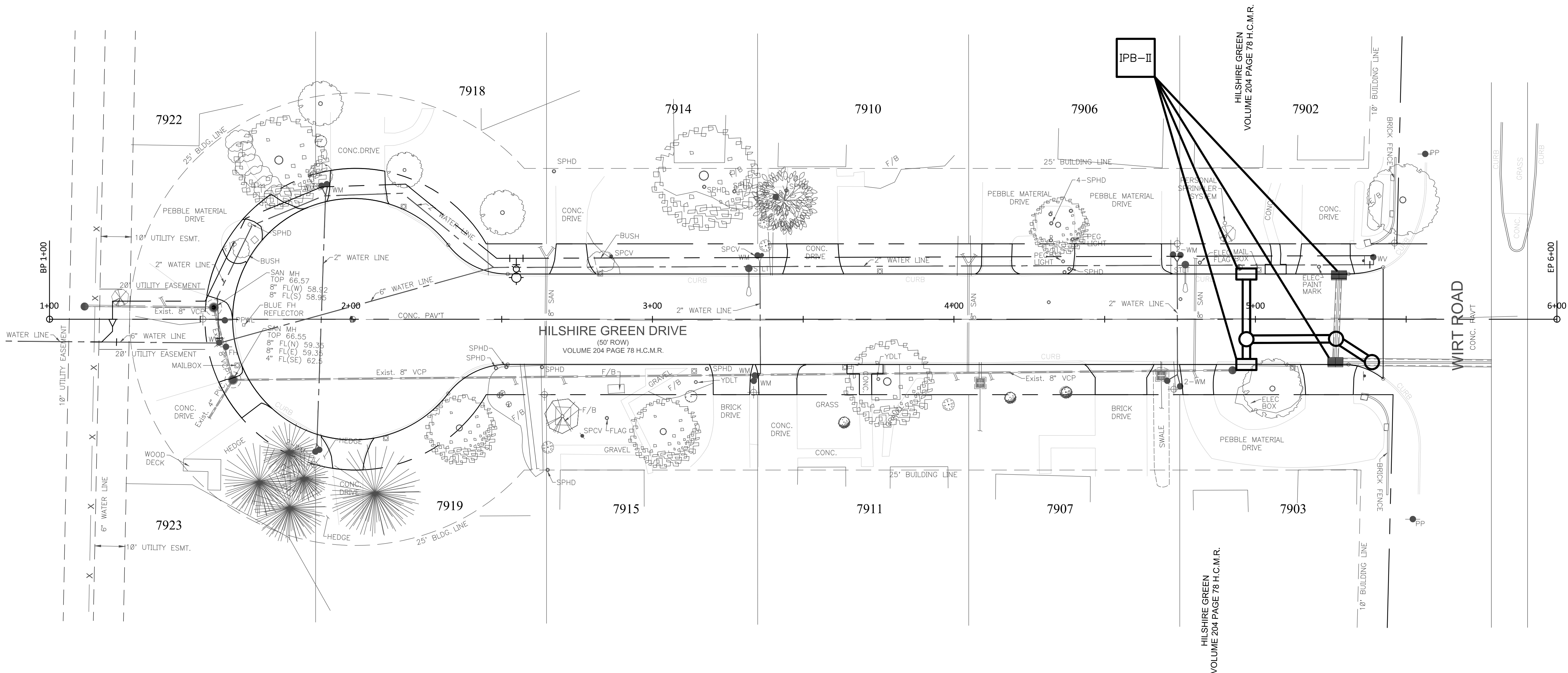
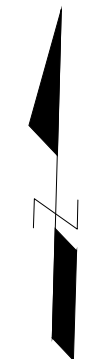


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City of Hilshire Village, Texas  
Hilshire Green Drive  
Paving, Drainage & Utility Improvements

Hilshire Green Drive  
Sta. 1+00 to End

Job No.: 10408611	Scale: HORIZ : 20' VERT : 2'	SHEET <b>11</b> OF 22
Date: August, 2024	ONE INCH	
Dwn By: G.S. Fuller	IF ABOVE MARK DOES NOT MEASURE ONE INCH, THEN THIS DWG. NOT TO SCALE	
Chkd By: E. Him		



**SW3P LEGEND**

- 60" EXISTING STORM SEWER
- 60" PROPOSED STORM SEWER
- EXISTING MANHOLE
- EXISTING "BB" INLET
- PROPOSED "BB" INLET
- PROPOSED JUNCTION BOX
- IPB-II INLET PROTECTION BARRIER FOR EXIST. AND PROP. INLETS
- ROW IN PROJECT AREA

MK.	DESCRIPTION	DATE	DWN.	CHK.

FOR REVIEW ONLY

August, 2024

NGOC KIM LE

TX. LIC. 102192

NOT FOR BIDDING, OR CONSTRUCTION

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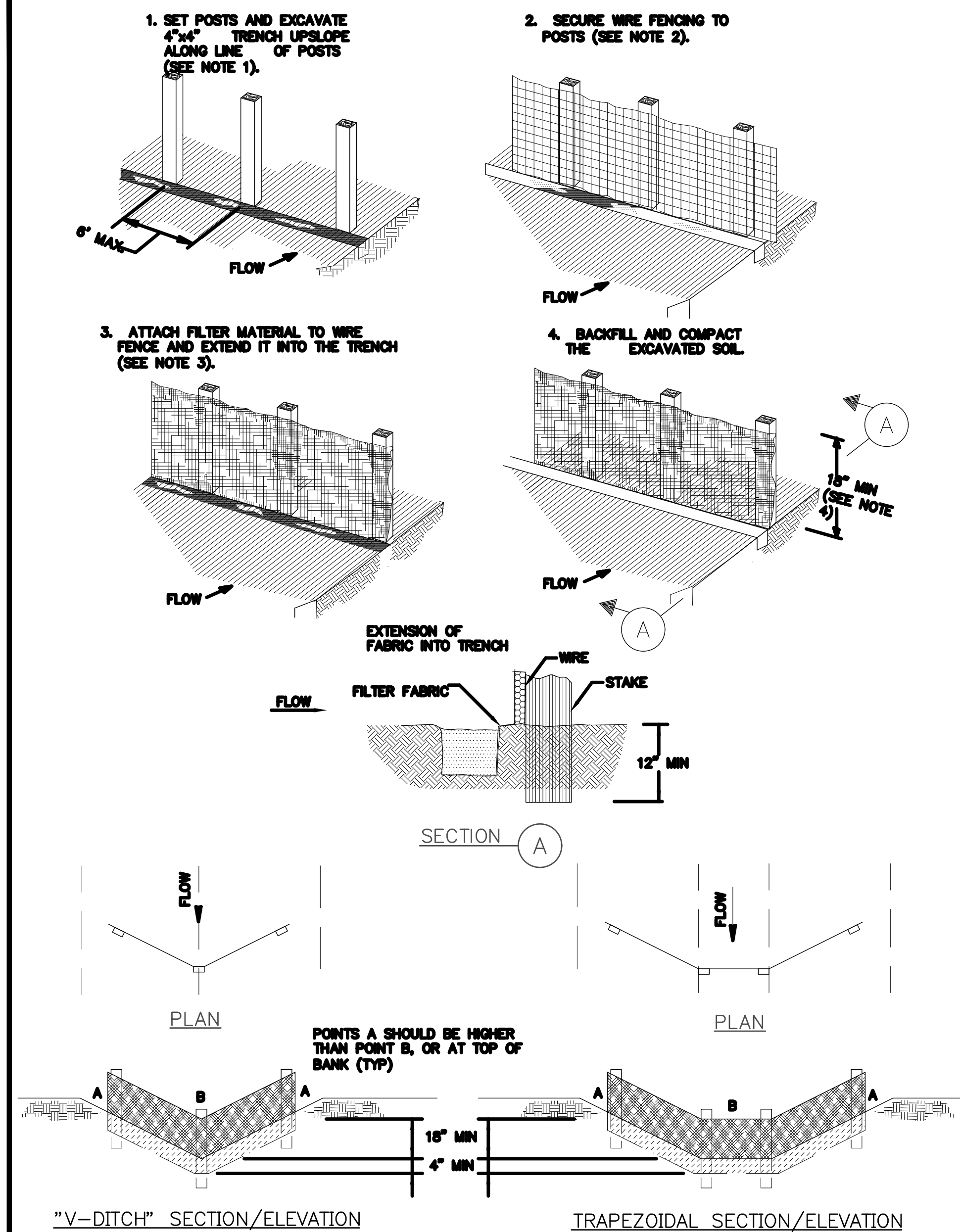
City of Hilshire Village, Texas

Hilshire Green Drive  
Paving, Drainage & Utility Improvements

Hilshire Green Drive  
Storm Water Pollution Prevention Plan

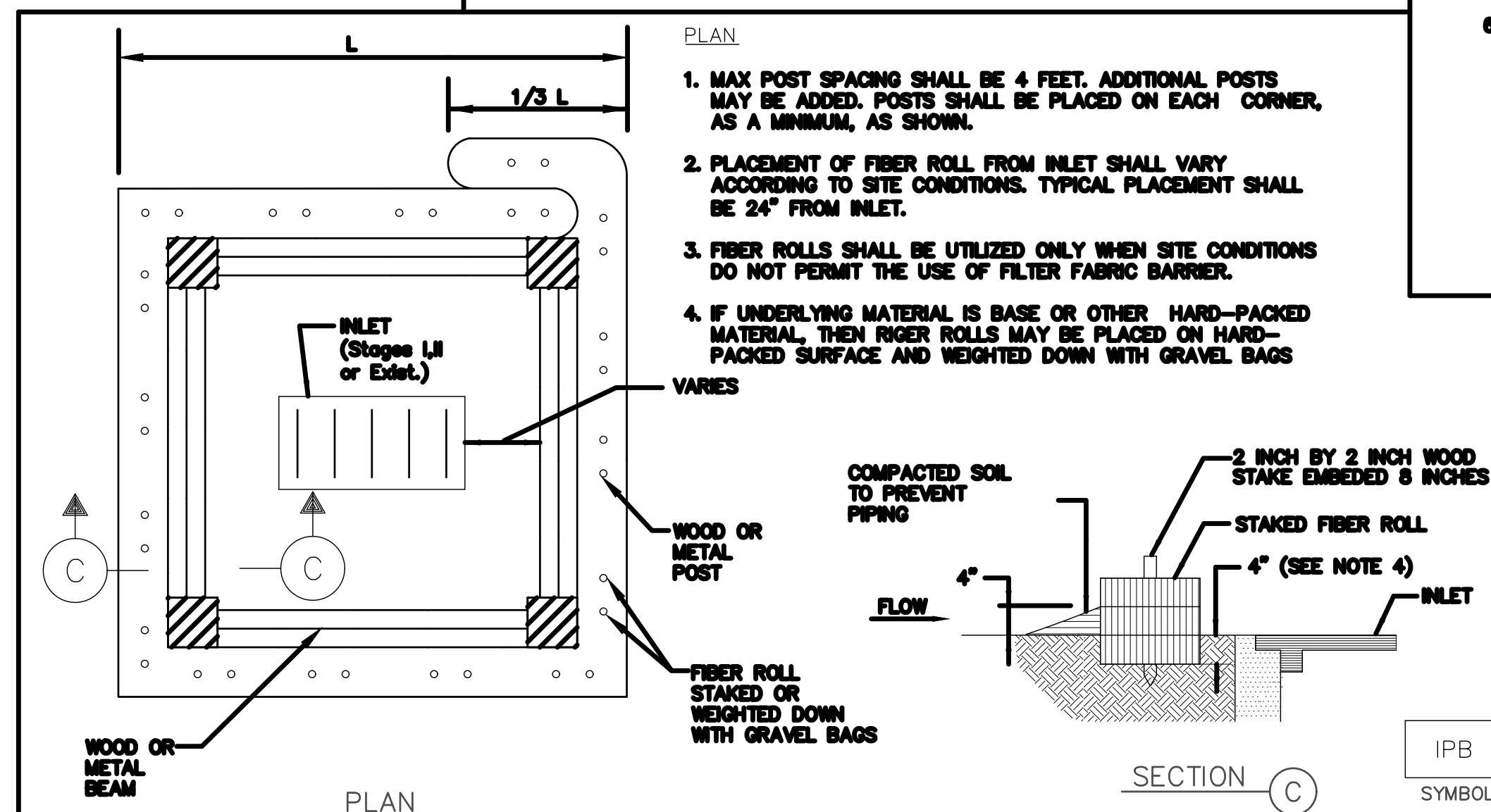
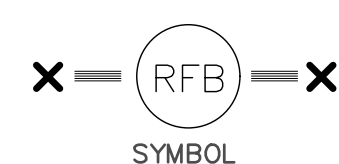
Job No.: 10408611	Scale: HORZ : 20' VERT : 2'	SHEET <b>12</b> OF 22
Date: August, 2024	<b>ONE INCH</b> IF ABOVE MARK DOES NOT MEASURE ONE INCH, THEN THIS DWG. NOT TO SCALE	
Dwn By: G.S. Fuller		
Chkd By: E. Him		



