GENERAL NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS. ALL CONSTRUCTION SHALL BE COMPLETED FOLLOWING CURRENT CITY STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

2. CONTRACTOR WILL BE REQUIRED TO PROVIDE NOTICE TO UTILITY COMPANIES A MINIMUM OF SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION, AS FOLLOWS:

   KANSAS ONE-CALL 687-2470

   THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:

AT&T	1-800-246-8464
BLACK HILLS ENERGY (GAS)	1-800-694-8989
CITY OF WICHITA WATER & SEWER	1-316-219-8921
CITY OF WICHITA STORMWATER	1-316-268-4090
CITY OF WICHITA TRAFFIC	1-316-268-4034
COX COMMUNICATIONS	1-888-249-3530
KANSAS GAS SERVICE	1-888-482-4950
EVERGY	1-800-544-4857

3. UTILITY SERVICE LINES, POLES, ETC. ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR OR UNLESS THE PLANS SPECIFICALLY IDENTIFY A UTILITY TO BE ADJUSTED BY ITS OWNER DURING CONSTRUCTION. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.

4. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS, IN THE OPINION OF THE ENGINEER, THAT WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WILL REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WILL REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.

5. TREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY WHICH ARE IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE CITY ENGINEER'S APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.

6. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS NOTICE PRIOR TO START OF CONSTRUCTION.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.

8. THE ENGINEERING DIVISION SHALL FIELD LOCATE WATER VALVES ONE TIME DURING CONSTRUCTION WHEN REQUESTED BY THE CONTRACTOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PRESERVE SUCH FIELD LOCATIONS DURING THE CONSTRUCTION PROCESS. WATER VALVES, VALVE BOXES OR FIRE HYDRANTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY CONTRACTOR AT HIS OWN EXPENSE. VALVE BOXES AND WATER METERS WITHIN THE PROJECT LIMITS SHALL BE ADJUSTED TO MATCH FIELD GRADES BY THE CONTRACTOR.

9. IF TRAFFIC WILL BE IMPACTED BY CONSTRUCTION, A TRAFFIC CONTROL PLAN MUST BE SUBMITTED AND APPROVED BY THE CITY TRAFFIC ENGINEER AT traffic@wichita.gov BEFORE CONSTRUCTION CAN BEGIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL MEASURES TO FACILITATE CONSTRUCTION. ALL CONSTRUCTION ZONE MARKINGS AND SIGNAGE SHALL CONFORM TO THE LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS PUBLISHED BY THE US DEPT. OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION. ALL COSTS ASSOCIATED WITH CONSTRUCTION MARKINGS AND SIGNAGE SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

10. ALL AREAS DISTURBED DURING CONSTRUCTION THAT WILL NOT BE UNDER PROPOSED PAVEMENT SHALL BE SEEDED AND MULCHED. COST SHALL BE CONSIDERED SUBSIDIARY TO PROJECT SEEDING.

11. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS COMPANIES AND IS EITHER FROM COMPANY UTILITY DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED.

12. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM MANHOLE COVER.

13. THE CONTRACTOR SHALL PREVENT ANY CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER DURING CONSTRUCTION.

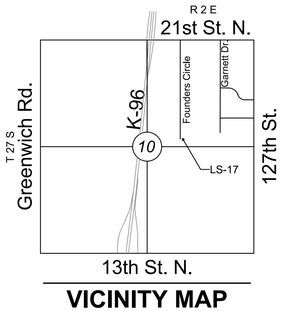
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUOUS FLOW OF SEWAGE THROUGH CONSTRUCTION. CONTRACTOR'S PROPOSED METHOD FOR MAINTAINING SEWAGE FLOW SHALL BE SUBMITTED AND APPROVED BY THE SEWER MAINTENANCE DIVISION (316-268-4073) PRIOR TO STARTING AND BY-PASSING OF SEWAGE FLOWS.

15. ALL TRAFFIC CONTROL DEVICES IN THE WORK ZONE (INCLUDING MARKINGS AND SIGNS) AND THEIR INSTALLATION AND MAINTENANCE SHALL COMPLY WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), ALL TRAFFIC CONTROL DEVICES IN THE TRAVELED WAY OR CLEAR ZONE SHALL BE CRASHWORTHY (NCHRP REPORT 350 OR MASH COMPLIANT).
    http://safety.fhtwa.dot.gov./roadwaydept/policy guide/road hardware/wzd

16. ALL CONSTRUCTION EQUIPMENT, INCLUDING VEHICLES, MATERIALS, AND DEBRIS, SHALL BE STORED OUTSIDE OF THE CLEAR ZONE. WHERE THIS CANNOT BE ACHIEVED THE CONTRACTOR SHALL PLACE APPROPRIATE SIGNS, ABJECT IDENTIFIERS, AND/OR BARRICADES IN COMPLIANCE WITH MUTCD.

