



**COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET**
Frankfort, Kentucky 40622
www.transportation.ky.gov/

Matthew G. Bevin
Governor

Greg Thomas
Secretary

July 24, 2017

CALL NO. 302
CONTRACT ID NO. 171232
ADDENDUM # 1

Subject: Campbell County, FD04 SPP 019 0009 NEW LOC
Letting July 28, 2017

- (1) Revised - Plans - R2B, S1A, S1, S2, S4, S5, S6, S7, S8 S10, S11
S12, S15, & S16
- (2) Revised - Bid Items - Pages 233-236 of 236

Proposal revisions are available at <http://transportation.ky.gov/Construction-Procurement/>.

Plan revisions are available at <http://www.lynnimaging.com/kytransportation/>.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

A handwritten signature in cursive script that reads "Rachel Mills".

Rachel Mills, P.E.
Director
Division of Construction Procurement

RM:ks
Enclosures



An Equal Opportunity Employer M/F/D

GENERAL SUMMARY

COUNTY OF	ITEM NO.	SHEET NO.
CAMPBELL	6-8101.25	R2b

ITEM	DESCRIPTION	UNIT	KY 9	SIDEROADS	MOT										TOTAL
1810	STD. CURB AND GUTTER	LF	0	268	0										268
1811	STD. CURB AND GUTTER MOD	LF	175	388	0										563
1811	STD. CURB AND GUTTER MOD (SPECIAL)	LF	4,157	0	0										4,157
1830	STD. INTEGRAL CURB	LF	3,675	0	0										3,675
1902	REMOVE INTEGRAL CURB	LF	14	0	0										14
2091	REMOVE PAVEMENT	SOYD	214	0	0										214
2159	TEMPORARY DITCH	LF	2,155	0	0										2,155
2200	ROADWAY EXCAVATION	CUYD	11,211	798	-										12,009
2242	WATER	MGAL	204	0	0										204
2429	RIGHT-OF-WAY MONUMENT TYPE I	EACH	47	10	0										57
2545	CLEARING AND GRUBBING	LS	1	0	0										1
2568	MOBILIZATION	LS	1	0	0										1
2569	DEMOBILIZATION	LS	1	0	0										1
2585	EDGE KEY	LF	27	0	0										27
2650	MAINTAIN & CONTROL TRAFFIC	LS	0	0	1										1
2701	TEMPORARY SILT FENCE	LF	2,155	0	0										2,155
2704	SILT TRAP TYPE B	EACH	8	0	0										8
2705	SILT TRAP TYPE C	EACH	8	0	0										8
2707	CLEAN SILT TRAP TYPE B	EACH	48	0	0										48
2708	CLEAN SILT TRAP TYPE C	EACH	48	0	0										48
2720	SIDEWALK-4 INCH CONCRETE	SOYD	3,649	201	0										3,850
2726	STAKING	LS	1	0	0										1
5952	TEMPORARY MULCH	SOYD	34,510	0	0										34,510
5953	TEMP SEEDING AND PROTECTION	SOYD	34,510	0	0										34,510
5964	20-10-10 FERTILIZER	TON	1	0	0										1
5985	SEEDING AND PROTECTION	SOYD	11,862	421	0										12,283
5990	SODDING	SOYD	4,487	271	0										4,758
6406	SBM ALUM SHEET SIGNS .080 IN	SOFT	231	0	0										231
6410	STEEL POST TYPE I	LF	247	0	0										247
6514	PAVE STRIPING-PERM PAINT-4 IN	LF	13,492	190	0										13,682
6516	PAVE STRIPING-PERM PAINT-8 IN	LF	251	0	0										251
6530	PAVE STRIPING REMOVAL-4 IN	LF	4,611	0	0										4,611
6531	PAVE STRIPING REMOVAL-6 IN	LF	1,388	0	0										1,388
6532	PAVE STRIPING REMOVAL-8 IN	LF	127	0	0										127
6568	PAVE MARKING-THERMO STOP BAR-24IN	LF	25	28	0										53
6569	PAVE MARKING-THERMO CROSS-HATCH	SOFT	1,473	0	0										1,473
6572	PAVE MARKING-DOTTED LANE EXTEN	LF	248	0	0										248
6574	PAVE MARKING-THERMO CURV ARROW	EACH	4	0	0										4
20782NS714	PAVE MARKING THERMO-BIKE	EACH	19	0	0										19
23158ES505	DETECTABLE WARNINGS	SOFT	0	73	0										73
2326IEC	PAVE MARKING-THERMO-X-WALK-24 IN	LF	539	0	0										539
23875NC	REMOVE THERMOPLASTIC ARROWS	EACH	9	0	0										9
24386EC	PAVE MARKING THERMO - BIKE LANE ARROW	EACH	1	0	0										1

NOTES:

- ① APPROXIMATELY 7.5 ACRES
- ② FOR CONTROLLING DUST CAUSED BY MAINTAINING TRAFFIC ONLY (500 MGAL/MILE)
- ③ EARTHWORK

EXCAVATION
12,009 C.Y. COM FROM CROSS SECTIONS
12,009 C.Y. TOTAL
EMBANKMENT
1,662 C.Y. EMB FROM CROSS SECTIONS
1,662 C.Y. TOTAL

ESTIMATE FOR EARTHWORK CALCULATIONS FOR DESIGN ONLY. THE CONTRACTOR IS ADVISED THAT THE EARTHWORK CALCULATIONS SHOWN ARE FOR INFORMATION ONLY. ASSUMPTIONS FOR SHRINKAGE FACTORS ARE THE CONTRACTOR'S RESPONSIBILITY.

- ④ ASSUME CONSTRUCTION PERIOD OF 2 SEASONS FOR EROSION CONTROL ITEMS.
- ⑤ DUST CONTROL FOR M.O.T.

⑥ TEMPORARY SIGNS, PORTABLE CHANGEABLE MESSAGE SIGNS, AND ARROW PANELS INCIDENTAL TO MAINTAIN & CONTROL TRAFFIC.

FILE NAME: P:\25252101\T_SUBMITTALS_FOR_CONSTRUCTION\MIDDLE\6-8101.25\CONTRACT PLANS AND PROPOSAL\CONTRACT PLAN SET\ROADWAY\ROAD20BSU.DGN
 USER: kubocj
 DATE PLOTTED: June 7, 2017
 E-SHEET NAME: ROAD20BSU
 MicroStation v8.11.9.714

COUNTY OF	ITEM NO.	SHEET NO.
CAMPBELL	6-8101.25	51a

FLOOD EMERGENCY OPERATION PLAN

1. DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO SAFEGUARD THE INTEGRITY OF THE LEVEE. CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER FOR APPROVAL BY THE U.S. ARMY CORPS OF ENGINEERS (USACE) AND THE SANITATION DISTRICT No. 1 OF NORTHERN KENTUCKY (SDI) A FLOOD EMERGENCY OPERATION PLAN THAT WILL BE IMPLEMENTED IN THE EVENT OF IMMINENT FLOODING DURING CONSTRUCTION. THIS PLAN WILL ADDRESS EMERGENCY ACTIONS TO BE IMPLEMENTED DURING ABOVE NORMAL RIVER STAGES WITHIN THE PROJECT LIMITS.
2. THE FLOOD EMERGENCY OPERATION PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BY THE USACE AND SDI AT LEAST 25 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE PLAN SHALL ADDRESS, IN DETAIL, STEPS TO BE TAKEN BY THE CONTRACTOR TO INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
 - A. QUANTITIES AND LOCATIONS OF STOCKPILES OF SUITABLE IMPERVIOUS MATERIAL FOR BACK FILLING EXCAVATION. STOCKPILE QUANTITIES TO BE MAINTAINED SHALL EXCEED THE VOLUME OF ALL OPEN EXCAVATIONS, INCLUDING SHAFTS AND PIPES, BY A FACTOR OF 2.
 - B. PROCEDURES AND EQUIPMENT TO BE UTILIZED FOR BACK FILLING OPERATIONS.
 - C. TIME FRAMES FOR IMPLEMENTING EMERGENCY ACTIONS.
 - D. NAME AND PHONE NUMBER OF CONTRACTOR'S POINT OF CONTACT (AND AT LEAST ONE ALTERNATE) FOR EMERGENCY ACTIONS.
3. UNLESS OTHERWISE DIRECTED BY SDI, EQUIPMENT AND PERSONNEL MUST BE REMOVED FROM THE FLOODWAY WHEN THE LICKING RIVER AND OHIO RIVER REACH (XX) FEET. THE DECISION TO COMMENCE EMERGENCY ACTION BY THE CONTRACTOR SHALL FOLLOW THEIR APPROVED EMERGENCY ACTION PLAN. THE CONTRACTOR SHALL TAKE INTO CONSIDERATION DATA FROM THE NATIONAL WEATHER SERVICE AND RIVER FORECAST CENTER AND THE USACE, AS WELL AS LOCALIZED FLOOD FIGHTING ACTIVITIES THAT MAY BE ONGOING. IN ADDITION, UPON NOTIFICATION FROM SDI, THE CONTRACTOR'S EMERGENCY ACTION POINT OF CONTACT (OR ALTERNATE) SHALL BE RESPONSIBLE FOR ENSURING THAT EMERGENCY ACTIONS ARE IMPLEMENTED.
4. DURING CONSTRUCTION OF THE FLOOD PROTECTION SYSTEM AND STORM DRAIN INSTALLATION WITHIN 50 FEET OF THE LEVEE TOE, BACK FILL SHALL BE PLACED WHEN THE RIVER STAGE RISES ABOVE THE ELEVATIONS OF (XX) (APPROXIMATE GAUGE HEIGHT OF XX FT AT USGS RIVER GAUGE NO **). CONSTRUCTION MAY RESUME ON A FALLING RIVER ONCE THE RIVER STAGE FALLS BELOW ELEVATION XX. HOWEVER, BECAUSE THE PIEZOMETRIC SURFACE MAY FALL BACK TO BASE ELEVATIONS SLOWER THAN THE RIVER FALL, IT IS RECOMMENDED THAT THE CONTRACTOR CONFIRM THAT THE PIEZOMETRIC SURFACE IS A MINIMUM OF 5 FEET BELOW THE SURFACE.
5. IF UNEXPECTED HIGH WATER CONDITIONS OCCUR DURING EXCAVATION WITHIN THE LEVEE FOOTPRINT, THE EXCAVATION SHALL BE IMMEDIATELY STOPPED AND BACK FILLED WITH A CLEAN SAND. ADDITIONAL FLOOD FIGHTING MEASURES MAY BE WARRANTED FOR EXCAVATION ADJACENT TO THE LAND SIDE TOE OF LEVEE, POSSIBLY CONSISTING OF SANDBAGS FOR CONSTRUCTING A RING LEVEE AROUND THE EXCAVATION LOCATION IN THE EVENT THE RIVER RISES AND SEEPAGE IS OBSERVED. IF A SAND BOIL SHOULD DEVELOP DURING A FLOOD EVENT, THE SAND BOIL SHALL BE RINGED WITH SAND BAGS TO A HEIGHT WHICH WILL ALLOW SEEPAGE TO OCCUR, HOWEVER PREVENT LOSS OF SOIL PARTICLES.
6. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE THE METHOD OF TEMPORARY CLOSURE TO USACE FOR APPROVAL ONCE THE CONTRACT HAS BEEN AWARDED. BECAUSE CREST OF A FLOOD OFTEN RISES, FALLS, AND THEN RISES AGAIN THE CLOSURE SYSTEM SHALL BE RAISED IF NECESSARY TO MATCH THE TOP ELEVATION OF THE REST OF THE FLOOD PROTECTION SYSTEM. THE CONSTRUCTION CONTRACTOR MUST BE ABLE TO PROVIDE EVIDENCE THAT THEIR PROPOSED EMERGENCY CLOSURE SYSTEM CONSISTS OF COMPONENTS THAT ARE EITHER ALREADY IN THEIR POSSESSION OR ARE OBTAINABLE WITHIN THE 72 HOUR TIME FRAME AND THAT THEY CAN ALSO PROVIDE THE MEANS AND METHODS, INCLUDING MANPOWER, REQUIRED TO HAVE ALL COMPONENTS IN PLACE WITHIN THE SAME TIME FRAME.
7. THE SUGGESTED METHOD OF EMERGENCY FLOOD PROTECTION IS A HESCO FLOOD BARRIER SYSTEM OR SIMILAR MEASURE.
8. IN EFFORT TO PREVENT BACKFLOW IN THE STORM SEWER LINES AND TO PREVENT INLAND FLOODING, EMERGENCY STOPPERS MAY BE REQUIRED TO BE CONSTRUCTED OF LUMBER, SAND BAGS, OR OTHER MATERIALS, USING POLYETHYLENE AS A SEAL. THE EXCAVATION, UPSTREAM MANHOLE, OR THE GATE WELL STRUCTURE MAY BE REQUIRED TO BE ADAPTED FOR USE AS AN EMERGENCY PUMPING STATION.
9. ACCORDING TO USACE PAMPHLET SWFP 1150-2-1 SECTION 4, SUBSECTION G: CONSTRUCTION EQUIPMENT, SPOIL MATERIAL, SUPPLIES, FORMS, BUILDINGS, ETC. SHALL NOT BE PLACED OR STORED IN THE FLOODWAY DURING CONSTRUCTION ACTIVITIES. ANY ITEM THAT MAY BE TRANSPORTED BY FLOOD FLOWS SHALL NOT BE STORED WITHIN THE FLOODWAY. LOCATIONS OF CONSTRUCTION TRAILERS AND STOCKPILE AREAS SHALL BE INCLUDED ON PROJECT PLANS AND APPROVED BY SDI.
10. NORTHERN KENTUCKY SDI CONTACT INFORMATION IS AS FOLLOWS:
 PRIMARY - NAME, POSITION, NUMBER
 ALTERNATE - NAME, NUMBER

 NORTHERN KENTUCKY SDI
 1045 EATON DRIVE
 FORT WRIGHT, KY 41017
11. U.S. ARMY CORPS OF ENGINEERS CONTACT INFORMATION IS AS FOLLOWS:
 NAME, POSITION, NUMBER
 ADDRESS
 CITY, STATE, ZIP

FLOOD PROTECTION SPECIAL PROVISIONS

1. CONTRACTOR ACCESS TO THE EXCAVATION SITE WILL BE FROM THE EXISTING ACCESS LOCATIONS, SUBJECT TO THE APPROVAL BY THE ENGINEER, SDI, AND USACE. THE CONTRACTOR WILL NOT BE ALLOWED TO CONSTRUCT TEMPORARY ACCESS ROADS OR LOW WATER (LICKING RIVER) CROSSINGS ON OR BETWEEN THE FOOTPRINT OF THE LEVEES WITHOUT WRITTEN CONSENT FROM THE U.S. ARMY CORPS OF ENGINEERS.
2. SDI WILL PROVIDE THE CONTRACTOR WITH KEYS AND LOCKS FOR THE FLOODWAY ACCESS GATES AND STRUCTURES. THE CONTRACTOR SHALL KEEP ACCESS GATES LOCKED AT ALL TIMES UNLESS THEY ARE ATTENDED OR DIRECTLY MONITORED BY THE CONTRACTOR. IF THE CONTRACTOR FAILS TO LOCK UNATTENDED/UN MONITORED FLOODWAY ACCESS GATES, SDI CAN REQUIRE THE CONTRACTOR TO PROVIDE FULL-TIME MONITORING OF THE FLOODWAY ACCESS GATES AT THE CONTRACTOR'S OWN EXPENSE.
3. THE EXISTING LEVEE AND MAINTENANCE ROADS SHALL BE MAINTAINED BY THE CONTRACTOR IN A CONDITION THAT IS ACCEPTABLE TO BOTH SDI AND THE USACE AT ALL TIMES THROUGH THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES WITHIN THE FLOODWAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL MAINTENANCE ROADS UTILIZED BY THE CONTRACTOR FROM THE POINTS OF ACCESS TO AND FROM THE FLOODWAY. RUTTING OF MAINTENANCE ROADS SHALL BE PREFERABLY AVOIDED OR IMMEDIATELY REPAIRED. AT THE COMPLETION OF THE PROJECT, THE EXISTING MAINTENANCE ROADS TO REMAIN SHALL BE IN AS GOOD AS OR BETTER CONDITION THAN AT THE BEGINNING OF THE PROJECT.
4. CONTRACTOR IS TO USE EXTREME CARE AND CAUTION WHEN WORKING NEAR EXISTING EMERGENT WETLAND AREAS.
5. IF ADDITIONAL WETLANDS ARE TO BE IMPACTED, OTHER THAN THOSE THAT HAVE BEEN IDENTIFIED, CONTRACTOR SHALL OBTAIN APPROVAL FROM THE U.S. ARMY CORPS OF ENGINEERS PRIOR TO THE START OF CONSTRUCTION.
6. TEMPORARY FILLS IMPACTING WETLANDS SHALL BE REMOVED AND THE AREA RESTORED TO PRE CONSTRUCTION ELEVATIONS AND RE VEGETATED UPON COMPLETION OF ASSOCIATED CONSTRUCTION.
7. CONTRACTOR IS RESPONSIBLE FOR FOLLOWING THE FIELD SCREENING PROCEDURES, MANAGEMENT OF AFFECTED SOILS, AND ALL OTHER PROCEDURES OUTLINED IN THE HAZARDOUS MATERIAL SOIL AND GROUNDWATER MANAGEMENT PLAN.
8. EXCESS MATERIAL SHALL BE DISPOSED AT APPROVED LOCATIONS SECURED BY THE CONTRACTOR AT ITS OWN EXPENSE. CONTRACTOR WILL NOT BE ALLOWED TO DISPOSE OF ANY MATERIAL IN THE FLOODWAY. MATERIAL SHALL BE REMOVED FROM THE FLOODWAY WITHIN 24 HOURS, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
9. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL DURING CONSTRUCTION AND FOR OBTAINING ANY REQUIRED CONSTRUCTION RELATED DRAINAGE PERMITS OR MAKING ANY RELATED NOTIFICATIONS.
10. THE CONTRACTOR SHALL ADOPT APPROPRIATE CONSTRUCTION SITE MANAGEMENT PRACTICES TO PREVENT THE DISCHARGE OF OILS, PAINTS, GASOLINE, GREASE AND OTHER POLLUTANTS FROM ENTERING THE STORM WATER AND THE RIVER.
11. EARTHEN RAMPS AND CONSTRUCTION PADS WITHIN THE EXCAVATION CONSTRUCTION SHALL BE CONSTRUCTED USING MATERIALS EXCAVATED FROM WITHIN THE FLOODWAY. PLANS FOR CONSTRUCTION OF EARTHEN RAMPS AND CONSTRUCTION PADS ON THE LEVEE SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BY USACE AT LEAST 25 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. PLANS SHALL INCLUDE DETAILED INFORMATION PERTINENT TO THE RAMP OR PAD LOCATION, SIZE, LAYOUT, MATERIALS, AND REMOVAL AFTER COMPLETION OF ASSOCIATED CONSTRUCTION ACTIVITIES. UPON REMOVAL OF RAMPS OR PADS, THE LEVEE SHALL BE RESTORED TO ITS ORIGINAL CROSS SECTION AND CONDITION.
12. PLANS FOR ANY EXCAVATIONS WITHIN THE LEVEE FOOTPRINT OR WITHIN 50 FEET OF EITHER TOE OF THE LEVEE SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BY USACE AT LEAST 25 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION OF ACTIVITIES. ALL EXCAVATIONS, INCLUDING TEMPORARY SHORING, COFFERDAMS, AND SHAFTS SHALL BE APPROVED BY USACE PRIOR TO START OF ANY SUCH CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY USACE A MINIMUM OF 72 HOURS PRIOR TO THE INITIATION OF SHAFT DRILLING OPERATIONS. NO MATERIAL MAY BE EXCAVATED FROM THE LEVEE OTHER THAN MATERIAL REMOVED AS PART OF SHAFT DRILLING OPERATIONS.
13. ALL DRILLING WITHIN THE LEVEE FOOTPRINT OR WITHIN 50 FEET OF EITHER TOE OF THE LEVEE SHALL BE PERFORMED IN ACCORDANCE WITH USACE REGULATION (ER) 1110-1-1807, "PROCEDURES FOR DRILLING IN EARTH EMBANKMENTS." THE CONTRACTOR SHALL IMMEDIATELY CEASE ANY CONSTRUCTION ACTIVITY DETERMINED BY USACE TO PRESENT AN UNACCEPTABLE RISK TO THE INTEGRITY OF THE LEVEE. THE REQUIREMENTS OF ER 1110-1-1807 SHALL TAKE PRECEDENCE OVER KYTC STANDARD SPECIFICATIONS.
14. ALL EXCAVATIONS WITHIN THE LEVEE FOOTPRINT OR WITHIN 15' OF EITHER TOE OF LEVEE OR FLOOD WALL SHALL ADHERE TO USACE STANDARD OPERATING PROCEDURES FOR BENCHING AND COMPACTION OF LEVEE AND FLOOD WALL MODIFICATIONS.
15. THE CONTRACTOR SHALL DEPLOY APPROPRIATE MEASURES, AS APPROVED BY THE ENGINEER, TO PREVENT DEBRIS FROM DEMOLITION, OR ANY OTHER CONSTRUCTION MATERIALS, FROM FALLING INTO THE EXISTING (LICKING RIVER) CHANNEL.