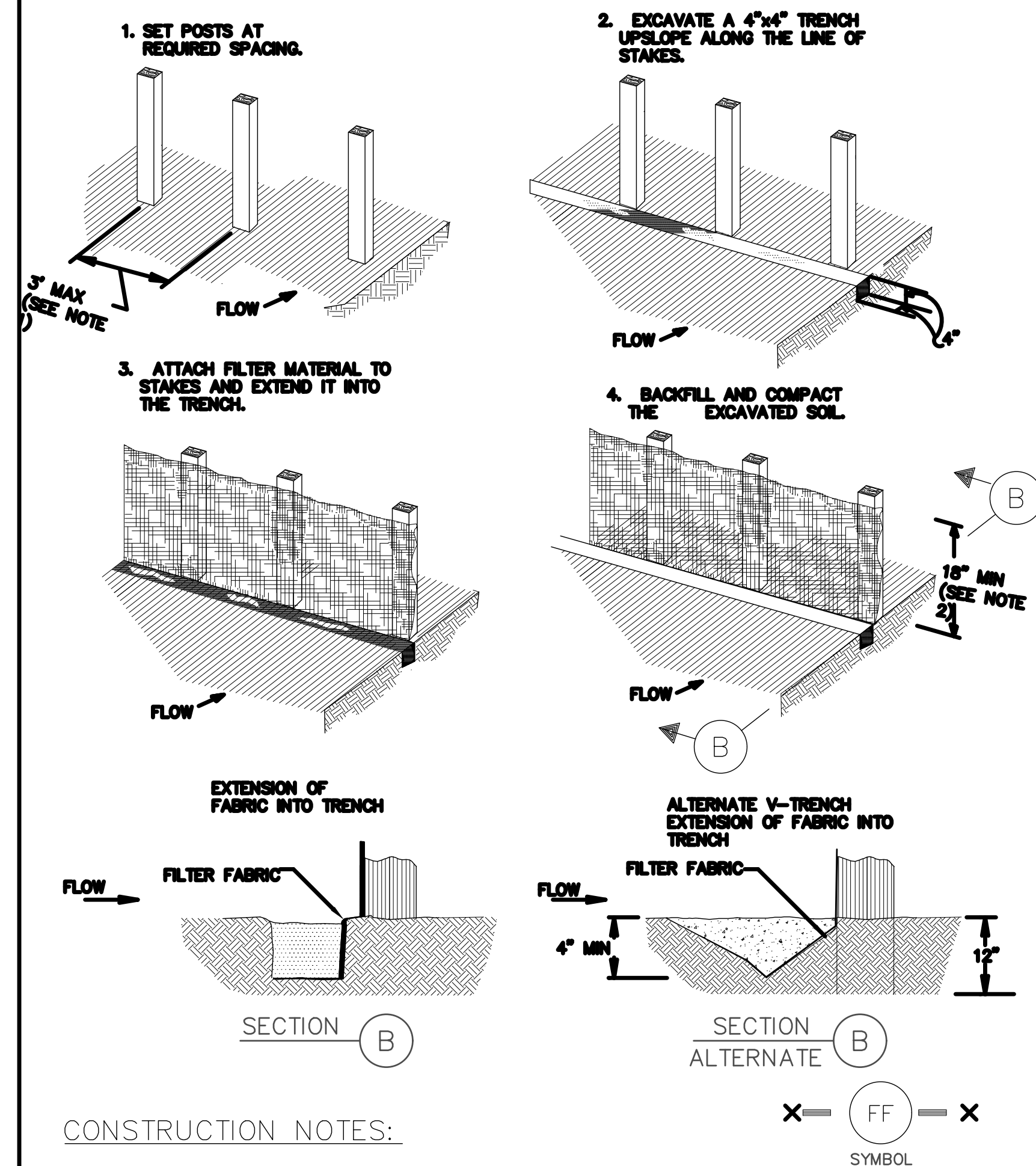


CONSTRUCTION NOTES:

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

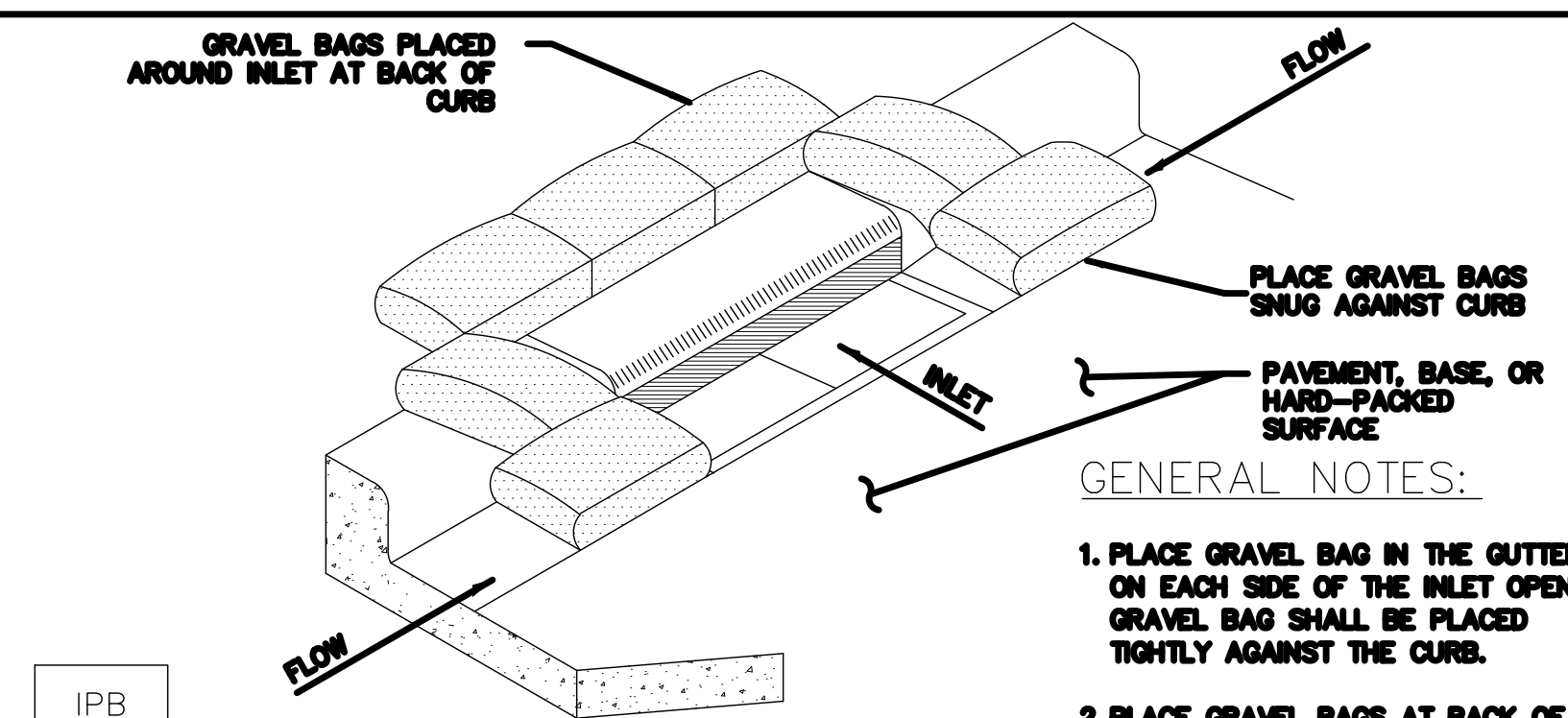
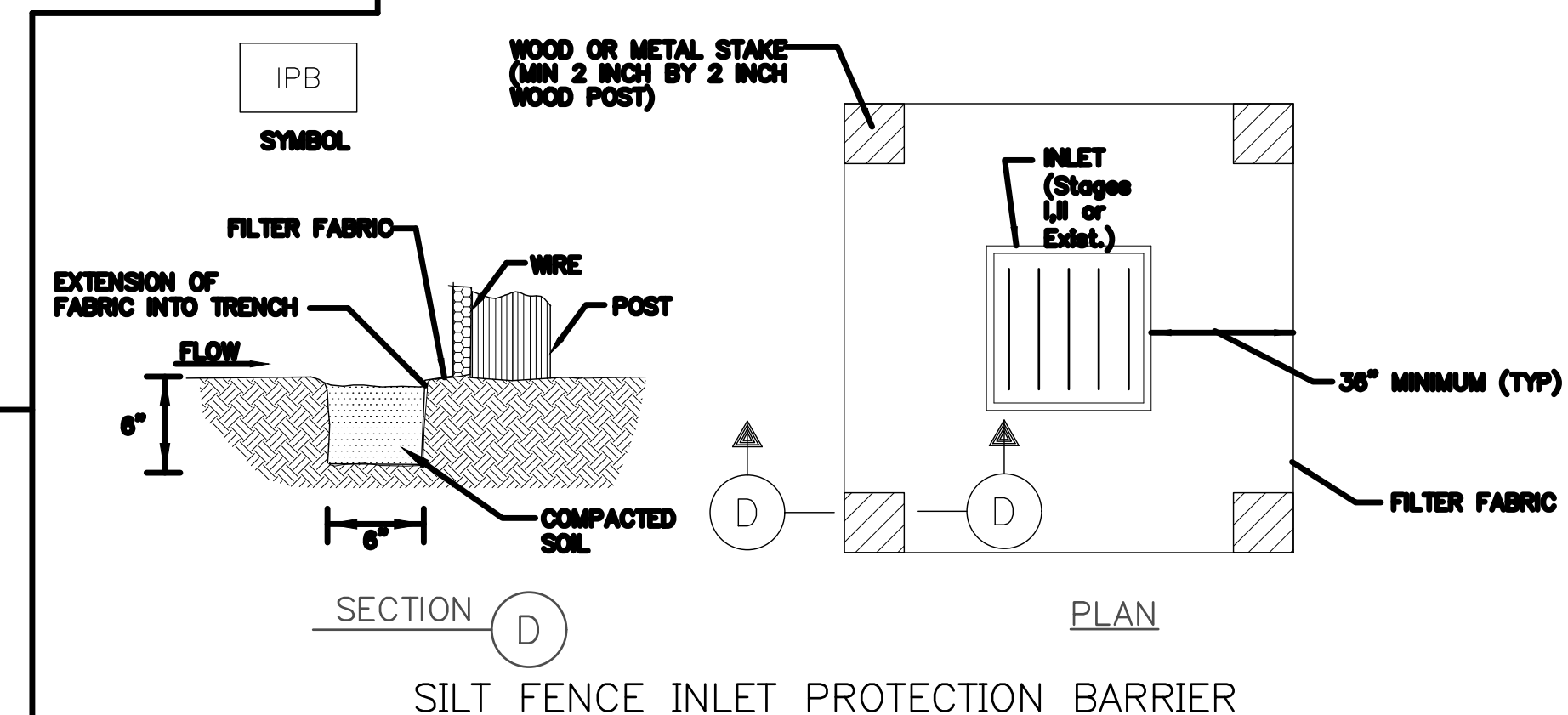


FIBER ROLL INLET PROTECTION BARRIER

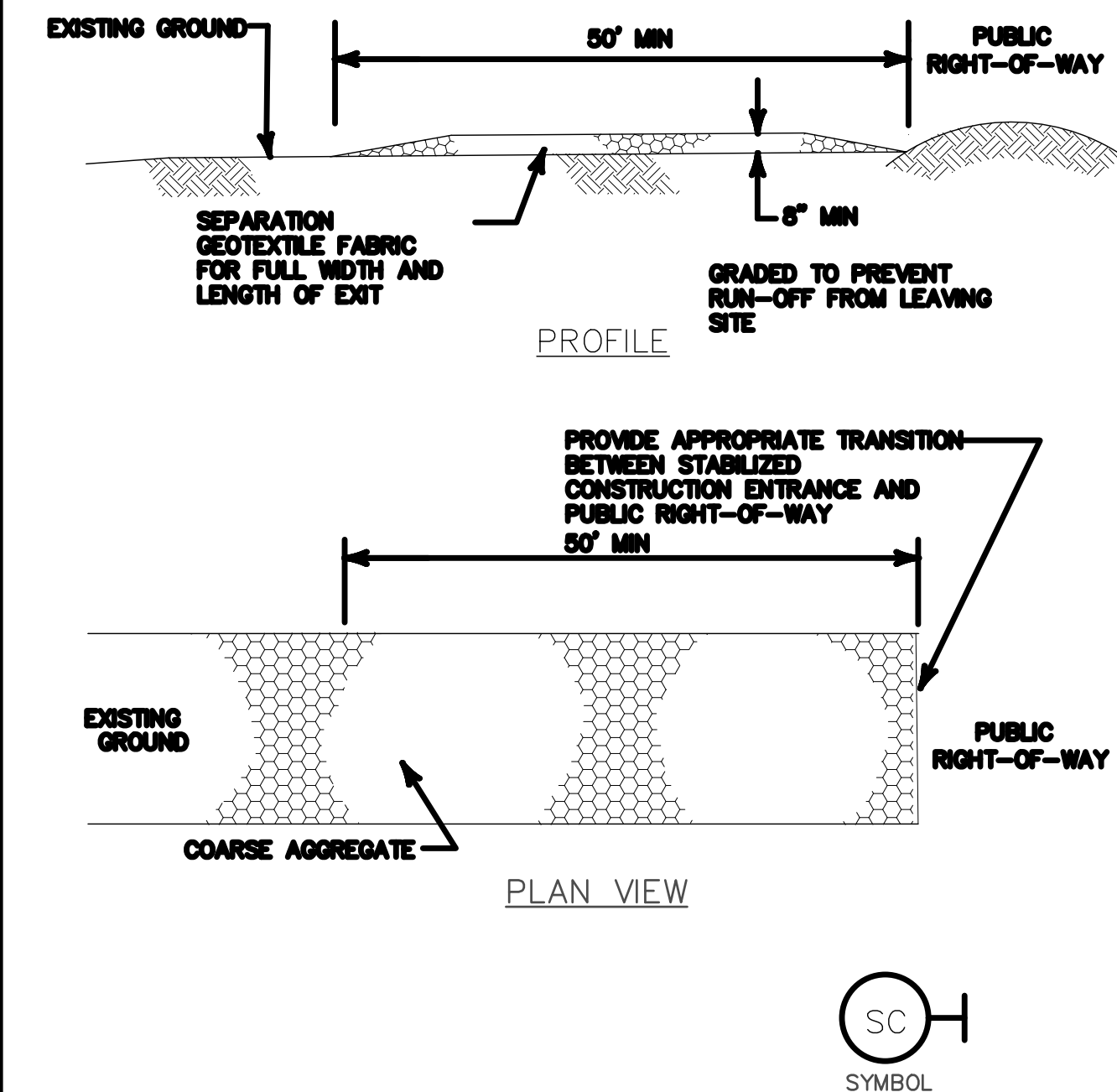


CONSTRUCTION NOTES:

1. 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 FENCE WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO 8 FEET MAX.
2. ATTACH FILTER FABRIC TO WOODEN STAKES. FILTER FABRIC FENCE SHALL HAVE A MIN HEIGHT OF 18 INCHES AND MAX HEIGHT OF 36 INCHES ABOVE NATURAL GROUND.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHOULD BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
4. SEE SPECIFICATION FOR FILTER FABRIC FENCE.



