

F.A.I. R/YE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-232I-R	COOK	232	1
		ILLINOIS	CONTRACT NO. 62B78	

FOR INDEX OF SHEETS, SEE SHEET NO. G001 07-12-2019 LETTING ITEM 001

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

PROPOSED HIGHWAY PLANS

F.A.I. ROUTE 290 (INTERSTATE 290)
SECTION 3434-232I-R
IDOT PUMP STATION NO. 4 RECONSTRUCTION
PROJECT NHPP-TRTJ(747)
COOK COUNTY
C-91-137-16

D-91-137-16



LOCATION OF SECTION INDICATED THUS: -

BY: *Matthew R. Kaspar* DATE: 5/30/2019
HDR ENGINEERING, INC.
DWGS. COVER, C001 - G601, TC001 - TC103,
DM101 - DM302, M101 - M501
LICENSE EXPIRES NOV. 30, 2019

BY: *James Bruckley* DATE: 5/30/2019
HDR ENGINEERING, INC.
DWGS. R111 - R762, S001 - S756
LICENSE EXPIRES NOV. 30, 2020

BY: *Michael D. Dove* DATE: 5-30-19
HDR ARCHITECTURE, INC.
DWGS. A-101 - A601
LICENSE EXPIRES NOV. 30, 2020

BY: *Jorge Rueda* DATE: 05/30/2019
2IM/GROUP, LLC
DWGS. DM101, C001 - C801
LICENSE EXPIRES NOV. 30, 2019

BY: *Joseph T. Zurko* DATE: 5/30/2019
MILHOUSE ENGINEERING & CONSTRUCTION, INC.
DWGS. E001 - E636
LICENSE EXPIRES NOV. 30, 2019

BY: *Ronald J. Heitner* DATE: 5/30/19
MILHOUSE ENGINEERING & CONSTRUCTION, INC.
DWGS. M111 - M312, H001 - H602
LICENSE EXPIRES NOV. 30, 2019

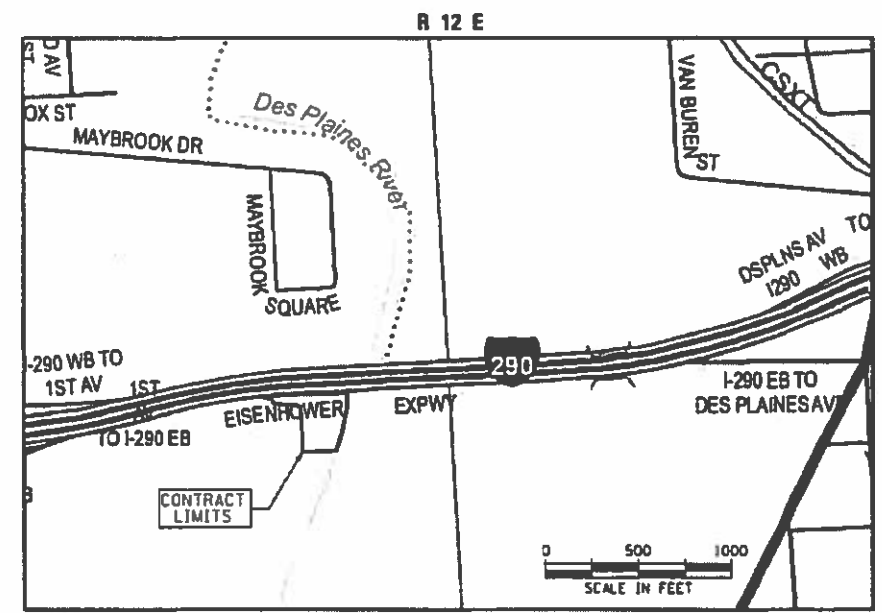
BY: *H. W. W. W.* DATE: 5/30/2019
MILHOUSE ENGINEERING & CONSTRUCTION, INC.
DWGS. E637 - E653, IC011 - IC611
LICENSE EXPIRES NOV. 30, 2019

BY: *Mark W. Volk* DATE: 5/30/2019
EDWIN HANCOCK ENGINEERING COMPANY, INC.
DWGS. C901 - C903
LICENSE EXPIRES NOV. 30, 2019

HDR
9450 W. Bryn Mawr Avenue, Sult 400
Rosemont, IL 60018
773-380-7900
HDR, Inc.
DESIGN FIRM REGISTRATION NUMBER 184.001070

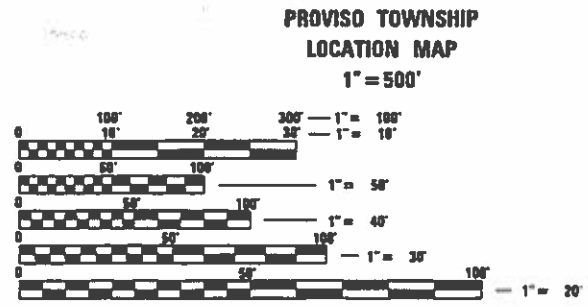
J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-9123 OR 811
MEADE ELECTRIC CO.
DISTRICT ONE ELECTRICAL MAINTENANCE CONTRACTOR
LOCATES IDOT ELECTRICAL EQUIPMENT AND
UNDERGROUND CABLES (773-287-7672)

PROJECT MANAGER: DARYLE DREW 847-705-4424
PROJECT ENGINEER: RICHARD REICHENBACH 847-705-4067
CONTRACT NO. 62B78



DESIGN DESIGNATION: INTERSTATE
I-290
2016 ADT = 188,200
POSTED SPEED LIMIT = 55 MPH
DESIGN SPEED = 60 MPH

PROJECT LOCATED IN
VILLAGE OF FOREST PARK



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD
ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT
CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS
ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SUBMITTED: *May 31 2019*
Richard Reichenbach
REGIONAL ENGINEER
June 14 2019
Paul J. Chaf
ENGINEER OF DESIGN AND ENVIRONMENT
June 14 2019
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION 3

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

GENERAL NOTES

- 1. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED APRIL 1, 2016 AND THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS", ADOPTED JANUARY 1, 2019; "THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS" JULY 2014 SEVENTH EDITION, THE "DETAILS" IN THE PLANS, AND THE "SPECIAL PROVISIONS" INCLUDED IN THE CONTRACT DOCUMENTS. ANY REFERENCE TO "STANDARDS" THROUGHOUT THE PLANS OR SPECIAL PROVISIONS SHALL BE INTERPRETED AS THE LATEST IDOT OR LOCAL AGENCY STANDARD. SHOULD A REVISED STANDARD EXIST THAT SUPERCEDES STANDARDS REFERENCED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR IS RESPONSIBLE FOR SEEKING CLARIFICATION FROM THE ENGINEER BEFORE PROCEEDING WITH THE ORDERING OF MATERIALS, SCHEDULING OF PERSONNEL, PERFORMING THE WORK OR ANY OTHER ACTIVITY RELATED TO THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THE CORRECT STANDARD BEFORE PERFORMING WORK.
- 2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 72 HOURS IN ADVANCE PRIOR TO BEGINNING WORK AND SHALL COORDINATE ALL CONSTRUCTION OPERATIONS WITH THE ENGINEER. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 48 HOURS IN ADVANCE FOR ANY TREE REMOVAL.
- 3. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OPERATIONS WITH THE UTILITIES ANY OTHER UTILITY LOCATED WITHIN THE PROJECT LIMITS OR IMPACTED BY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL COORDINATE WITH IDOT ELECTRICAL MAINTENANCE CONTRACTOR FOR UTILITY LOCATIONS WITHIN IDOT ROW.
- 4. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE TO ENGINEER IN ADVANCE OF CONSTRUCTION ACTIVITIES REQUIRING OBSERVATION AND /OR TESTING. IF THE CONTRACTOR FAILS TO ALLOW PROPER NOTIFICATION TIME, THE CONTRACTOR MUST SUSPEND THE OPERATION FOR WHICH TESTING IS NECESSARY UNTIL THE ENGINEER CAN SCHEDULE TESTING OPERATIONS.
- 5. HORIZONTAL AND VERTICAL DATUM ESTABLISHED USING GPS AND BASED ON THE REIL-NET RTK NETWORK; THE VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVDB8) AND THE HORIZONTAL DATUM IS NORTH AMERICAN DATUM 1983, ADJUSTMENT 2011 (NAD83 (2011)) ILLINOIS EAST ZONE STATE PLANE COORDINATES.
- 6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION.
- 7. EXISTING CONDITIONS WERE TAKEN FROM THE BEST AVAILABLE INFORMATION OR MAPPING. INFORMATION SHOWN CONCERNING FEATURES AND UTILITIES IS NOT GUARANTEED ALL INCLUSIVE OR CORRECT. THE CONTRACTOR IS TO VERIFY THE FEATURES PRIOR TO CONSTRUCTION. EXISTING UTILITIES ARE TO BE MAINTAINED IN SERVICE AT ALL TIMES. THE LOCATION OF MATERIALS AND DIMENSIONS OF EXISTING FACILITIES AND OBSTRUCTIONS ARE BASED UPON LOCATION RECORDS AND ARE SHOWN ON THE DRAWINGS STRICTLY AS AID TO THE CONTRACTOR, BUT MUST NOT BE CONSTRUED AS BEING ACCURATE, CORRECT OR COMPLETE. ALL STRUCTURES ABOVE OR BELOW GROUND THAT ARE ENCOUNTERED DURING CONSTRUCTION ARE TO BE PROPERLY SUPPORTED AND MAINTAINED.
- 8. PLAN DIMENSIONS AND DETAILS FOR THE EXISTING PUMP STATION HAVE BEEN TAKEN FROM ORIGINAL PLANS AND ARE SUBJECT TO VARIATIONS DURING CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS AND DETAILS AND MAKE NECESSARY ADJUSTMENTS, AS APPROVED BY THE ENGINEER, PRIOR TO ORDERING MATERIALS. VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION OR CHANGE IN THE SCOPE OF WORK.
- 9. EXISTING GRADES AND ELEVATIONS REPORTED ON THE DRAWINGS ARE BASED ON BEST AVAILABLE INFORMATION. IF THE CONTRACTOR DOES NOT CONCUR WITH THE ELEVATION PROVIDED ON THE DRAWINGS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IN WRITING PRIOR TO CONSTRUCTION. NO CONSTRUCTION WILL BE ALLOWED TO BEGIN UNTIL THESE CONFLICTS ARE RESOLVED.
- 10. ALL WORK PERFORMED RELATIVE TO THIS IMPROVEMENT SHALL COMPLY WITH ALL APPLICABLE RULES AND REGULATIONS OF O.S.H.A.
- 11. THE CONTRACTOR SHALL SAW CUT PAVEMENT AND CURB AND GUTTER AT THE LIMITS OF WIDENING INDICATED ON THE PLANS AND AT THE INTERFACE BETWEEN PROPOSED RESURFACED PAVEMENT AND PROPOSED CURB, SHOULDER OR FULL-DEPTH PAVEMENT TO SEPARATE THE EXISTING MATERIAL TO BE REMOVED TO A DEPTH AS SHOWN ON THE PLANS OR AS OTHERWISE DIRECTED BY THE ENGINEER. CARE SHALL BE TAKEN BY THE CONTRACTOR NOT TO DAMAGE THE REMAINING MATERIALS DIRECTLY ADJACENT TO THE MATERIAL TO BE REMOVED. ANY DAMAGE TO THE EXISTING MATERIAL RESULTING FROM THE REMOVAL OPERATION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. SAW CUTTING SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCLUDED IN THE CONTRACT UNIT PRICE OF THE REMOVAL ITEM.
- 12. 10 FT TRANSITIONS SHALL BE USED TO MATCH PROPOSED ITEMS OF WORK TO EXISTING ITEMS IN THE FIELD, UNLESS OTHERWISE SHOWN OR DIRECTED BY THE ENGINEER. THE TRANSITIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PROPOSED ITEM OF WORK SPECIFIED.
- 13. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING PAVEMENT OR PROPERTY DAMAGED DURING CONSTRUCTION OPERATIONS BY CONTRACTOR'S FORCES INCLUDING SUBCONTRACTORS AT NO ADDITIONAL COST TO THE CONTRACT.
- 14. REMOVAL OF EXISTING CURB AND COMBINATION CURB AND GUTTER SHALL BE PAID FOR AS COMBINATION CURB AND GUTTER REMOVAL REGARDLESS OF THE CURB AND GUTTER TYPE.
- 15. ALL PROPOSED CURB AND GUTTER INCLUDING DEPRESSED CURB, CURB AROUND DRIVEWAY RETURNS AND CURB TRANSITIONS WILL BE PAID FOR AS COMBINATION CONCRETE CURB AND GUTTER, OF THE TYPE SPECIFIED UNLESS OTHERWISE NOTED.