16. CONSTRUCTION EQUIPMENT, SPOIL MATERIAL, SUPPLIES, FORMS, BUILDINGS, ETC. SHALL NOT BE PLACED OR STORED IN THE EXCAVATION AREA DURING CONSTRUCTION ACTIVITIES. ANY ITEM THAT MAY BE TRANSPORTED BY FLOOD FLOWS SHALL NOT BE STORED WITHIN THE AREA. LOCATIONS OF CONSTRUCTION TRAILERS AND STOCKPILE AREAS SHALL BE INCLUDED ON PROJECT PLANS AND APPROVED BY USACE AND SDI.

CONSTRUCTION EQUIPMENT AND MATERIALS ACTIVELY UTILIZED IN THE DAY-TO-DAY CONSTRUCTION WORK WITHIN THE EXCAVATION CONSTRUCTION AREA ARE EXEMPTED FROM THIS REQUIREMENT WITH WRITTEN APPROVAL FROM THE ENGINEER AND SDI PRIOR TO INITIATING CONSTRUCTION ACTIVITIES THAT REQUIRE EQUIPMENT AND/OR MATERIALS TO REMAIN IN THE FLOODWAY OVERNIGHT. THE CONTRACTOR WILL SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL AN ITEMIZED LIST OF EQUIPMENT AND MATERIALS REQUESTED FOR EXEMPTION. ITEMS GENERALLY EXEMPTED INCLUDE:

- CRANES, DRILLING RIGS, AND LIFTS THAT MUST BE DEMOBILIZED TO BE MOVED FROM THE EXCAVATION CONSTRUCTION AREA AND OTHER TRACK MOUNTED EQUIPMENT THAT CANNOT BE READILY MOVED FROM THE FLOODWAY;
- LARGE GENERATORS AND COMPRESSORS;
- STORAGE CONTAINER/TRAILER FROM MISCELLANEOUS CONSTRUCTION TOOLS UTILIZED FOR DAY-TO-DAY CONSTRUCTION ACTIVITIES WITHIN THE EXCAVATION CONSTRUCTION AREA;
- PORTABLE LATRINES;
- REUSABLE CONCRETE FORMS FOR ONGOING BRIDGE FOUNDATION AND SUBSTRUCTURE CONSTRUCTION;
- BRIDGE FALSE WORK, MATS AND ERECTION TOWERS FOR ONGOING CONSTRUCTION ACTIVITIES;
- REINFORCING STEEL FOR PENDING INCORPORATION INTO THE WORK;
- BRIDGE GIRDERS AND DECK PANELS FOR PENDING INCORPORATION IN THE WORK
- STRUCTURAL STEEL MEMBERS THAT MUST BE FIELD SPLICED PRIOR TO PENDING ERECTION INTO THE WORK.

NON- EXEMPTED EQUIPMENT AND MATERIALS WILL BE MOVED OUT OF THE EXCAVATION CONSTRUCTION AREA WHEN NOT IN USE AND STORED IN THE CONTRACTOR'S STAGING AREA OUTSIDE THE FLOODWAY. THE CONTRACTOR WILL MOVE ALL ITEMS OUT OF THE FLOODWAY THAT MAY BE TRANSPORTED BY FLOOD FLOWS AND WILL STRIVE TO MOVE ALL OTHER EQUIPMENT AND MATERIALS OUT OF THE FLOODWAY FOR RAIN EVENTS THAT MIGHT RESULT IN AN OUT-OF-BANK FLOOD OF THE (LICKING RIVER). ANY EQUIPMENT AND MATERIALS LEFT IN THE FLOODWAY ARE AT THE CONTRACTOR'S OWN RISK.

17. ALL WORK WHICH REQUIRES THE PRESENCE OF A USACE REPRESENTATIVE SHALL BE PERFORMED BETWEEN MONDAYS AND FRIDAYS UNLESS ADVANCED WRITTEN APPROVAL IS OBTAINED FROM USACE.

FILE NAME: P:\225210\B\EMERGENCYCLOSUREPLAN\ECPLANNOTES.DGN

USER: eckler DATE PLOTTED: July 7, 2017

E-SHEET NAME: R0020TGN

MicroStation v8.11.9.459

COUNTY OF	ITEM NO.	SHEET NO.
CAMPBELL	6-8101.25	51a

FLOOD EMERGENCY OPERATION PLAN

1. DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO SAFEGUARD THE INTEGRITY OF THE LEVEE. CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER FOR APPROVAL BY THE U.S. ARMY CORPS OF ENGINEERS (USACE) AND THE SANITATION DISTRICT No. 1 OF NORTHERN KENTUCKY (SDI) A FLOOD EMERGENCY OPERATION PLAN THAT WILL BE IMPLEMENTED IN THE EVENT OF IMMINENT FLOODING DURING CONSTRUCTION. THIS PLAN WILL ADDRESS EMERGENCY ACTIONS TO BE IMPLEMENTED DURING ABOVE NORMAL RIVER STAGES WITHIN THE PROJECT LIMITS.
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 - B. PROCEDURES AND EQUIPMENT TO BE UTILIZED FOR BACK FILLING OPERATIONS.
 - C. TIME FRAMES FOR IMPLEMENTING EMERGENCY ACTIONS.
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5. IF UNEXPECTED HIGH WATER CONDITIONS OCCUR DURING EXCAVATION WITHIN THE LEVEE FOOTPRINT, THE EXCAVATION SHALL BE IMMEDIATELY STOPPED AND BACK FILLED WITH A CLEAN SAND. ADDITIONAL FLOOD FIGHTING MEASURES MAY BE WARRANTED FOR EXCAVATION ADJACENT TO THE LAND SIDE TOE OF LEVEE, POSSIBLY CONSISTING OF SANDBAGS FOR CONSTRUCTING A RING LEVEE AROUND THE EXCAVATION LOCATION IN THE EVENT THE RIVER RISES AND SEEPAGE IS OBSERVED. IF A SAND BOIL SHOULD DEVELOP DURING A FLOOD EVENT, THE SAND BOIL SHALL BE RINGED WITH SAND BAGS TO A HEIGHT WHICH WILL ALLOW SEEPAGE TO OCCUR, HOWEVER PREVENT LOSS OF SOIL PARTICLES.
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9. ACCORDING TO USACE PAMPHLET SWFP 1150-2-1 SECTION 4, SUBSECTION G: CONSTRUCTION EQUIPMENT, SPOIL MATERIAL, SUPPLIES, FORMS, BUILDINGS, ETC. SHALL NOT BE PLACED OR STORED IN THE FLOODWAY DURING CONSTRUCTION ACTIVITIES. ANY ITEM THAT MAY BE TRANSPORTED BY FLOOD FLOWS SHALL NOT BE STORED WITHIN THE FLOODWAY. LOCATIONS OF CONSTRUCTION TRAILERS AND STOCKPILE AREAS SHALL BE INCLUDED ON PROJECT PLANS AND APPROVED BY SDI.
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 PRIMARY - NAME, POSITION, NUMBER
 ALTERNATE - NAME, NUMBER

 NORTHERN KENTUCKY SDI
 1045 EATON DRIVE
 FORT WRIGHT, KY 41017
11. U.S. ARMY CORPS OF ENGINEERS CONTACT INFORMATION IS AS FOLLOWS:
 NAME, POSITION, NUMBER
 ADDRESS
 CITY, STATE, ZIP

FLOOD PROTECTION SPECIAL PROVISIONS

1. CONTRACTOR ACCESS TO THE EXCAVATION SITE WILL BE FROM THE EXISTING ACCESS LOCATIONS, SUBJECT TO THE APPROVAL BY THE ENGINEER, SDI, AND USACE. THE CONTRACTOR WILL NOT BE ALLOWED TO CONSTRUCT TEMPORARY ACCESS ROADS OR LOW WATER (LICKING RIVER) CROSSINGS ON OR BETWEEN THE FOOTPRINT OF THE LEVEES WITHOUT WRITTEN CONSENT FROM THE U.S. ARMY CORPS OF ENGINEERS.
2. SDI WILL PROVIDE THE CONTRACTOR WITH KEYS AND LOCKS FOR THE FLOODWAY ACCESS GATES AND STRUCTURES. THE CONTRACTOR SHALL KEEP ACCESS GATES LOCKED AT ALL TIMES UNLESS THEY ARE ATTENDED OR DIRECTLY MONITORED BY THE CONTRACTOR. IF THE CONTRACTOR FAILS TO LOCK UNATTENDED/UN MONITORED FLOODWAY ACCESS GATES, SDI CAN REQUIRE THE CONTRACTOR TO PROVIDE FULL-TIME MONITORING OF THE FLOODWAY ACCESS GATES AT THE CONTRACTOR'S OWN EXPENSE.
3. THE EXISTING LEVEE AND MAINTENANCE ROADS SHALL BE MAINTAINED BY THE CONTRACTOR IN A CONDITION THAT IS ACCEPTABLE TO BOTH SDI AND THE USACE AT ALL TIMES THROUGH THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES WITHIN THE FLOODWAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL MAINTENANCE ROADS UTILIZED BY THE CONTRACTOR FROM THE POINTS OF ACCESS TO AND FROM THE FLOODWAY. RUTTING OF MAINTENANCE ROADS SHALL BE PREFERABLY AVOIDED OR IMMEDIATELY REPAIRED. AT THE COMPLETION OF THE PROJECT, THE EXISTING MAINTENANCE ROADS TO REMAIN SHALL BE IN AS GOOD AS OR BETTER CONDITION THAN AT THE BEGINNING OF THE PROJECT.
4. CONTRACTOR IS TO USE EXTREME CARE AND CAUTION WHEN WORKING NEAR EXISTING EMERGENT WETLAND AREAS.
5. IF ADDITIONAL WETLANDS ARE TO BE IMPACTED, OTHER THAN THOSE THAT HAVE BEEN IDENTIFIED, CONTRACTOR SHALL OBTAIN APPROVAL FROM THE U.S. ARMY CORPS OF ENGINEERS PRIOR TO THE START OF CONSTRUCTION.
6. TEMPORARY FILLS IMPACTING WETLANDS SHALL BE REMOVED AND THE AREA RESTORED TO PRE CONSTRUCTION ELEVATIONS AND RE VEGETATED UPON COMPLETION OF ASSOCIATED CONSTRUCTION.
7. CONTRACTOR IS RESPONSIBLE FOR FOLLOWING THE FIELD SCREENING PROCEDURES, MANAGEMENT OF AFFECTED SOILS, AND ALL OTHER PROCEDURES OUTLINED IN THE HAZARDOUS MATERIAL SOIL AND GROUNDWATER MANAGEMENT PLAN.
8. EXCESS MATERIAL SHALL BE DISPOSED AT APPROVED LOCATIONS SECURED BY THE CONTRACTOR AT ITS OWN EXPENSE. CONTRACTOR WILL NOT BE ALLOWED TO DISPOSE OF ANY MATERIAL IN THE FLOODWAY. MATERIAL SHALL BE REMOVED FROM THE FLOODWAY WITHIN 24 HOURS, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
9. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL DURING CONSTRUCTION AND FOR OBTAINING ANY REQUIRED CONSTRUCTION RELATED DRAINAGE PERMITS OR MAKING ANY RELATED NOTIFICATIONS.
10. THE CONTRACTOR SHALL ADOPT APPROPRIATE CONSTRUCTION SITE MANAGEMENT PRACTICES TO PREVENT THE DISCHARGE OF OILS, PAINTS, GASOLINE, GREASE AND OTHER POLLUTANTS FROM ENTERING THE STORM WATER AND THE RIVER.
11. EARTHEN RAMPS AND CONSTRUCTION PADS WITHIN THE EXCAVATION CONSTRUCTION SHALL BE CONSTRUCTED USING MATERIALS EXCAVATED FROM WITHIN THE FLOODWAY. PLANS FOR CONSTRUCTION OF EARTHEN RAMPS AND CONSTRUCTION PADS ON THE LEVEE SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BY USACE AT LEAST 25 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. PLANS SHALL INCLUDE DETAILED INFORMATION PERTINENT TO THE RAMP OR PAD LOCATION, SIZE, LAYOUT, MATERIALS, AND REMOVAL AFTER COMPLETION OF ASSOCIATED CONSTRUCTION ACTIVITIES. UPON REMOVAL OF RAMPS OR PADS, THE LEVEE SHALL BE RESTORED TO ITS ORIGINAL CROSS SECTION AND CONDITION.
12. PLANS FOR ANY EXCAVATIONS WITHIN THE LEVEE FOOTPRINT OR WITHIN 50 FEET OF EITHER TOE OF THE LEVEE SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BY USACE AT LEAST 25 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION OF ACTIVITIES. ALL EXCAVATIONS, INCLUDING TEMPORARY SHORING, COFFERDAMS, AND SHAFTS SHALL BE APPROVED BY USACE PRIOR TO START OF ANY SUCH CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY USACE A MINIMUM OF 72 HOURS PRIOR TO THE INITIATION OF SHAFT DRILLING OPERATIONS. NO MATERIAL MAY BE EXCAVATED FROM THE LEVEE OTHER THAN MATERIAL REMOVED AS PART OF SHAFT DRILLING OPERATIONS.
13. ALL DRILLING WITHIN THE LEVEE FOOTPRINT OR WITHIN 50 FEET OF EITHER TOE OF THE LEVEE SHALL BE PERFORMED IN ACCORDANCE WITH USACE REGULATION (ER) 1110-1-1807, "PROCEDURES FOR DRILLING IN EARTH EMBANKMENTS." THE CONTRACTOR SHALL IMMEDIATELY CEASE ANY CONSTRUCTION ACTIVITY DETERMINED BY USACE TO PRESENT AN UNACCEPTABLE RISK TO THE INTEGRITY OF THE LEVEE. THE REQUIREMENTS OF ER 1110-1-1807 SHALL TAKE PRECEDENCE OVER KYTC STANDARD SPECIFICATIONS.
14. ALL EXCAVATIONS WITHIN THE LEVEE FOOTPRINT OR WITHIN 15' OF EITHER TOE OF LEVEE OR FLOOD WALL SHALL ADHERE TO USACE STANDARD OPERATING PROCEDURES FOR BENCHING AND COMPACTION OF LEVEE AND FLOOD WALL MODIFICATIONS.
15. THE CONTRACTOR SHALL DEPLOY APPROPRIATE MEASURES, AS APPROVED BY THE ENGINEER, TO PREVENT DEBRIS FROM DEMOLITION, OR ANY OTHER CONSTRUCTION MATERIALS, FROM FALLING INTO THE EXISTING (LICKING RIVER) CHANNEL.

16. CONSTRUCTION EQUIPMENT, SPOIL MATERIAL, SUPPLIES, FORMS, BUILDINGS, ETC. SHALL NOT BE PLACED OR STORED IN THE EXCAVATION AREA DURING CONSTRUCTION ACTIVITIES. ANY ITEM THAT MAY BE TRANSPORTED BY FLOOD FLOWS SHALL NOT BE STORED WITHIN THE AREA. LOCATIONS OF CONSTRUCTION TRAILERS AND STOCKPILE AREAS SHALL BE INCLUDED ON PROJECT PLANS AND APPROVED BY USACE AND SDI.

CONSTRUCTION EQUIPMENT AND MATERIALS ACTIVELY UTILIZED IN THE DAY-TO-DAY CONSTRUCTION WORK WITHIN THE EXCAVATION CONSTRUCTION AREA ARE EXEMPTED FROM THIS REQUIREMENT WITH WRITTEN APPROVAL FROM THE ENGINEER AND SDI PRIOR TO INITIATING CONSTRUCTION ACTIVITIES THAT REQUIRE EQUIPMENT AND/OR MATERIALS TO REMAIN IN THE FLOODWAY OVERNIGHT. THE CONTRACTOR WILL SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL AN ITEMIZED LIST OF EQUIPMENT AND MATERIALS REQUESTED FOR EXEMPTION. ITEMS GENERALLY EXEMPTED INCLUDE:

- CRANES, DRILLING RIGS, AND LIFTS THAT MUST BE DEMOBILIZED TO BE MOVED FROM THE EXCAVATION CONSTRUCTION AREA AND OTHER TRACK MOUNTED EQUIPMENT THAT CANNOT BE READILY MOVED FROM THE FLOODWAY;
- LARGE GENERATORS AND COMPRESSORS;
- STORAGE CONTAINER/TRAILER FROM MISCELLANEOUS CONSTRUCTION TOOLS UTILIZED FOR DAY-TO-DAY CONSTRUCTION ACTIVITIES WITHIN THE EXCAVATION CONSTRUCTION AREA;
- PORTABLE LATRINES;
- REUSABLE CONCRETE FORMS FOR ONGOING BRIDGE FOUNDATION AND SUBSTRUCTURE CONSTRUCTION;
- BRIDGE FALSE WORK, MATS AND ERECTION TOWERS FOR ONGOING CONSTRUCTION ACTIVITIES;
- REINFORCING STEEL FOR PENDING INCORPORATION INTO THE WORK;
- BRIDGE GIRDERS AND DECK PANELS FOR PENDING INCORPORATION IN THE WORK
- STRUCTURAL STEEL MEMBERS THAT MUST BE FIELD SPLICED PRIOR TO PENDING ERECTION INTO THE WORK.

NON- EXEMPTED EQUIPMENT AND MATERIALS WILL BE MOVED OUT OF THE EXCAVATION CONSTRUCTION AREA WHEN NOT IN USE AND STORED IN THE CONTRACTOR'S STAGING AREA OUTSIDE THE FLOODWAY. THE CONTRACTOR WILL MOVE ALL ITEMS OUT OF THE FLOODWAY THAT MAY BE TRANSPORTED BY FLOOD FLOWS AND WILL STRIVE TO MOVE ALL OTHER EQUIPMENT AND MATERIALS OUT OF THE FLOODWAY FOR RAIN EVENTS THAT MIGHT RESULT IN AN OUT-OF-BANK FLOOD OF THE (LICKING RIVER). ANY EQUIPMENT AND MATERIALS LEFT IN THE FLOODWAY ARE AT THE CONTRACTOR'S OWN RISK.

17. ALL WORK WHICH REQUIRES THE PRESENCE OF A USACE REPRESENTATIVE SHALL BE PERFORMED BETWEEN MONDAYS AND FRIDAYS UNLESS ADVANCED WRITTEN APPROVAL IS OBTAINED FROM USACE.

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USER: eckler
DATE PLOTTED: July 7, 2017

E-SHEET NAME: R0020TGN

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TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS CAMPBELL COUNTY KY 9

Structures for KY 9 Flood Wall

FLOOD GATE CONSTRUCTION SHALL NOT BEGIN PRIOR TO JUNE 1, 2018

STRUCTURAL NOTES

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COPIES OF PUBLICATIONS REFERENCED IN THESE GENERAL STRUCTURAL NOTES ARE AVAILABLE FOR REVIEW AT SCHAEFER. CONTRACTORS UNFAMILIAR WITH THESE PUBLICATIONS MUST REVIEW THEM PRIOR TO CONSTRUCTION.

GOVERNING CODE

U.S. ARMY CORPS OF ENGINEERS: EM 1110-2-2104 STRENGTH DESIGN FOR REINFORCED CONCRETE HYDRAULIC STRUCTURES.

U.S. ARMY CORPS OF ENGINEERS: EM 1110-2-2105 DESIGN OF HYDRAULIC STEEL STRUCTURES.

U.S. ARMY CORPS OF ENGINEERS: EM 1110-2-2502 RETAINING AND FLOOD WALLS.

DESIGN LOADS

- WIND LOAD (PER ASCE 7):
 - BASIC WIND SPEED (BASED ON 3-SECOND GUST) = 115 MPH
 - OCCUPANCY CATEGORY = II
 - WIND IMPORTANCE FACTOR, I_w = 1.0
 - WIND EXPOSURE = B (ALL WIND DIRECTIONS)

SEISMIC LOAD:

- COUNTY = CAMPBELL
- SEISMIC IMPORTANCE FACTOR, I_e = 1.0
- MAPPED SPECTRAL RESPONSE ACCELERATION AT SHORT PERIODS, S_s = 0.145
- MAPPED SPECTRAL RESPONSE ACCELERATION AT 1 SEC. PERIOD, S_1 = 0.078
- OCCUPANCY CATEGORY = II
- SPECTRAL RESPONSE COEFFICIENT S_{DS} = 0.155
- SPECTRAL RESPONSE COEFFICIENT S_{D1} = 0.128
- SITE CLASS = D
- ANALYSIS PROCEDURE = MONONOBE-OKABE

CONSTRUCTION AND SAFETY

- CONTRACTOR SHALL BRACE ENTIRE STRUCTURE AS REQUIRED TO MAINTAIN STABILITY UNTIL COMPLETE AND FUNCTIONING AS THE DESIGNED UNIT.
- ENGINEER SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION SELECTED BY CONTRACTOR.
- THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS. WHEN ON SITE, THE ENGINEER IS RESPONSIBLE FOR HIS/HER OWN SAFETY BUT HAS NO RESPONSIBILITY FOR THE SAFETY OF OTHER PERSONNEL OR SAFETY CONDITIONS AT THE SITE.
- CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. SHOULD ANY DISCREPANCY BE FOUND, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER IMMEDIATELY OF THE CONDITION.
- CONTRACTOR SHALL BRACE ENTIRE STRUCTURE AS REQUIRED DURING DEMOLITION AND CONSTRUCTION TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETE AND FUNCTIONING AS THE DESIGNED UNIT.