17. EXCEPT WHEN REQUIRED FOR SAFETY, TRAFFIC CONTROL SHALL NOT BLOCK ANY LANES OR SIDEWALKS WHEN WORK IS NOT BEING PERFORMED.

18. FOLLOW THE LINK BELOW FOR DETAILS ON SPECIFIC CITY OF WICHITA STANDARD DETAILS:
    http://www.wichita.gov/PWU/Pages/Regulations.aspx



VICINITY MAP

SANITARY SEWER

LS-17 MODIFICATIONS

PROJECT NO. 468-2020-019217
THE CITY OF WICHITA, KANSAS
PAUL GUNZELMAN, P.E. - CITY ENGINEER
ORG CODE 53200220 S0014

INDEX TO DRAWINGS

N

SCALE: 1"=40'
0 40 80

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Wichita, KS • 316-684-9600

SANITARY SEWER
LS-17 MODIFICATIONS
WICHITA, KS

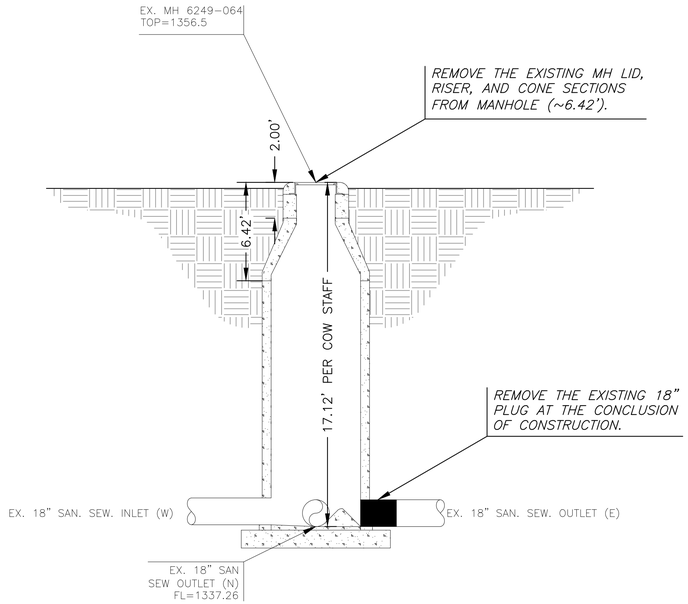
LS-17 PLAN VIEW

PROJECT NO.	468-2020-019217
DATE	09-26-22
SCALE	1"=40'