- 16. CONTRACTOR SHALL REMOVE, SALVAGE AND HAUL EXISTING PUMP STATION EQUIPMENT TO IDOT STORAGE AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE CONTRACT.
- 17. CONTRACTOR SHALL CLEAN THE EXISTING PUMP STATION WET WELL OF DEBRIS AND SEDIMENT BEFORE INITIATING WORK IN THE EXISTING PUMP STATION. THE CONTRACTOR SHALL ALSO CLEAN THE EXISTING PUMP STATION WET WELL AFTER DEMOLITION AND STRUCTURAL MODIFICATIONS ARE COMPLETE.
- 18. ALL EXCAVATION AND EMBANKMENT SHALL BE CONSTRUCTED SIX (6) INCHES BELOW FINISHED GRADE LINE TO ALLOW FOR TOP SOIL PLACEMENT (WHERE TOP SOIL EXCAVATION AND PLACEMENT IS SPECIFIED).
- 19. CONSTRUCTION ACTIVITIES ARE PERMITTED 24-HOURS PER DAY, 7 DAYS PER WEEK, HOWEVER, NO WORK WILL BE PERFORMED ON FEDERAL HOLIDAYS OBSERVED IN ILLINOIS. CONSTRUCTION ACTIVITIES ARE IDENTIFIED AS THE OPERATION OF HEAVY EQUIPMENT, TO INCLUDE BUT NOT LIMITED TO ALL CONSTRUCTION TRUCKS AND EQUIPMENT.
- 20. UNSUITABLE MATERIAL SHALL BE REMOVED AS DIRECTED BY THE ENGINEER AND SHALL BE DISPOSED OF OFFSITE IN ACCORDANCE WITH ARTICLE 202.03 OF THE "STANDARD SPECIFICATIONS", EXCEPT WHAT IS PAID FOR UNDER REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE UNIT BID PRICES OF THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. THIS MATERIAL INCLUDES BUT IT IS NOT LIMITED TO REBAR, ABANDONED UTILITY WIRES, SEWER AND WATER MAIN PIPES AND STRUCTURES, SEPTIC TANKS, SANITARY SEWER MACHINES AND UNSUITABLE FILL MATERIAL.
- 21. THIS PROJECT REQUIRES A US ARMY CORPS OF ENGINEERS (USACE) 404 PERMIT THAT WILL BE SECURED BY THE DEPARTMENT. ALL CONDITIONS OF THE 404 PERMIT, FOUND IN THE SPECIAL PROVISIONS, MUST BE FOLLOWED. AS A CONDITION OF THIS PERMIT, THE CONTRACTOR WILL NEED TO SUBMIT AN IN-STREAM WORKPLAN (INCLUDING WORK WITHIN WETLANDS) TO THE DEPARTMENT FOR APPROVAL. GUIDELINES ON ACCEPTABLE IN-STREAM WORK TECHNIQUES (INCLUDING WORK WITHIN WETLANDS) CAN BE FOUND ON THE USACE WEBSITE. THE USACE DEFINES AND DETERMINES IN-STREAM WORK. THE COST OF ALL MATERIALS AND LABOR NECESSARY TO COMPLY WITH THE ABOVE PROVISIONS TO PREPARE AND IMPLEMENT AN IN-STREAM WORK PLAN (INCLUDING WORK WITHIN WETLANDS) WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED AS INCLUDED IN THE UNIT BID PRICES OF THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 22. THE DEPARTMENT HAS NOT OBTAINED ANY PERMITS FOR OFFSITE BORROW, WASTE, USE (BWU) AREAS. PRIOR TO WORKING IN BWU AREAS, IF THE CONTRACTOR CHOOSES TO USE ACTIVITIES REQUIRING PERMITS IT IS THE CONTRACTOR'S RESPONSIBILITY TO SECURE THE PROPER PERMITS. IN ADDITION TO THE BORROW REVIEW (BDE 2289) AND USE/WASTE REVIEW (BDE 2290) SUBMITTALS, THE CONTRACTOR SHALL SUBMIT AN EROSION AND SEDIMENT CONTROL (ESC) PLAN FOR EVERY BWU SITE TO THE DEPARTMENT FOR ACCEPTANCE. GUIDELINES FOR ACCEPTABLE BWU PRACTICES CAN BE FOUND IN SECTION I.I.G.1 AND 2 OF THE SWPPP. THE COST OF ALL MATERIALS AND LABOR NECESSARY TO COMPLY WITH THE ABOVE PROVISIONS TO PREPARE AND IMPLEMENT ESC PLANS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED AS INCLUDED IN THE UNIT BID PRICES OF THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

TREE REMOVAL AND PROTECTION

- 1. ALL CLEARING, REMOVAL OF BUSHES, HEDGES AND TREES UNDER SIX (6) INCHES IN DIAMETER SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR EARTH EXCAVATION.
- 2. THE CONTRACTOR SHALL NOT REMOVE ANY TREES OTHER THAN THOSE DESIGNATED FOR REMOVAL ON THE PLANS UNLESS SPECIFICALLY DIRECTED BY THE ENGINEER.
- 3. ALL LIMBS, BRANCHES, AND OTHER DEBRIS RESULTING FROM THIS WORK SHALL BE DISPOSED OF BY THE CONTRACTOR AT HIS OWN EXPENSE OUTSIDE THE LIMITS OF THE RIGHT-OF-WAY.
- 4. TREE PROTECTION (TEMPORARY FENCE) SHOULD BE ERECTED ALONG THE DRIP LINE OF EXISTING TREES TO REMAIN WITHIN THE LIMITS OF CONSTRUCTION. AFTER TREES ARE SAFELY FENCED NOTHING IS TO BE STORED, DRIVEN OR DISTURBED INSIDE THE FENCE. REMOVE PROTECTIVE TREE PROTECTION (TEMPORARY FENCE) ONLY AFTER ALL CONSTRUCTION WORK HAS BEEN COMPLETED.
- 5. TREE ROOT PRUNING IS TO BE USED ON EXISTING TREES TO PREVENT THE RIPPING UP OF ROOTS WHEN TRENCHING OR EXCAVATION IS WITHIN THE ROOT ZONE OF ADJACENT TREES TO REMAIN. SUPPLEMENTAL WATERING OF TREES SHOULD BEGIN IMMEDIATELY AFTER ROOT PRUNING OF THE TREES HAS OCCURRED.
- 6. OVERHANGING LIMBS ARE TO BE TRIMMED OR CUT OFF TO PROVIDE A MINIMUM VERTICAL CLEARANCE OF TWENTY (20) FEET FROM THE FINISHED SURFACE. LIMB PRUNING SHALL BE PERFORMED UNDER THE SUPERVISION OF AN APPROVED TREE EXPERT AND SHALL BE UNDERTAKEN SO AS NOT TO INTERFERE WITH CONSTRUCTION. ALL CUTS OVER ONE (1) INCH IN DIAMETER SHALL BE MADE AT THE GROWTH RING AT THE NEXT LARGE BRANCH. ALL LIMBS, BRANCHES, AND OTHER DEBRIS RESULTING FROM THIS WORK SHALL BE DISPOSED OF BY THE CONTRACTOR AT HIS OWN EXPENSE OUTSIDE THE LIMITS OF THE RIGHT-OF-WAY. THE COST OF THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR TREE REMOVAL.