FOUNDATIONS

- FOUNDATION DESIGN IS BASED ON RECOMMENDATIONS DESCRIBED IN THE GEOTECHNICAL ENGINEER'S REPORT BY TERRACON DATED DECEMBER 3, 2014. THE GEOTECHNICAL ENGINEER'S REPORT IS AVAILABLE UPON REQUEST.
 - ALL FOOTINGS SHALL BEAR ON LEVEL (WITHIN 1 IN 12) UNDISTURBED SOIL OR APPROVED ENGINEERED FILL. FOUNDATIONS HAVE BEEN DESIGNED FOR A MAXIMUM SOIL BEARING PRESSURE OF 2,200 PSF BELOW STRIP FOOTINGS.
- FOUNDATION ELEVATIONS SHOWN ARE FOR BIDDING PURPOSES AND MAY VARY TO SUIT SUB-SURFACE SOIL CONDITION. ELEVATION AND BEARING STRATA SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE. PROVIDE ENGINEERED FILL OR LEAN CONCRETE (500 PSI) UNDER FOUNDATIONS AT SOFT SPOTS AND FOR EXTENDING EXCAVATION TO ADEQUATE BEARING MATERIAL. INSTALL FOUNDATIONS AT DESIGNED ELEVATIONS.
- FOOTINGS MAY BE PLACED WITHOUT SIDE FORMS IF EXCAVATED WALLS STAND APPROXIMATELY VERTICAL.
- LATERAL SOIL PRESSURE USED FOR DESIGN OF:
 - RETAINING WALLS: 98 PCF EQUIVALENT FLUID PRESSURE, TRIANGULAR DISTRIBUTION.
- CONTRACTOR SHALL CONTACT UTILITY COMPANIES FOR LOCATING UNDERGROUND SERVICES AND IS RESPONSIBLE FOR THEIR PROTECTION AND SUPPORT.
- FILL AND BACK FILL:
 - ALL FILL MATERIALS SHALL BE APPROVED BY A GEOTECHNICAL CONSULTANT.
 - ENGINEERED FILL BENEATH FOOTINGS: MINIMUM COMPACTION 98% STANDARD PROCTOR DENSITY AT THE OPTIMUM MOISTURE CONTENT.
- EXCAVATIONS:

- EXCAVATIONS IN THE VICINITY OF EXISTING FOUNDATIONS SHALL BE PERMITTED WITHOUT ANY SPECIAL MEASURES AS LONG AS THE BOTTOM NEAR EDGE OF THE EXCAVATION IS ABOVE A LINE WITH SLOPE OF 2 HORIZONTAL TO 1 VERTICAL EXTENDING OUTWARD AND DOWNWARD FROM THE NEAREST BOTTOM CORNER OF THE EXISTING FOUNDATION.
- EXCAVATIONS IN THE VICINITY OF EXISTING FOUNDATIONS WITH THE BOTTOM NEAR EDGE OF THE EXCAVATION BELOW A LINE WITH SLOPE OF 2 HORIZONTAL TO 1 VERTICAL EXTENDING OUTWARD AND DOWNWARD FROM THE NEAREST BOTTOM CORNER OF THE EXISTING FOUNDATION SHALL BE MADE ONLY WITH THE APPROVAL OF THE STRUCTURAL ENGINEER AND THE PROJECT GEOTECHNICAL ENGINEER. SUCH EXCAVATIONS MAY REQUIRE SPECIAL TEMPORARY EXCAVATION BRACING OR UNDERPINNING OF EXISTING FOUNDATIONS, WHICH IS THE RESPONSIBILITY OF THE CONTRACTOR AS PART OF ITS SELECTED MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES. CONTRACTOR SHALL SUBMIT TEMPORARY EXCAVATION BRACING AND UNDERPINNING DETAILS PRIOR TO EXCAVATION. CONTRACTOR SHALL PERFORM THESE EXCAVATIONS WITH CAUTION SO AS NOT TO UNDERMINE ANY EXISTING STRUCTURE FOUNDATIONS, AND EXCAVATIONS SHALL BE MADE IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

DRILLED PIERS

- CONSTRUCTION TOLERANCES:
 - THE CENTER OF THE SHAFT SHALL BE LOCATED WITHIN THREE INCHES (3") OF THE PLAN LOCATION.
 - SHAFTS SHALL BE PLUMB WITHIN 1.5 PERCENT OF ITS LENGTH.
 - TOPS OF PIERS SHALL BE WITHIN PLUS ZERO INCHES (0") OR MINUS TWO INCHES (2") OF ELEVATION SHOWN ON PLAN.
 - ANY SHAFTS VARYING BY MORE THAN THE ABOVE TOLERANCES SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER.
- CONSTRUCTION

- EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE.
- STEEL CASINGS

- CONTRACTOR SHALL PROVIDE TEMPORARY STEEL CASINGS ON THE SITE FOR USE AS REQUIRED TO PREVENT CAVING OF THE SHAFT WALLS.
- CASING SHALL HAVE SUFFICIENT STRENGTH TO WITHSTAND HANDLING STRESSES, CONCRETE PRESSURE, AND SURROUNDING EARTH AND/OR FLUID PRESSURES. MAKE DIAMETER OF EXCAVATION IN RELATION TO DIAMETER OF CASING, SUCH AS TO CREATE A MINIMUM OF VOID SPACE OUTSIDE OF CASING.
- CASINGS SHALL BE WITHDRAWN AS THE CONCRETE IS BEING PLACED, MAINTAINING SUFFICIENT HEAD OF CONCRETE WITHIN THE CASING TO PREVENT EXTRANEOUS MATERIAL FROM FALLING IN FROM THE SIDES AND MIXING WITH THE CONCRETE.

REINFORCING STEEL

- REINFORCING STEEL CAGES SHALL BE TIED WITH WIRE AT A MINIMUM OF 70 PERCENT OF THE INTERSECTIONS OF THE LONGITUDINAL BARS AND THE HOOPS/TIES.
- SUITABLE BAR SPACERS SHALL BE USED TO PROVIDE THE PROPER CLEARANCE.
- CAGES SHALL BE TIED WITH CROSS BRACES IN ORDER TO PREVENT RACKING OF THE CAGES.
- CONCRETE PLACEMENT
 - CONCRETE PLACEMENT SHALL BE OBSERVED BY GEOTECHNICAL ENGINEER.
 - DEWATER EXCAVATION PRIOR TO PLACING CONCRETE. NO MORE THAN 1 INCH OF STANDING WATER SHALL BE ALLOWED PRIOR TO CONCRETE PLACEMENT.
 - IF WATER INFLOWS CONTINUE DURING PUMPING, USE CASINGS SOCKETED INTO BOTTOM OF EXCAVATION OR OTHER APPROVED MEANS TO REDUCE INFLOW.
 - PLACE CONCRETE IMMEDIATELY AFTER COMPLETION OF EXCAVATION.
 - CONCRETE SHALL BE DIRECTED THROUGH A HOPPER AND ELEPHANT TRUNK DOWN THE CENTER OF THE SHAFT WITHOUT HITTING SIDES OR REINFORCING.
 - VIBRATE TOP 5 FEET OF CONCRETE.
 - PLACE CONCRETE IN PIER IN ONE CONTINUOUS OPERATION.

CONCRETE

- CONCRETE WORK AND TESTING TO BE PER THE KENTUCKY TRANSPORTATION CABINET "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION EDITION OF 2012".
- MATERIALS: (f_c BASED ON 28 DAY UNLESS NOTED)
 - CONCRETE UNLESS NOTED: CLASS A -- COMPRESSIVE STRENGTH = 3,500 PSI., NORMAL WEIGHT AGGREGATE.
 - REINFORCING STEEL:
 - DEFORMED BARS: ASTM A615, ASTM A706, OR ASTM A996 (A996 BARS FROM RAIL STEEL SHALL BE TYPE R), 60 KSI YIELD.
 - ASTM A706 DEFORMED BARS REQUIRED FOR ALL WELDED REINFORCING BARS.
 - ROUGHENED SURFACES, WHERE INDICATED, SHALL EITHER BE:
 - ROUGHENED TO A FULL AMPLITUDE OF APPROXIMATELY 1/4" AND BE CLEAN AND FREE OF LAITANCE.;

- REINFORCING BARS SHALL BE FREE OF DIRT AND FORM RELEASE AGENTS.
- DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL CONCRETE STRENGTH HAS REACHED 0.75 f_c AND A MINIMUM OF 7 DAYS.
- PROVIDE 1" CHAMFER AT CORNERS OF EXPOSED CONCRETE.
- CONDUITS AND PIPES OF ALUMINUM SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE UNLESS EFFECTIVELY COATED TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.

STRUCTURAL STEEL

- ALL DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO AISC SPECIFICATIONS FOR "DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", AND THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES", LATEST EDITION.
- WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS D1.1:2010).
- MATERIALS:
 - W-SHAPES UNLESS NOTED: ASTM A992, F_y = 50 KSI.
 - PLATES AND ROLLED SHAPES OTHER THAN W-SHAPES, UNLESS NOTED: ASTM A36.
 - BOLTS: ASTM A325-N, 3/4" DIAMETER UNLESS NOTED.
 - FIELD WELDS: AWS E70XX, LOW HYDROGEN ELECTRODES.
 - HEADED STUDS: ASTM A108 AND AWS D1.1, CHAPTER 7, TYPE B.
- PAINT AND PROTECTION:
 - PREPARE AND PAINT STEEL PER "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION EDITION OF 2012".
 - PROVIDE MINIMUM 3" CONCRETE COVER FOR ALL STEEL BELOW GRADE.
- INSTALLATION OF HEADED COMPOSITE STUDS SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.1, SECTIONS 7.4 AND 7.5. HEADED COMPOSITE STUDS SHALL BE TESTED IN ACCORDANCE WITH AWS D1.1, SECTIONS 7.6, 7.7, AND 7.8 BY A QUALIFIED TESTING AGENCY. COPIES OF THE TEST REPORTS SHALL BE SUBMITTED TO THE ENGINEER.

INDEX OF SHEETS

Sheet No	Description
S1	COVER SHEET
S2	FLOODGATE PLAN
S3	FLOODWALL DEMOLITION PLAN
S4	FLOODGATE/FLOODWALL ELEVATIONS
S5	ENLARGED FLOODWALL/FLOODGATE PLAN
S6	FLOODWALL ELEVATION
S7	FLOODWALL SECTIONS
S8	FLOODWALL SECTIONS
S9	REBAR SCHEDULE
S10	FLOODGATE ELEVATION & SECTION
S11	FLOODGATE SECTIONS & DETAILS
S12	FLOODWALL SECTIONS
S13	EMBEDMENT/CLOSURE DETAILS
S14	WATERSTOP DETAILS
S15	FLOODGATE SECTIONS
S16	FLOODGATE SECTIONS

SPECIAL NOTES

SPECIAL PROVISIONS

STANDARD DRAWINGS

SPECIFICATIONS

- 1989 U.S. Army Corps of Engineers, Retaining and Flood Walls
2016 ACI, 301-16 Specifications for Structural Concrete.

REVISION

DATE:	06/15/2012	CHECKED BY:
DESIGNED BY:	DJW	
DETAILED BY:	WCM	

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY

CAMPBELL

ROUTE
KY 9

CROSSING

Plans Prepared By
schaefer



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SSA Project Number: 1218.19

ITEM NUMBER

6-8101.25

PREPARED BY
STRUCTURAL ENGINEERS
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schaefer

SHEET NO.

S1

DRAWING NO.

FILE NAME: C:\Users\mcrum\Documents\1218.19\Floodgate at KY 9 - 118_schaefer.dwg

USER: DJW
DATE PLOTTED: 12/20/2017 10:30:29 AM

E-SHEET NAME: Revit v16

TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS CAMPBELL COUNTY KY 9

Structures for KY 9 Flood Wall

FLOOD GATE CONSTRUCTION SHALL NOT BEGIN PRIOR TO JUNE 1, 2018

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- G. SPECTRAL RESPONSE COEFFICIENT S_{D1} = 0.128
- H. SITE CLASS = D
- I. ANALYSIS PROCEDURE = MONONOBE-OKABE

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 - B. ENGINEERED FILL BENEATH FOOTINGS: MINIMUM COMPACTION 98% STANDARD PROCTOR DENSITY AT THE OPTIMUM MOISTURE CONTENT.
- EXCAVATIONS:

- A. EXCAVATIONS IN THE VICINITY OF EXISTING FOUNDATIONS SHALL BE PERMITTED WITHOUT ANY SPECIAL MEASURES AS LONG AS THE BOTTOM NEAR EDGE OF THE EXCAVATION IS ABOVE A LINE WITH SLOPE OF 2 HORIZONTAL TO 1 VERTICAL EXTENDING OUTWARD AND DOWNWARD FROM THE NEAREST BOTTOM CORNER OF THE EXISTING FOUNDATION.
- B. EXCAVATIONS IN THE VICINITY OF EXISTING FOUNDATIONS WITH THE BOTTOM NEAR EDGE OF THE EXCAVATION BELOW A LINE WITH SLOPE OF 2 HORIZONTAL TO 1 VERTICAL EXTENDING OUTWARD AND DOWNWARD FROM THE NEAREST BOTTOM CORNER OF THE EXISTING FOUNDATION SHALL BE MADE ONLY WITH THE APPROVAL OF THE STRUCTURAL ENGINEER AND THE PROJECT GEOTECHNICAL ENGINEER. SUCH EXCAVATIONS MAY REQUIRE SPECIAL TEMPORARY EXCAVATION BRACING OR UNDERPINNING OF EXISTING FOUNDATIONS, WHICH IS THE RESPONSIBILITY OF THE CONTRACTOR AS PART OF ITS SELECTED MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES. CONTRACTOR SHALL SUBMIT TEMPORARY EXCAVATION BRACING AND UNDERPINNING DETAILS PRIOR TO EXCAVATION. CONTRACTOR SHALL PERFORM THESE EXCAVATIONS WITH CAUTION SO AS NOT TO UNDERMINE ANY EXISTING STRUCTURE FOUNDATIONS, AND EXCAVATIONS SHALL BE MADE IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

DRILLED PIERS

- CONSTRUCTION TOLERANCES:
 - A. THE CENTER OF THE SHAFT SHALL BE LOCATED WITHIN THREE INCHES (3") OF THE PLAN LOCATION.
 - B. SHAFTS SHALL BE PLUMB WITHIN 1.5 PERCENT OF ITS LENGTH.
 - C. TOPS OF PIERS SHALL BE WITHIN PLUS ZERO INCHES (0") OR MINUS TWO INCHES (2") OF ELEVATION SHOWN ON PLAN.
 - D. ANY SHAFTS VARYING BY MORE THAN THE ABOVE TOLERANCES SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER.
- CONSTRUCTION
 - A. EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE.
 - B. STEEL CASINGS
 - CONTRACTOR SHALL PROVIDE TEMPORARY STEEL CASINGS ON THE SITE FOR USE AS REQUIRED TO PREVENT CAVING OF THE SHAFT WALLS.
 - CASING SHALL HAVE SUFFICIENT STRENGTH TO WITHSTAND HANDLING STRESSES, CONCRETE PRESSURE, AND SURROUNDING EARTH AND/OR FLUID PRESSURES. MAKE DIAMETER OF EXCAVATION IN RELATION TO DIAMETER OF CASING, SUCH AS TO CREATE A MINIMUM OF VOID SPACE OUTSIDE OF CASING.
 - CASINGS SHALL BE WITHDRAWN AS THE CONCRETE IS BEING PLACED, MAINTAINING SUFFICIENT HEAD OF CONCRETE WITHIN THE CASING TO PREVENT EXTRANEOUS MATERIAL FROM FALLING IN FROM THE SIDES AND MIXING WITH THE CONCRETE.

REINFORCING STEEL

- REINFORCING STEEL CAGES SHALL BE TIED WITH WIRE AT A MINIMUM OF 70 PERCENT OF THE INTERSECTIONS OF THE LONGITUDINAL BARS AND THE HOOPS/TIES.
- SUITABLE BAR SPACERS SHALL BE USED TO PROVIDE THE PROPER CLEARANCE.
- CAGES SHALL BE TIED WITH CROSS BRACES IN ORDER TO PREVENT RACKING OF THE CAGES.
- CONCRETE PLACEMENT
 - CONCRETE PLACEMENT SHALL BE OBSERVED BY GEOTECHNICAL ENGINEER.
 - DEWATER EXCAVATION PRIOR TO PLACING CONCRETE. NO MORE THAN 1 INCH OF STANDING WATER SHALL BE ALLOWED PRIOR TO CONCRETE PLACEMENT.
 - IF WATER INFLOWS CONTINUE DURING PUMPING, USE CASINGS SOCKETED INTO BOTTOM OF EXCAVATION OR OTHER APPROVED MEANS TO REDUCE INFLOW.
 - PLACE CONCRETE IMMEDIATELY AFTER COMPLETION OF EXCAVATION.
 - CONCRETE SHALL BE DIRECTED THROUGH A HOPPER AND ELEPHANT TRUNK DOWN THE CENTER OF THE SHAFT WITHOUT HITTING SIDES OR REINFORCING.
 - VIBRATE TOP 5 FEET OF CONCRETE.
 - PLACE CONCRETE IN PIER IN ONE CONTINUOUS OPERATION.

CONCRETE

- CONCRETE WORK AND TESTING TO BE PER THE KENTUCKY TRANSPORTATION CABINET "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION EDITION OF 2012".
- MATERIALS: (f_c BASED ON 28 DAY UNLESS NOTED)
 - A. CONCRETE UNLESS NOTED: CLASS A - COMPRESSIVE STRENGTH = 3,500 PSI., NORMAL WEIGHT AGGREGATE.
 - B. REINFORCING STEEL:
 - DEFORMED BARS: ASTM A615, ASTM A706, OR ASTM A996 (A996 BARS FROM RAIL STEEL SHALL BE TYPE R), 60 KSI YIELD.
 - a. ASTM A706 DEFORMED BARS REQUIRED FOR ALL WELDED REINFORCING BARS.
- ROUGHENED SURFACES, WHERE INDICATED, SHALL EITHER BE:
 - A. ROUGHENED TO A FULL AMPLITUDE OF APPROXIMATELY 1/4" AND BE CLEAN AND FREE OF LAITANCE.;

- REINFORCING BARS SHALL BE FREE OF DIRT AND FORM RELEASE AGENTS.
- DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL CONCRETE STRENGTH HAS REACHED 0.75 f_c AND A MINIMUM OF 7 DAYS.
- PROVIDE 1" CHAMFER AT CORNERS OF EXPOSED CONCRETE.
- CONDUITS AND PIPES OF ALUMINUM SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE UNLESS EFFECTIVELY COATED TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.

STRUCTURAL STEEL

- ALL DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO AISC SPECIFICATIONS FOR "DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", AND THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES", LATEST EDITION.
- WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS D1.1:2010).
- MATERIALS:
 - A. W-SHAPES UNLESS NOTED: ASTM A992, F_y = 50 KSI.
 - B. PLATES AND ROLLED SHAPES OTHER THAN W-SHAPES, UNLESS NOTED: ASTM A36.
 - C. BOLTS: ASTM A325-N, 3/4" DIAMETER UNLESS NOTED.
 - D. FIELD WELDS: AWS E70XX, LOW HYDROGEN ELECTRODES.
 - E. HEADED STUDS: ASTM A108 AND AWS D1.1, CHAPTER 7, TYPE B.
- PAINT AND PROTECTION:
 - A. PREPARE AND PAINT STEEL PER "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION EDITION OF 2012".
 - B. PROVIDE MINIMUM 3" CONCRETE COVER FOR ALL STEEL BELOW GRADE.
- INSTALLATION OF HEADED COMPOSITE STUDS SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.1, SECTIONS 7.4 AND 7.5. HEADED COMPOSITE STUDS SHALL BE TESTED IN ACCORDANCE WITH AWS D1.1, SECTIONS 7.6, 7.7, AND 7.8 BY A QUALIFIED TESTING AGENCY. COPIES OF THE TEST REPORTS SHALL BE SUBMITTED TO THE ENGINEER.