INLET PROTECTION BARRIER  
(FOR EXISTING & PROPOSED STAGE II INLETS)



## STABILIZED CONSTRUCTION EXIT

CONSTRUCTION NOTE:

1. MAX. POST SPACING SHALL BE 4 FEET. ADDITIONAL POSTS MAY BE ADDED. POSTS SHALL BE PLACED ON EACH CORNER, AS A MINIMUM, AS SHOWN.
2. PLACEMENT OF FILTER FABRIC BARRIER FROM INLET SHALL VARY ACCORDING TO SITE CONDITIONS. TYPICAL PLACEMENT SHALL BE 36" MINIMUM FROM INLET EDGE.

CONSTRUCTION NOTES:

1. LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS, BUT NOT LESS THAN 50 FEET.
2. THICKNESS SHALL BE NOT LESS THAN 6 INCHES.
3. WIDTH SHALL BE NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
4. STABILIZATION FOR OTHER AREAS SHALL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION EXIT, UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION DRAWINGS.
5. STABILIZED AREA MAY BE WIDENED OR LENGTHENED TO ACCOMMODATE A TRUCK WASHING AREA. AN OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE TRUCK WASHING AREA.
6. SEE SPECIFICATION FOR STABILIZED CONSTRUCTION EXIT.
7. STABILIZED CONSTRUCTION EXIT SHALL BE MAINTAINED FREE OF SEDIMENT FOR THE DURATION OF THE PROJECT.

MK	DESCRIPTION	DATE	DWN	CHK



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City of Hilshire Village, Texas

Hilshire Green Drive  
Paving, Drainage & Utility Improvements

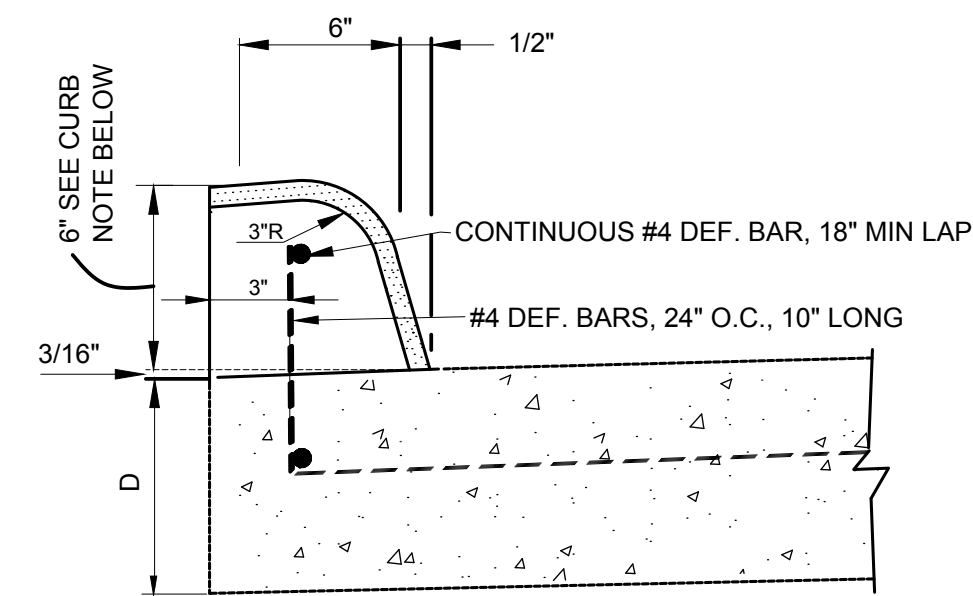
Storm Water

Job No.: 10408611
Date: August, 2024
Dwn By: G.S. Fuller
Chkd By: E. Him

Scale:  
 HORZ : **NA**  
 VERT : **NA**  
 [ ONE INCH ]  
 IF ABOVE MARK DOES NOT  
 MEASURE ONE INCH, THEN  
 THIS DWG. NOT TO SCALE

MEET  
13  
22

MEASURE ONE INCH, THEN  
THIS DWG. NOT TO SCALE



1. ALL REINFORCING STEEL SHALL CONFORM TO A.S.T.M. SPEC. NO. A-15-54T, AND A-305-53T
2. THE SPACING OF EXPANSION JOINTS SHALL BE 60' MAX.
3. THE LOCATION OF CONSTRUCTION JOINTS MAY BE VARIED, WITH THE APPROVAL OF THE CITY'S REPRESENTATIVE, TO SUIT THE PROPOSED CONSTRUCTION METHODS OF THE CONTRACTOR. MAXIMUM WIDTH BETWEEN LONGITUDINAL JOINTS SHALL NOT EXCEED 20'-0".

### CONCRETE CURB

1/4" R. SEAL JOINT AS SPECIFIED

3/16" BOLT LOOSE FIT

26 GA. STEEL OR PLASTIC TUBE

SMOOTH BAR

STAKE TO BAR

3/4" FOR 6" THICK PAVEMENT.

20"