TOPSOIL

- 1. TOPSOIL SHALL BE PLACED TO A DEPTH AS SPECIFIED ON THE PLANS. THIS WORK WILL BE PAID FOR AS TOPSOIL FURNISH AND PLACE, OF THE DEPTH SPECIFIED ON THE PLANS AND MEASURED FOR PAYMENT IN SQUARE YARDS.
- 2. THE FINISHED GRADE OF TOPSOIL SHALL BE PER THE SITE GRADING PLAN.
- 3. TOPSOIL SHALL NOT BE STOCKPILED WITHIN THE LIMITS OF CONSTRUCTION; THE LOCATIONS OF TOPSOIL STOCKPILES WITHIN THE RIGHT-OF-WAY MUST BE APPROVED BY THE ENGINEER.
- 4. ALL TOPSOIL PLACED ON THIS CONTRACT SHALL BE FREE OF NOXIOUS WEED SEED SPECIES. NOXIOUS SPECIES ARE LISTED ON THE USDA WEBSITE: <https://plants.usda.gov/java/noxiousDriver>. THIS WORK SHALL BE CONSIDERED INCLUDED IN THE CONTRACT UNIT PRICE FOR TOPSOIL FURNISH AND PLACE, OF THE DEPTH SPECIFIED ON THE PLANS

EXCAVATION IN PAVEMENT

- 1. ALL EXISTING CULVERTS, STORM SEWERS, OR DRAINAGE STRUCTURES MARKED FOR REMOVAL ON THE PLANS OR DESIGNATED IN THE FIELD BY THE ENGINEER TO BE REMOVED SHALL BE REMOVED AND ANY EXCAVATION SHALL BE BACKFILLED WITH A GRANULAR MATERIAL MEETING THE SPECIFICATIONS FOR FA-1 OR FA-2. THE COST OF ALL LABOR AND MATERIALS REQUIRED TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICES FOR STORM SEWER OR PIPE CULVERT UNLESS PAID FOR AS A SPECIFIC ITEM.
- 2. ALL EXISTING GRANULAR AND HOT-MIX ASPHALT PAVEMENT TO BE REMOVED AND NOT PAID AS A SPECIFIC ITEM SHALL BE CONSIDERED EARTH EXCAVATION AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR EARTH EXCAVATION. THE CONTRACTOR WILL HAVE THE OPTION OF REMOVING THE EXISTING HOT-MIX ASPHALT PAVEMENT BY GRINDING OR EXCAVATING. HOT-MIX ASPHALT PAVEMENT BE USED IN EMBANKMENT AREAS. NO HOT-MIX ASPHALT PAVEMENT SHALL BE REMOVED IN AREAS TO BE USED FOR TEMPORARY ROADWAY.
- 3. ALL EMBANKMENTS AND SUB-GRADE SHALL BE COMPACTED TO THE SATISFACTION OF THE ENGINEER PRIOR TO PLACING AGGREGATE SUBGRADE OR SUB-BASE GRANULAR MATERIAL.

UTILITY

- 1. THE LOCATIONS OF PUBLIC OR PRIVATE UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL ASCERTAIN THE EXACT LOCATIONS OF SUCH UTILITIES AND EXERCISE CARE DURING HIS CONSTRUCTION OPERATIONS SO AS TO NOT DAMAGE THEM. THE CONTRACTOR SHALL COOPERATE WITH ALL UTILITY OWNERS AS PROVIDED FOR IN THE "STANDARD SPECIFICATIONS" AND CONTACT IDOT ELECTRICAL MAINTENANCE CONTRACTOR TO ASSIST IN UTILITY LOCATIONS WITHIN IDOT R.O.W..
- 2. THE CONTRACTOR SHALL COORDINATE WORK WITH PRIVATE UTILITY COMPANIES AND THEIR CONTRACTORS FOR ADJUSTMENTS, SUPPORTS, AND RELOCATION. UTILITY WORK MAY PROCEED IN CONCERT WITH CONSTRUCTION OPERATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT AFFECTED UTILITIES AND COORDINATE WORK WITHIN THE CONSTRUCTION SCHEDULE, THE EFFORT OF WHICH WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT..
- 3. DURING TRENCHING OPERATIONS, THE CONTRACTOR SHALL HAND TRENCH IN AREAS WHERE FACILITIES AND APPURTENANCES ARE ENCOUNTERED WITHIN THE LIMITS OF THE IMPROVEMENTS TO PREVENT DAMAGE TO THE FACILITIES. HAND EXCAVATION WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF EARTHWORK. SHOULD THE ENGINEER BE ABLE TO ASCERTAIN THAT THE FACILITY IS ABANDONED, THE CONTRACTOR MAY THEN USE MACHINE METHODS.
- 4. CONTRACTOR TO VERIFY LOCATIONS OF EXISTING WATERMAIN PIPE BEFORE FABRICATION OR INSTALLATION OF NEW UTILITIES, DUCT BANKS, PIPING AND DRAINAGE STRUCTURES. SHOULD A CONFLICT BETWEEN EXISTING UTILITIES AND PROPOSED DRAINAGE STRUCTURES BE IDENTIFIED, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
- 5. CONTRACTOR TO COORDINATE PROPOSED ELECTRICAL SERVICE LOCATION WITH COMMONWEALTH EDISON COMPANY AND WATER MAIN RELOCATION WITH BROADVIEW-WESTCHESTER JOINT WATER COMMISSION AND ITS CONSULTANT.
- 6. CONTRACTOR SHALL MAINTAIN ELECTRICAL SERVICE TO THE EXISTING PUMPING STATION UNTIL THE NEW PUMP STATION IS OPERATIONAL AND HAS BEEN COMMISSIONED. THE EXISTING PUMP STATION SHALL NOT BE WITHOUT POWER. SERVICE TRANSFER WORK SHALL BE COORDINATED WITH AND APPROVED BY IDOT ELECTRICAL AND IDOT MAINTENANCE 48 HOURS PRIOR TO START OF WORK TO MODIFY THE EXISTING PUMPING STATION SERVICES.

P:\HW\DRP\2046001\HW\HW-Submittals\001915\CD\0000\00000272972\6.0_CAD\BIN\6.2_Work\In_Progress\6.2.2_CAD\Sheets\0191454-G002.dgn

SHEET
G002

FILE NAME = D191454-G002.DGN
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

USER NAME = bgreen
 PLOT SCALE = 1:8000' / 1"= 100'
 PLOT DATE = 5/29/2019

DESIGNED - HDR - M. KASPER
 DRAWN - HDR - RHA
 CHECKED - HDR - B. RIEDE
 DATE - 05/30/2019

REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

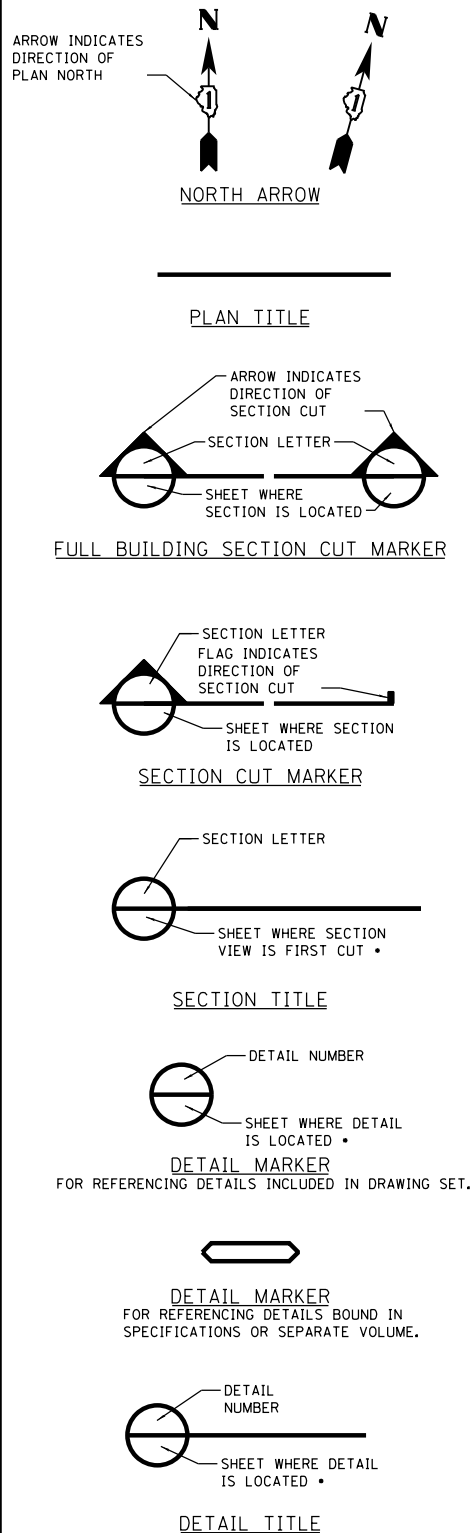
I-290 PUMP STATION NO. 4 RECONSTRUCTION
GENERAL NOTES
 SCALE: NONE SHEET OF SHEETS STA. TO STA.

F.A.I R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	3
				CONTRACT NO. 62B78
ILLINOIS FED. AID PROJECT				

MATERIALS IN PLANSECTION

	ACOUSTICAL CEILING TILE (SECTION)
	ASPHALT (PLAN OR SMALL-SCALE SECTION)
	ASPHALT (LARGE-SCALE SECTION)
	BATT INSULATION (SECTION)
	BRICK MASONRY (PLAN AND/OR SECTION)
	CHECKERED PLATE (PLAN)
	CONCRETE (PLAN AND/OR SECTION)
	CONCRETE MASONRY (PLAN AND/OR SECTION)
	DEMOLITION (PLAN AND/OR SECTION)
	EARTH (SECTION)
	FILTER POINT MAT (PLAN)
	FINISHED WOOD (SECTION)
	GLULAM LUMBER (SECTION)
	GRANULAR FILL (SECTION)
	GRATING (SECTION)
	GRATING (PLAN)
	GROUT (SECTION)
	GYPNUM BOARD (SECTION)
	METAL (SECTION)
	ORIENTED STRAND BOARD (SECTION)
	PARTICLE BOARD (SECTION)
	PLYWOOD (LARGE-SCALE SECTION)
	PLYWOOD (SMALL-SCALE SECTION)
	PRECAST CONCRETE (PLAN AND/OR SECTION)
	RIGID INSULATION (SECTION)
	RIPRAP (PLAN AND/OR SECTION)
	SAND (SECTION)
	SOD (SECTION)
	WEEP JOINT MORTAR PROTECTION SYSTEM (SECTION)
	WOOD - CONTINUOUS (SECTION)
	WOOD BLOCKING (SECTION)

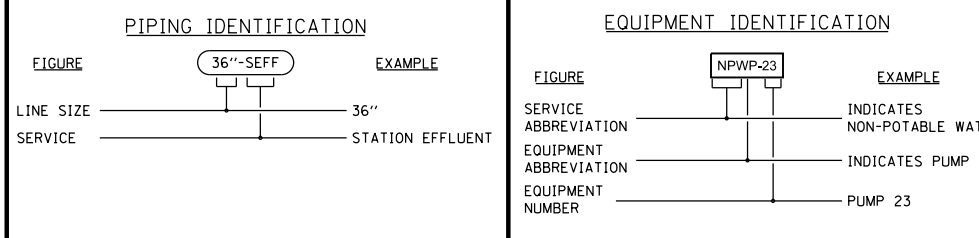
GENERAL SYMBOLOGY



EXCEPTIONS WHERE THE SHEET NUMBER IS REPLACED BY A DASH (-):

- FOR COMMON DETAILS, SECTIONS, ELEVATIONS OR DETAILS THAT ARE CUT OR CALLED OUT ON MULTIPLE SHEETS.
- SECTIONS, ELEVATIONS OR DETAILS THAT ARE LOCATED ON THE SAME SHEET THEY ARE CUT OR CALLED OUT ON.