INDEX OF SHEETS

Sheet No	Description
S1	COVER SHEET
S2	FLOODGATE PLAN
S3	FLOODWALL DEMOLITION PLAN
S4	FLOODGATE/FLOODWALL ELEVATIONS
S5	ENLARGED FLOODWALL/FLOODGATE PLAN
S6	FLOODWALL ELEVATION
S7	FLOODWALL SECTIONS
S8	FLOODWALL SECTIONS
S9	REBAR SCHEDULE
S10	FLOODGATE ELEVATION & SECTION
S11	FLOODGATE SECTIONS & DETAILS
S12	FLOODWALL SECTIONS
S13	EMBEDMENT/CLOSURE DETAILS
S14	WATERSTOP DETAILS
S15	FLOODGATE SECTIONS
S16	FLOODGATE SECTIONS

SPECIAL NOTES

SPECIAL PROVISIONS

STANDARD DRAWINGS

SPECIFICATIONS

- 1989 U.S. Army Corps of Engineers, Retaining and Flood Walls
- 2016 ACI, 301-16 Specifications for Structural Concrete.

REVISION

DATE:	06/15/2012	CHECKED BY:
DESIGNED BY:	DJW	
DETAILED BY:	WCM	

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY

CAMPBELL

ROUTE
KY 9

CROSSING

Plans Prepared By
schaefer



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6-8101.25

PREPARED BY
STRUCTURAL ENGINEERS
800 542.3302
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SHEET NO.

S1

DRAWING NO.

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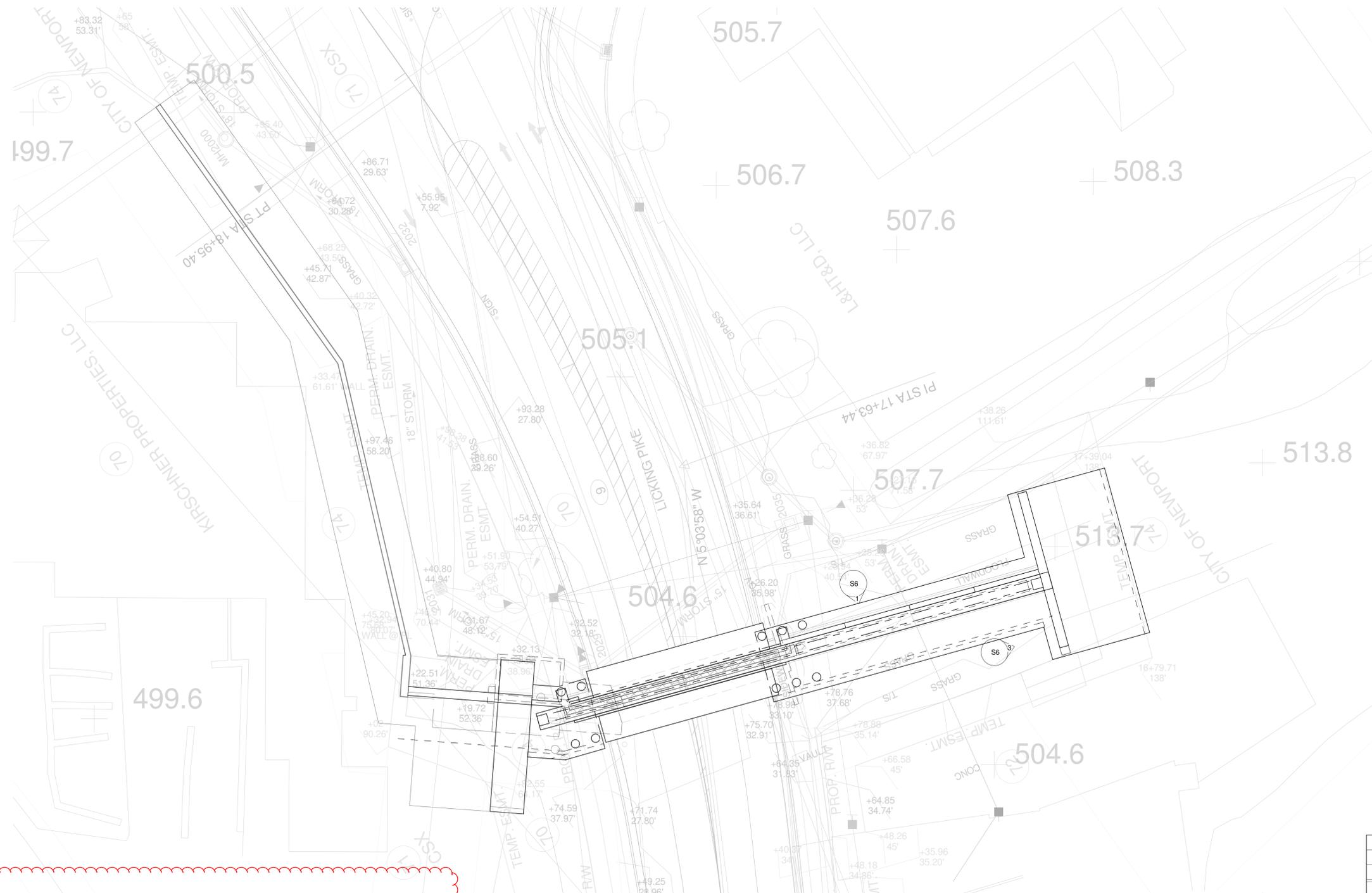
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USER: DATE PLOTTED: 12/20/2017 10:03:04 AM

E-SHEET NAME: Revit V16



- ABBREVIATIONS**
- B/ = BOTTOM OF
 - BLDG = BUILDING
 - BRG = BEARING
 - CFS = COLD-FORMED STEEL
 - CJ = CONTROL JOINT
 - CL = CENTER LINE
 - CLR = CLEAR
 - CMU = CONCRETE MASONRY UNIT
 - COL = COLLIM
 - CONT = CONTINUOUS
 - DIA OR Ø = DIAMETER
 - DEG OR ° = DEGREE
 - EA = EACH
 - EF = EACH FACE
 - EL = ELEVATION
 - EMB = EMBEDMENT
 - EQ = EQUAL
 - EXIST = EXISTING
 - EXP = EXPANSION
 - FDN = FOUNDATION
 - FS = FAR SIDE
 - FTG = FOOTING
 - GA = GAGE
 - GALV = GALVANIZED
 - GT = GIRDER TRUSS
 - HORIZ = HORIZONTAL
 - JST BRG = JOIST BEARING
 - LDH = LONG DIMENSION HORIZONTAL
 - LDV = LONG DIMENSION VERTICAL
 - LLH = LONG LEG HORIZONTAL
 - LLV = LONG LEG VERTICAL
 - LSL = LAMINATED STRAND LUMBER
 - LVL = LAMINATED VENEER LUMBER
 - MCJ = MASONRY CONTROL JOINT
 - MFR = MANUFACTURER
 - NS = NEAR SIDE
 - OO = ON CENTER
 - OPNG = OPENING
 - PE = PRE-ENGINEERED
 - PL = PLATE
 - PSL = PARALLEL STRAND LUMBER
 - PT = PRESSURE TREATED
 - P/T = POST TENSION
 - RD = ROOF DRAIN
 - REINF = REINFORCING
 - RTU = ROOF TOP UNIT
 - SM = SIMILAR
 - SL = STEP LEDGE
 - SPA = SPACE OR SPACES
 - SRD = SECONDARY ROOF DRAIN
 - STIFF = STIFFENER
 - STL = STEEL
 - STW = STEP TOP OF WALL
 - T/ = TOP OF
 - UNO = UNLESS NOTED OTHERWISE
 - VB = VERTICAL BRACING
 - VERT = VERTICAL
 - VIF = VERIFY IN FIELD
 - w = WITH
 - WP = WORK POINT

- LEGEND**
- = KEYNOTE
 - = STEP T/F/T/G
SEE TYP DETAIL ON SHEET
 - = ELEVATION INDICATION

ESTIMATED QUANTITIES							
BID CODE	TOTAL	UNIT	DESCRIPTION	SUPERSTRUCTURE	FOUNDATIONS	PIERS	GENERAL
02731	LUMP	SUM	REMOVE EXISTING WALL, FOOTINGS AND STORAGE VAULT AS PER PLAN				LUMP
08001	2700	CU YD.	STRUCTURE EXCAVATION-COMMON				2700
08100	532	CU YD.	CLASS A CONCRETE, FOUNDATIONS INCLUDING SILL BEAM	188		532	
08100	188	CU YD.	CLASS A CONCRETE, FLOOD AND RETAINING WALLS				
08150	68,015	LBS	STEEL REINFORCEMENT	21,190		46,825	
08151	5,880	LBS	STEEL REINFORCEMENT - EPOXY COATED			5,880	
23767EC	216	LN. FT.	90" SHAFT - 30 IN - COMMON				216
R160	LUMP	SUM	STRUCTURAL STEEL (A36* - APPROX 7,114 LBS)				
R160	LUMP	SUM	STRUCTURAL STEEL (ASTM A304* - APPROX 3,853 LBS)				
R160	LUMP	SUM	STRUCTURAL STEEL (HR RAIL 115 LBS/YD STEEL RAILS @ 100 YD - APPROX 11,500 LBS)				
296	EACH		1/2" DIA. X 2" WELDED STUD CONNECTORS			296	
588	EACH		1/2" DIA. X 6" WELDED STUD CONNECTORS			588	
80	EACH		1/2" DIA. X 6" STAINLESS STEEL WELDED STUD CONNECTORS			80	
138	EACH		1/4" DIA. X 6" STAINLESS STEEL WELDED STUD CONNECTORS			138	
2499ED	1	EACH	FLOOD GATE				
			STRUCTURAL STEEL (ASTM A992 - APPROX 49,361 LBS)				
			STRUCTURAL STEEL (ASTM A36 - APPROX 9,675 LBS)				
			STRUCTURAL STEEL (ASTM A304 - APPROX 1,441 LBS)				
			HYDRAULIC WINCH (1 EACH)				
22632	50	LN. FT.	KY. DEPT. OF HIGHWAYS TYPE A-2 HANDRAIL STD. DWG R0X-030-07				
2490ED	1	EACH	EMERGENCY CLOSURE PLAN				
08434	LUMP	SUM	SHOP PAINTING OF STEEL (APPROX. 3,985 SQ. FT.)				

* STUDS INCIDENTAL TO QUANTITY

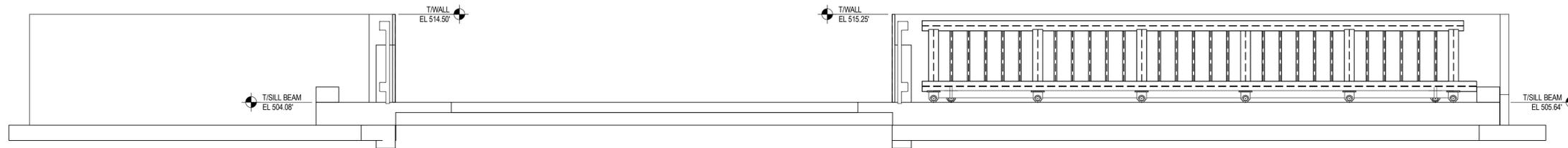
FLOODGATE PLAN
1/16" = 1'-0"



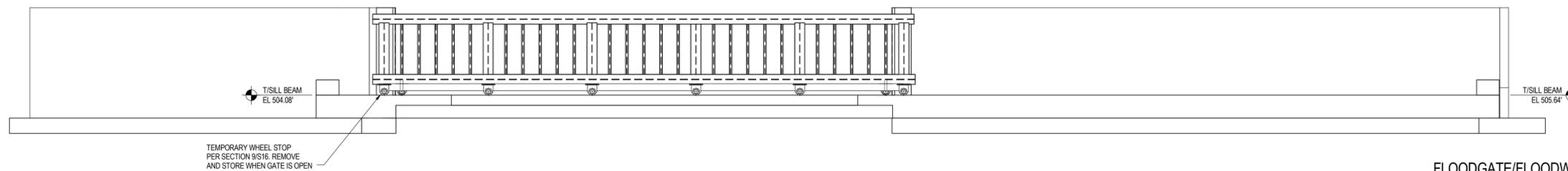
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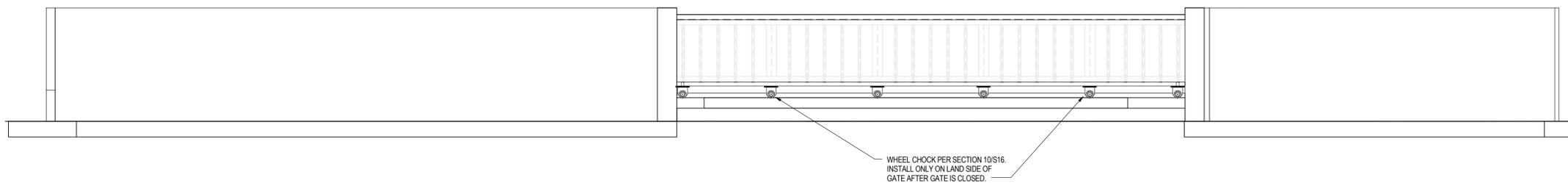
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DESIGNED BY:	DJW	
DETAILED BY:	WCM	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CAMPBELL		
ROUTE KY 9	CROSSING	
PREPARED BY STRUCTURAL ENGINEERS 800 942 3302 schaefer-inc.com	SHEET NO. S2 DRAWING NO.	



FLOODGATE/FLOODWALL RIVERSIDE
ELEVATION
(OPEN) 1
1/8" = 1'-0" S4



FLOODGATE/FLOODWALL RIVERSIDE
ELEVATION
(CLOSED) 2
1/8" = 1'-0" S4



FLOODGATE/FLOODWALL
LANDSIDE
ELEVATION
(CLOSED) 3
1/8" = 1'-0" S4



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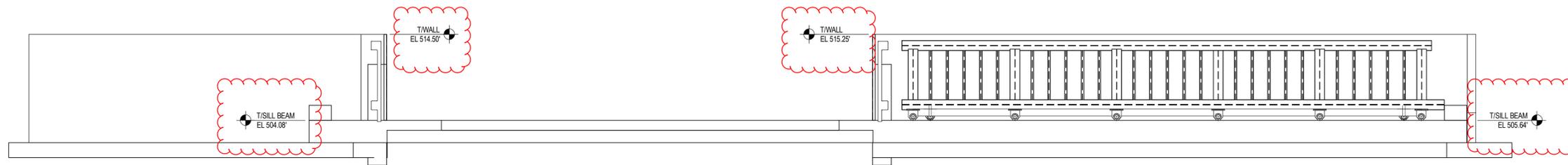
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Revit v16

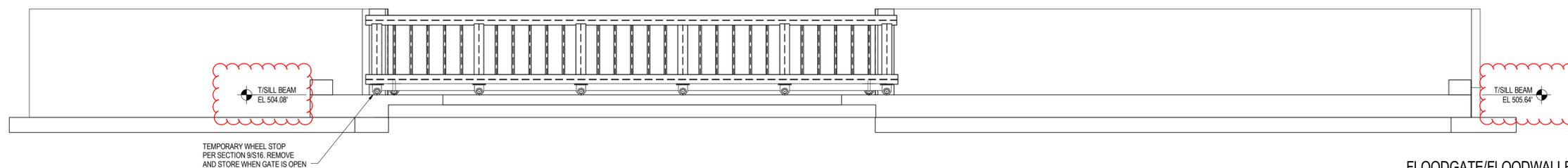
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COUNTY CAMPBELL	
ROUTE KY 9	CROSSING
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ITEM NUMBER
6-8101.25

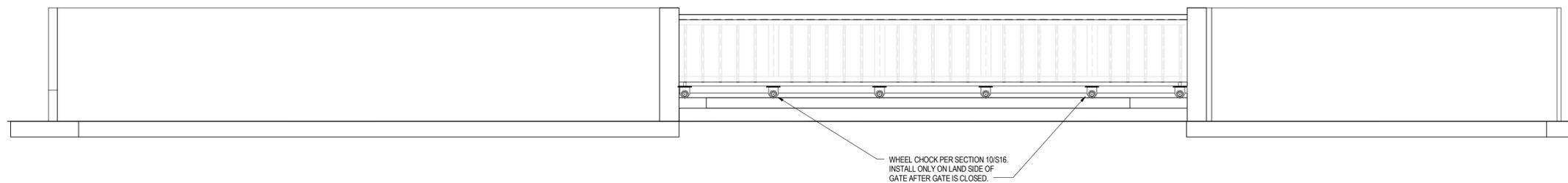




FLOODGATE/FLOODWALL RIVERSIDE
ELEVATION
(OPEN) 1
1/8" = 1'-0" S4



FLOODGATE/FLOODWALL RIVERSIDE
ELEVATION
(CLOSED) 2
1/8" = 1'-0" S4



FLOODGATE/FLOODWALL
LANDSIDE
ELEVATION
(CLOSED) 3
1/8" = 1'-0" S4



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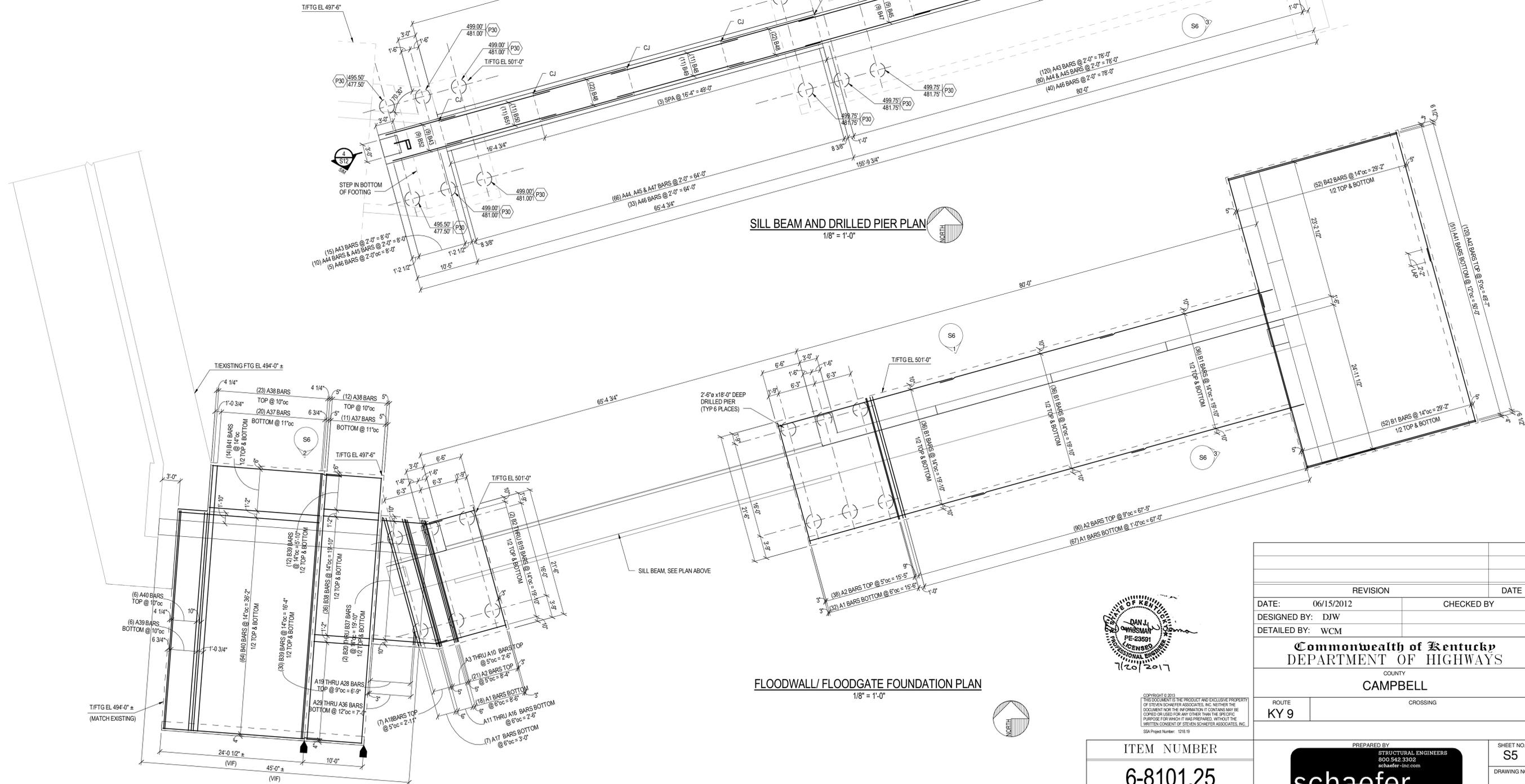
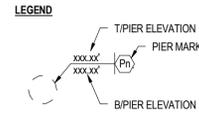
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COUNTY CAMPBELL		
ROUTE KY 9	CROSSING	
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ITEM NUMBER
6-8101.25

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DRILLED PIER SCHEDULE				
MARK	PIER DIAMETER	REIN VERT BARS	REIN TIES	REMARKS
P30	30"	(8) #9	#3 @ 18"oc	



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SSA Project Number: 12118-19