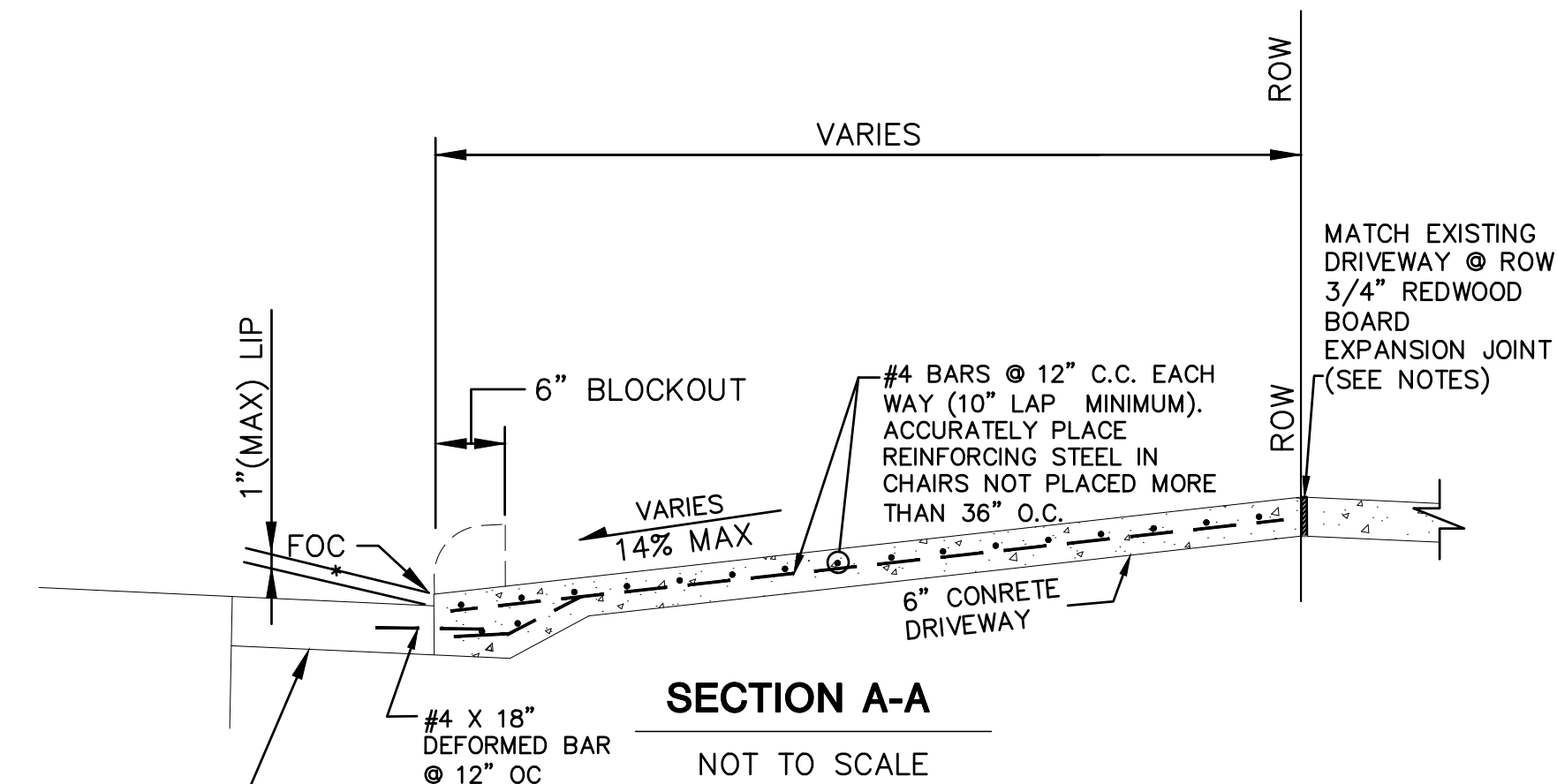
3/4" BOARD EXPANSION JOINT FILLER

STEEL TUBE SPEC. FOR REINFORC. BE SPACED

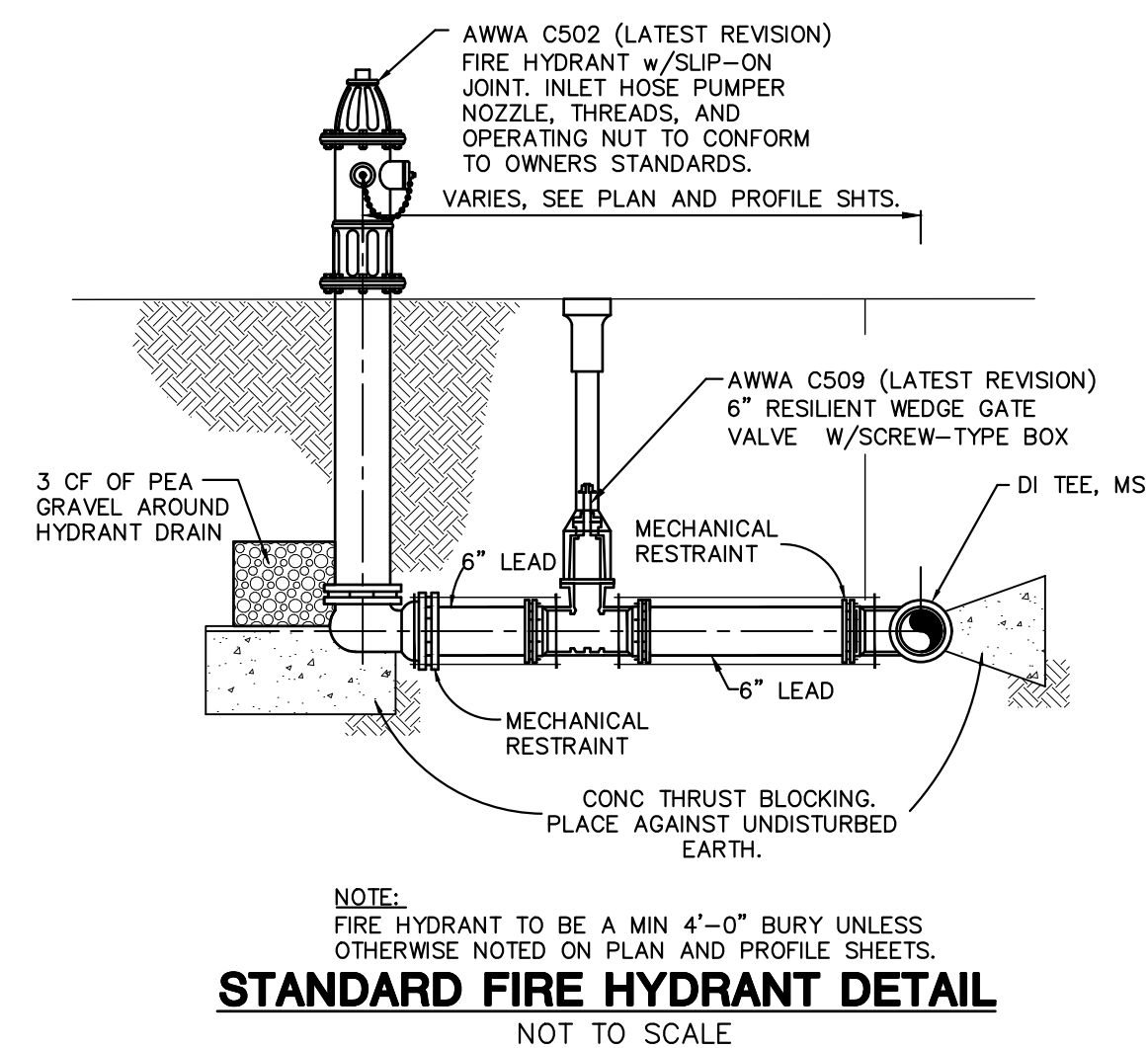
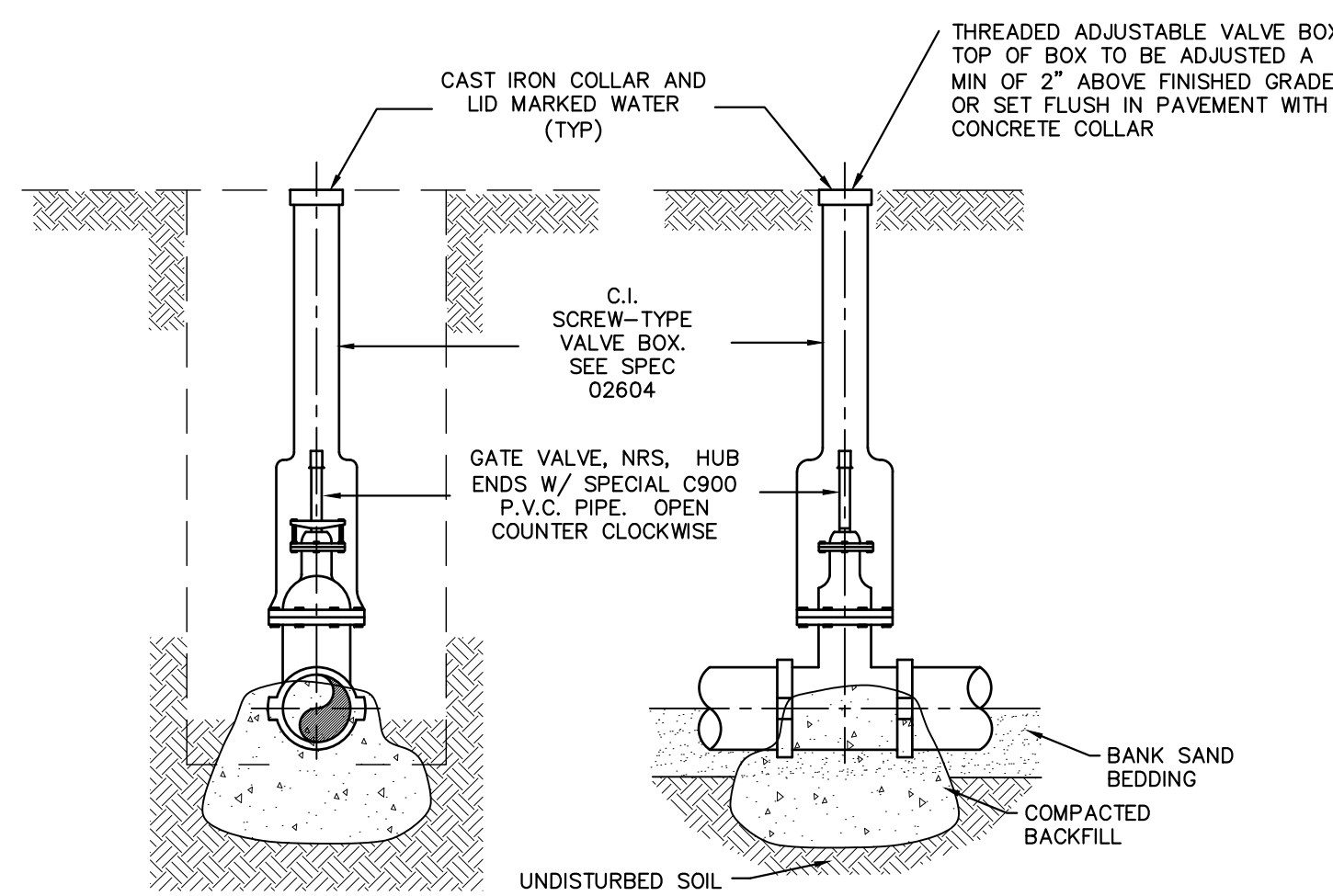
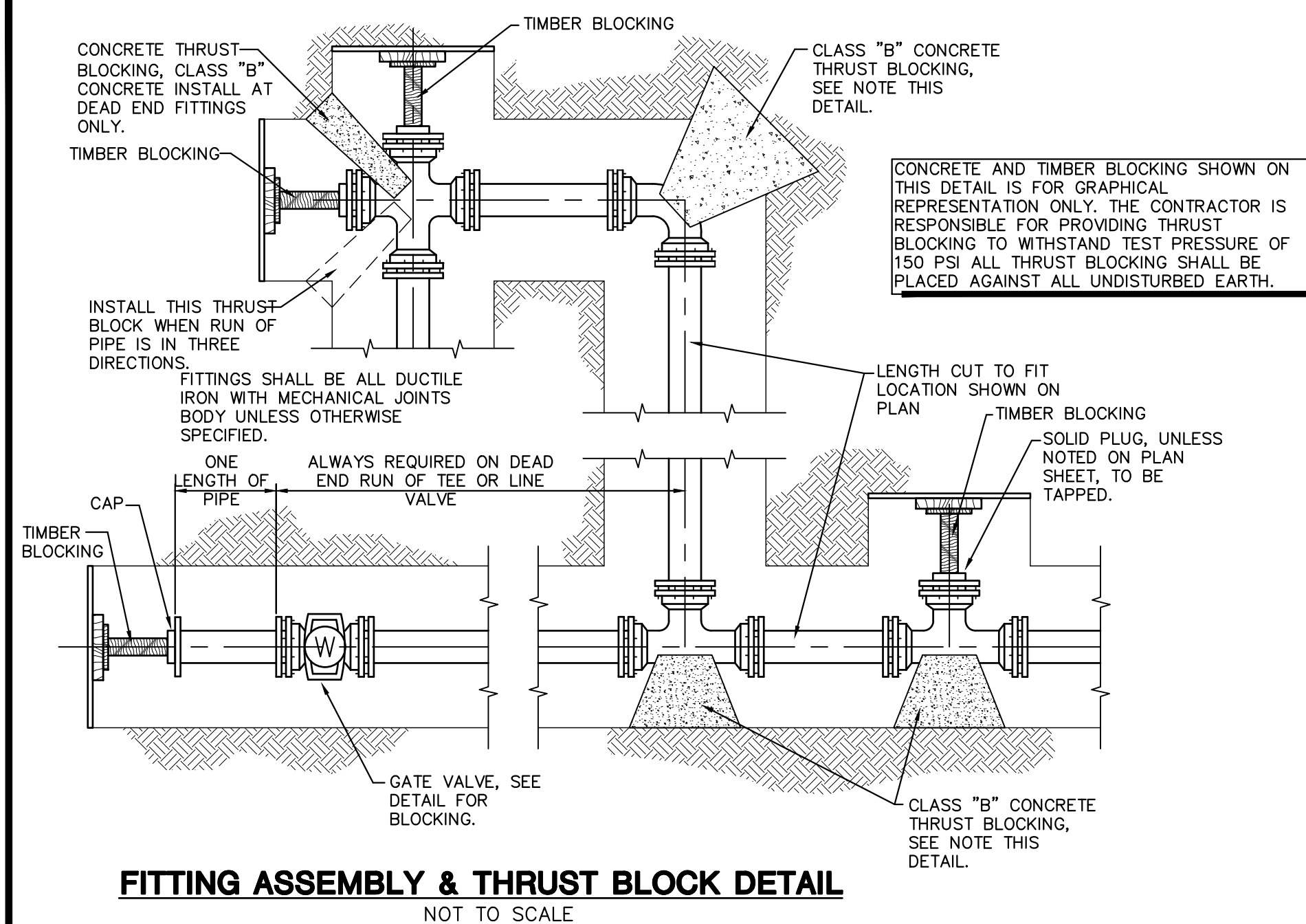
Diagram illustrating the construction of a joint in a concrete slab. The joint is formed by a metal strip (KEYED JOINT) and a 1/2" JOINT SEAL. Reinforcement bars (#4 BARS) are shown extending across the joint, with a 36" length specified. The bars are placed 18" C-C (Center-to-Center) to the pavement reinforcement across the joint. The joint is also labeled with 1/4" R and 1/2" R dimensions.

### TYPE I PAVING HEADER DETAIL

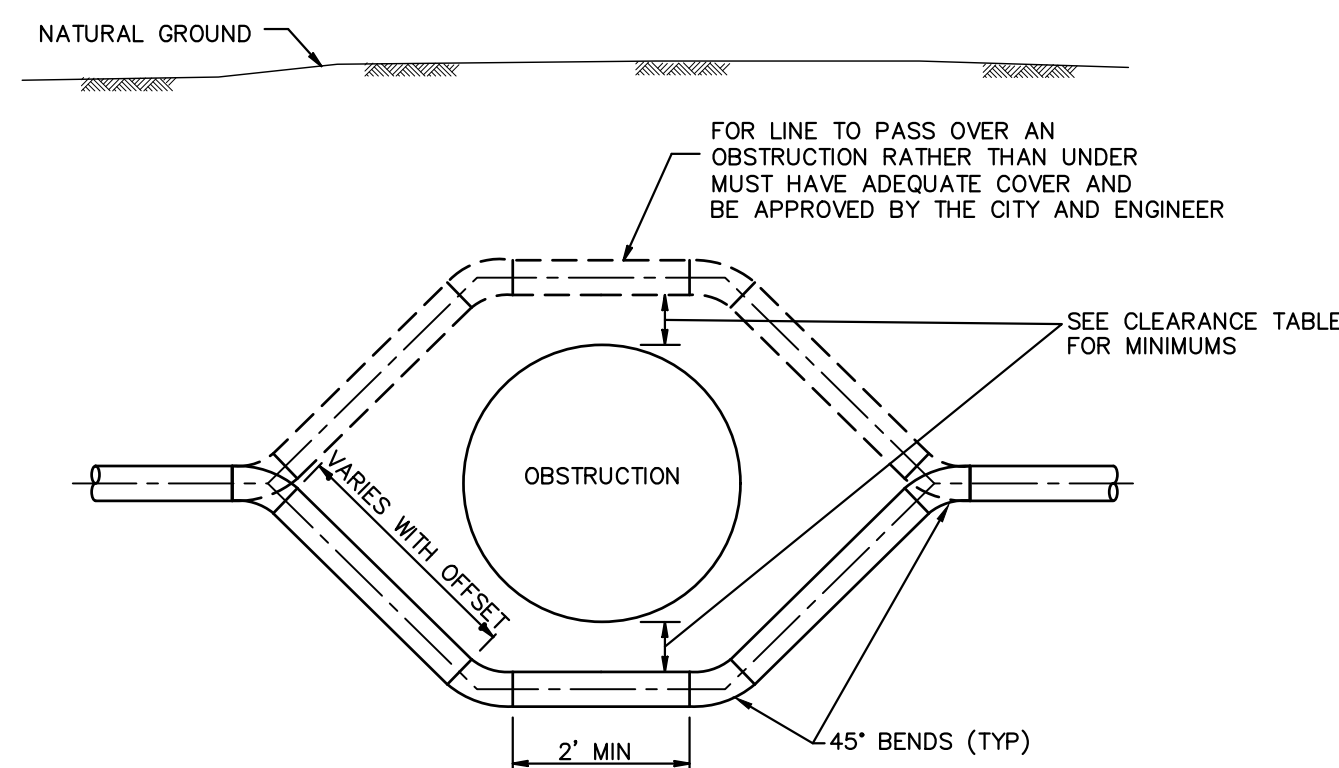
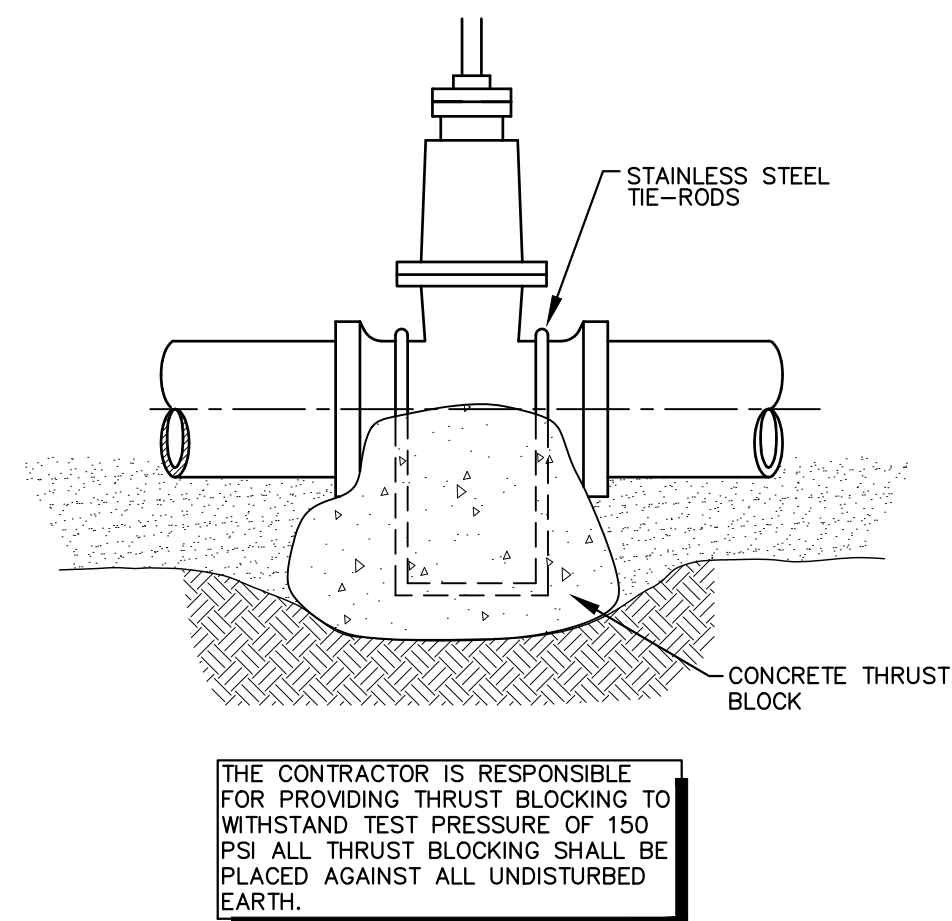
Job No.: I04086II	Scale: HORZ : NA VERT : NA	SHEET
Date: August, 2024	ONE INCH	14
Dwn By: G.S. Fuller	IF ABOVE MARK DOES NOT MEASURE ONE INCH, THEN THIS DWG. NOT TO SCALE	OF 22
Chkd By: E. Him		