IDENTIFICATION SYMBOLOGY



PIPING SYSTEM DESIGNATIONS

FD	FLOOR DRAIN
NG	NATURAL GAS
PW	POTABLE WATER
RL	RAIN LEADER
RD	ROOF DRAIN
RDOF	ROOF DRAIN OVERFLOW
SEFF	STATION EFFLUENT
SINF	STATION INFLUENT
SRC	STATION RECIRCULATION PIPE
STM	STORM DRAIN
VT	VENT (PLUMBING)

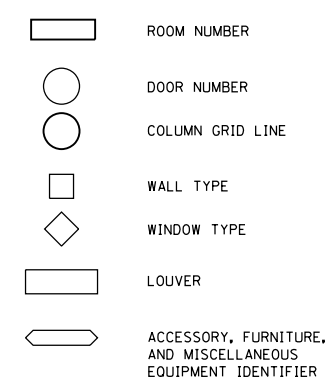
EQUIPMENT DESIGNATIONS

AD	AIR DAMPER OR DIFFUSER
ARV	AIR RELIEF VALVE
AVRV	AIR VACUUM RELIEF VALVE
BD	BACKDRAFT DAMPER
BDP	BASIN DRAIN PUMP
BP	BACKFLOW PREVENTER
CB	CIRCUIT BREAKER
CLM	CLAMHELL
CP	CONTROL PANEL
CR	CRANE
DCR	DAVIT CRANE
DG	DISCHARGE GATE
EF	EXHAUST FAN
ET	EMERGENCY TRANSFORMER
EOT	ELECTRICAL OVERHEAD TRAVELING CRANE
FACP	FIRE ALARM CONTROL PANEL
FC	FAN COIL
FE	FIRE EXTINGUISHER
HB	HOSE BIBB
HMI	HUMAN MACHINE INTERFACE
HO	HOIST
IG	INFLUENT GATE
LCP	LIGHTNING CONTROL PANEL
LFP	LOW FLOW PUMP
LP	= 250 VOLT PANELBOARD
LVR	LOUVER
MCC	MOTOR CONTROL CENTER
MM	MAG METER
MOD	MOTOR OPERATED DAMPER
MP	MAIN PUMP
MS	MOP SINK
MSB	MAIN SWITCHBOARD
MSG	MAIN SWITCHGEAR
MAU	MAKE UP AIR UNIT
OIT	OPERATOR INTERFACE
PC	PERSONAL COMPUTER
PLC	PROGRAMMABLE LOGIC CONTROLLER
RG	RECIRCULATION GATE
SRN	MECHANICAL SCREEN
SEC	SECURITY EQUIPMENT CABINET
SF	SUPPLY FAN
SG	SLUICE GATE
T	TRANSFORMER
TR	TROLLEY
UH	UNIT HEATER

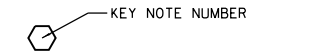
PROJECT-SPECIFIC ABBREVIATIONS

BWJWA	BROADVIEW-WESTCHESTER JOINT WATER AGENCY
TERS	TEMPORARY EXCAVATION RETENTION SYSTEM

ARCHITECTURAL



KEY NOTE DESIGNATION



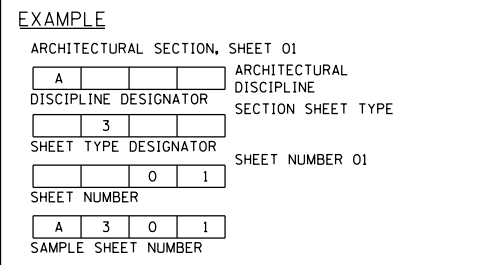
SHEET NAMING CONVENTION

DISCIPLINE DESIGNATOR & DISCIPLINE ORDER

G	GENERAL
TC	TRAFFIC CONTROL
V	SURVEYING/MAPPING
DM	DEMOLITION
C	CIVIL - SITE WORK
L	LANDSCAPING
R	RETAINING WALL
S	STRUCTURAL
A	ARCHITECTURAL
M	PROCESS/PLUMBING
H	HEATING AND VENTILATION
F	FIRE PROTECTION
E	ELECTRICAL
IC	INSTRUMENTATION

DRAWING TYPE DESIGNATOR

0	GENERAL (SYMBOLS, LEGENDS)
1	PLANS
2	ELEVATIONS
3	SECTIONS
4	LARGE SCALE VIEWS
5	DETAILS
6	SCHEDULES AND DIAGRAMS
7	REBAR DETAILING
9	WATER MAIN RELOCATION



GENERAL NOTES:

- THIS IS A STANDARD SHEET SHOWING COMMON SYMBOLOGY. ALL SYMBOLS ARE NOT NECESSARILY USED ON THIS PROJECT.
- SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.
- MATERIALS KEY USED ONLY WHEN REQUIRED FOR GRAPHICAL CLARITY.

File Name: D:\P\d\00000000271972\16.0_CAD_BIM\6.2_Work_In_Progress\6.2.2_CAD_Sheets\0191454-G004.dgn
 User Name: bgreen
 Date: 5/29/2019
 State of Illinois Department of Transportation

FILE NAME = D:\P\d\00000000271972\16.0_CAD_BIM\6.2_Work_In_Progress\6.2.2_CAD_Sheets\0191454-G004.dgn
 USER NAME = bgreen
 PLOT SCALE = 0:1 " = 1' = 1/8" IN.
 PLOT DATE = 5/29/2019

DESIGNED -	HDR - M. KASPER	REVISED -	
DRAWN -	HDR - RHA	REVISED -	
CHECKED -	HDR - B. RIEDE	REVISED -	
DATE -	05/30/2019	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION			
GENERAL LEGEND			
SCALE: NONE	SHEET OF SHEETS	STA.	TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	5

CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

SHEET G004

P:_P\APP\DKA\B\NorthCentral\Omaha\Documents\001915\CON\07\431\00000000271972\6.0_CAD_BIM\6.2_Work\In_Progress\6.2.2_CAD_Sheets\0191454-G005.dgn

SPECIALTY ITEM	CODE NUMBER	ITEM	UNIT	URBAN		80% FED 20% STATE	
				TOTAL QUANTITY	SPECIAL BRIDGE 0044	OTHER 0044	
	20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	916			916
	20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	310			310
	20101000	TEMPORARY FENCE	FOOT	360			360
	20101100	TREE TRUNK PROTECTION	EACH	9			9
	20101200	TREE ROOT PRUNING	EACH	9			9
	20101350	TREE PRUNING (OVER 10 INCH DIAMETER)	EACH	9			9
+	20101700	SUPPLEMENTAL WATERING	UNIT	1.0			1.0
	20200100	EARTH EXCAVATION	CU YD	15,875			15,875
	20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	1,590			1,590
	20800150	TRENCH BACKFILL	CU YD	2,010			2,010
+	21101625	TOPSOIL FURNISH AND PLACE, 6"	SQ YD	2,337			2,337
+	25000110	SEEDING, CLASS 1A	ACRE	0.25			0.25
+	25000400	NITROGEN FERTILIZER NUTRIENT	POUND	15			15
+	25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	15			15
+	25100115	MULCH, METHOD 2	ACRE	0.50			0.50
+	25100630	EROSION CONTROL BLANKET	SQ YD	1,185			1,185
	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	50			50
	28000305	TEMPORARY DITCH CHECKS	FOOT	100			100
	28000400	PERIMETER EROSION BARRIER	FOOT	928			928
	28000510	INLET FILTERS	EACH	19			19
	28001100	TEMPORARY EROSION CONTROL BLANKET	SQ YD	250			250
	28100107	STONE RIPRAP, CLASS A4	SQ YD	1,050			1,050
	28200200	FILTER FABRIC	SQ YD	1,031			1,031
	30300112	AGGREGATE SUBGRADE IMPROVEMENT 12"	SQ YD	4,144			4,144
	40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	1,865			1,865
	40701801	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 6"	SQ YD	4,144			4,144
	42001300	PROTECTIVE COAT	SQ YD	534			534
	44000100	PAVEMENT REMOVAL	SQ YD	816			816
	44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	431			431
	44000600	SIDEWALK REMOVAL	SQ FT	598			598
	44001980	CONCRETE BARRIER REMOVAL	FOOT	303			303
	50200100	STRUCTURE EXCAVATION	CU YD	48,510		48,510	
	50200400	ROCK EXCAVATION FOR STRUCTURES	CU YD	669		669	
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1,452,733		1,452,733	
	51201600	FURNISHING STEEL PILES HP12X53	FOOT	1,387		1,387	
	51202305	DRIVING PILES	FOOT	1,387		1,387	
	51203600	TEST PILE STEEL HP12X53	EACH	1		1	

FILE NAME = D191454-G005.DGN

 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

USER NAME = JKJELMA	DESIGNED - HDR - M. KASPER	REVISED -
PLOT SCALE = 1/8000' / in.	DRAWN - HDR - RHA	REVISED -
PLOT DATE = 5/30/2019	CHECKED - HDR - B. RIEDE	REVISED -
	DATE - 05/30/2019	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
 SUMMARY OF QUANTITIES**

SCALE: NONE SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	6
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62B78	