DESIGNED	DRAWN	CHECKED
AJK	AJK	KDA

NO.	REVISION	DATE
0	ISSUED FOR BID	10/20/2022

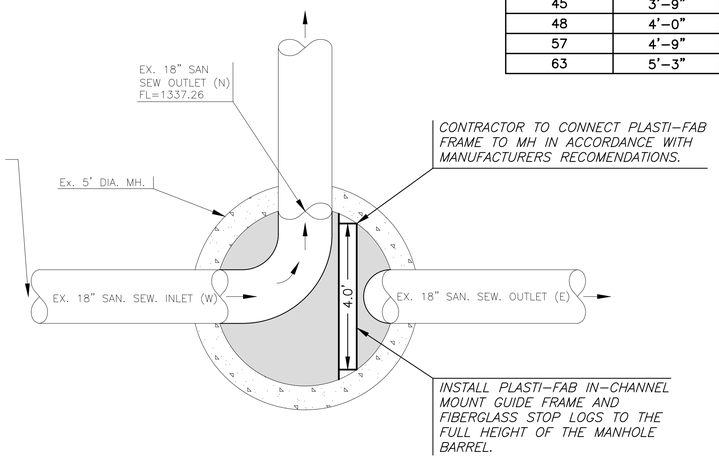
SHEET NO.
1 OF 3



EXISTING MANHOLE 6249-064 DEMO

NTS

Storage Upstream of LS-17				
Stop Log Height (IN)	Stop Log Height (FT and IN)	Stop Log Elevations (FT)	~Gravity System Storage (Gallons)	Comments
0	0'–0"	1337.26	1,310	
6	0'–6"	1337.76	2,490	
15	1'–3"	1338.51	4,910	
18	1'–6"	1338.76	6,370	Assumes LS–17 Pumping @ 1,000 GPM
21	1'–9"	1339.01	7,540	
24	2'–0"	1339.26	8,810	
30	2'–6"	1339.76	11,880	
33	2'–9"	1340.01	13,500	
39	3'–3"	1340.51	18,000	
42	3'–6"	1340.76	20,900	Assumes LS–17 Pumping @ ~800 GPM
45	3'–9"	1341.01	25,100	
48	4'–0"	1341.26	29,300	
57	4'–9"	1342.01	42,140	Assumes LS–17 Pumping @ ~570 GPM
63	5'–3"	1342.51	50,320	

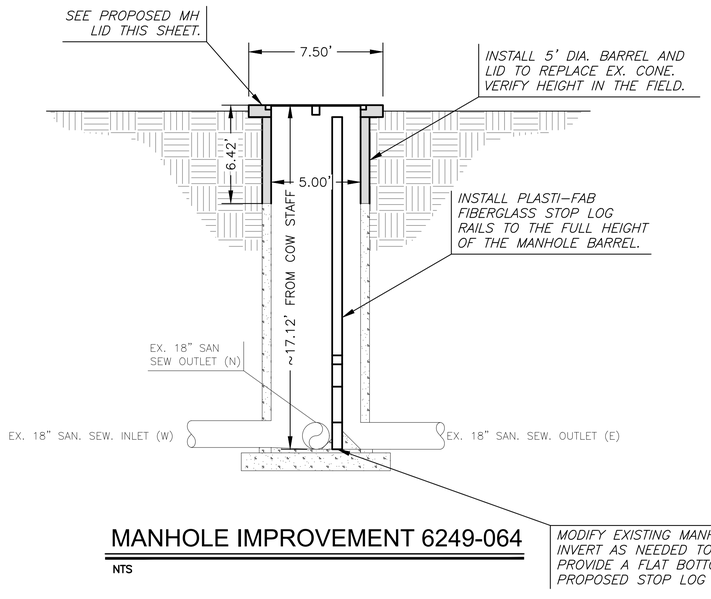


PROPOSED INTERNAL MH 6249-064 RIMPROVEMENTS

NTS

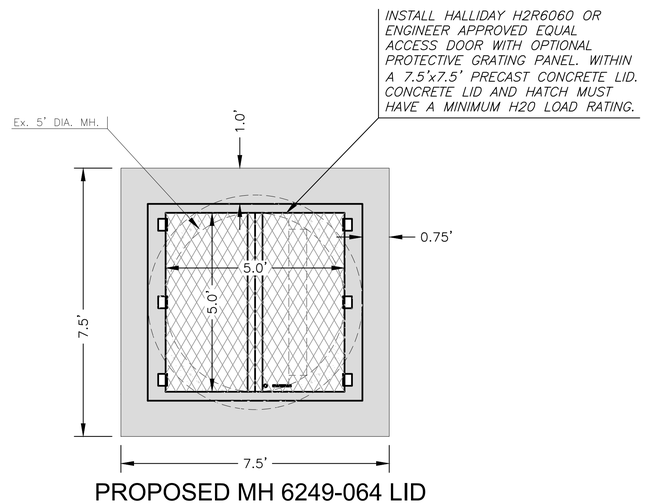
GENERAL NOTES:

1. CONTRACTOR TO PROVIDE 4' LONG PLASTI–FAB, OR ENGINEER APPROVED EQUAL, STOP LOGS WITH THE HEIGHTS OF 6", 15", 18", AND 24".
2. STOP LOGS SHALL BE ABLE TO BE PLACED WITHIN THE GUIDES IN ANY ORDER. HOWEVER, IT IS ANTICIPATED THAT THE GUIDES WILL BE PLACED AS FOLLOWS FROM BOTTOM TO TOP, 18", 24", 15", 6".
3. THE CITY OF WICHITA MAY REARRANGE THE STOP LOGS AS DESIRED TO CALIBRATE HOW MUCH SEWAGE IS ALLOWED TO BYPASS LS–17.
4. ANY UNUSED STOP LOGS SHALL BE STORED WITHIN THE LS–17 FENCE.
5. MH RIM AND FL INFORMATION IS BASED ON COW GIS INFORMATION. CONTRACTOR TO VERIFY INFORMATION PRIOR TO CONSTRUCTION.
6. PRECAST CONCRETE LID SHALL BE RATED FOR H20 LOADING. THE UNDERSIDE OF THE LID SHALL BE COATED WITH RAVEN 405, SAUEREISEN 210S, SHERWIN–WILLIAMS DURA–PLATE 6100, SHERWIN–WILLIAMS SHERFLEX, SPECTRASHIELD, WARREN ENVIRONMENTAL S301, OR ZEBRON. ANY OTHER INTERIOR LINING SYSTEM SHALL OBTAIN APPROVAL FROM THE CITY OF WICHITA.
7. CONTRACTOR SHALL PLACE FLOWABLE FILL UNDER THE SQUARE LID TO FILL IN THE VOID CREATED OUTSIDE OF THE MANHOLE.



MANHOLE IMPROVEMENT 6249-064

NTS



PROPOSED MH 6249-064 LID

NTS

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SANITARY SEWER

LS-17 MODIFICATIONS

WICHITA, KS

STOP LOG MH DETAILS

PROJECT NO.	468-2020-019217
DATE	09-26-22
SCALE	

DESIGNED	DRAWN	CHECKED
AJK	AJK	KDA

NO.	REVISION	DATE
0	ISSUED FOR BID	10/20/2022

SHEET NO.

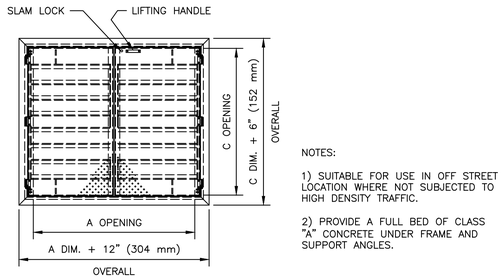
2 OF 3

HALLIDAY PRODUCTS
www.HallidayProducts.com
Phone 800-298-1027
Fax 407-298-4534
Sales@HallidayProducts.com

SERIES H2R ACCESS DOOR

STANDARD FEATURES:

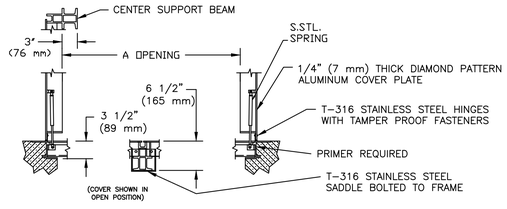
- H20 LOAD RATING (SEE NOTES)
- EXTRUDED ALUMINUM ANGLE FRAME
- DOUBLE LEAF CONSTRUCTION
- AUTO-LOCK T-316 STAINLESS STEEL HOLD OPEN ARM WITH RELEASE HANDLE
- T-316 STAINLESS STEEL HINGES AND ATTACHING HARDWARE
- T-316 STAINLESS STEEL SLAM LOCK WITH REMOVABLE KEY
- STAINLESS STEEL COMPRESSION SPRING ASSIST
- RECESSED LIFTING HANDLE
- LIFETIME GUARANTEE



NOTES:

1) SUITABLE FOR USE IN OFF STREET LOCATION WHERE NOT SUBJECTED TO HIGH DENSITY TRAFFIC.

2) PROVIDE A FULL BED OF CLASS "A" CONCRETE UNDER FRAME AND SUPPORT ANGLES.



STANDARD SIZES

QTY.	MODEL NO.	A DIM. INCHES (mm)	C DIM. INCHES (mm)	UNIT WT. LBS. (kg.)
	H2R4242	42 (1067)	42 (1067)	198 (90)
	H2R4842	48 (1219)	42 (1067)	217 (98)
	H2R4848	48 (1219)	48 (1219)	235 (107)
	H2R5442	54 (1372)	42 (1067)	228 (103)
	H2R5448	54 (1372)	48 (1219)	257 (117)
	H2R6048	60 (1524)	48 (1219)	268 (122)
X	H2R6060	60 (1524)	60 (1524)	339 (154)
	H2R7248	72 (1829)	48 (1219)	305 (138)
	H2R7260	72 (1829)	60 (1524)	374 (170)
	H2R7272	72 (1829)	72 (1829)	449 (204)