ITEM NUMBER
6-8101.25

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Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS COUNTY CAMPBELL		CROSSING
ROUTE KY 9		
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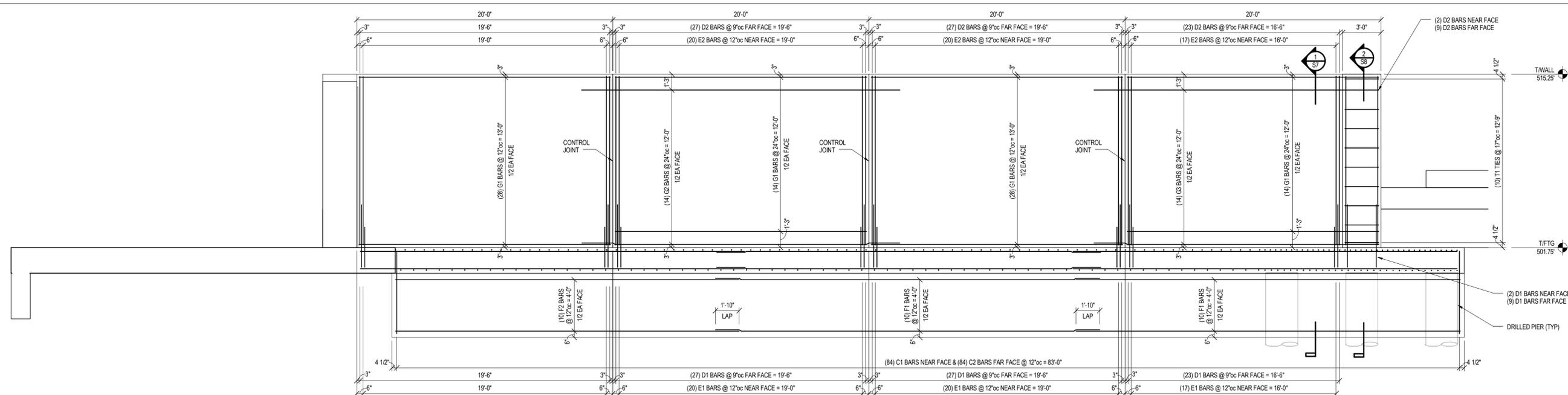


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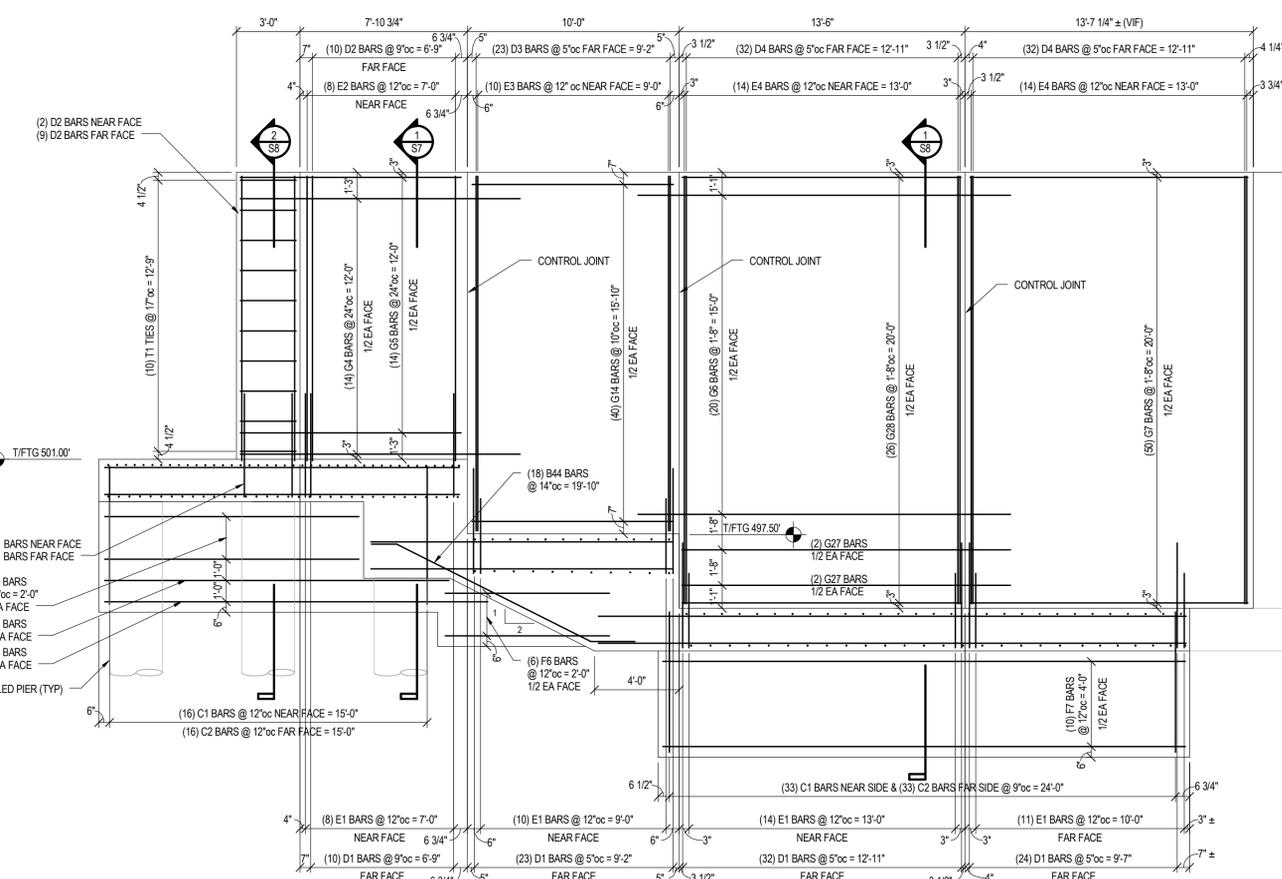
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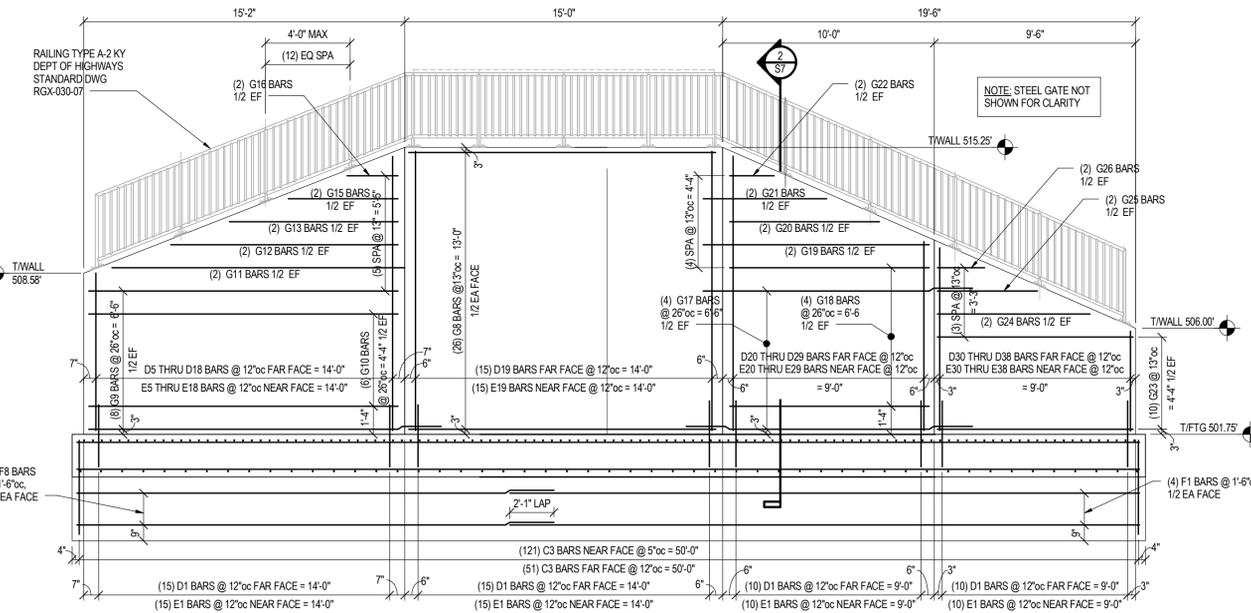
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ELEVATION 1
1/4" = 1'-0" S6



DEVELOPED ELEVATION 2
1/4" = 1'-0" S6



END WALL 3
1/4" = 1'-0" S6



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DETAILED BY: WCM		

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
CAMPBELL

ROUTE KY 9	CROSSING
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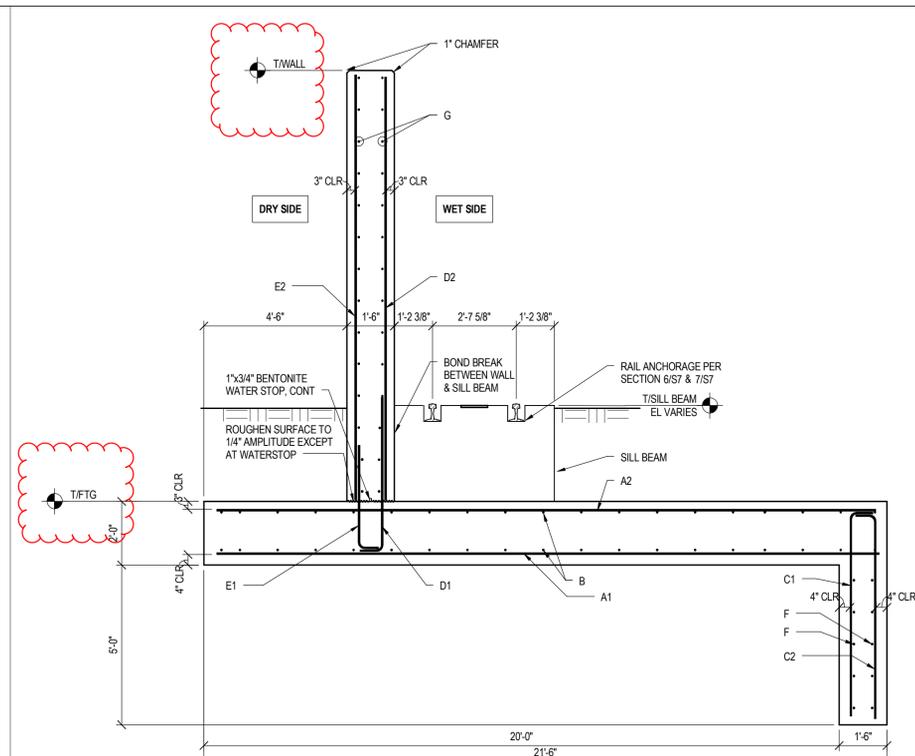
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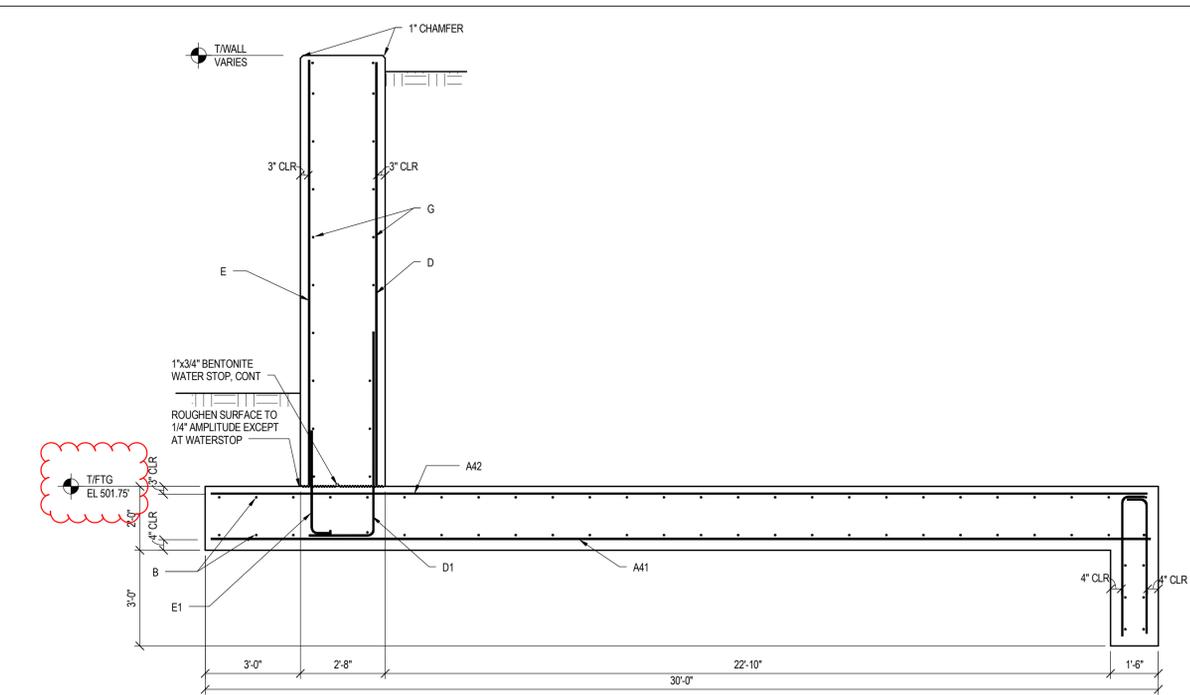
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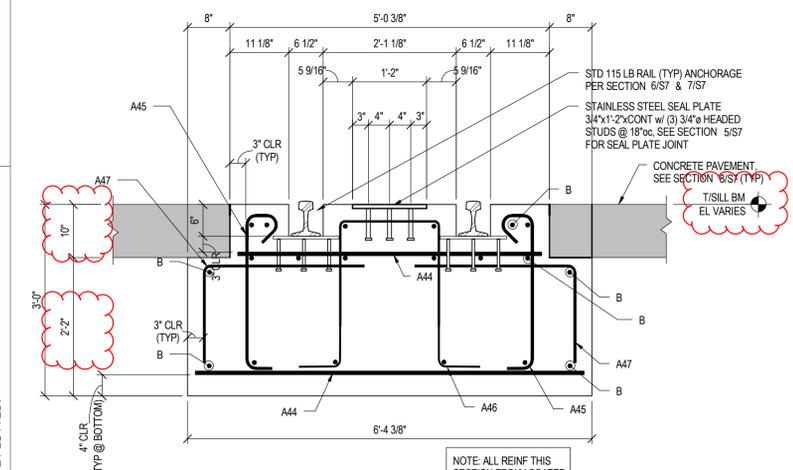
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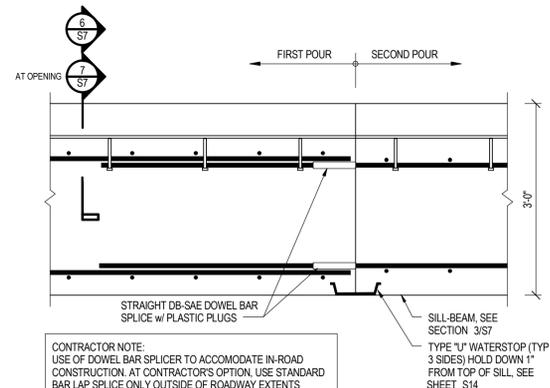
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3/8" = 1'-0"



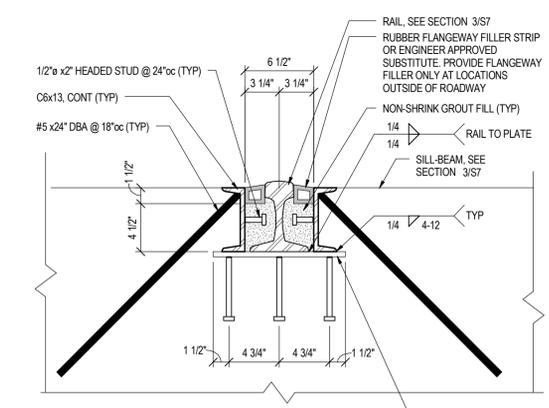
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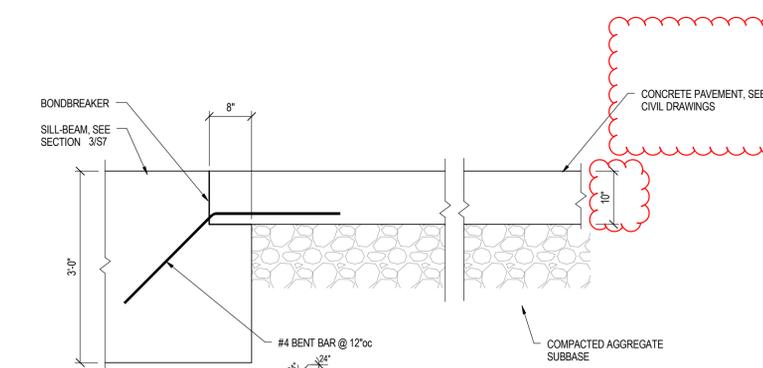
SECTION 3
SECTION AT SILL BEAM
3/4" = 1'-0"



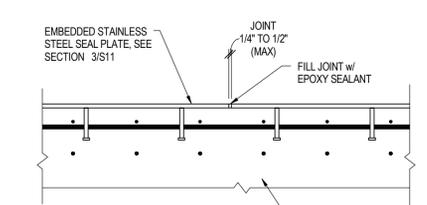
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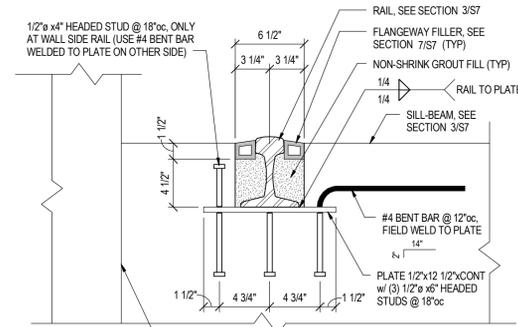
SECTION 7
1 1/2" = 1'-0"



SECTION 8
3/4" = 1'-0"



SECTION 5
3/4" = 1'-0"



SECTION 6
1 1/2" = 1'-0"



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DEPARTMENT OF HIGHWAYS
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KY 9 CROSSING

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800 542.3302
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SHEET NO.
S7
DRAWING NO.