REV. - MS SHEET G005

SPECIALTY ITEM	CODE NUMBER	ITEM	UNIT	80% FED 20% STATE		
				URBAN TOTAL QUANTITY	SPECIAL BRIDGE 0044	OTHER 0044
	51204650	PILE SHOES	EACH	25	25	
	52200015	PERMANENT SHEET PILING	SQ FT	4,345	4,345	
	54011006	PRECAST CONCRETE BOX CULVERTS 10' X 6'	FOOT	44	44	
	54213657	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 12"	EACH	2		2
	54213669	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 24"	EACH	1		1
	550A0340	STORM SEWERS, CLASS A, TYPE 2 12"	FOOT	77		77
	550A0380	STORM SEWERS, CLASS A, TYPE 2 18"	FOOT	162		162
	550A0410	STORM SEWERS, CLASS A, TYPE 2 24"	FOOT	29		29
	56103510	DUCTILE IRON WATER MAIN 20"	FOOT	135		135
	58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	26,412	26,412	
	59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	252		252
+	60200105	CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, OPEN LID	EACH	4		4
	60200205	CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1		1
	60208210	CATCH BASINS, TYPE C, TYPE 20 FRAME AND GRATE	EACH	1		1
	60236700	INLETS, TYPE A, TYPE 10 FRAME AND GRATE	EACH	1		1
	60260100	INLETS TO BE ADJUSTED	EACH	1		1
	60261510	INLETS TO BE ADJUSTED WITH NEW TYPE 20 FRAME AND GRATE	EACH	3		3
	60602800	CONCRETE GUTTER, TYPE B	FOOT	128		128
	60608521	COMBINATION CONCRETE CURB AND GUTTER, TYPE M-2.24	FOOT	448		448
	60610400	COMBINATION CONCRETE CURB AND GUTTER, TYPE M-6.24	FOOT	248		248
+	63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	200.0		200.0
+	63000003	STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS	FOOT	325.0		325.0
+	63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	3		3
+	63100105	TRAFFIC BARRIER TERMINAL, TYPE 10	EACH	1		1
	63200310	GUARDRAIL REMOVAL	FOOT	236		236
	63700180	CONCRETE BARRIER, SINGLE FACE, 44 INCH HEIGHT	FOOT	26		26
	63700900	CONCRETE BARRIER BASE	FOOT	26		26
	64300770	IMPACT ATTENUATORS (SEVERE USE, NARROW), TEST LEVEL 3	EACH	1		1
	66600105	FURNISHING AND ERECTING RIGHT OF WAY MARKERS	EACH	6		6
+	66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	24,190		24,190
+	66900530	SOIL DISPOSAL ANALYSIS	EACH	6		6
+	66901001	REGULATED SUBSTANCES PRE-CONSTRUCTION PLAN	LSUM	1		1
+	66901002	ON-SITE MONITORING OF REGULATED SUBSTANCES	CAL DA	160		160
+	66901003	REGULATED SUBSTANCES FINAL CONSTRUCTION REPORT	LSUM	1		1
	67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	30		30
	67100100	MOBILIZATION	L SUM	1		1

file name = D:\191454-G006.DGN
 USER NAME = JKJELMA
 DESIGNED - HDR - M. KASPER
 DRAWN - HDR - RHA
 PLOT SCALE = 1/8" = 1' / 1/8"
 PLOT DATE = 5/30/2019



DESIGNED - HDR - M. KASPER	REVISED -
DRAWN - HDR - RHA	REVISED -
CHECKED - HDR - B. RIEDE	REVISED -
DATE - 05/30/2019	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
 SUMMARY OF QUANTITIES**

SCALE: NONE	SHEET	OF	SHEETS	STA.	TO	STA.
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REV. - MS		SHEET G006		
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	7
			CONTRACT NO. 62B78	
ILLINOIS FED. AID PROJECT				

P:\1\1\4\APP\DKA081\Hort-Centr-el_Omaha\Documents\001915\CON08078431\000000000272972\6.0_CAD_BIM\6.2_Work\In_Progress\6.2.2_CAD_Sheets\0191454-0007.dgn

SPECIALTY ITEM	CODE NUMBER	ITEM	UNIT	80% FED 20% STATE	
				URBAN TOTAL QUANTITY	SPECIAL BRIDGE 0044 OTHER 0044
	70107025	CHANGEABLE MESSAGE SIGN	CAL DA	14	14
	70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	1,764	1,764
	70300230	TEMPORARY PAVEMENT MARKING - LINE 5"	FOOT	884	884
	70400100	TEMPORARY CONCRETE BARRIER	FOOT	400.0	400.0
	70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	375.0	375.0
	70600260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	1	1
	70600332	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	1	1
+	78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	1,716	1,716
+	78003140	PREFORMED PLASTIC PAVEMENT MARKING, TYPE B - LINE 8"	FOOT	884	884
+	78008210	POLYUREA PAVEMENT MARKING TYPE I - LINE 4"	FOOT	1,818	1,818
+	78008250	POLYUREA PAVEMENT MARKING TYPE I - LINE 12"	FOOT	56	56
+	78100300	REPLACEMENT REFLECTOR	EACH	92	92
+	78200011	BARRIER WALL REFLECTORS, TYPE C	EACH	64	64
	78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	92	92
+	80400100	ELECTRIC SERVICE INSTALLATION	EACH	1	1
+	A2002916	TREE, CELTIS OCCIDENTALIS (COMMON HACKBERRY), 2" CALIPER, BALLED AND BURLAPPED	EACH	6	6
+	A2006516	TREE, QUERCUS BICOLOR (SWAMP WHITE OAK), 2" CALIPER, BALLED AND BURLAPPED	EACH	8	8
+	A2006716	TREE, QUERCUS MACROCARPA (BUR OAK), 2" CALIPER, BALLED AND BURLAPPED	EACH	3	3
+	B2000764	TREE, AMELANCHIER X GRANDIFLORA AUTUMN BRILLIANCE (AUTUMN BRILLIANCE SERVICE BERRY), 5' HEIGHT, SHRUB FORM, BALLED AND BURLAPPED	EACH	11	11
+	C2000436	SHRUB, ARONIA ARBUTIFOLIA BRILLIANT ISSIMA (BRILLIANT RED CHOKEBERRY), 3' HEIGHT, BALLED AND BURLAPPED	EACH	67	67
+	K1005481	SHREDDED BARK MULCH 3"	SQ YD	138	138
	X0301028	PUMP STATION SCADA EQUIPMENT	L SUM	1	1
	X0320033	MAINTENANCE OF EXISTING PUMP STATION DURING CONSTRUCTION	CAL MO	30	30
	X0320034	HEATING AND VENTILATION	L SUM	1	1
	X0320035	LOW FLOW PUMP	EACH	2	2
	X0320036	MAIN PUMPS	EACH	10	10
	X0323880	COMPLETE SPARE MAIN PUMP ASSEMBLY	L SUM	1	1
	X0323881	COMPLETE SPARE LOW FLOW PUMP ASSEMBLY	L SUM	1	1
	X0325349	TEMPORARY CONCRETE BARRIER (TO REMAIN PERMANENTLY)	FOOT	125.0	125.0
	X0325405	FILL EXISTING STORM SEWERS	CU YD	65	65
	X0327980	PAVEMENT MARKING REMOVAL - WATER BLASTING	SQ FT	2,049	2,049
	X0335700	PUMP STATION GENERAL WORK	L SUM	1	1
	X0350810	BOLLARD REMOVAL	EACH	4	4
	X0783300	PUMP STATION ELECTRICAL WORK	L SUM	1	1
	X0783500	PUMP STATION MECHANICAL WORK	L SUM	1	1
	X1200015	VALVE VAULTS TO BE ABANDONED	EACH	2	2

FILE NAME = D191454-G007.DGN

 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

USER NAME = JKJELMA	DESIGNED - HDR - M. KASPER	REVISED -
PLOT SCALE = 1:8000' / 1" =	DRAWN - HDR - RHA	REVISED -
PLOT DATE = 5/30/2019	CHECKED - HDR - B. RIEDE	REVISED -
	DATE - 05/30/2019	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
SUMMARY OF QUANTITIES**

SCALE: NONE	SHEET	OF	SHEETS	STA.	TO	STA.
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F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	8
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

REV. - MS SHEET G007

P:_P\APP\DKA\081\Hort-Centr-01\081\5\CON\07\4\31\080808080271972\6.6.CAD_BIM\6.2_Mat-1_In-Progress\6.2.2.CAD_Sheets\0191454-0208.dgn

80% FED
20% STATE

SPECIALTY ITEM	CODE NUMBER	ITEM	UNIT	URBAN		80% FED 20% STATE	
				TOTAL QUANTITY	SPECIAL BRIDGE 0044	OTHER 0044	
	X1400159	TELEPHONE SERVICE INSTALLATION AND CONNECTION	L SUM	1	1		
	X1400162	PUMP STATION MOTOR CONTROL CENTER	L SUM	1	1		
	X1400163	AEGIS PANEL	L SUM	1	1		
	X1400164	FIRE DETECTION PANEL	L SUM	1	1		
	X1400165	GAS DETECTION PANEL	L SUM	1	1		
+	X2501800	SEEDING, CLASS 4 (MODIFIED)	ACRE	0.25			0.25
+	X2510635	HEAVY DUTY EROSION CONTROL BLANKET, SPECIAL	SQ YD	1,152			1,152
+	X2700003	GROOVING FOR RECESSED PAVEMENT MARKING 8"	FOOT	884			884
	X3400002	DEMOLITION OF EXISTING PUMP STATION	L SUM	1			1
	X5030225	CONCRETE STRUCTURES (SPECIAL)	CU YD	7,852.00	7,852.00		
	X5051100	BRIDGE CRANE	L SUM	1	1		
	X5610004	DUCTILE IRON WATER MAIN FITTINGS	POUND	4,000			4,000
	X5610012	CAP EXISTING WATER MAIN	EACH	2	2		
	X5610724	WATER MAIN REMOVAL, 24"	FOOT	140	140		
	X6020084	MANHOLE, SPECIAL	EACH	2			2
	X6029520	CATCH BASINS, TYPE C, WITH SPECIAL FRAME AND LID	EACH	3			3
	X6430120	REMOVE IMPACT ATTENUATORS, NO SALVAGE	EACH	1			1
	X6640300	CHAIN LINK FENCE REMOVAL	FOOT	648			648
	X6640308	CHAIN LINK GATES (SPECIAL)	EACH	2			2
	X6640570	CHAIN LINK FENCE, 8' (SPECIAL)	FOOT	1,090			1,090
	X7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	L SUM	1			1
	X7040125	PINNING TEMPORARY CONCRETE BARRIER	EACH	60			60
	X7040305	TEMPORARY CONCRETE BARRIER, TERMINAL SECTION (SPECIAL)	EACH	1			1
+	X8040305	ELECTRICAL SERVICE CONNECTION	L SUM	1	1		
	Z0013798	CONSTRUCTION LAYOUT	L SUM	1			1
	Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	20			20
	Z0044298	PRESSURE CONNECTION TO EXISTING WATER MAIN	EACH	3			3
	Z0056608	STORM SEWER (WATER MAIN REQUIREMENTS) 12 INCH	FOOT	220			220
	X1200230	PRESSURE TESTING AND DISINFECTION	LSUM	1			1
	X0900087	MECHANICAL SCREEN	LSUM	1			1
	X1200226	DUCTILE IRON PIPE, FLANGED, 24"	FOOT	168			168
	X1200227	DUCTILE IRON PIPE, FLANGED, 30"	FOOT	59			59
	X1200228	DUCTILE IRON PIPE, FLANGED, 36"	FOOT	806			806
	X1200229	REINFORCED CONCRETE PRESSURE PIPE, 96"	FOOT	79			79
	X0100023	ROCK ANCHORS	EACH	54	54		
	X0900086	PRECAST PUMP STATION BUILDING	LSUM	1	1		
	X0100024	TEMPORARY EXCAVATION RETENTION SYSTEM (SPECIAL)	SQ FT	31,215	31,215		
	X0328002	GROUT CURTAIN WALL	CU FT	4,587	4,587		
	X1400369	SWITCHGEAR - 5KV	LSUM	1	1		
	Z0076600	TRAINEES	HOUR	5000	5000		
	X1400370	PS04 INTEGRATION AT REMOTE MONITORING STATIONS	LSUM	1	1		
	Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	5000	5000		