STOP LOG SPECIFICATIONS

PART 1 GENERAL

1.1 SUMMARY

A. This section includes all stop log systems required for the project.

1.2 REFERENCES

A. Design, fabricate, and test stop log systems and materials in accordance with manufacturer's recommended procedures and the following codes and standards:

1. ASTM A276 – Stainless Steel Bars
2. ASTM D256 – Izod Impact Strength
3. ASTM D570 – Water Absorption Rate
4. ASTM D638 – Tensile Strength
5. ASTM D695 – Compressive Properties of Rigid Plastic
6. ASTM D696 – Coefficient of Linear Expansion
7. ASTM D790 – Flexural Properties
8. ASTM D2583 – Indentation Hardness
9. ASTM D2563-0 – Visual Defects
10. ASTM D2584 – Resin, Glass & Filler Content

B. Manufacturer shall be experienced in the design and manufacture of stop logs and accessories for a minimum of 25 years.

C. Manufacturer must provide warranty for 25 years against failure due to corrosion of composite materials.

1.3 SUBMITTALS

A. Submit the following for acceptance:
1. Approval Drawings
a. Showing all critical dimensions
b. Showing principal parts and materials

1.4 DELIVERY, STORAGE AND HANDLING

A. Ship all stop logs with suitable packaging to protect products from damage.

B. Protect stop logs, lifting pins, guide frames, lifting devices, and storage racks from damage.

PART 2 PRODUCTS

2.1 MATERIALS

A. Stop log panels shall be:
1. Engineered composite fiberglass reinforced plastic (FRP) completely encapsulating an internal steel reinforcing structure.
a. Infusion molded to create a seamless corrosion barrier impervious to moisture
b. FRP resin shall be: Choose a material
c. Internal Steel Reinforcing: Carbon Steel as needed for deflection requirements
d. Foam core between steel reinforcing
e. Seal material to be EPDM

B. Guide Frames
1. Guide Frame Rails to be: Choose a material

C. Lifting Pins
1. Lifting Pins to be: Choose a material

D. Anchor Bolts (when applicable)
1. Anchor Bolts to be: Choose a material

E. Lifting Beam/Poles
1. Lifting Beam/Poles to be: Choose a material

F. Storage Racks
1. Storage Racks to be: Choose a material

2.2 STOP LOGS

A. Acceptable Manufacturers:
1. Plasti-Fab a Division of Ershigs, Inc.
2. Or approved equal. Pre-approved by Engineer at least 10 business days prior to bid date.
a. Manufacturer must have a qualified Engineer on staff with at least 5 years' experience with hydraulic control stop logs.

2.3 DESIGN CRITERIA

A. Visual inspection for defects shall be made without the aid of magnification. Defects shall be classified as shown in Table 1 Level II of ANSI/ASTM D2563-0, approved 1977, (or any subsequent revision).

B. Deflection
1. Deflection across the stop log width shall be limited to: L/360 or ¼" (6mm), whichever is less, at the maximum operating head.

C. Head Pressure
1. Stop log system shall be designed for a maximum head pressure as per gate schedule.

D. Stop log panel size as shown on the contact drawings and/or gate schedule.

E. Surface Conditions
1. All stop log panels shall be flat and level.
2. Warpage throughout the entire stop log panel shall not produce a crown of more than1/16" (1.6mm) in any direction.