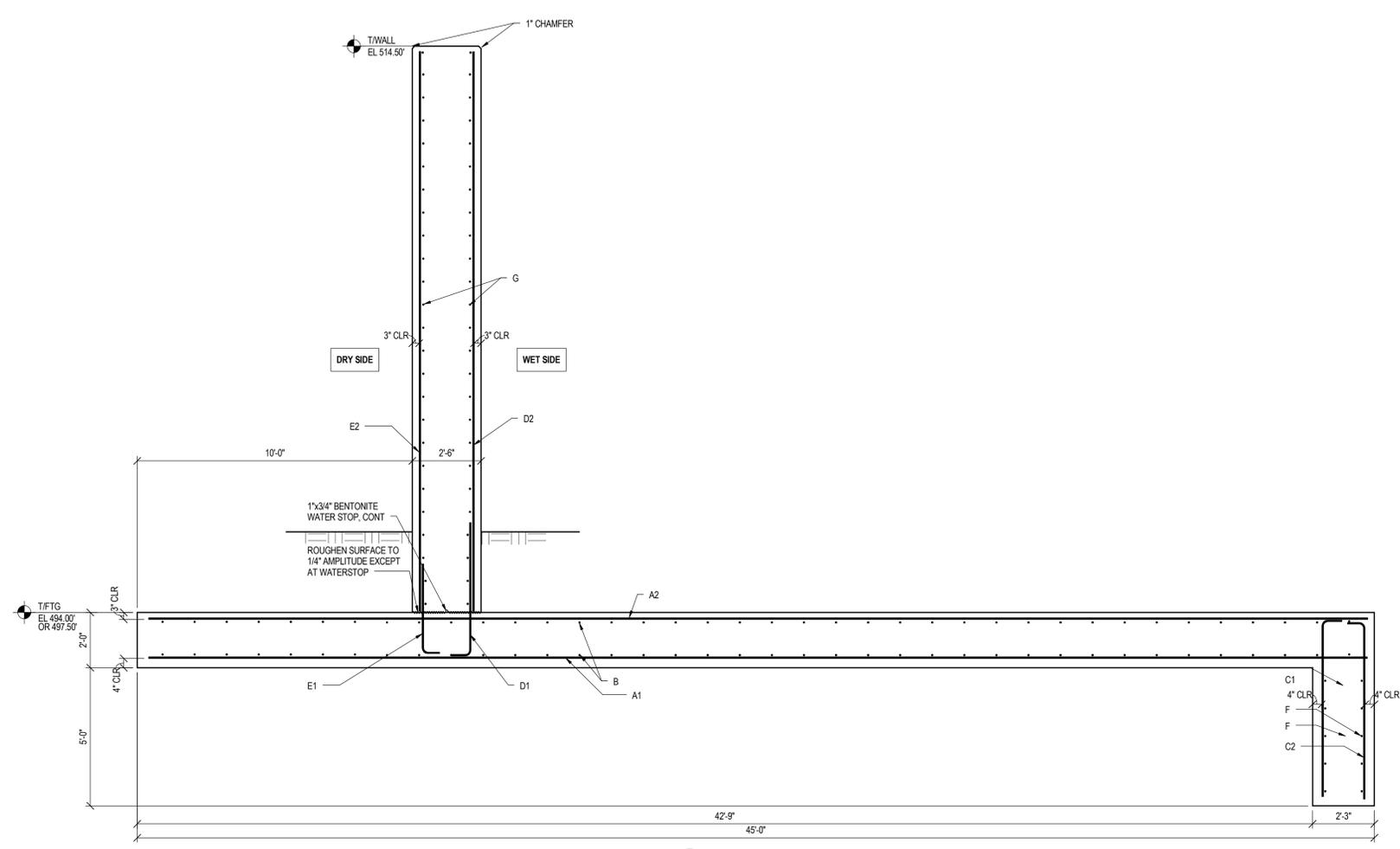


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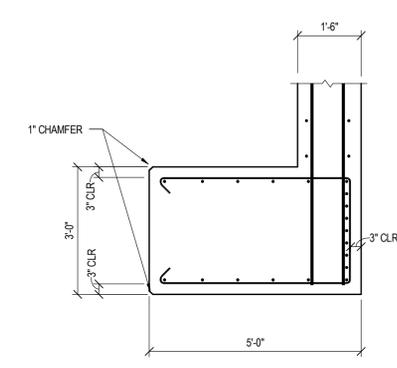
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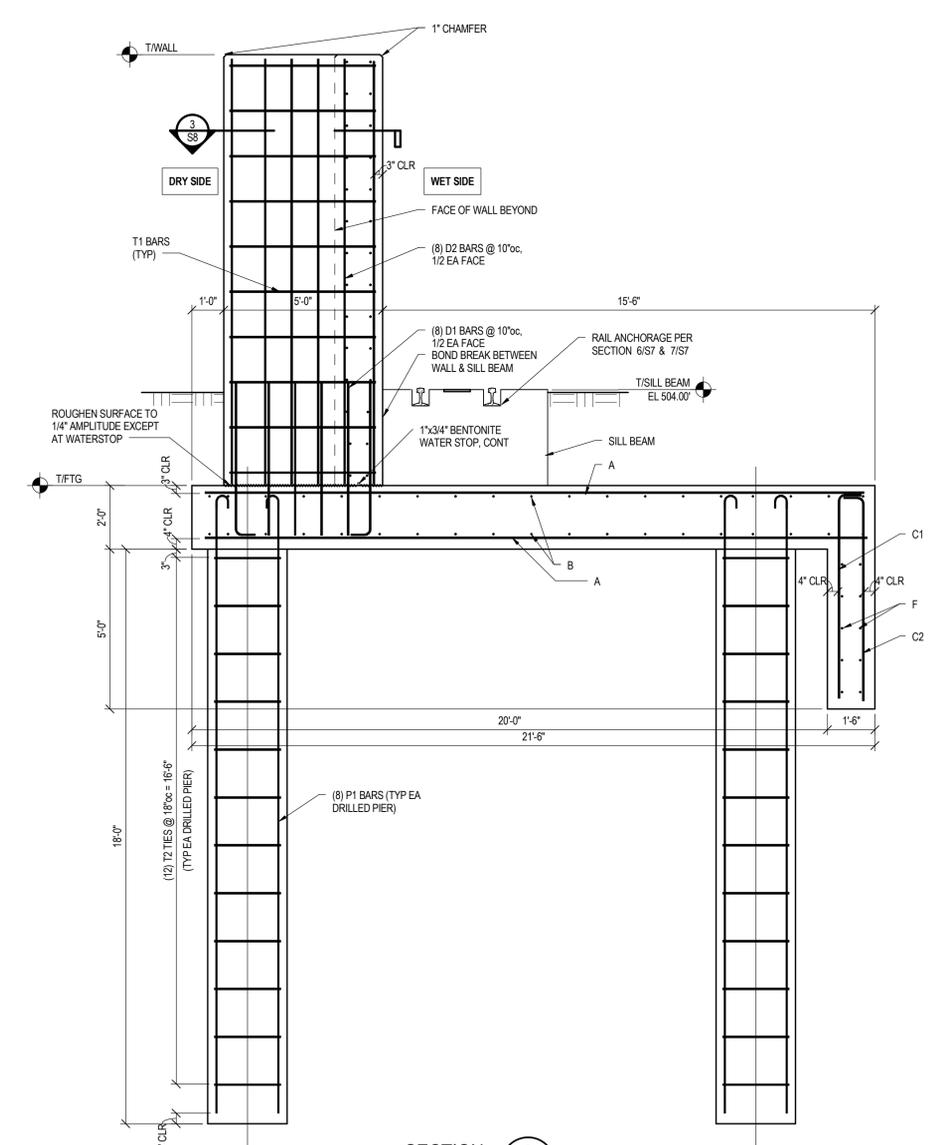
Revit v16



SECTION 1
3/8" = 1'-0"



SECTION 3
1/2" = 1'-0"



SECTION 2
3/8" = 1'-0"



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SSA Project Number: 1218 19

ITEM NUMBER
6-8101.25

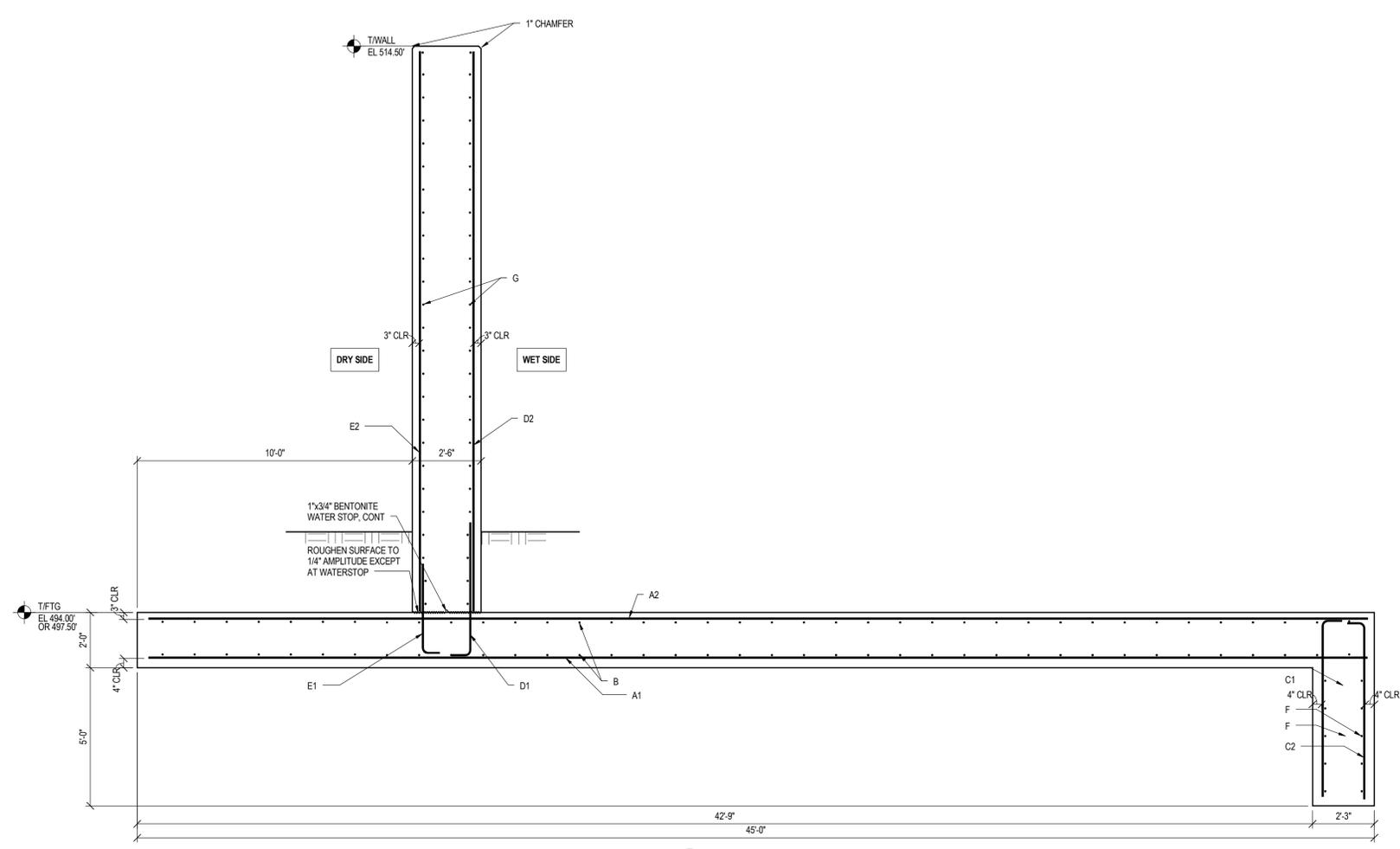
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DATE: 06/15/2012	CHECKED BY:
DESIGNED BY: Designer	
DETAILED BY: Author	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS	
COUNTY CAMPBELL	
ROUTE KY 9	CROSSING
PREPARED BY STRUCTURAL ENGINEERS 800 542.3302 schaefer-inc.com	SHEET NO. S8
schaefer	
DRAWING NO.	

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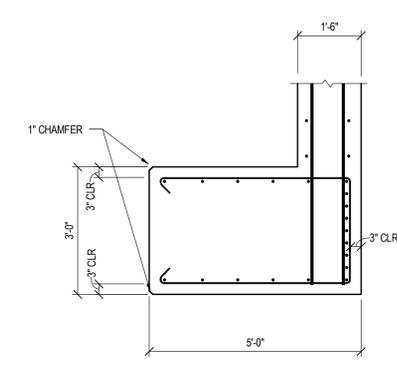
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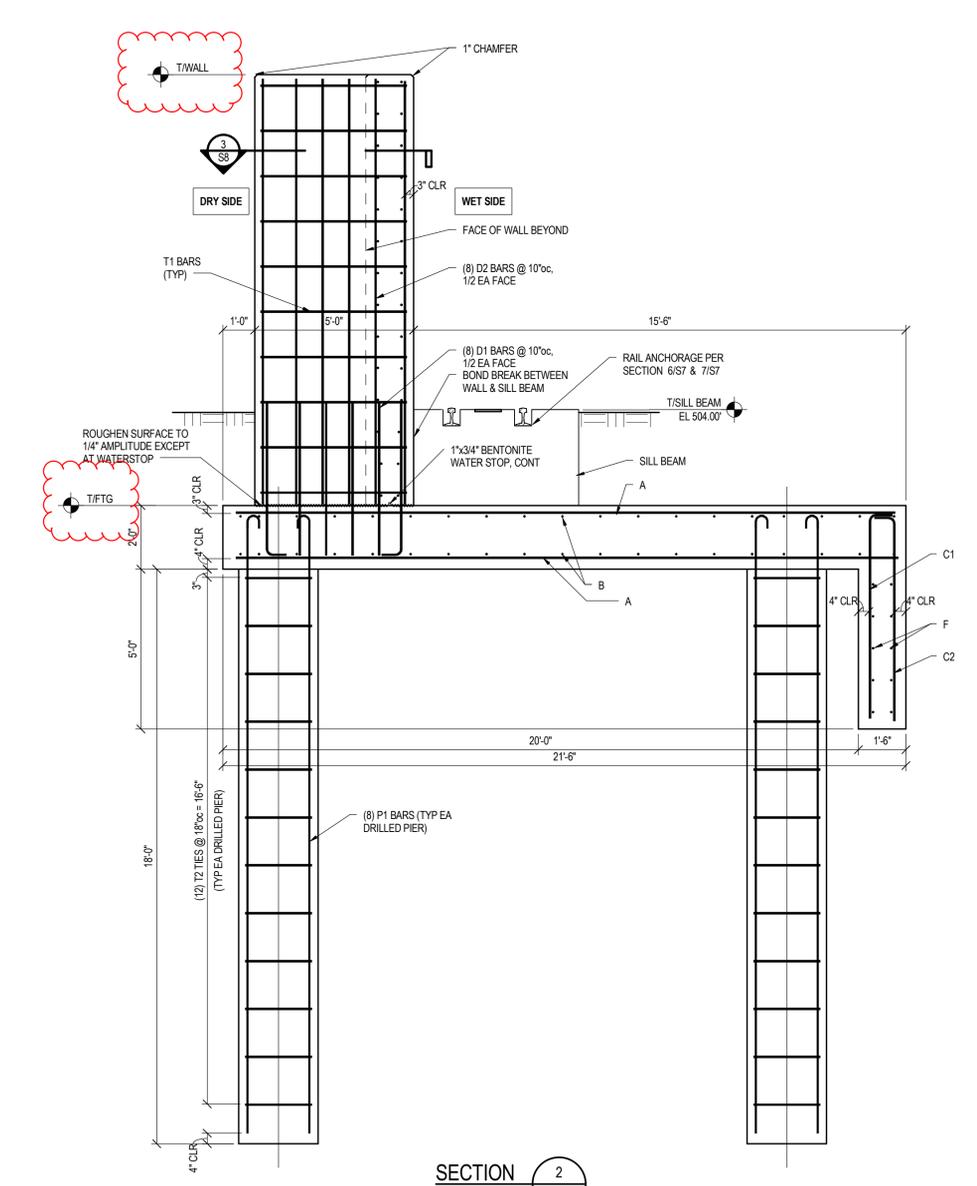
Revit v16



SECTION 1
3/8" = 1'-0"



SECTION 3
1/2" = 1'-0"



SECTION 2
3/8" = 1'-0"



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SSA Project Number: 1218.19

ITEM NUMBER
6-8101.25

REVISION	DATE
DATE: 06/15/2012	CHECKED BY:
DESIGNED BY: Designer	
DETAILED BY: Author	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS	
COUNTY CAMPBELL	
ROUTE KY 9	CROSSING
PREPARED BY STRUCTURAL ENGINEERS 800 542.3302 schaefer-inc.com	
SHEET NO. S8	DRAWING NO.

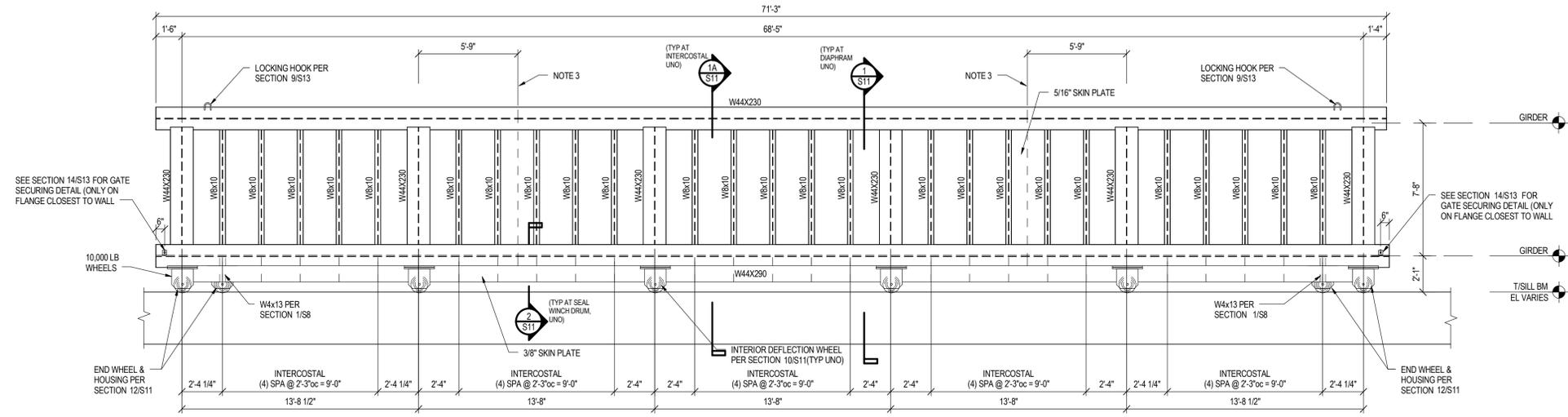


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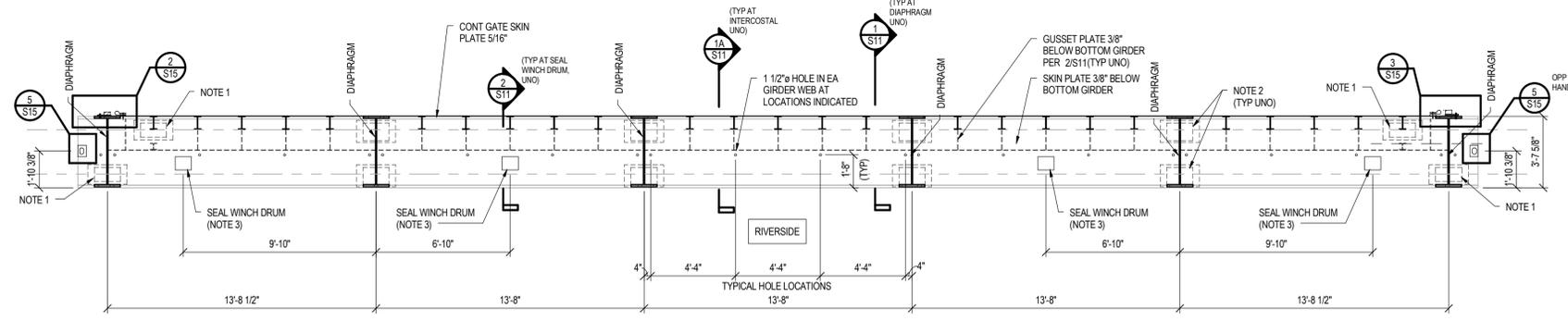
E-SHEET NAME:

Revit v16



NOTES:
 1. SEAL ASSEMBLY NOT SHOWN FOR CLARITY. SEE SECTION 2/S11.
 2. ALL WELDS SHALL BE 3/16" FILLET WELDS UNO. ALL WELDED JOINTS MUST BE 100% CONTINUOUS. SEE SECTIONS & DETAILS FOR LARGER WELDS REQUIRED.
 3. LOCATION OF FIELD SPLICE OF GATE (IF REQUIRED), WELD GATE SECTIONS TOGETHER WITH FULL PENETRATION GROOVE WELDS. ALL GROOVE WELDS SHALL BE 100% INSPECTED & TESTED PER WELDING SPECIFICATIONS. CONTRACTOR SHALL SUBMIT DETAILED PROCEDURE FOR FIELD SPLICE FABRICATION TO ENGINEER FOR REVIEW PRIOR TO FABRICATION.

RIVERSIDE
 FLOODGATE
 ELEVATION 1
 1/4" = 1'-0" S10



NOTES:
 1. OUTLINE OF END WHEEL HOUSING BELOW, SEE SHEET S11 FOR ADDITIONAL INFORMATION.
 2. OUTLINE OF INTERIOR WHEEL HOUSING BELOW, SEE SHEET S11 FOR ADDITIONAL INFORMATION.
 3. SEE 2/S11 FOR SEAL WINCH INFORMATION. LOCATE SEAL WINCH AS INDICATED BY PLAN DIMENSIONS.

BOTTOM
 GIRDER
 SECTION 2
 1/4" = 1'-0" S10



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 SSA Project Number: 1218.19

ITEM NUMBER
 6-8101.25

REVISION		DATE
DATE:	06/15/2012	CHECKED BY
DESIGNED BY:	DJW	
DETAILED BY:	WCM	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CAMPBELL		
ROUTE KY 9	CROSSING	
PREPARED BY STRUCTURAL ENGINEERS 800 542.3302 schaefer-inc.com	SHEET NO. S10	DRAWING NO.