Ø 0042



FILE NAME = D191454-G008.DGN
 USER NAME = JKJELMA
 PLOT SCALE = 1.0000' / 1" =
 PLOT DATE = 5/30/2019

DESIGNED - HDR - M. KASPER	REVISED -
DRAWN - HDR - RHA	REVISED -
CHECKED - HDR - B. RIEDE	REVISED -
DATE - 05/30/2019	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
SUMMARY OF QUANTITIES**

SCALE: NONE SHEET OF SHEETS STA. TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	9
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

REV. - MS SHEET G008

PAY ITEM NO.	DESIGNATION	TOTAL	CALCULATION NOTES
21101505	TOPSOIL EXCAVATION AND PLACEMENT	0.0	WHEN G<A, THEN G OR WHEN G>A, THEN A
20200100	EARTH EXCAVATION	15875.0	B
20200200	ROCK EXCAVATION	0.0	C
20400800	FURNISHED EXCAVATION	0.0	WHEN F>E, THEN F-E

PUMP STATION 4- EARTHWORK SCHEDULE OF QUANTITIES

LOCATION (STATION)	LENGTH	EARTHWORK VOLUMES (CY)						EARTHWORK BALANCE
		TOPSOIL STRIPPING A	CUT B	ROCK EXCAVATION C	UNSUITABLE MATERIAL D	ADJUST FOR SHRINKAGE (15%) E <small>0.85 x (B-D)</small>	FILL F	[EXCESS (+) /SHORTAGE (-)] E-F
260+40		0.0	0.0	0.0	0.0	0.0	0.0	0.0
260+90	50.0	0.0	22.2	0.0	2.2	17.0	0.0	17.0
261+40	50.0	0.0	24.1	0.0	2.4	18.4	36.1	-17.7
261+90	50.0	0.0	14.8	0.0	1.5	11.3	100.0	-88.7
262+40	50.0	0.0	15.7	0.0	1.6	12.0	124.1	-112.0
262+45	5.5	0.0	2.1	0.0	0.2	1.6	13.2	-11.5
262+71	25.5	0.0	679.9	0.0	68.0	520.1	58.0	462.1
262+90	19.1	0.0	1078.2	0.0	107.8	824.8	38.8	785.9
263+09	19.5	0.0	1246.3	0.0	124.6	953.4	30.3	923.1
263+40	30.5	0.0	2518.2	0.0	251.8	1926.4	18.1	1908.3
263+49	9.2	0.0	920.1	0.0	92.0	703.9	0.0	703.9
263+68	19.5	0.0	1904.1	0.0	190.4	1456.7	0.0	1456.7
263+90	21.3	0.0	2010.4	0.0	201.0	1538.0	5.9	1532.1
264+25	35.8	0.0	3271.2	0.0	327.1	2502.5	167.0	2335.5
264+40	14.2	0.0	1055.2	0.0	105.5	807.2	130.9	676.3
264+54	14.2	0.0	658.2	0.0	65.8	503.5	221.6	281.9
264+77	23.2	0.0	413.0	0.0	41.3	315.9	384.6	-68.7
264+90	12.6	0.0	41.1	0.0	4.1	31.4	77.8	-46.3
TOTAL		0.0	15874.8	0.0	1587.5	12144.2	1406.3	10737.9

NOTE: FOR TOPSOIL QUANTITIES, SEE LANDSCAPING PLAN.

D:\P\4\APP\DK\NorthCentral\Omaha\Documents\061915\CON\07\431\000000002\7972\6.6\CAD_BIM\6.2_Mark..._In_Progress\6.2.2_CAD_Sheets\0191454-G009.dgn

2im GROUP
 D191454-G009.DGN
 2IM Group, LLC
 118 South Clinton St.
 Suite 350
 Chicago, IL 60661

USER NAME = bgreen	DESIGNED - 2IM - J. RUEDA	REVISED -
	DRAWN - 2IM - J. RUEDA	REVISED -
PLOT SCALE = 1.0000' / 1" =	CHECKED - HDR - B. RIEDE	REVISED -
PLOT DATE = 5/29/2019	DATE - 05/30/2019	REVISED -

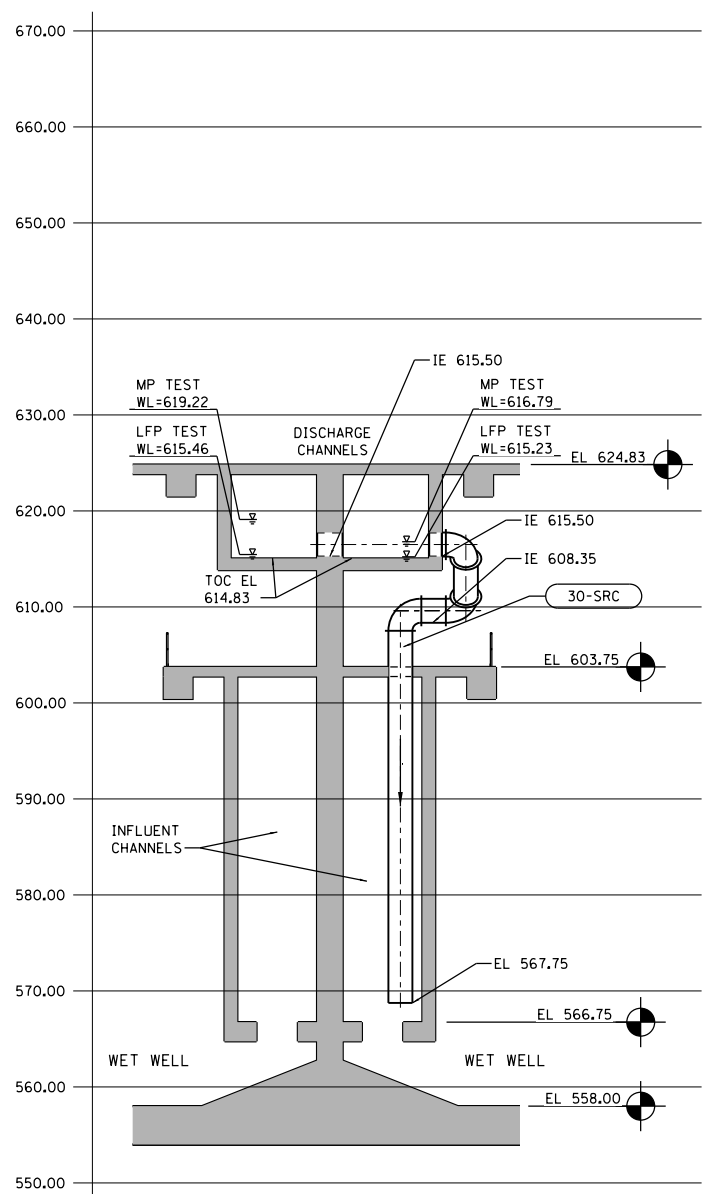
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
SCHEDULE OF QUANTITIES

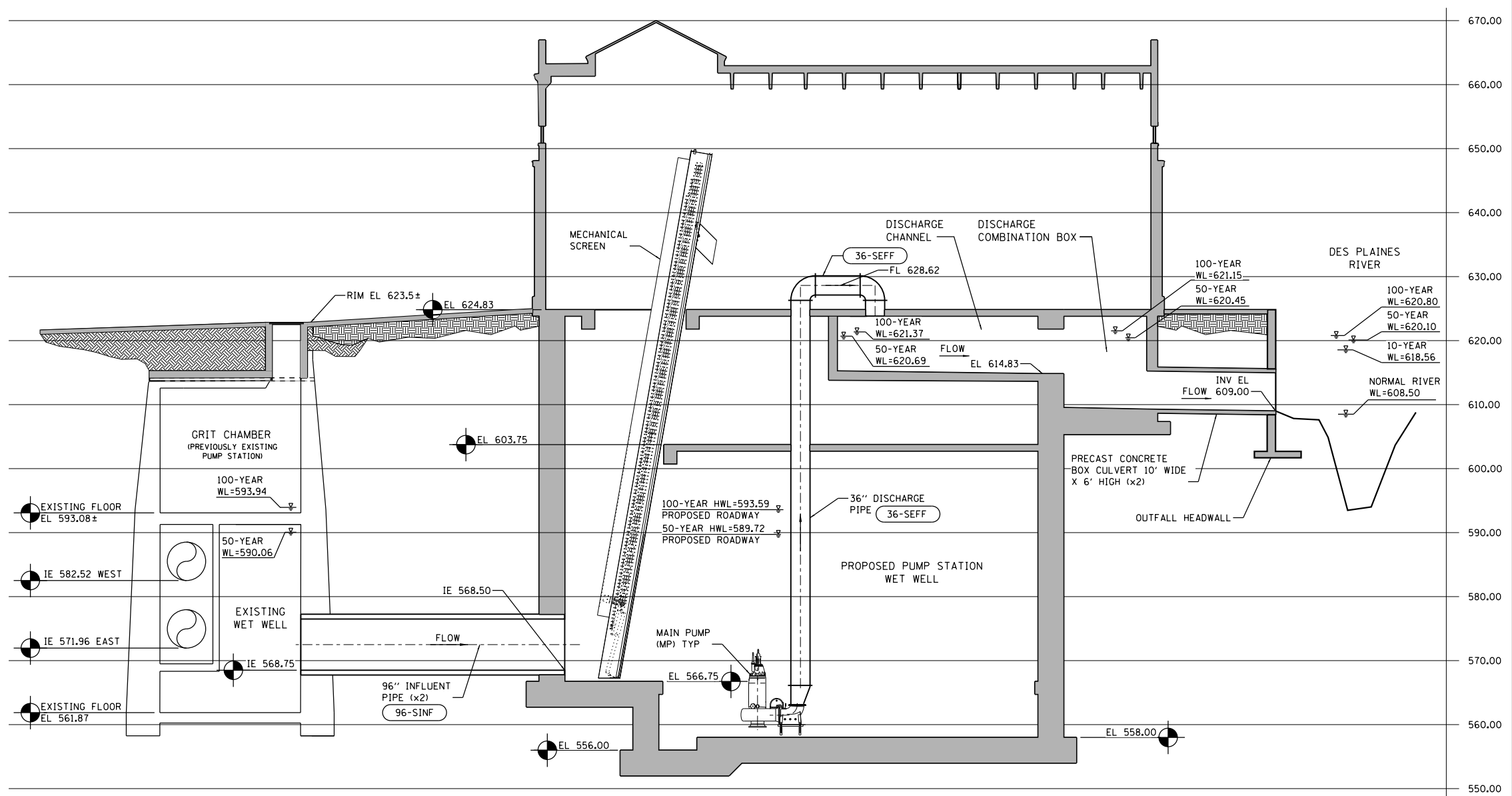
SCALE: NONE SHEET OF SHEETS STA. TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	10
			CONTRACT NO. 62B78	
<small>ILLINOIS FED. AID PROJECT</small>				