2.4 CONSTRUCTION

A. Stop Log Panels
1. The stop log shall be fabricated by means of vacuum infusion to encapsulate the internal structural matrix totally and protect it against corrosion from moisture or chemical deterioration with a minimum thickness of ¼ inch (6mm) FRP on the front and back facings, and ¾ inch (19mm) FRP on the remaining perimeter. Stop logs shall be designed so the maximum fiber stress (ultimate or yield, whichever applies) shall exceed 2.5 times the working stress. Stop logs shall be suitably reinforced to withstand the maximum seating head with a deflection less than ℓ/360 of the stop log width or ¼ inch (6mm), whichever is less. Stop log covers that are fabricated from pressed or laminated sheet material and/or glued/bonded to a substructure shall not be acceptable. No seams or joints that may allow water intrusion will be acceptable. Each stop log shall be molded individually to the exact dimensions specified.
2. Stop log shall be manufactured of reinforced thermoset plastic in the form of FRP.
3. Stop log shall have UV Stabilizing pigment in the resin to provide long-term protection from UV.
4. The surface shall be resin-rich to a depth of 0.010 inches (2.5mm) to 0.020 inches (5mm) and reinforced with C-glass or polymeric fiber surfacing material.
5. The surface shall be free of exposed reinforcing fibers.
6. The composition of these surface shall be approximately 95% (by weight) resin. The remaining laminate shall be made up of copolymer composite and reinforcing fibers in a form, orientation, and position to meet the mechanical requirements.
7. Structural reinforcing shall be utilized to attain the necessary stiffness to meet deflection requirements and shall be well-encapsulated with a laminate not less than ¼" (6mm) thick on each side to ensure against any permeation by water to the core areas. Internal steel structure to be welded per AWS standards, sandblasted, and coated with epoxy vinyl ester resin immediately prior to vacuum infusion to ensure complete bonding with external corrosion barrier.
8. T-316 stainless steel lifting pins shall be attached to the Stop Log by passing completely through the log. Stainless steel lifting pin shall be fastened to the log with sufficient reinforcing to withstand the lifting force. Lifting pins attached to the surface of the log are not acceptable. The through holes shall not pass through or be in contact with the internal steel reinforcing.
9. Core material must be 100% resistant to decay and attack by fungus and bacteria and be resistant to hydrocarbons.
10. To assure maximum service life, the copolymer composite shall be ultraviolet stabilized and seamless to protect inner structural members from corrosion.
11. Metal, concrete, or wood stop logs subject to corrosion / bacterial breakdown / rot shall not be acceptable alternatives to composite FRP material.
12. Stop Log panels shall be manufactured using advanced technology vacuum infusion resin transfer processes. The closed mold vacuum process must completely evacuate all air from the mold prior to infusing the mold with premium quality resin as specified. The vacuum infusion process must eliminate the potential of air entrapment and/or voids in the matrix of the stop log panel (which cause defects and performance-detracting irregularities), producing a finished product that is one-piece, seamless, and uniformly impenetrable by fluids, eliminating the chance for interior corrosion. Stop Logs produced by techniques that employ adhesives or mechanical fasteners to attach individual panels to a prefabricated framework, resulting in seams along vertical and horizontal axes of the stop log, shall not be allowed, as they create stress-potential areas, portals for fluid infiltration, subsequent de-lamination, and product failure due to corrosion.

B. Seals
1. The stop logs shall be equipped with elastomeric bottom seals to seal between the logs. Vertical seals shall be mounted on the face at the ends of the stop logs positioned to contact the inside of the guide rails. Seals shall be made of molded EPDM, having a hardness of 55 – 65 Shore A durometer, with a maximum compression set of 25% and low temperature brittleness to meet suffix F-17 (-40°F/C).

C. Guide Frames
1. Guide frames shall be styled for Choose a item as shown on the contract drawings and/or stop log schedule.
2. Guide frames shall be fabricated from Choose a material and shall have a slot suitable for mating with the stop log panels.

2.5 PHYSICAL PROPERTIES

A. Structural characteristics for FRP glass mat laminates shall meet the following minimum physical properties:
- Tensile strength 15,000 psi (1034 ksc)
- FlexuralModulus 900,000 psi (70307 ksc)
- Flexural Strength 20,000 psi (1406 ksc)
- CompressiveStrength 20,000 psi (1547 ksc)
- Impact Strength 9.0 ft-lbs/in. (1.24 kgf.m/25mm)
- Water absorption 0.12% (in 24 hours)

B. Seals: Extruded EPDM seals shall have the following physical characteristics:
- SpecificGravity 1.25
- Hardness 55 – 65 Shore A Durometer
- Tensile Strength 1500 psi min. (0.07ksc)
- Elongation 300% min.
- Lowtemperature brittleness – 40°

PART 3 EXECUTION

3.1 INSTALLATION

A. Thoroughly clean and remove all shipping materials prior to setting.

B. Install stop log systems per Manufacturer's recommendations.

END OF SECTION

MKEC
Wichita, KS • 316.684.9600

SANITARY SEWER

LS-17 MODIFICATIONS

WICHITA, KS

HATCH DETAIL & STOP LOG SPECS.

PROJECT NO.	468-2020-019217
DATE	09-26-22
SCALE	NTS

DESIGNED	DRAWN	CHECKED
AJK	AJK	KDA

NO.	REVISION	DATE
0	ISSUED FOR BID	10/20/2022

SHEET NO.

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