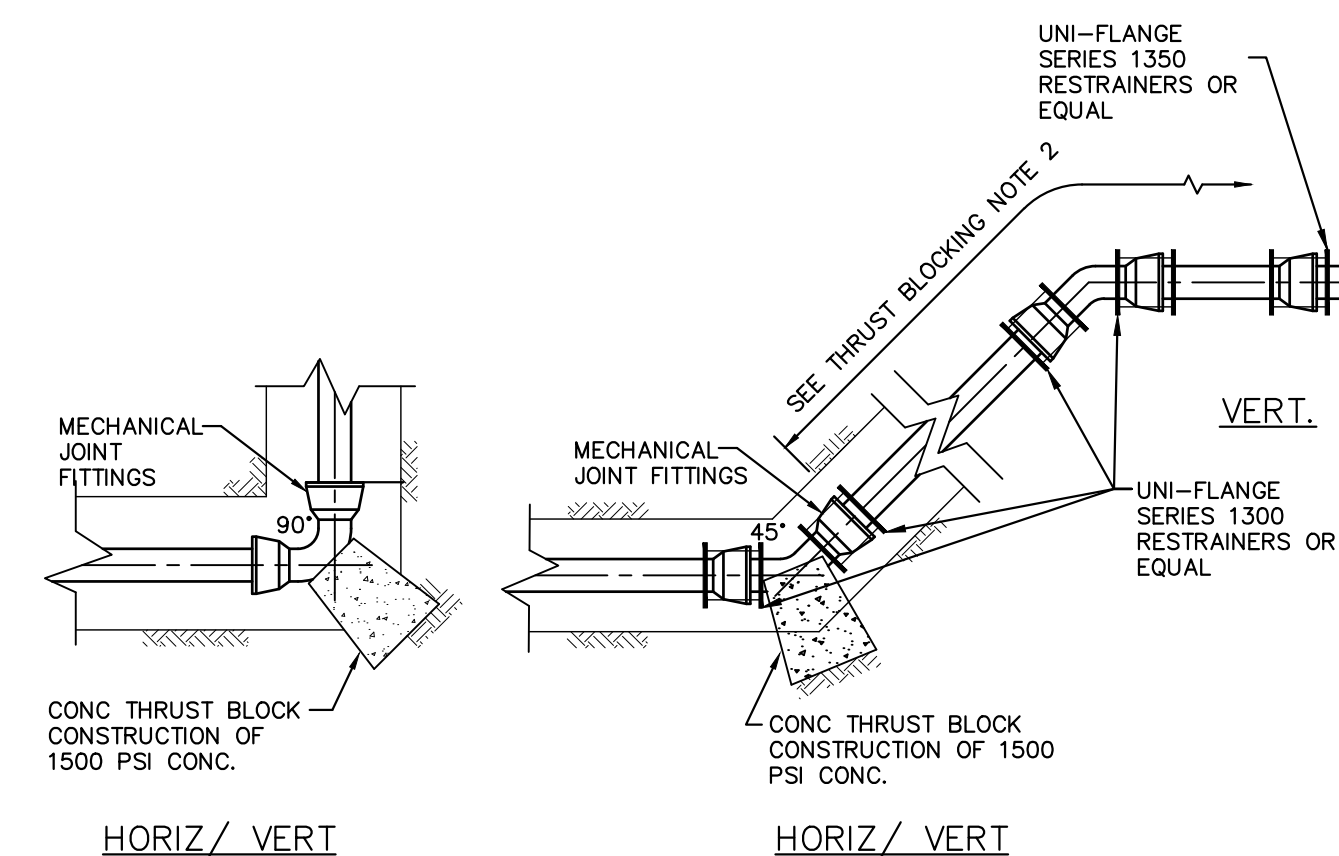
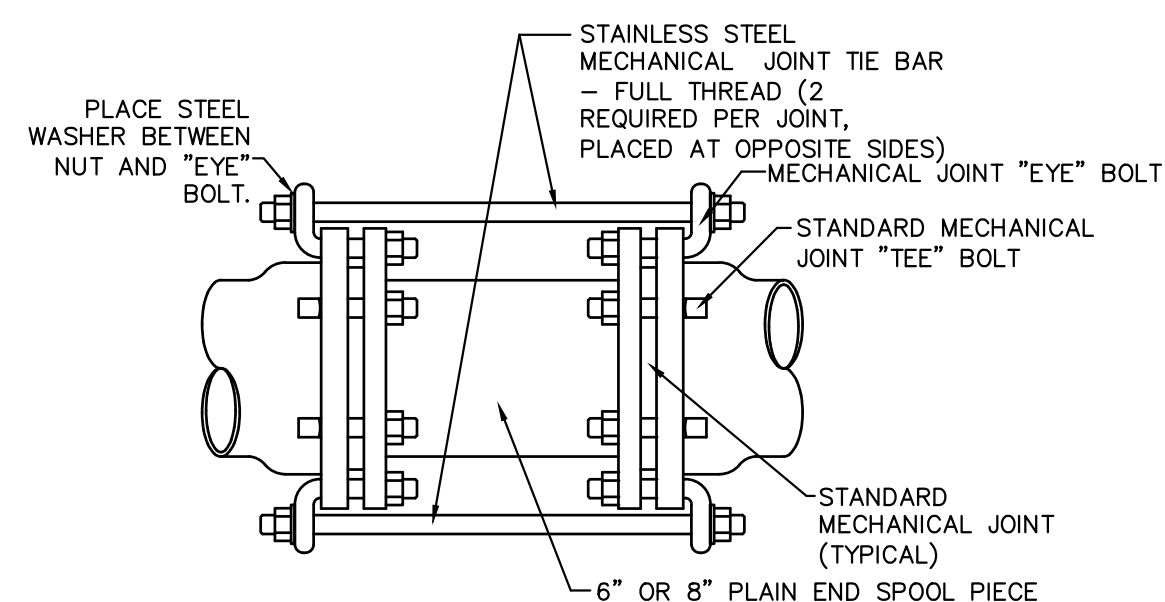


- ### **FIRE HYDRANT NOTES**
1. ALL FIRE HYDRANTS SHALL CONFORM TO THE CITY'S FIRE DEPARTMENT REQUIREMENTS.
  2. ALL FIRE HYDRANTS SHALL BE LOCATED 3' BACK OF CURB FOR CURB AND GUTTER STREETS AND 3' INSIDE RIGHT-OF-WAY (2' ABSOLUTE MIN) FOR ROADSIDE DITCH STREETS.
  3. FIRE HYDRANTS SHOWN AT INTERSECTIONS SHALL BE LOCATED AT THE CURB RETURN FOR CURB AND GUTTER STREETS AND AT THE PROPERTY CORNER FOR ROADSIDE DITCH STREETS UNLESS OTHERWISE SHOWN ON PLANS AND APPROVED BY OWNER.
  4. ALL FIRE HYDRANTS SHALL HAVE A MINIMUM OF 5'-0" LEAD PIPE. LEAD PIPES SHALL NOT EXCEED 100' IN LENGTH AND SHALL HAVE NO VERTICAL OR HORIZONTAL BENDS.
  5. EACH FIRE HYDRANT LEAD SHALL HAVE A VALVE, PER SPECIFICATIONS, BEING EITHER A GATE VALVE WITH A TEE CONNECTION TO THE MAIN OR A TAPPING SLEEVE AND VALVE CONNECTION TO THE MAIN.
  6. VALVES SHALL NOT BE LOCATED AT THE FLOWLINE OF ANY DITCH.
  7. NEW FIRE HYDRANTS REPLACING THOSE TO BE SALVAGED SHALL BE PLACED 2'± EITHER SIDE OF THE EXISTING.
  8. FIRE HYDRANTS SHALL BE PLACED AS SHOWN ON PLANS
  9. FIRE HYDRANTS LOCATED IN AREAS OTHER THAN INTERSECTIONS SHALL BE LOCATED AT SIDE OF LOT LINES, UNLESS SHOWN OTHERWISE ON PLANS AND APPROVED BY OWNER.
  10. NEW FIRE HYDRANTS SHALL BE LOCATED IN ALL AREAS WHERE EXISTING FIRE HYDRANTS ARE TO BE SALVAGED.
  11. IN THE EVENT THAT A PROPOSED FIRE HYDRANT CANNOT BE LOCATED IN AREA DESCRIBED AS TYPICAL, ULTIMATE LOCATION OF FIRE HYDRANTS SHALL BE AS DETERMINED BY OWNER.

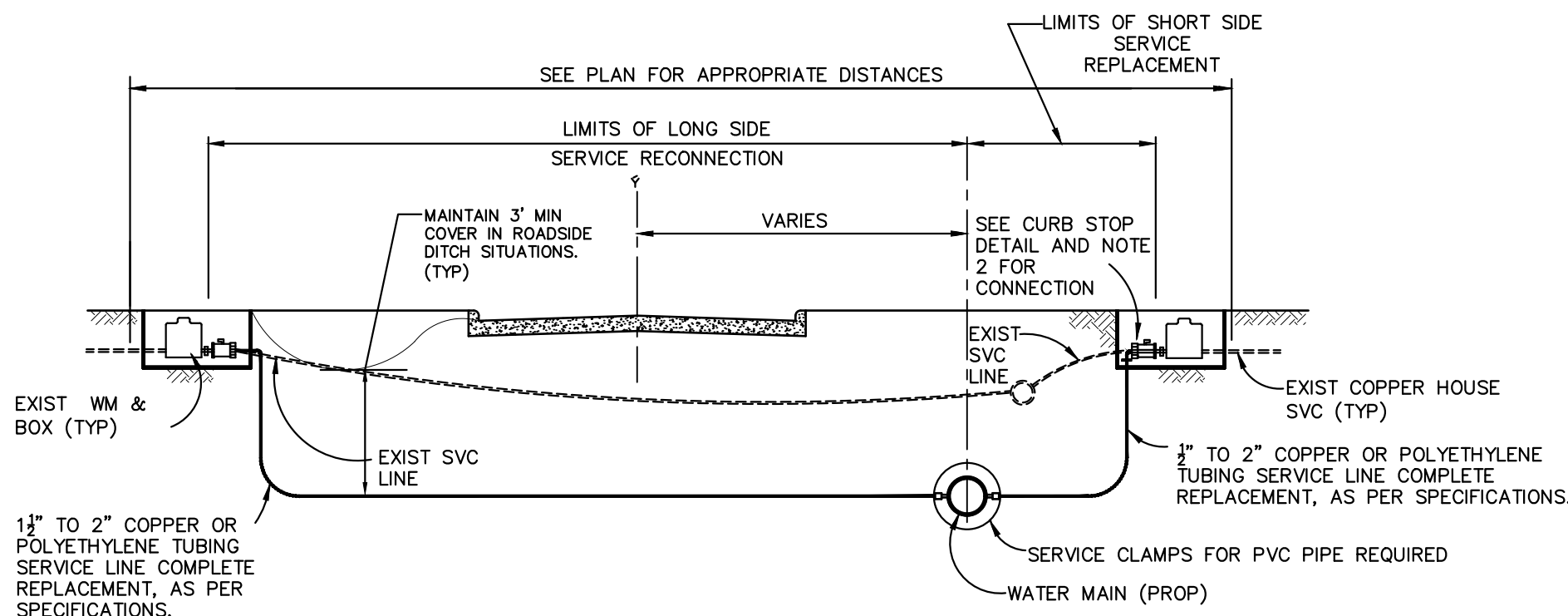


PROPOSED WATERLINE VERTICAL CLEARANCE TABLE		
OBSTRUCTION	MINIMUM CLEARANCE	MATERIAL
SANITARY SEWER	SEE TCEQ REGULATIONS (SPEC SECTIONS 02664)	SEE TCEQ REGULATIONS (SPEC SECTIONS 02664)
PRIVATE UTILITY	12"	C-900 DR 18 PVC *
PRIVATE PIPELINE	24"	C-900 DR 18 PVC *
WATERLINE	6"	C-900 DR 18 PVC *
STORM SEWER	6"	C-900 DR 18 PVC *

\* IF DEPTH OF WATERLINE IS GREATER THAN 8' OR COVER IS LESS THAN 3' MATERIAL SHALL BE C-900 DR 14 PVC.



- THRUST BLOCKING NOTES:
1. SIZE OF THRUST BLOCK TO BE ADEQUATE FOR TWO TIMES, TEST PRESSURE; THAT IS 250 PSI NO SEPARATE PAY FOR THRUST BLOCKING.
  2. RESTRAINED JOINT PIPING SHALL BE USED IN ALL AREAS WHERE HORIZONTAL NEW PIPE HAS LESS THAN 4' COVER. ALL VERTICAL BENDS SHALL HAVE RESTRAINED JOINTS.

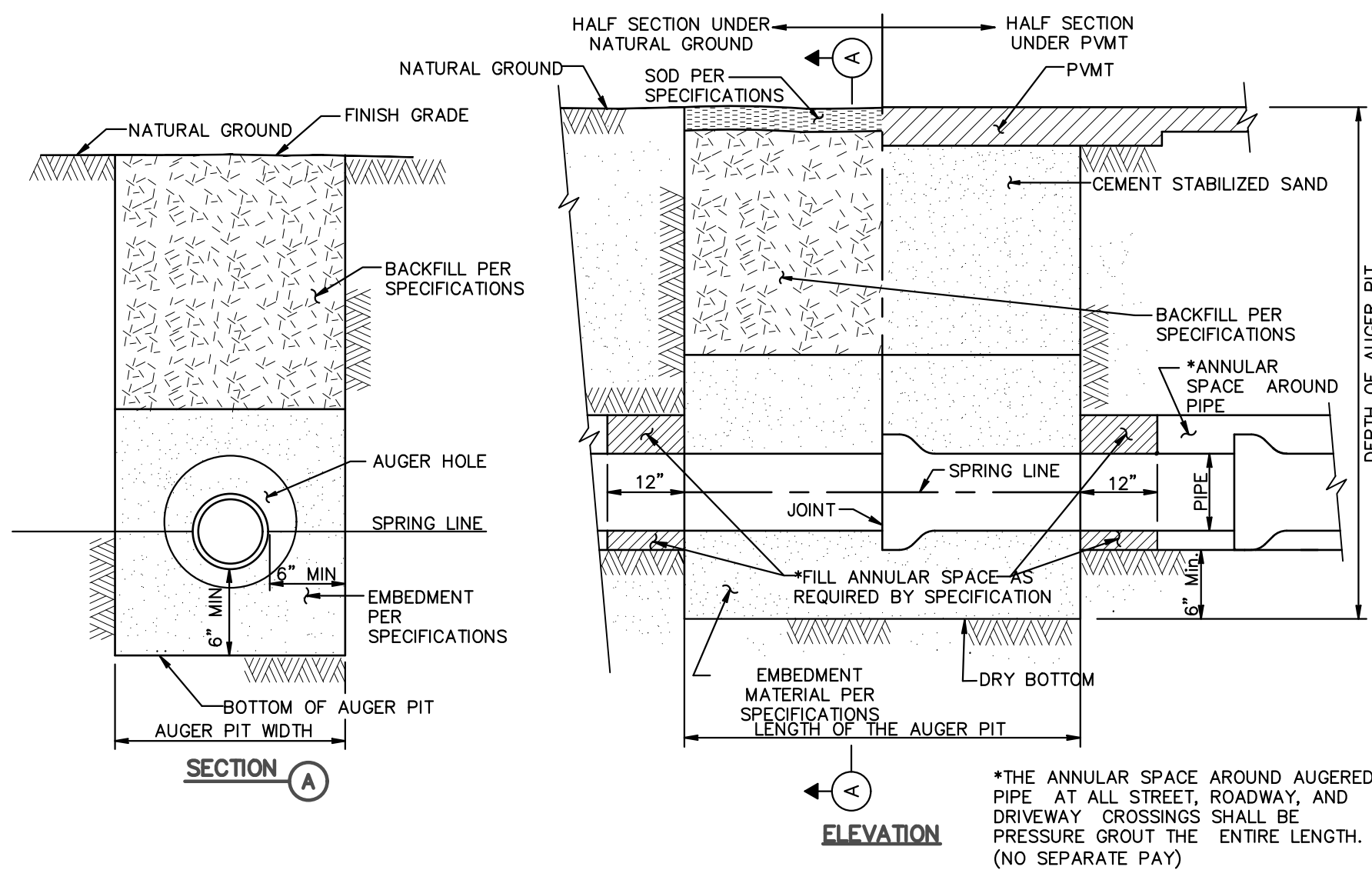


#### NOTES:

- TAPS MUST BE SPACED A MIN OF ONE FOOT APART WHEN STAGGERED ON OPPOSITE SIDE OF THE WATERLINE, AND MUST BE SPACED A MIN OF TWO FEET APART WHEN ON SAME SIDE OF WATERLINE.
- FIELD VERIFY SIZE AND LINE TYPE (COPPER, GALV. STL., PLASTIC, ETC.) OF EXIST. FOR THE PROPER CONNECTION TO CURB STOPS AND FOR APPROPRIATE PACK JOINT COUPLING IF APPLICABLE.
- INSTALL ALL SERVICE LINE RECONNECTS OR NEW SERVICE PERPENDICULAR TO PROPOSED MAINLINE.
- NEW OR MODIFICATION TO LONG SIDE SERVICE TO BE AUGERED UNDER PVMT UNLESS APPROVED IN WRITING BY THE CITY.