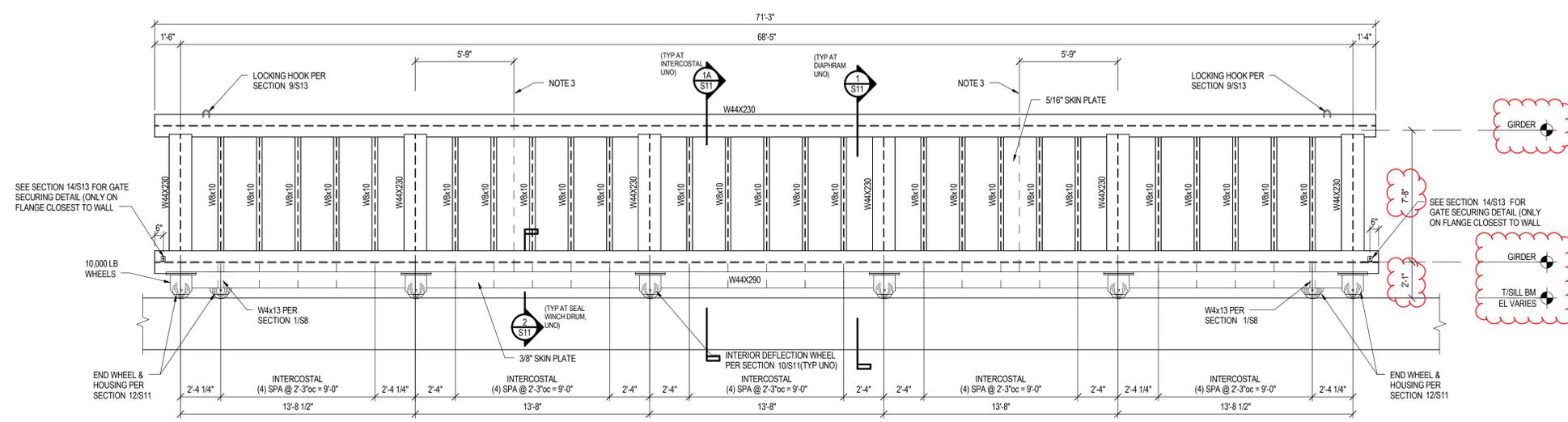


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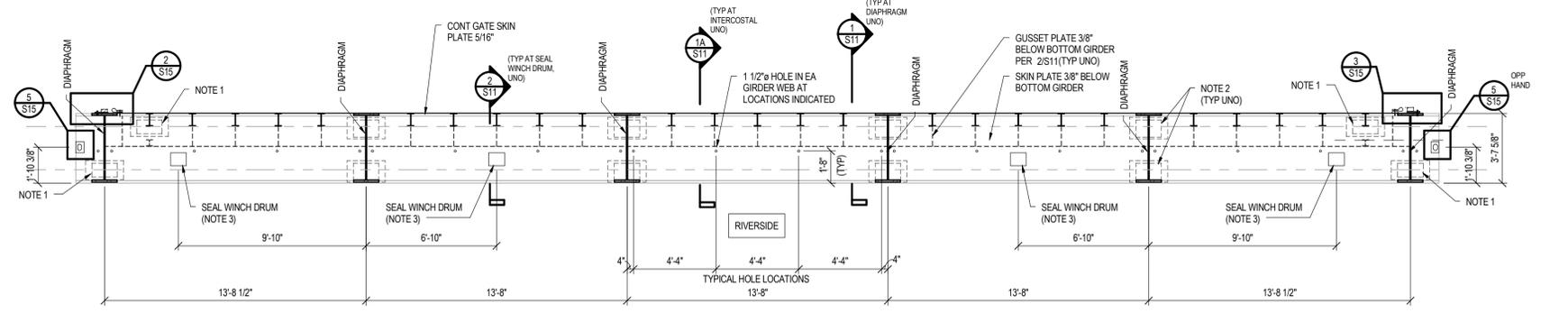
E-SHEET NAME:

Revit v16



- NOTES:
1. SEAL ASSEMBLY NOT SHOWN FOR CLARITY. SEE SECTION 2/S11.
 2. ALL WELDS SHALL BE 3/16" FILLET WELDS UNO. ALL WELDED JOINTS MUST BE 100% CONTINUOUS. SEE SECTIONS & DETAILS FOR LARGER WELDS REQUIRED.
 3. LOCATION OF FIELD SPLICE OF GATE (IF REQUIRED), WELD GATE SECTIONS TOGETHER WITH FULL PENETRATION GROOVE WELDS. ALL GROOVE WELDS SHALL BE 100% INSPECTED & TESTED PER WELDING SPECIFICATIONS. CONTRACTOR SHALL SUBMIT DETAILED PROCEDURE FOR FIELD SPLICE FABRICATION TO ENGINEER FOR REVIEW PRIOR TO FABRICATION.

RIVERSIDE
FLOODGATE
ELEVATION 1
1/4" = 1'-0" S10



- NOTES:
1. OUTLINE OF END WHEEL HOUSING BELOW, SEE SHEET S11 FOR ADDITIONAL INFORMATION.
 2. OUTLINE OF INTERIOR WHEEL HOUSING BELOW, SEE SHEET S11 FOR ADDITIONAL INFORMATION.
 3. SEE 2/S11 FOR SEAL WINCH INFORMATION. LOCATE SEAL WINCH AS INDICATED BY PLAN DIMENSIONS.

BOTTOM
GIRDER
SECTION 2
1/4" = 1'-0" S10



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SSA Project Number: 121819

ITEM NUMBER
6-8101.25

REVISION		DATE
DATE:	06/15/2012	CHECKED BY:
DESIGNED BY:	DJW	
DETAILED BY:	WCM	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CAMPBELL		
ROUTE KY 9	CROSSING	
PREPARED BY STRUCTURAL ENGINEERS 800 542.3302 schaefer-inc.com	SHEET NO. S10 DRAWING NO.	

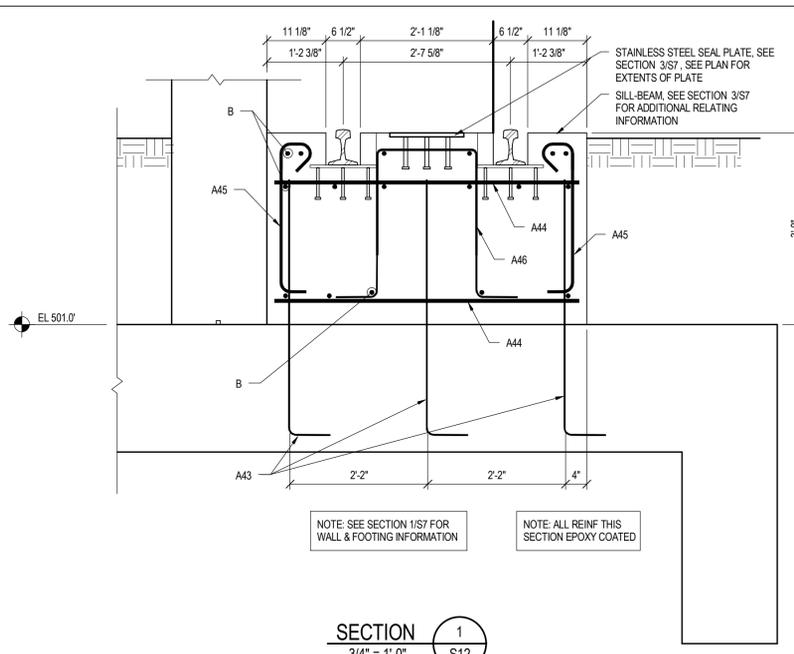


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E-SHEET NAME:

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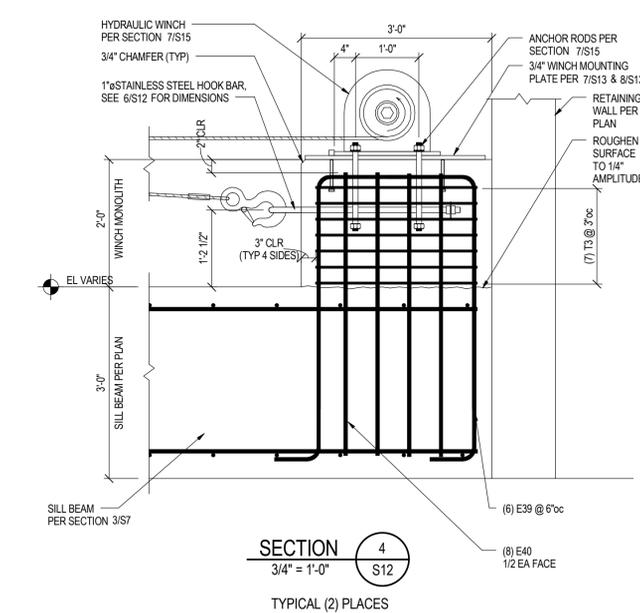
SECTION 1
3/4" = 1'-0" S12

NOT USED

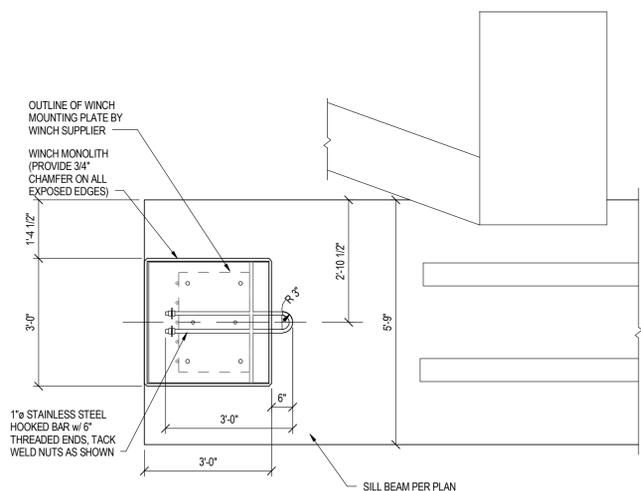
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1/2" = 1'-0" S12

NOT USED

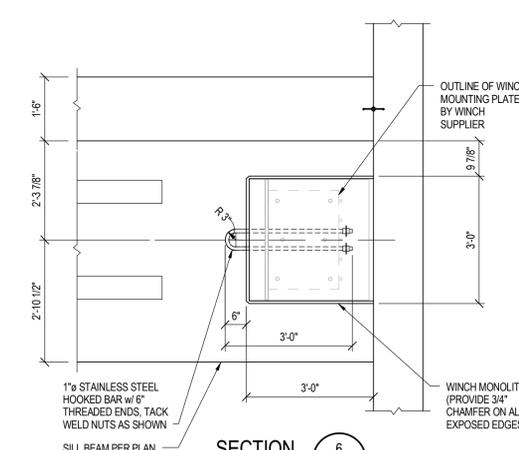
SECTION 3
1/2" = 1'-0" S12



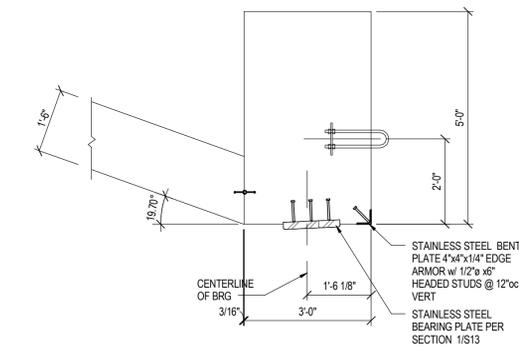
SECTION 4
3/4" = 1'-0" S12
TYPICAL (2) PLACES



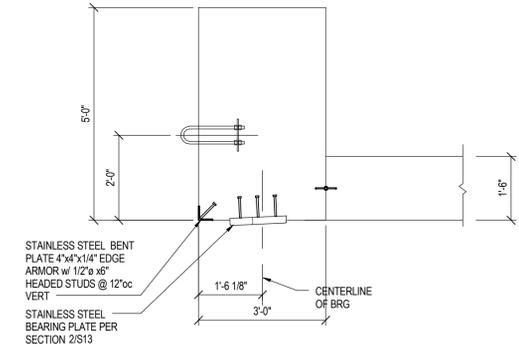
SECTION 5
1/2" = 1'-0" S12



SECTION 6
1/2" = 1'-0" S12



SECTION 7
1/2" = 1'-0" S12



SECTION 8
1/2" = 1'-0" S12



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SSA Project Number: 12118-19

ITEM NUMBER
6-8101.25

REVISION	DATE
DATE: 06/15/2012	CHECKED BY:
DESIGNED BY: DJW	
DETAILED BY: WCM	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS	
COUNTY CAMPBELL	
ROUTE KY 9	CROSSING
PREPARED BY STRUCTURAL ENGINEERS 800 542.3302 schaefer-inc.com	SHEET NO. S12 DRAWING NO.

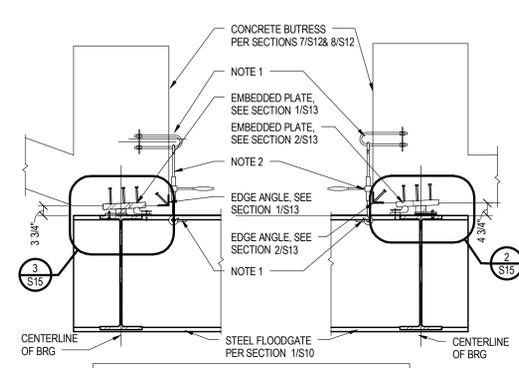


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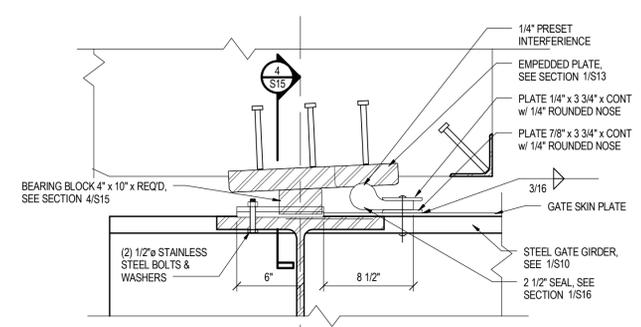
E-SHEET NAME:

Revit v16



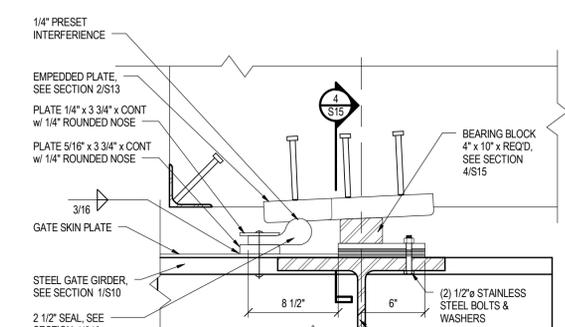
NOTES:
 1. NOTED ITEMS ARE FOR SECURING OF GATE IN CLOSED POSITION. SEE SECTION 9/S15 & OPERATION & MAINTENANCE MANUAL FOR ADDITIONAL INFORMATION.
 2. SEE 10/S13 FOR LOCKING MECHANISM.

SECTION 1
 3/8" = 1'-0"



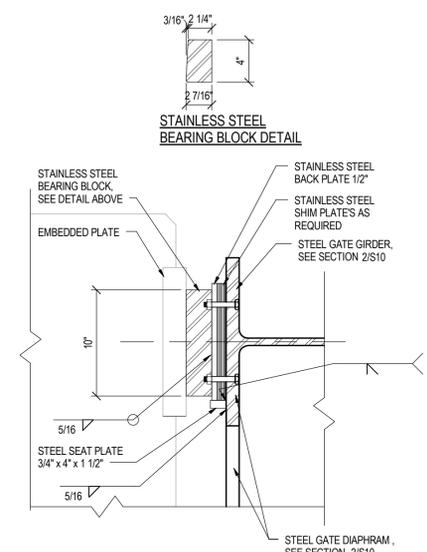
NOTE: PROVIDE BEARING BLOCK CENTERED ON BOTH GIRDER FLANGES

SECTION 2
 1 1/2" = 1'-0"

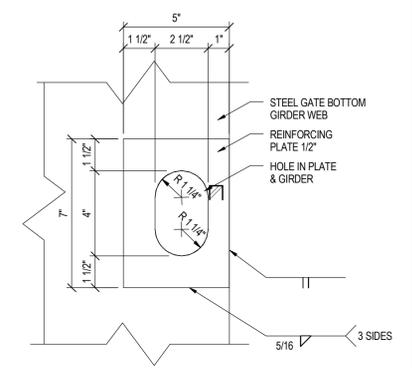


NOTE: PROVIDE BEARING BLOCK CENTERED ON BOTH GIRDER FLANGES

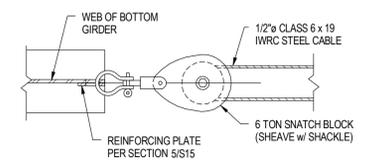
SECTION 3
 1 1/2" = 1'-0"



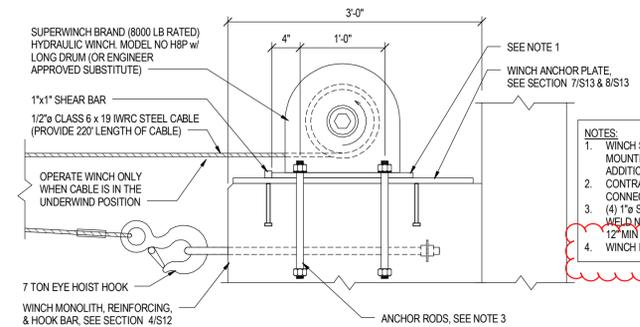
SECTION 4
 1 1/2" = 1'-0"



SECTION 5
 3" = 1'-0"

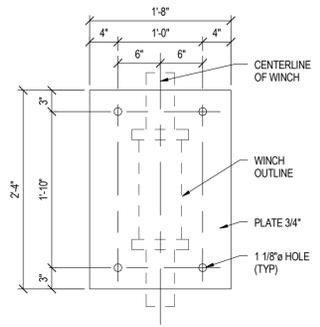


SECTION 6
 3/4" = 1'-0"

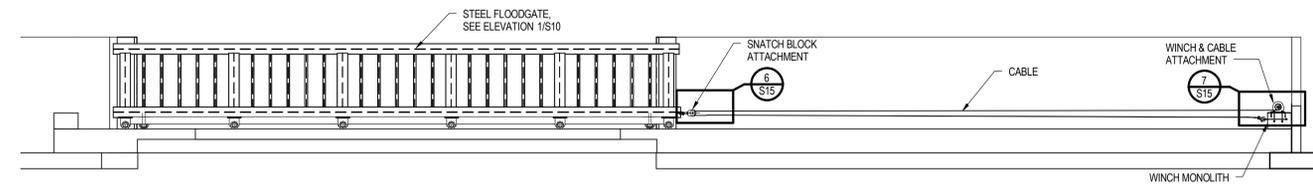


NOTES:
 1. WINCH SUPPLIER TO WELD WINCH TO 3/4" THICK MOUNTING PLATE. SEE SECTION 8/S15 FOR ADDITIONAL INFORMATION.
 2. CONTRACTOR TO PROVIDE (2) 20' LONG QUICK CONNECT HYDRAULIC HOSE LINES.
 3. (4) 1" STAINLESS STEEL ANCHOR RODS. TACK WELD NUT ON EMBEDDED END TO ROD. PROVIDE 12" MIN EMBEDMENT & 4" THREADED PROJECTION.
 4. WINCH IS INCIDENTAL TO FLOODGATE.

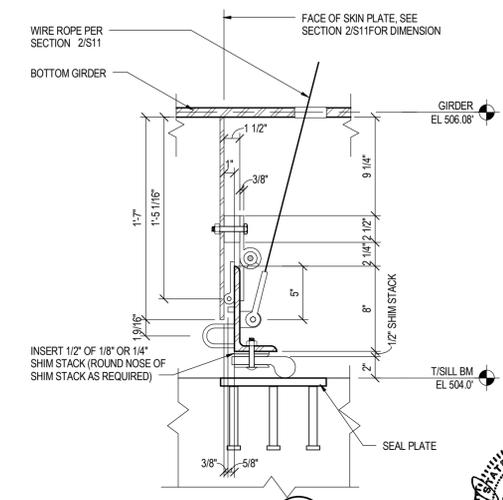
SECTION 7
 1" = 1'-0"



SECTION 8
 1" = 1'-0"



FLOODGATE OPERATION DIAGRAM
 3/32" = 1'-0"



SECTION 10
 1 1/2" = 1'-0"



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 SSA Project Number: 121819

ITEM NUMBER
6-8101.25

REVISION	DATE
DATE: 06/15/2012	CHECKED BY:
DESIGNED BY: DJW	
DETAILED BY: WCM	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS	
COUNTY CAMPBELL	
ROUTE KY 9	CROSSING
PREPARED BY STRUCTURAL ENGINEERS 800 542.3302 schaefer-inc.com	SHEET NO. S15 DRAWING NO.