SHEET
G009



HYDRAULIC PROFILE – RECIRCULATION PIPING



HYDRAULIC PROFILE – PUMP STATION SITE

FILE NAME = D:\191454-G601.DGN
 USER NAME = bgreen
 DESIGNED - HDR - M. KASPER
 DRAWN - HDR - RHA
 CHECKED - HDR - B. RIEDE
 DATE - 05/30/2019
 PLOT SCALE = 1:8000 / 1"=80'
 PLOT DATE = 5/29/2019
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631



DESIGNED - HDR - M. KASPER	REVISED -
DRAWN - HDR - RHA	REVISED -
CHECKED - HDR - B. RIEDE	REVISED -
DATE - 05/30/2019	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

I-290 PUMP STATION NO. 4 RECONSTRUCTION			
HYDRAULIC PROFILE			
SCALE: NONE	SHEET	OF SHEETS	STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	11
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

SHEET
G601

MAINTENANCE OF TRAFFIC - GENERAL NOTES

1. THE SUGGESTED MAINTENANCE OF TRAFFIC CONTROL DEPICTED HERE IS THE MINIMUM REQUIREMENT. ADDITIONAL TRAFFIC CONTROL DEVICES AS SPECIFIED BY THE CURRENT VERSION OF THE IDOT HIGHWAY STANDARDS, THE CURRENT VERSION OF THE ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE SPECIAL PROVISIONS AND AS DIRECTED BY THE ENGINEER SHALL BE PLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.
2. THE CONTRACTOR SHALL INSTALL AND MAINTAIN PROPOSED AND TEMPORARY DRAINAGE SYSTEMS INCLUDING TEMPORARY DITCHES, AND EROSION CONTROL THROUGHOUT STAGED CONSTRUCTION SUCH THAT DRAINAGE FLOWS ARE MAINTAINED AT ALL TIMES DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, UTILIZE PUMPS TO ELIMINATE STANDING WATER. METHODS USED BY THE CONTRACTOR SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER. THE COST OF THIS WORK SHALL BE CONSIDERED INCLUDED IN THE UNIT PRICE FOR THE ITEMS BEING PERFORMED. NO ADDITIONAL COMPENSATION SHALL BE PROVIDED.
3. PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE LOCATED ALONG EASTBOUND I-290. THE EXACT LOCATION AND MESSAGE SHALL BE APPROVED BY THE ENGINEER. THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CALENDAR DAY FOR "CHANGEABLE MESSAGE SIGN".
4. COORDINATION OF MAINTENANCE OF TRAFFIC: THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO THE FACT THAT OTHER SEPARATE CONTRACTS ARE, OR MAY BE, IN FORCE THAT INTERSECT THE LIMITS OF THIS PROJECT. THE CONTRACTOR SHALL COOPERATE WITH THE OTHER CONTRACTORS IN THE PHASING AND PERFORMANCE OF THIS WORK SO AS NOT TO DELAY, INTERRUPT, OR HINDER THE PROGRESS OR COMPLETION OF THE WORK BEING PERFORMED BY OTHER CONTRACTORS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR COMPLIANCE WITH THE ABOVE REQUIREMENTS, NOR FOR ANY DELAYS OR INCONVENIENCES RESULTING FROM THE ACTIVITIES OF OTHER CONTRACTORS. SHOULD A CONFLICT ARISE BETWEEN THE CONTRACTORS WITH RESPECT TO SEQUENCE OF CONSTRUCTION OR MAINTENANCE OF TRAFFIC REQUIREMENTS, SAID CONFLICTS SHALL BE RESOLVED BY OR AT THE DIRECTION OF THE ENGINEER.
5. A MINIMUM ONE-FOOT SHY DISTANCE BETWEEN BARRICADES OR TEMPORARY CONCRETE BARRIER AND THE ADJACENT TRAVEL LANE SHALL BE PROVIDED THROUGHOUT. ALL LOCATIONS WHERE POSSIBLE A MINIMUM TWO-FOOT SHALL BE PROVIDED.
6. TEMPORARY CONCRETE BARRIER SHALL BE PINNED AT ALL LOCATIONS WHERE A MINIMUM OF 3'-6" CANNOT BE PROVIDED FROM THE FACE OF THE BARRIER WALL TO ANY ADJACENT DROP-OFFS OR WORK ZONES. THE COST FOR PINNING SHALL BE PAID AT THE UNIT PRICE FOR PINNING TEMPORARY CONCRETE BARRIER (X7040125).
7. NO WORK SHALL COMMENCE UNTIL TRAFFIC CONTROL REQUIREMENTS ARE MET. THE ENGINEER SHALL BE THE SOLE JUDGE IN DETERMINING WHETHER TRAFFIC CONTROL REQUIREMENTS ARE MET.
8. EXISTING CONFLICTING PAVEMENT MARKINGS AND PAVEMENT MARKER REFLECTOR LENSES SHALL BE REMOVED. THE COST FOR REMOVAL SHALL BE PAID AT THE UNIT PRICE FOR PAVEMENT MARKING REMOVAL - WATER BLASTING AND RAISED REFLECTIVE MARKER, REFLECTOR REMOVAL.
9. THE CONTRACTOR SHALL REPLACE ALL EXISTING PAVEMENT MARKINGS AND PAVEMENT MARKER REFLECTOR LENSES REMOVED FOR TRAFFIC CONTROL AS SHOWN IN THE PAVEMENT MARKING PLAN AND IN ACCORDANCE WITH IDOT DISTRICT 1 DETAIL TC-12.
10. INTERSTATE 290 SHALL REMAIN OPEN TO TRAFFIC AT ALL TIMES UNLESS OTHERWISE DESIGNATED IN THE PLANS, SPECIAL PROVISIONS, OR BY THE ENGINEER. WHEN NECESSARY TO CLOSE ONE LANE DUE TO CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF TWO LANES OF TRAFFIC IN THE EASTBOUND DIRECTION DURING CONSTRUCTION HOURS WITH THE USE OF SIGNS, BARRICADES AND FLAGMEN AS SHOWN ON THE TRAFFIC CONTROL STANDARDS.
11. ALL ROAD SIGNS, STREET SIGNS AND TRAFFIC SIGNS WHICH NEED TO BE RELOCATED OR MOVED DUE TO CONSTRUCTION SHALL BE TAKEN DOWN AND STORED BY THE CONTRACTOR EXCEPT THOSE THAT ARE NECESSARY FOR PROPER TRAFFIC CONTROL WHICH SHALL BE TEMPORARILY RESET UNTIL COMPLETION OF CONSTRUCTION OPERATIONS. THE WORK SHALL BE IN ACCORDANCE WITH ARTICLE 107.25. RELOCATION OF ALL SIGNS WILL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (SPECIAL).
12. THE OUTSIDE EASTBOUND PARAPET WALL FOR THE BRIDGE OVER THE DES PLAINES RIVER SHALL NOT BE EXPOSED TO TRAFFIC AT ANY TIME AFTER THE REMOVAL OF THE ADJACENT SAND MODULE IMPACT ATTENUATOR BARRELS OR RELOCATION OF THE TEMPORARY CONCRETE BARRIER SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC PLAN.

P:_P\468P\04681\NorthCentral\Omaha\Documents\001915\CON0078431\00000000271972\6.0_CAD_BIM\6.2_Work\In_Progress\6.2.2_CAD_Sheets\0191454-TC001.dgn

FILE NAME = D191454-TC001.DGN
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

USER NAME = bgreen	DESIGNED - JK	REVISED -
PLOT SCALE = NONE / in.	DRAWN - JK	REVISED -
PLOT DATE = 5/29/2019	CHECKED - EN	REVISED -
	DATE - 05/30/2019	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
MAINTENANCE OF TRAFFIC - NOTES**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	12
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

SHEET
TC001

MAINTENANCE OF TRAFFIC - SEQUENCING

PRE-STAGE

CONSTRUCTION:

SETUP ALL TRAFFIC CONTROL DEVICES, SIGNAGE, AND TEMPORARY CONCRETE BARRIER WALL FOR STAGE 1.

TRAFFIC CONTROL:

I-290 TRAVEL LANES TO REMAIN IN THE EXISTING CONFIGURATION.

UTILIZE STANDARDS TC-17 (DISTRICT 1) AND 701106 FOR ALL SHOULDER CLOSURES AND OFF-ROAD OPERATIONS

UTILIZE STANDARDS 701400, 701401, AND 701428 FOR SINGLE LANE CLOSURES DURING ALLOWABLE HOURS LISTED IN THE KEEPING THE EXPRESSWAY OPEN TO TRAFFIC SPECIAL PROVISION.

STAGE 1

CONSTRUCTION:

ALONG EASTBOUND I-290, REMOVE EXISTING CONCRETE BARRIER WALL, CURB AND GUTTER, AND SHOULDER. CONSTRUCT PROPOSED GUARDRAIL AND SHOULDER, AND PERFORM ROADSIDE GRADING.