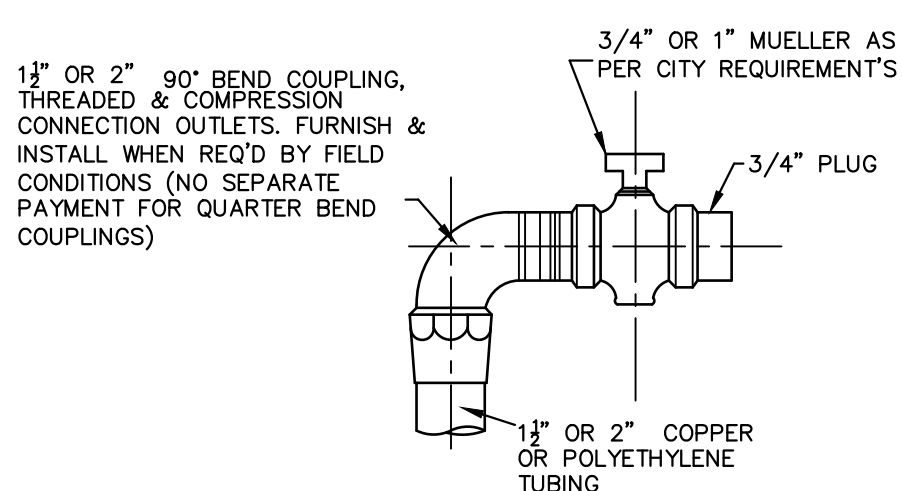
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NOT TO SCALE



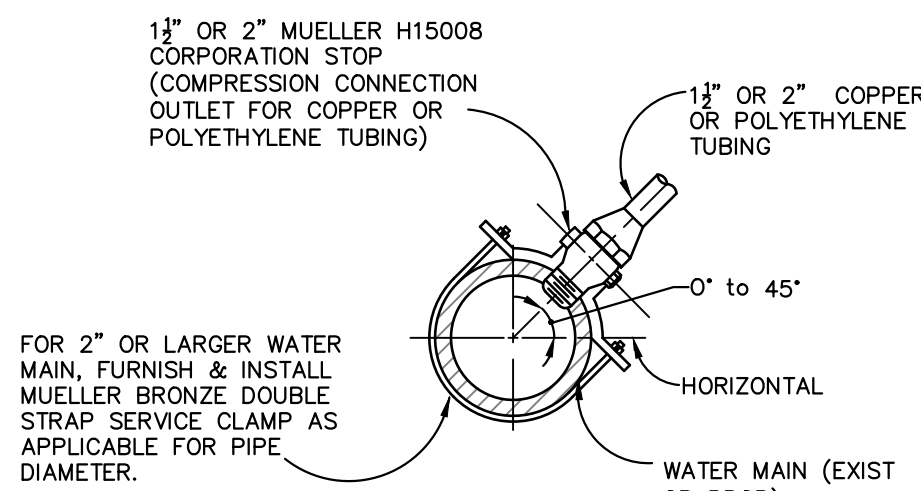
### AUGER PIT AND AUGER HOLE DETAIL

NOT TO SCALE



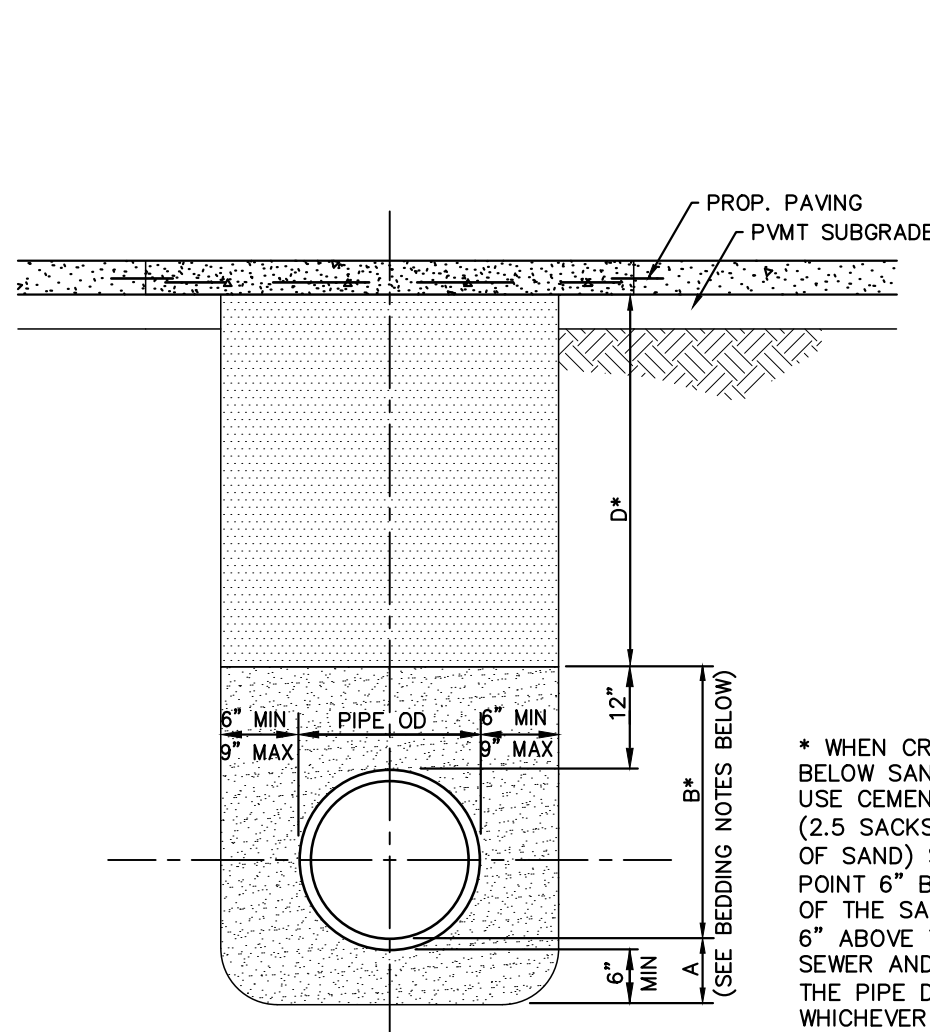
### CURB STOP DETAIL

NOT TO SCALE



### SERVICE CLAMP & TAP DETAIL

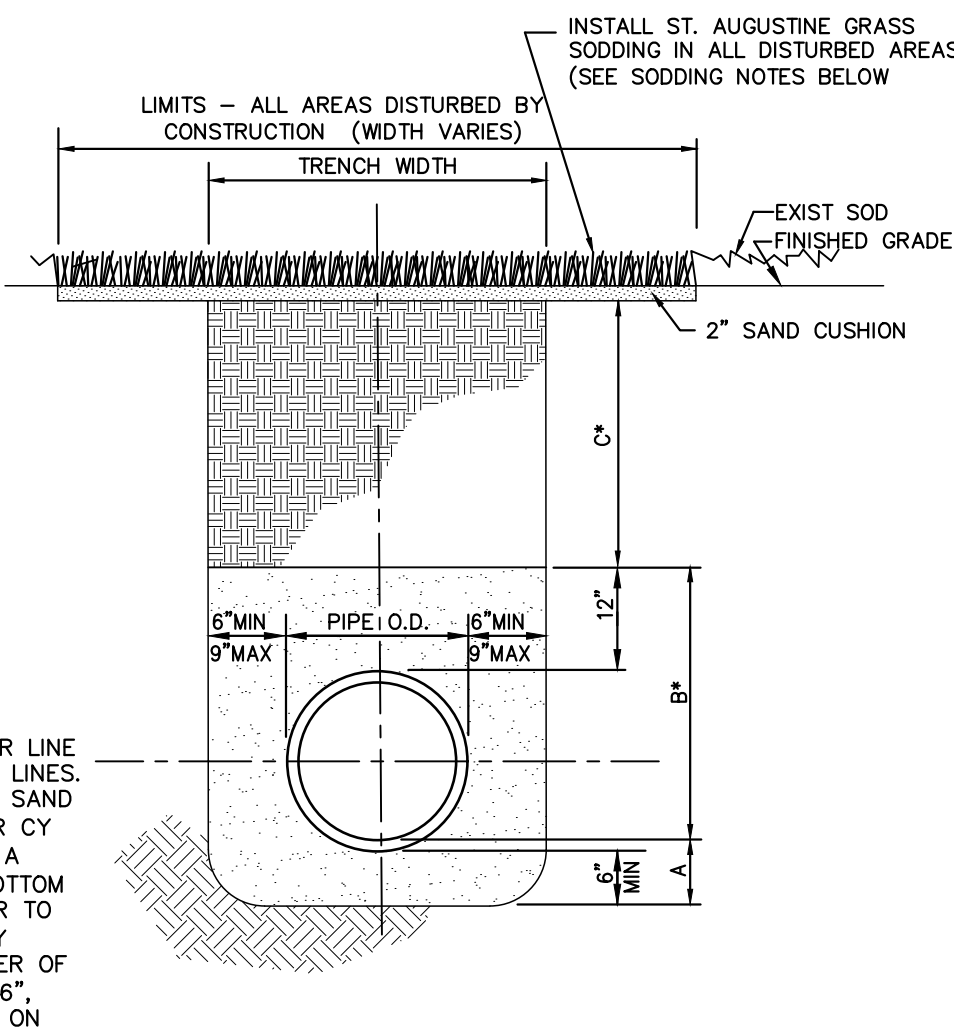
NOT TO SCALE



### WATER/SANITARY FORCE MAIN PIPE TRENCH DETAIL FOR PIPES UNDER EXISTING AND PROPOSED PVMT

#### BEDDING NOTES:

- BANK SAND PLACED BEFORE PIPE IS LAID.
- BANK SAND PLACED AFTER PIPE IS LAID, THOROUGHLY RODDED AND MECHANICALLY TAMPED TO MIN 95% OF MAX. DRY DENSITY AS DETERMINED BY ASTM D-6 98
- SELECT EARTH BACKFILL, MAX LIQUID LIMIT OF 40, MIN P.I. 7, MAX P.I. 20 CONTAINING NO ROCKS OR OTHER DEBRIS NOR CONTAINING ANY DIRT CLODS EXCEEDING 6" IN ANY DIMENSION. PLACED IN 6" LAYERS, MOISTENED IF NECESSARY AND THOROUGHLY COMPACTED TO A DENSITY EQUIVALENT TO THAT OF SURROUNDING UNDISTURBED SOIL, UNLESS OTHERWISE NOTED.
- CEMENT STABILIZED SAND (AS PER SPECIFICATIONS)



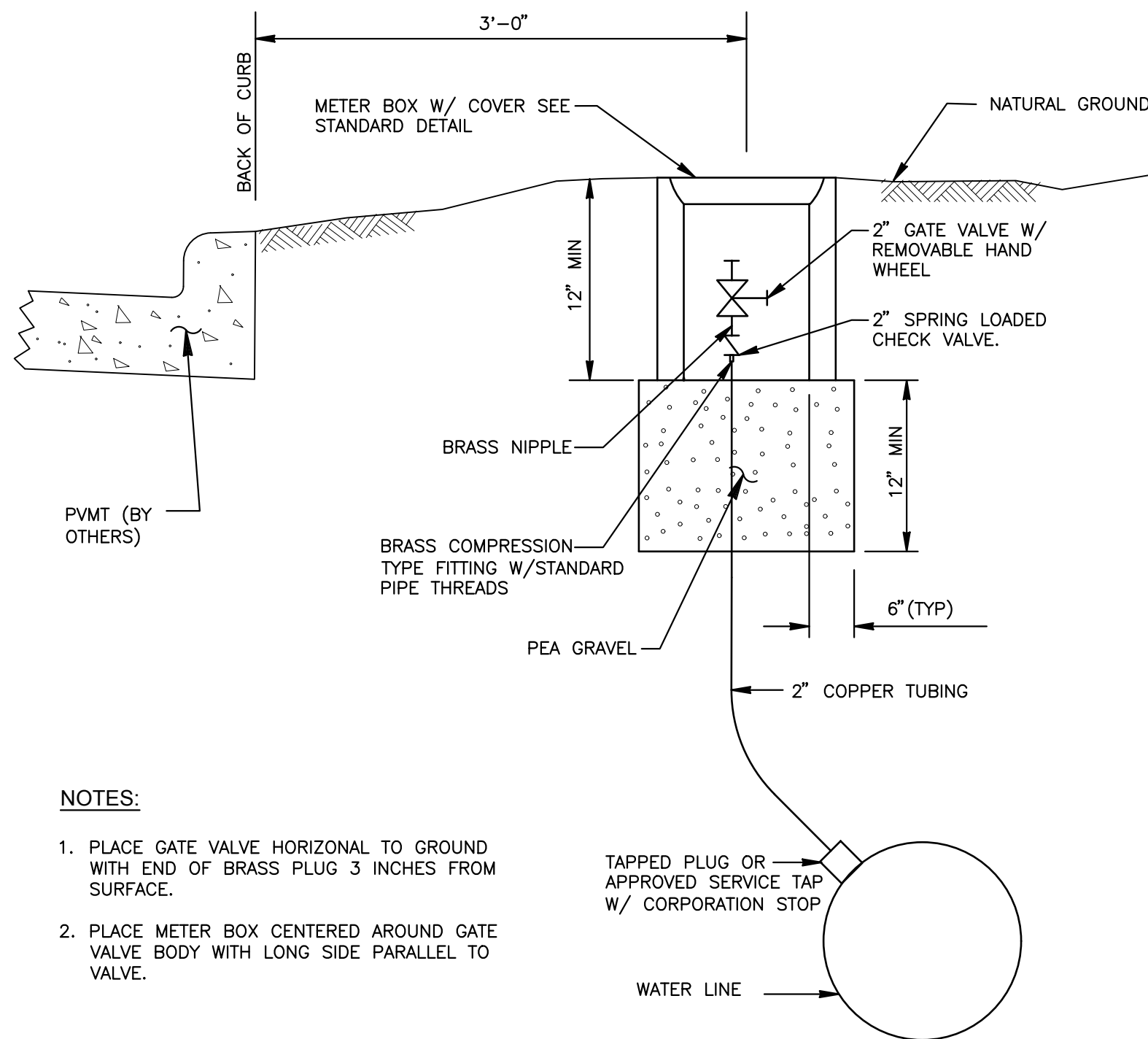
### WATER/SANITARY FORCE MAIN PIPE TRENCH DETAIL - FOR PIPES UNDER NATURAL GROUND