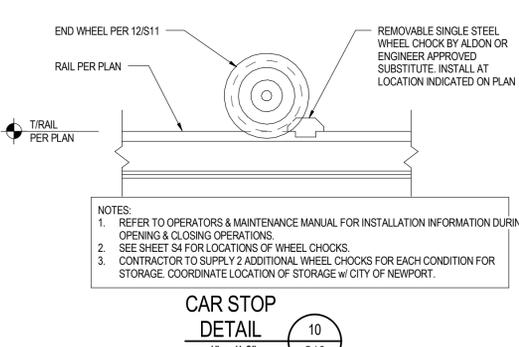
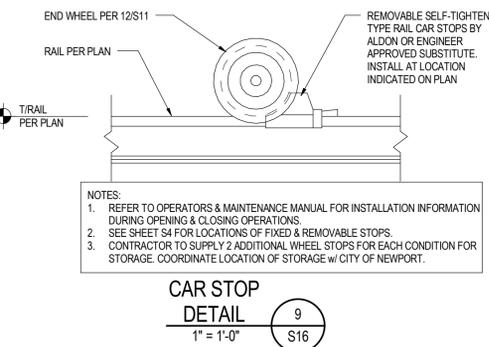
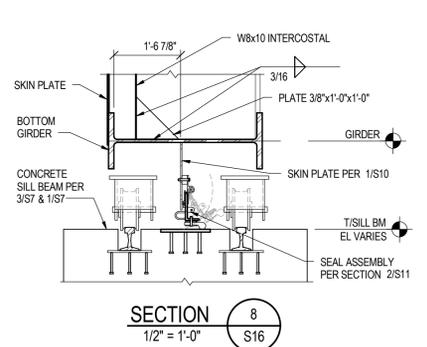
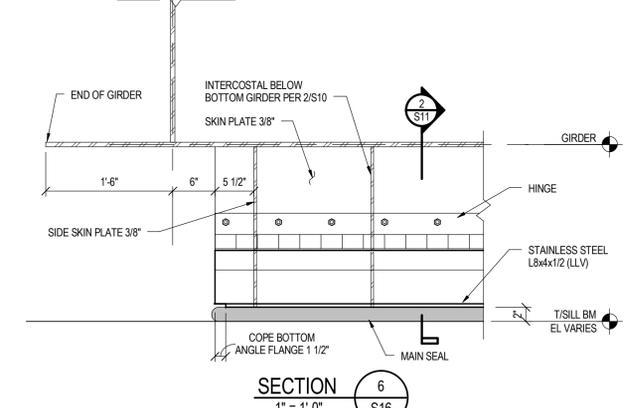
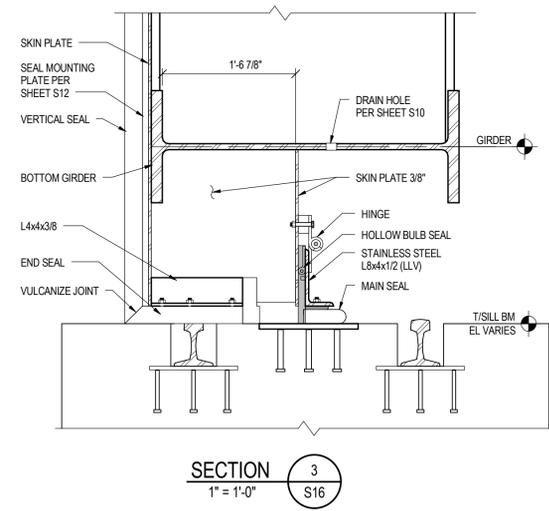
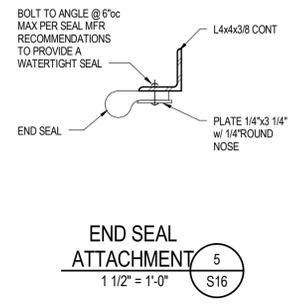
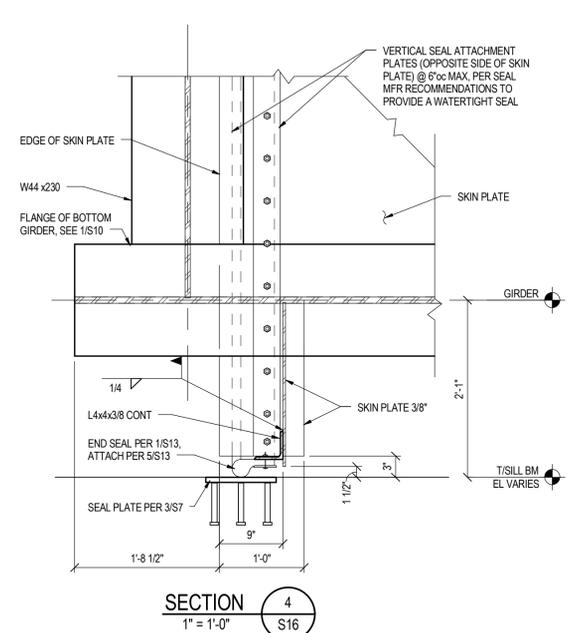
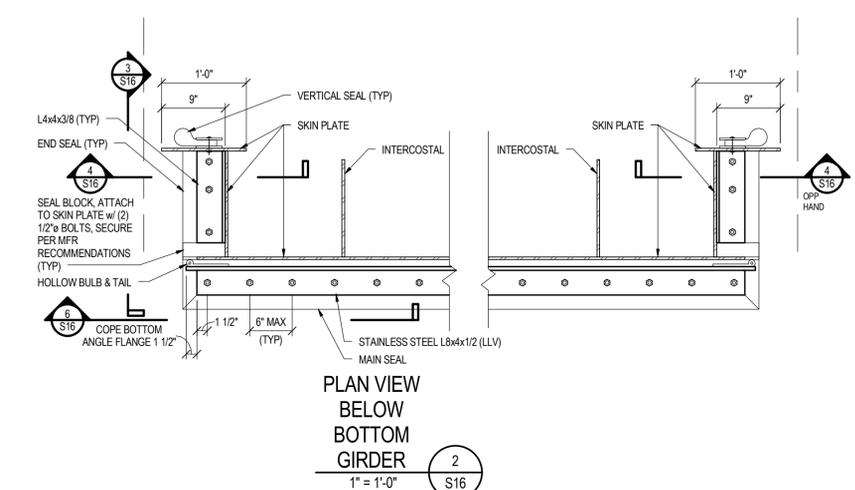
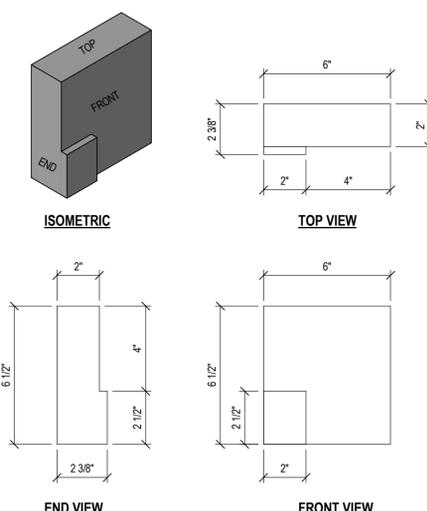
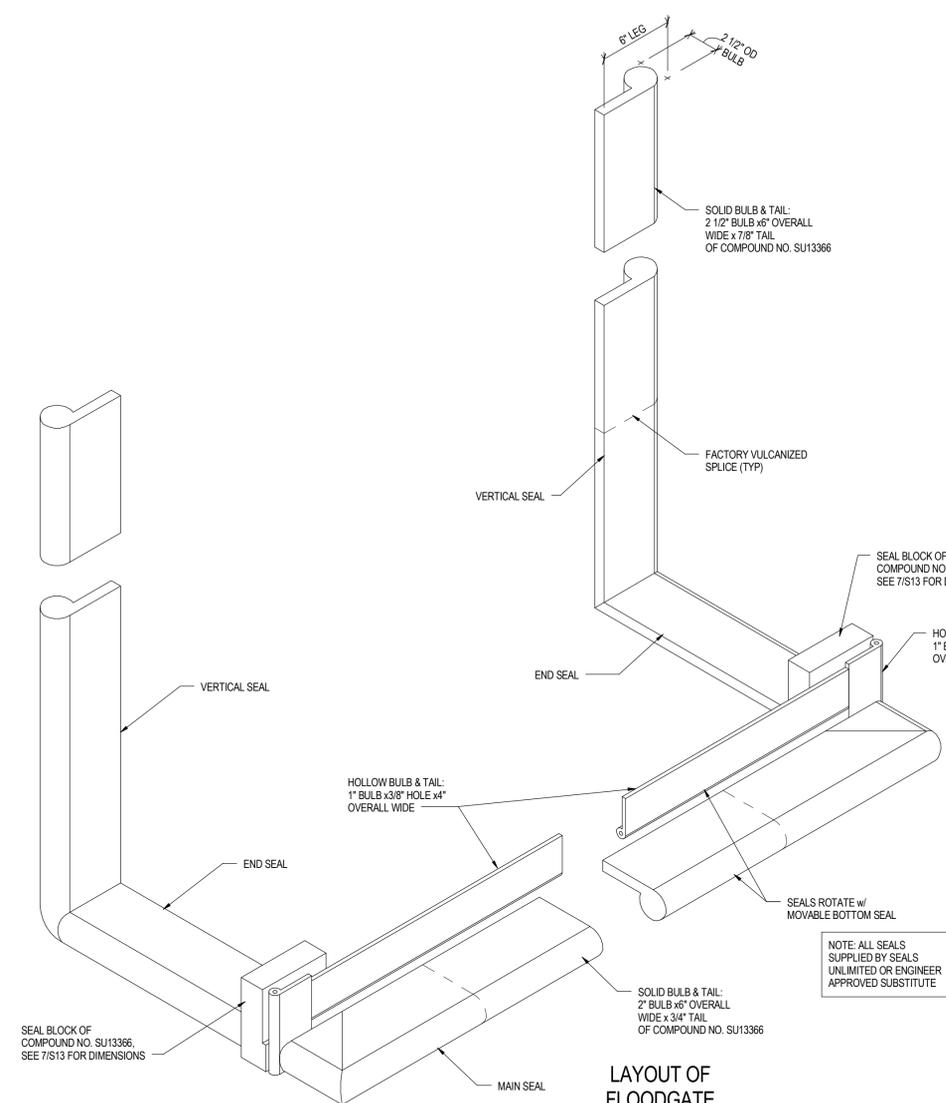


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SSA Project Number: 1218 19

ITEM NUMBER
6-8101.25

REVISION		DATE
DATE:	06/15/2012	CHECKED BY
DESIGNED BY:	DJW	
DETAILED BY:	WCM	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CAMPBELL		
ROUTE KY 9	CROSSING	
PREPARED BY STRUCTURAL ENGINEERS 800 542 3302 schaefer-inc.com	SHEET NO. S16	DRAWING NO.
schaefer		

PROPOSAL BID ITEMS

171232

Page 1 of 4

Report Date 7/24/17

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	7,908.00	TON		\$	
0020	00212		CL2 ASPH BASE 1.00D PG64-22	166.00	TON		\$	
0030	00301		CL2 ASPH SURF 0.38D PG64-22	31.00	TON		\$	
0040	02069		JPC PAVEMENT-10 IN	11,559.00	SQYD		\$	
0050	02084		JPC PAVEMENT-8 IN	136.00	SQYD		\$	
0060	02101		CEM CONC ENT PAVEMENT-8 IN	119.00	SQYD		\$	
0070	02599		FABRIC-GEOTEXTILE TYPE IV	17,814.00	SQYD		\$	
0080	10020NS		FUEL ADJUSTMENT	8,320.00	DOLL	\$1.00	\$	\$8,320.00
0090	20550ND		SAWCUT PAVEMENT	146.00	LF		\$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0100	01810		STANDARD CURB AND GUTTER	268.00	LF		\$	
0110	01811		STANDARD CURB AND GUTTER MOD	563.00	LF		\$	
0120	01811		STANDARD CURB AND GUTTER MOD (SPECIAL)	4,157.00	LF		\$	
0130	01830		STANDARD INTEGRAL CURB	3,675.00	LF		\$	
0140	01902		REMOVE INTEGRAL CURB	14.00	LF		\$	
0150	02091		REMOVE PAVEMENT	214.00	SQYD		\$	
0160	02159		TEMP DITCH	2,155.00	LF		\$	
0170	02200		ROADWAY EXCAVATION	12,009.00	CUYD		\$	
0180	02242		WATER (FOR DUST CONTROL)	204.00	MGAL		\$	
0190	02429		RIGHT-OF-WAY MONUMENT TYPE 1	57.00	EACH		\$	
0200	02545		CLEARING AND GRUBBING (APPROXIMATELY 7.5 ACRES)	1.00	LS		\$	
0210	02585		EDGE KEY	27.00	LF		\$	
0230	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0240	02701		TEMP SILT FENCE	2,155.00	LF		\$	
0250	02704		SILT TRAP TYPE B	8.00	EACH		\$	
0260	02705		SILT TRAP TYPE C	8.00	EACH		\$	
0270	02707		CLEAN SILT TRAP TYPE B	48.00	EACH		\$	
0280	02708		CLEAN SILT TRAP TYPE C	48.00	EACH		\$	
0290	02720		SIDEWALK-4 IN CONCRETE	3,850.00	SQYD		\$	
0300	02726		STAKING	1.00	LS		\$	
0310	05952		TEMP MULCH	34,510.00	SQYD		\$	
0320	05953		TEMP SEEDING AND PROTECTION	34,510.00	SQYD		\$	
0330	05964		20-10-10 FERTILIZER	1.00	TON		\$	
0340	05985		SEEDING AND PROTECTION	12,283.00	SQYD		\$	
0350	05990		SODDING	4,758.00	SQYD		\$	
0360	06514		PAVE STRIPING-PERM PAINT-4 IN	13,682.00	LF		\$	
0370	06516		PAVE STRIPING-PERM PAINT-8 IN	251.00	LF		\$	
0380	06530		PAVE STRIPING REMOVAL-4 IN	4,611.00	LF		\$	
0390	06531		PAVE STRIPING REMOVAL-6 IN	1,388.00	LF		\$	
0400	06532		PAVE STRIPING REMOVAL-8 IN	127.00	LF		\$	
0410	06568		PAVE MARKING-THERMO STOP BAR-24IN	53.00	LF		\$	

PROPOSAL BID ITEMS

REVISED ADDENDUM #1: 7-24-17

171232

Page 2 of 4

Report Date 7/24/17

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0420	06569		PAVE MARKING-THERMO CROSS-HATCH	1,473.00	SQFT		\$	
0430	06572		PAVE MARKING-DOTTED LANE EXTEN	248.00	LF		\$	
0440	06574		PAVE MARKING-THERMO CURV ARROW	4.00	EACH		\$	
0450	20782NS714		PAVE MARKING THERMO-BIKE	19.00	EACH		\$	
0460	23158ES505		DETECTABLE WARNINGS	73.00	SQFT		\$	
0470	23261EC		PAVE MARK-THERMO-X-WALK-24 IN	539.00	LF		\$	
0480	23875NC		REMOVE THERMOPLASTIC ARROWS	9.00	EACH		\$	
0490	24386EC		PAVE MARKING THERMO-BIKE LANE ARROW	1.00	EACH		\$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0500	00521		STORM SEWER PIPE-15 IN	845.00	LF		\$	
0510	00522		STORM SEWER PIPE-18 IN	439.00	LF		\$	
0520	00524		STORM SEWER PIPE-24 IN	137.00	LF		\$	
0530	00526		STORM SEWER PIPE-30 IN	309.00	LF		\$	
0540	00528		STORM SEWER PIPE-36 IN	470.00	LF		\$	
0550	00529		STORM SEWER PIPE-42 IN	172.00	LF		\$	
0560	01000		PERFORATED PIPE-4 IN	4,694.00	LF		\$	
0570	01456		CURB BOX INLET TYPE A	14.00	EACH		\$	
0580	01480		CURB BOX INLET TYPE B	10.00	EACH		\$	
0590	01496		DROP BOX INLET TYPE 3	1.00	EACH		\$	
0600	01544		DROP BOX INLET TYPE 11	1.00	EACH		\$	
0610	01568		DROP BOX INLET TYPE 13S	1.00	EACH		\$	
0620	02600		FABRIC GEOTEXTILE TY IV FOR PIPE	4,362.00	SQYD	\$2.00	\$	\$8,724.00
0630	24814EC		PIPELINE INSPECTION	1,190.00	LF		\$	

Section: 0004 - BRIDGE - FLOOD WALL

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0640	02731		REMOVE STRUCTURE (REMOVE EXISTING WALL, FOOTINGS & STORAGE VAULT)	1.00	LS		\$	
0645	02612		HANDRAIL-TYPE A-2 (ADDED: 7-24-17)	53.00	LF		\$	
0650	08001		STRUCTURE EXCAVATION-COMMON	2,700.00	CUYD		\$	
0660	08100		CONCRETE-CLASS A (FLOODWALL & RETAINING WALL)	188.00	CUYD		\$	
0670	08100		CONCRETE-CLASS A (FOUNDATIONS) (REVISED: 7-24-17)	532.00	CUYD		\$	
0680	08150		STEEL REINFORCEMENT (REVISED: 7-24-17)	68,015.00	LB		\$	
0685	08151		STEEL REINFORCEMENT-EPOXY COATED (ADDED: 7-24-17)	5,880.00	LB		\$	
0700	08160		STRUCTURAL STEEL (ASTM A304; APPROXIMATELY 3,853 LBS) (REVISED: 7-24-17)	1.00	LS		\$	

PROPOSAL BID ITEMS

REVISED ADDENDUM #1: 7-24-17

171232

Page 3 of 4

Report Date 7/24/17

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0710	08160		STRUCTURAL STEEL (ASTM A36; APPROXIMATELY 7,114 LBS) (REVISED: 7-24-17)	1.00	LS		\$	
0720	08160		STRUCTURAL STEEL (RR RAIL 115 LBS/YD @ 100 YD; APPROXIMATELY 11,500 LBS) (REVISED: 7-24-17)	1.00	LS		\$	
0730	08434		CLEAN & PAINT STRUCTURAL STEEL (3,985-SF)	1.00	LS		\$	
0740	23767EC		DRILLED SHAFT-30 IN-COMMON	216.00	LF		\$	
0745	24939ED		FLOOD GATE (ADDED: 7-24-17)	1.00	EACH		\$	
0746	24940ED		EMERGENCY CLOSURE PLAN (ADDED: 7-24-17)	1.00	EACH		\$	

Section: 0005 - UTILITY - ELECTRIC

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0750	17001		EC COMMUNICATIONS PULL BOX	1.00	EACH		\$	
0760	17011		EC DUCT - 06 BANK	64.00	LF		\$	
0770	17012		EC DUCT - 06 BANK CONCRETE ENCASED	127.00	LF		\$	
0780	17028		EC ELECTRIC MANHOLE	2.00	EACH		\$	

Section: 0006 - SEWER

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0790	02690		SAFELOADING	32.00	CUYD		\$	
0800	15003		S CIPP LINER 08 INCH	216.00	LF		\$	
0810	15004		S CIPP LINER 10 INCH	117.00	LF		\$	
0820	15005		S CIPP LINER 12 INCH	250.00	LF		\$	
0830	15092		S MANHOLE	8.00	EACH		\$	
0840	15093		S MANHOLE ABANDON/REMOVE	8.00	EACH		\$	
0850	15102		S MANHOLE WITH LINING	11.00	EACH		\$	
0860	15104		S PIPE DUCTILE IRON 08 INCH	93.00	LF		\$	
0870	15106		S PIPE DUCTILE IRON 12 INCH	30.00	LF		\$	
0880	15109		S PIPE DUCTILE IRON 24 INCH	282.00	LF		\$	
0890	15111		S PIPE POINT REPAIR	10.00	EACH		\$	
0900	15114		S PIPE PVC 12 INCH	46.00	LF		\$	
0910	15117		S PIPE PVC 24 INCH	110.00	LF		\$	
0920	15124		S CIPP LINER 15 INCH	140.00	LF		\$	
0930	15134		S CIPP LINER 66 INCH	480.00	LF		\$	
0940	15137		S PIPE PVC 15 INCH	407.00	LF		\$	

Section: 0007 - SIGNING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0950	06406		SBM ALUM SHEET SIGNS .080 IN	231.00	SQFT		\$	
0960	06410		STEEL POST TYPE 1	247.00	LF		\$	

PROPOSAL BID ITEMS

171232

Page 4 of 4

Report Date 7/24/17

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0970	20418ED		REMOVE & RELOCATE SIGNS	1.00	EACH		\$	
0980	21373ND		REMOVE SIGN	7.00	EACH		\$	
0990	23603EC		REMOVE/REPLACE COPY ON PANEL SIGNS	6.00	SQFT		\$	
1000	24631EC		BARCODE SIGN INVENTORY	96.00	EACH		\$	

Section: 0008 - WATERLINE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1010	14000		W AIR RELEASE VALVE 1 INCH	1.00	EACH		\$	
1020	14003		W CAP EXISTING MAIN	3.00	EACH		\$	
1030	14019		W FIRE HYDRANT ASSEMBLY	7.00	EACH		\$	
1040	14021		W FIRE HYDRANT REMOVE	3.00	EACH		\$	
1050	14035		W PIPE DUCTILE IRON 04 INCH	18.00	LF		\$	
1060	14037		W PIPE DUCTILE IRON 08 INCH	157.00	LF		\$	
1070	14039		W PIPE DUCTILE IRON 12 INCH	2,093.00	LF		\$	
1080	14093		W TIE-IN 04 INCH	1.00	EACH		\$	
1090	14095		W TIE-IN 08 INCH	1.00	EACH		\$	
1100	14096		W TIE-IN 10 INCH	3.00	EACH		\$	
1110	14097		W TIE-IN 12 INCH	2.00	EACH		\$	
1120	14104		W VALVE 04 INCH	1.00	EACH		\$	
1130	14106		W VALVE 08 INCH	1.00	EACH		\$	
1140	14108		W VALVE 12 INCH	8.00	EACH		\$	
1150	14147		W SERV COPPER LONG SIDE 2 IN	1.00	EACH		\$	

Section: 0009 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1160	02568		MOBILIZATION	1.00	LS		\$	
1170	02569		DEMOBILIZATION	1.00	LS		\$	