#### SODDING NOTES:

- SODDING SHALL BE INSTALLED IN AREAS DISTURBED BY CONSTRUCTION.
- CONTRACTOR SHALL REPLACE SODDING IN AREAS DAMAGED BY CONSTRUCTION AND THE REPLACEMENT SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
- IF EXIST LANDSCAPING OTHER THAN GRASS IS WITHIN THESE AREAS, THE CONTRACTOR SHALL REBUILD OR REINSTALL THE LANDSCAPING OF THE AREA AFTER CONSTRUCTION IN AN EQUAL OR BETTER CONDITION.

### BEDDING AND SODDING NOTES FOR TRENCH DETAILS

NOT TO SCALE

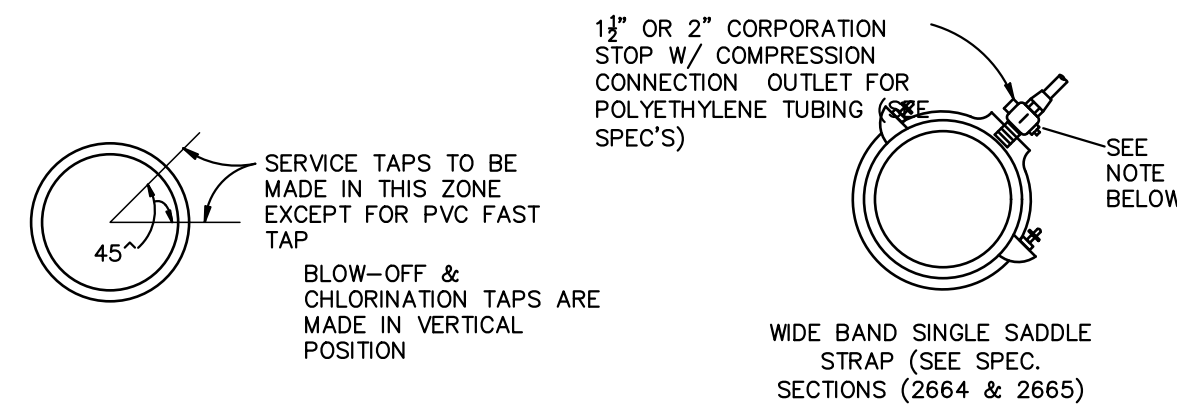


#### NOTES:

- PLACE GATE VALVE HORIZONTAL TO GROUND WITH END OF BRASS PLUG 3 INCHES FROM SURFACE.
- PLACE METER BOX CENTERED AROUND GATE VALVE BODY WITH LONG SIDE PARALLEL TO VALVE.

### PERMANENT BLOW-OFF-DETAIL

NOT TO SCALE



### PIPE TAPPING SCHEDULE

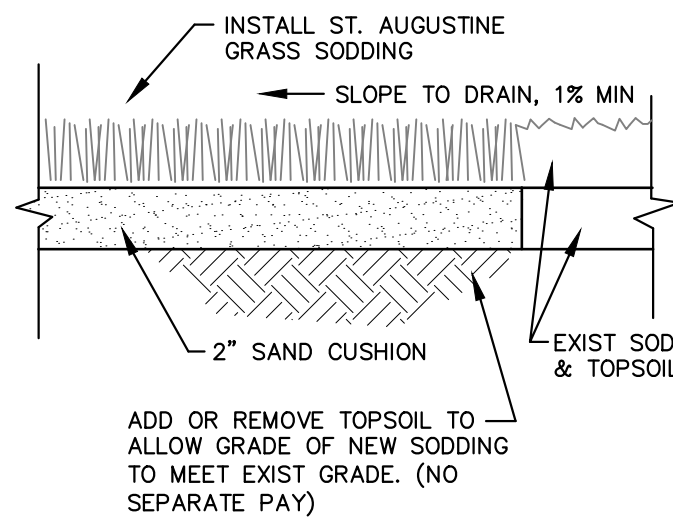
WATER MAIN TYPE AND DIAMETER	SERVICE SIZE			
	3/4"	1"	1 1/2"	2"
6" AND 8" PVC (AWWA C900)	WBSS	WBSS	WBSS	WBSS

#### NOTES:

- FOR 2" DISTRIBUTION LINKS TO BE TAPPED TO NEW 8" MAIN, PROVIDE CORPORATION STOP PER SPEC'S W/ CONNECTION OUTLET FOR CLASS 200 SDR 21 PVC PIPE.

### SERVICE TAPS AND 2" MAIN TAPS DETAIL

NOT TO SCALE



#### TYPICAL SECTION

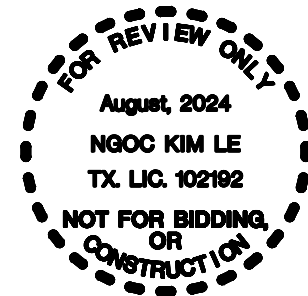
#### NOTES:

- SODDING SHALL BE ON AREAS DISTURBED BY CONSTRUCTION.
- SODDING LIMITS AT DITCHES SHALL BE THOSE AREAS DISTURBED BY THE GRADING PROCESS.
- CONTRACTOR TO REPAIR SODDING IN THE AREAS DAMAGED BY CONSTRUCTION AND SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT COST.
- IN THE EVENT EXIST LANDSCAPING OTHER THAN GRASS IS WITHIN THESE AREAS, THE CONTRACTOR SHALL REBUILD OR REINSTALL THE LANDSCAPING OF THE AREA AFTER CONSTRUCTION IN AN EQUAL OR BETTER CONDITION.

### TYPICAL GRASS SODDING DETAIL

NOT TO SCALE

NO.	DESCRIPTION	DATE	DWN.	CHK.



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City of Hilshire Village, Texas

Hilshire Green Drive  
Paving, Drainage & Utility Improvements

Water Details II

Job No.: **10408611**  
Date: **August, 2024**  
Dwn By: **G.S. Fuller**  
Chkd By: **E. Him**

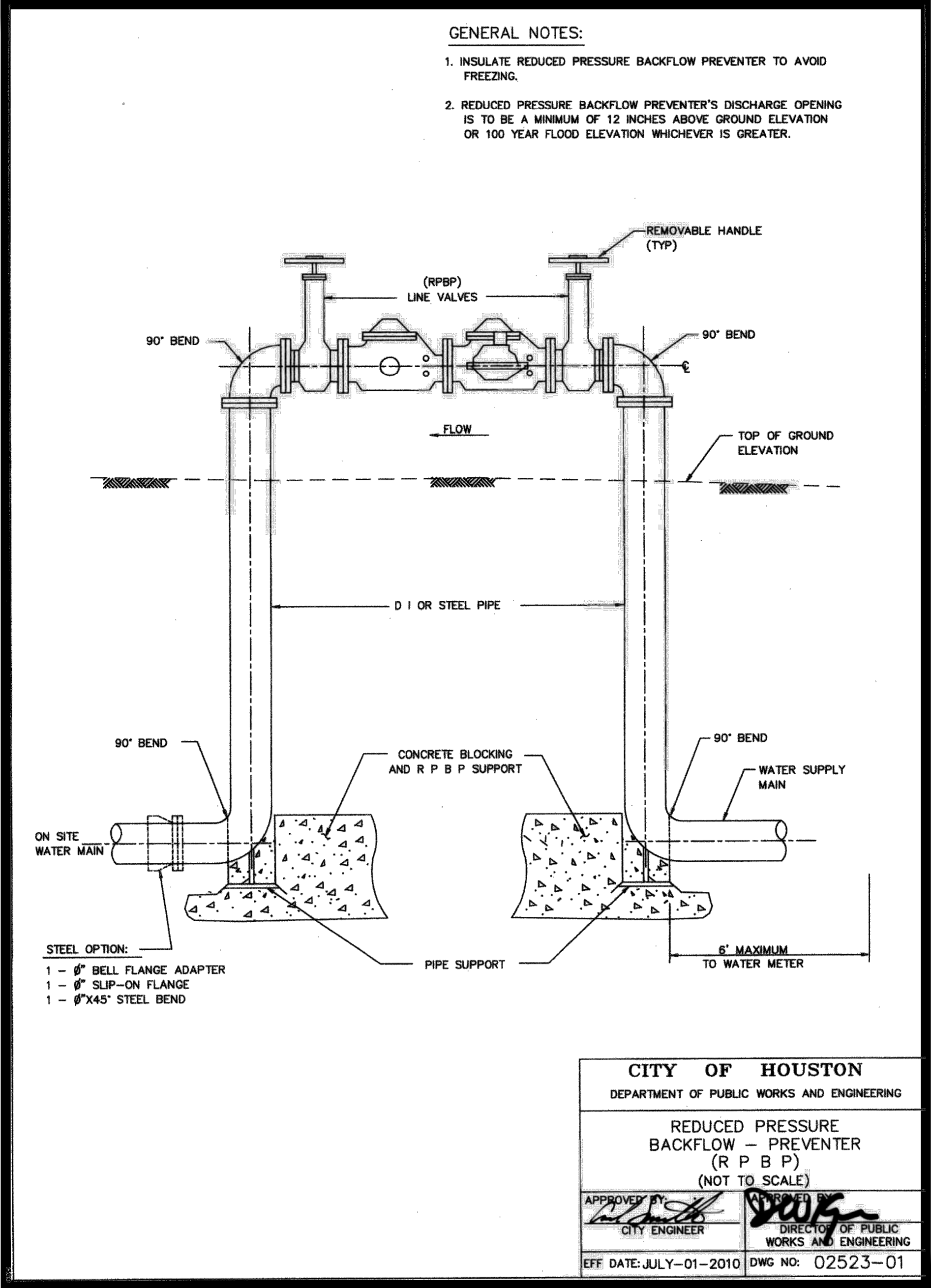
Scale:  
HORZ : NA  
VERT : NA  
**ONE INCH**  
IF ABOVE MARK DOES NOT MEASURE ONE INCH, THEN THIS DWG. NOT TO SCALE

SHEET

**17**

OF 22





PK.	DESCRIPTION	DATE	DWN.	CHK.

FOR REVIEW ONLY

August, 2024

NGOC KIM LE

TX. LIC. 102192

NOT FOR BIDDING, OR CONSTRUCTION

**HDR**

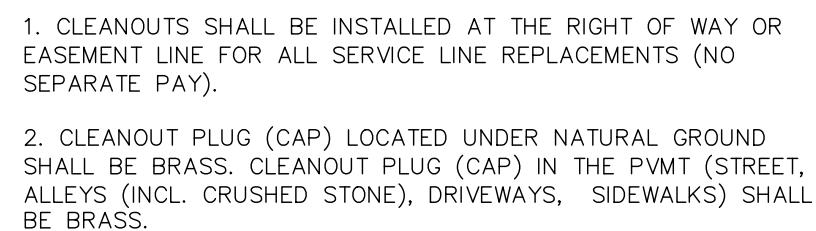
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City of Hilshire Village, Texas

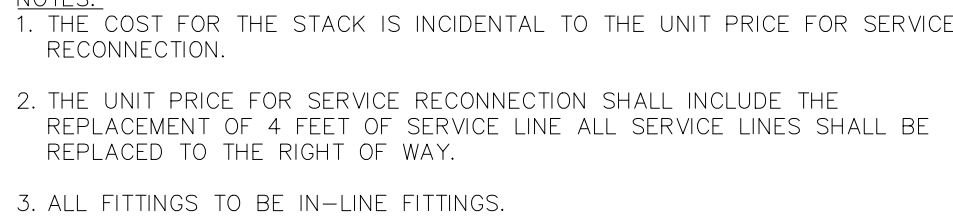
Hilshire Green Drive  
Paving, Drainage & Utility Improvements

Water Details III

Job No.: 10408611	Scale: NA	SHEET <b>18</b> OF 22
Date: August 1, 2024	HORIZ : NA	
Dwn By: G.S. Fuller	VERT : NA	
Chkd By: E. Him	ONE INCH IF ABOVE MARK DOES NOT MEASURE ONE INCH, THEN THIS DWG. NOT TO SCALE	



NOT TO SCALE



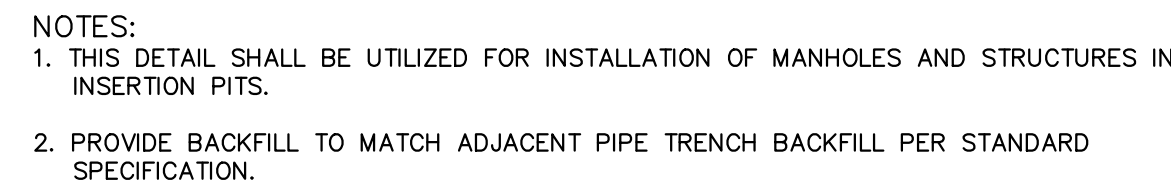
NOT TO SCALE



NOT TO SCALE

100





The image contains two technical drawings of a manhole installation:

- PLAN View:** A top-down view of the manhole. It shows a central circular opening (sanitary sewer) surrounded by a thick ring (manhole base and wall). This is further enclosed by a larger circular area (manhole wall). The entire structure is supported by a layer of crushed stone subgrade. A horizontal line with arrows at both ends, labeled 'A' in circles, indicates the location of the section cut.
- SECTION View:** A cross-sectional view of the manhole. It shows the vertical profile of the manhole base and wall. The manhole is supported by a layer of crushed stone. A filter fabric is shown all around the base of the manhole structure. The total height of the stone support is indicated as 2'-0". The width of the stone support is indicated as 12" MIN. The width of the filter fabric is indicated as 2'-0" (TYP). A horizontal line with an arrow at the right end, labeled 'A' in a circle, indicates the location of the section cut.

1. CRUSHED STONE SUPPORT UNDER A MANHOLE BASE SHALL BE INSTALLED AT LOCATIONS WHERE REQUIRED SUBGRADE COMPACTION OR DEWATERING CANNOT BE ACHIEVED.
2. WHERE HEAVING SUBGRADE CONDITIONS OCCUR, AS DETERMINED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER, A PILE SUPPORTED MANHOLE SHALL BE PROVIDED AFTER CONCURRENCE WITH ENGINEER.

PIPE OD=2'-0" (MIN)

2'-0" (MIN)

12" (MIN)

1'-0" MIN SLOPE (TYP)

RESILIENT CONNECTOR (TYP)

FOUNDATION PLAN

CAST IRON MANHOLE FRAME & COVER VULCAN CAT. NO V-1418-2 W/ "SANITARY" FORGED ON COVER, OR CITY APPROVED EQUAL—WHEN MANHOLE IS LOCATED WITHIN LIMITS OF ROADWAY PAVEMENT. WHEN MANHOLE IS LOCATED WITHIN LIMITS OF DRAINAGE DITCH, USE (VULCAN V-2418-2) WATER TIGHT MANHOLE W/ "SANITARY" FORGED ON COVER OR CITY APPROVED EQUAL.

CEMENT MORTAR (NOTE 6)

SEE NOTE 5

ADJUSTMENT RINGS TO BE COMBINED AS NECESSARY (NOTE 2) AND SEALED WITH APPROVED SEALANT

IDENTICAL SECTION

VARIES

4'-0" DIA

PRECAST CONCRETE BASE SECTION

PRECAST OR PREMIX CONCRETE INVERT

RESILIENT CONNECTOR (TYP)

12"

12"

CEMENT STABILIZED SAND FOUNDATION

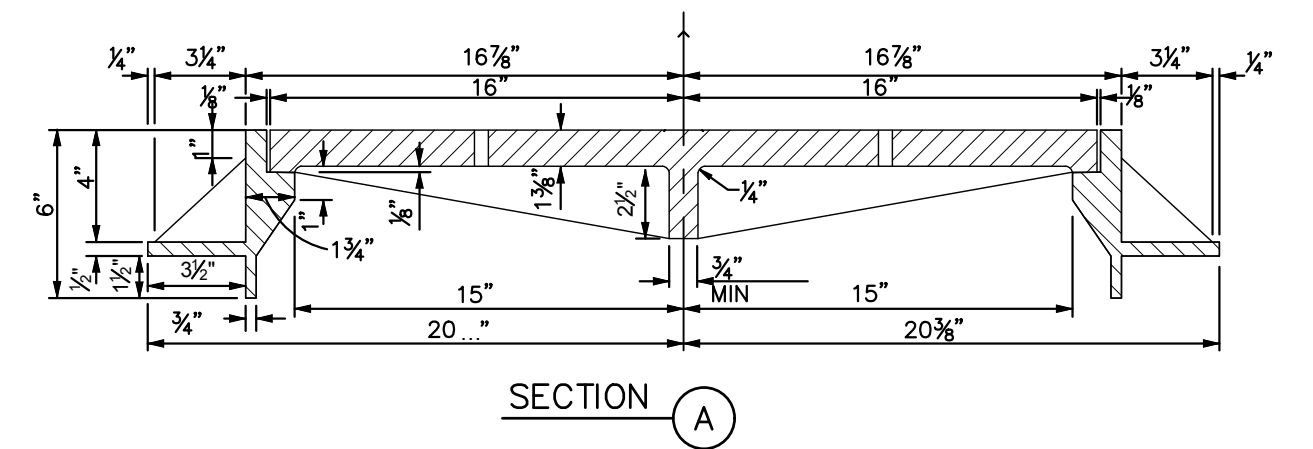
6"

PROVIDE 6" BASE EXTENSION FOR ALL DEPTHS FROM MANHOLE COVER TO INVERT GREATER THAN 15 FT

SECTION A

NOTES:

1. DEPTH OF MANHOLE DETERMINES SECTIONS REQUIRED.
2. PRECAST CONCRETE RINGS SHALL BE PROVIDED FOR A COMBINED ADJUSTMENT HEIGHT OF AT LEAST 12". THE TOTAL HEIGHT OF THE ADJUSTMENT RINGS SHALL NOT EXCEED PEAK EXCESS 1'-6".
3. MANHOLE WALL THICKNESS FOR DEPTH EXCEEDING 12'-0" SHALL BE DETERMINED TO MEET LOADING CONDITIONS MINIMUM THICKNESS 5".
4. MANHOLE DROP AND INTERSECTING PIPES SHALL BE INSTALLED AS PER SPECIFICATIONS.
5. SEAT MANHOLE FRAME IN SEALANT PER SPECIFICATION.
6. OMIT CEMENT MORTAR WHEN MANHOLE IS LOCATED IN PAVED AREAS.
7. PROVIDE BACKFILL TO MATCH ADJACENT PIPE TRENCH BACKFILL PER SPECIFICATION.



REHABILITATED PIPE

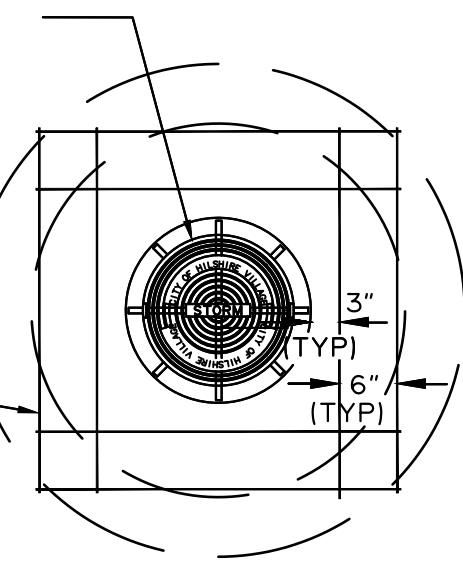
SEE NOTE 1

SECTION B

**NOTES:**

1. THE EXISTING ANNULAR SPACE BETWEEN MANHOLE WALL AND THE PIPE, IF ANY, SHALL BE FILLED WITH ACTIVATED OAKUM, MINIMUM 12 INCH OR ONE-HALF PIPE DIAMETER
2. ALL OAKUM SHALL BE SOAKED IN SCOTCH SEAL 5600 OR EQUAL.

MK.	DESCRIPTION						DATE	DWN.	CHK.						
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City of Hillshire Village, Texas															
Hillshire Green Drive Paving, Drainage & Utility Improvements															
Sanitary Sewer Details II															
Job No.: <b>I04086II</b>							Scale:								
Date: <b>August, 2024</b>							HORZ : NA								
Dwn By: <b>G.S. Fuller</b>							VERT : NA								
Chkd By: <b>E. Hlm</b>							( ONE INCH )								
							IF ABOVE MARK DOES NOT MEASURE ONE INCH, THEN THIS DWG. NOT TO SCALE								
							SHEET	<b>20</b>							
								OF 22							



4. MANHOLE RING AND COVER SHALL BE PER SPECIFICATIONS.  
CONNECTION OF PIPES TO PRECAST UNITS SHALL BE SEALED WITH NON-SHRINK  
GROUT, INSIDE AND OUTSIDE.

## PRECAST CONCRETE MANHOLE

NOT TO SCALE

5. ALL PRECAST STORM BOX MANHOLES SHALL BE CONSTRUCTED OF 4000 Psi CONCRETE, REINFORCED 60000 Psi Hs 20 LOADING.



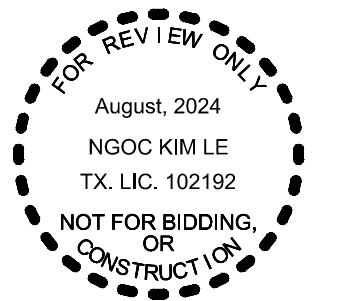
1. TRENCH EXCAVATION, BEDDING & BACKFILL COSTS ARE INCIDENTAL TO PIPE INSTALLATION AND ARE BASED ON THE LIMITS SHOWN IN THESE DETAILS. ANY COST INCURRED FOR AREAS EXCAVATED AND OR REQUIRING BACKFILL BEYOND THESE LIMITS RESULTING FROM CONTRACTORS FAILURE TO CONTROL THESE LIMITS SHALL BE BORNE BY THE CONTRACTOR.
2. MAX TRENCH WIDTH SHALL NOT BE GREATER THAN MIN TRENCH WIDTH PLUS 24". UNLESS OTHERWISE NOTED.
3. IF OUTSIDE EDGE OF PIPE IS WITHIN 3' OF BACK OF CURB, BACKFILL SHALL BE PERFORMED AS UNDER PAVEMENT.

1. SODDING SHALL BE INSTALLED IN AREAS DISTURBED BY CONSTRUCTION.
2. CONTRACTOR SHALL REPLACE SODDING IN AREAS DAMAGED BY CONSTRUCTION AND THE REPLACEMENT SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
3. IF EXISTING LANDSCAPING OTHER THAN GRASS IS WITHIN THESE AREAS, THE CONTRACTOR SHALL REBUILD OR REINSTALL THE LANDSCAPING PER THE PERTINENT BID ITEM.



NOT TO SCALE

MK.	DESCRIPTION	DATE	DWN.	CHK.



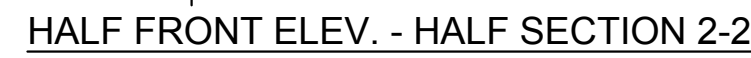
City of Hilshire Village, Texas

Hilshire Green Drive  
Paving, Drainage & Utility Improvements

## Storm Sewer Details I

Job No.: <b>I0408611</b>	Scale: HORZ : NA VERT : NA <b>[ ONE INCH ]</b> IF ABOVE MARK DOES NOT MEASURE ONE INCH, THEN THIS DWG. NOT TO SCALE	SHEET <b>21</b> OF 22
Date: <b>August, 2024</b>		
Dwn By: <b>G.S. Fuller</b>		
Chkd By: <b>E. Him</b>		

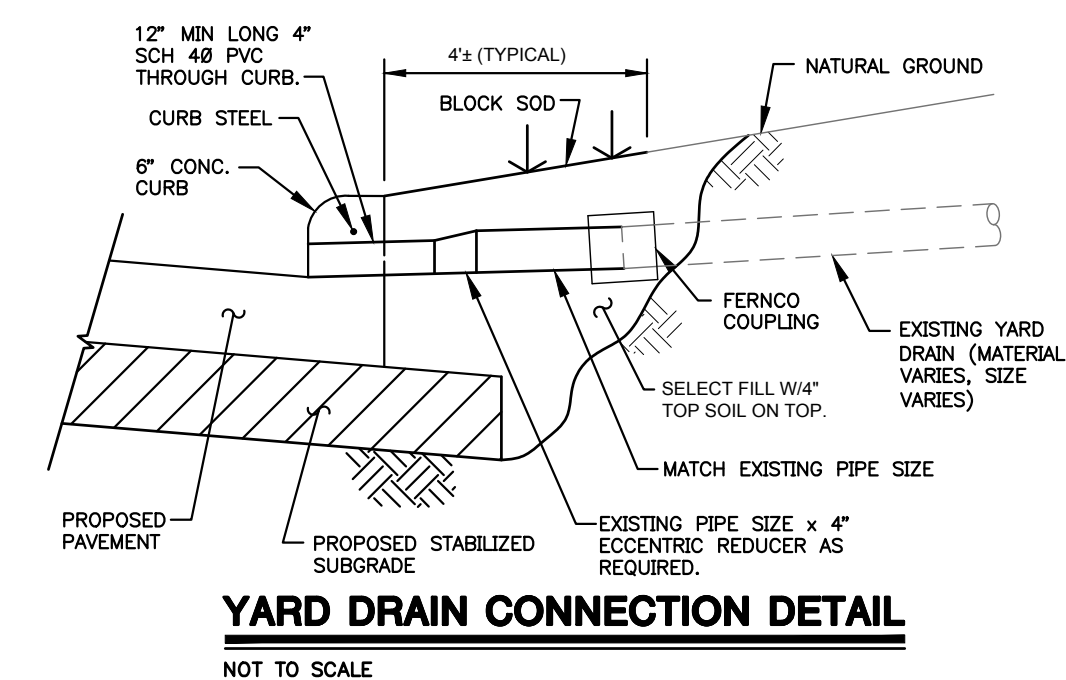




## SECTION 1-1



TYPE B-B INLET

[illegible]

MK.	DESCRIPTION			DATE	DWN.		CHK.		
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<div style="text-align: center;"> <p>HDR Engineering Inc, Texas Reg. No. 754 4828 Loop Central Drive, Suite 700/Houston, Texas 77081 (713) 622-9264 • Fax (713) 622-9265 • www.hdrinc.com</p> </div>									
City of Hilshire Village, Texas									
Hilshire Green Drive Paving, Drainage & Utility Improvements									
Storm Sewer Details II									
Job No.: <b>I04086II</b>		Scale: HORIZ : NA VERT : NA <div style="border: 1px solid black; padding: 2px; display: inline-block;">ONE INCH</div>				SHEET			
Date: <b>August, 2024</b>						<b>22</b>			
Dwn By: <b>G.S. Fuller</b>		IF ABOVE MARK DOES NOT MEASURE ONE INCH, THEN THIS DWG. NOT TO SCALE							
Chkd By: <b>E. Hilm</b>						OF 22			