TRAFFIC CONTROL:

I-290 TRAVEL LANE WIDTH REDUCTION AND SHIFT AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC PLAN.

TEMPORARY CONCRETE BARRIER TO REMAIN ALONG THE INSIDE OF THE EASTBOUND I-290 OUTSIDE SHOULDER AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC PLAN.

UTILIZE STANDARD TC-17 (DISTRICT 1) FOR SHOULDER CLOSURE AND OFF-ROAD OPERATIONS. UTILIZE STANDARD TC-18 (DISTRICT 1) FOR WORK ZONE ACCESS.

PRE-STAGE 2

CONSTRUCTION:

ONCE ALL REMOVAL AND CONSTRUCTION ACTIVITIES ALONG EASTBOUND I-290 ADJACENT TO THE OUTSIDE EDGE OF PAVEMENT ARE COMPLETE, RELOCATE THE TEMPORARY CONCRETE BARRIER WALL FOR STAGE 2 AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC PLAN.

REMOVAL OF THE EXISTING SAND MODULE IMPACT ATTENUATOR BARRELS AS SHOWN IN THE DEMOLITION PLAN.

TRAFFIC CONTROL:

I-290 TRAVEL LANES TO REMAIN IN THE STAGE 1 CONFIGURATION.

UTILIZE STANDARDS 701400, 701401, AND 701428 FOR SINGLE LANE CLOSURES DURING ALLOWABLE HOURS LISTED IN THE KEEPING THE EXPRESSWAY OPEN TO TRAFFIC SPECIAL PROVISION.

STAGE 2

CONSTRUCTION:

PERFORM ALL REMAINING CONSTRUCTION AND REMOVAL ACTIVITIES AS REQUIRED IN THE CONTRACT.

AT THE END OF STAGE 2 RELOCATE TEMPORARY CONCRETE BARRIER AND IMPACT ATTENUATOR TO THE FINAL TO REMAIN IN PLACE LOCATION SHOWN ON THE SITE PLAN AND INSTALL PERMANENT PAVEMENT MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLAN.

TRAFFIC CONTROL:

I-290 TRAVEL LANES TO REMAIN IN THE STAGE 1 CONFIGURATION.

TEMPORARY CONCRETE BARRIER TO REMAIN AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC PLAN PRIOR TO FINAL RELOCATION AS NOTED IN STAGE 2 CONSTRUCTION SECTION ABOVE.

UTILIZE STANDARD TC-17 (DISTRICT 1) FOR SHOULDER CLOSURE AND OFF-ROAD OPERATIONS. UTILIZE STANDARD TC-18 (DISTRICT 1) FOR WORK ZONE ACCESS.

UTILIZE STANDARDS 701400 AND 701401 DURING ALLOWABLE HOURS LISTED IN THE KEEPING THE EXPRESSWAY OPEN TO TRAFFIC SPECIAL PROVISION FOR ITS WORK IN THE I-290 ROADWAY.

P:\1\41454-TC002\Drawings\Traffic\Traffic Control\Traffic Control.dwg, 5/29/2019 10:00:00 AM, bgreen

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 HDR, Inc. 8550 W. Bryn Mawr Ave., Suite 900 Chicago, IL 60631	DRAWN - JK	REVISOR -	
	PLOT SCALE = NONE / in.	CHECKED - EN	REVISOR -
	PLOT DATE = 5/29/2019	DATE - 05/30/2019	REVISOR -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
MAINTENANCE OF TRAFFIC - SEQUENCING**

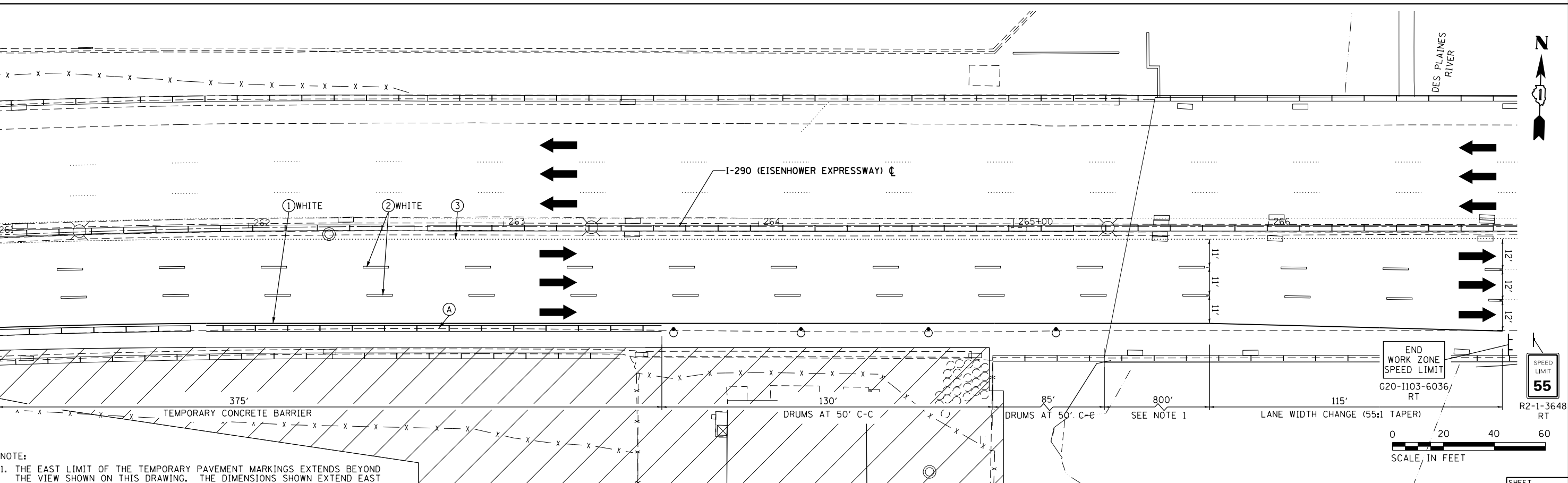
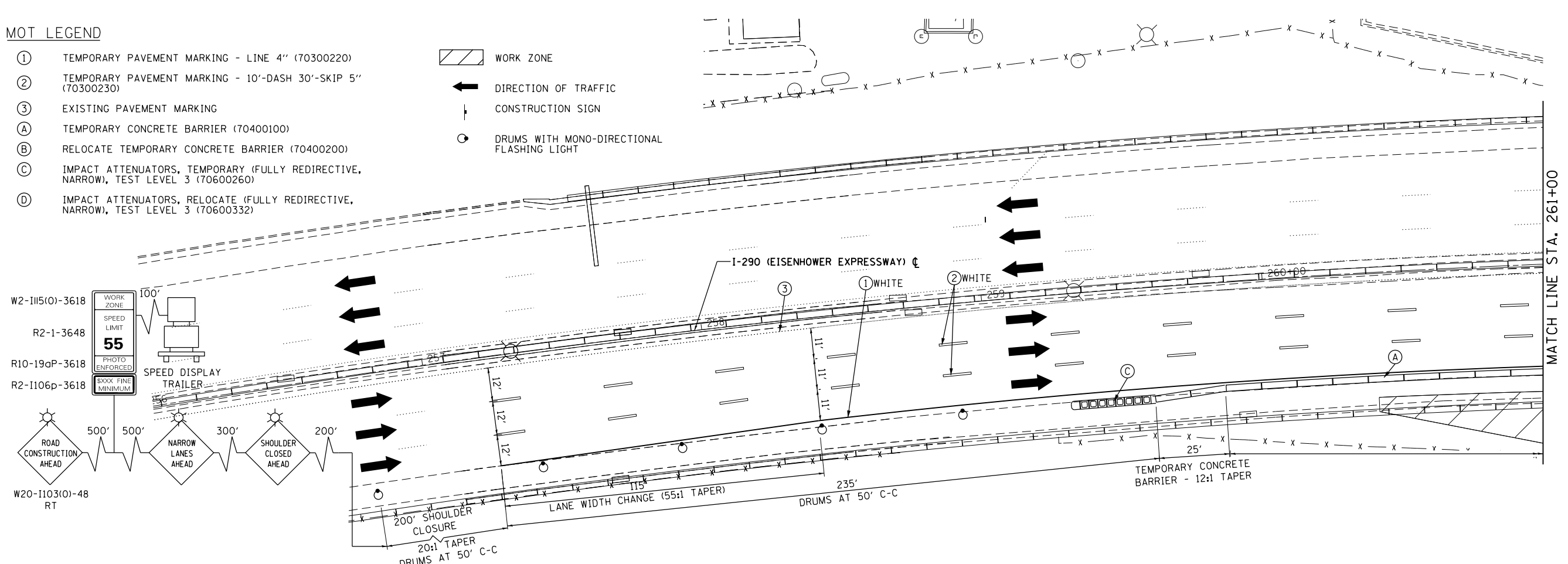
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F.A.I. RTE.	SECTION	COUNTY	TOTAL	SHEET
			SHEETS	NO.
290	3434-2321-R	COOK	232	13
			CONTRACT NO. 62B78	
ILLINOIS FED. AID PROJECT				

SHEET
TC002

MOT LEGEND

- ① TEMPORARY PAVEMENT MARKING - LINE 4" (70300220)
 - ② TEMPORARY PAVEMENT MARKING - 10'-DASH 30'-SKIP 5" (70300230)
 - ③ EXISTING PAVEMENT MARKING
 - (A) TEMPORARY CONCRETE BARRIER (70400100)
 - (B) RELOCATE TEMPORARY CONCRETE BARRIER (70400200)
 - (C) IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3 (70600260)
 - (D) IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3 (70600332)
- WORK ZONE
 - DIRECTION OF TRAFFIC
 - CONSTRUCTION SIGN
 - DRUMS WITH MONO-DIRECTIONAL FLASHING LIGHT



NOTE:
1. THE EAST LIMIT OF THE TEMPORARY PAVEMENT MARKINGS EXTENDS BEYOND THE VIEW SHOWN ON THIS DRAWING. THE DIMENSIONS SHOWN EXTEND EAST OF THE I-290 BRIDGE OVER THE DES PLAINES RIVER.

FILE NAME = D:\191454-TC101.DGN
 USER NAME = bgreen
 DESIGNED - JK
 DRAWN - JK
 CHECKED - EN
 DATE - 05/30/2019
 REVISIONS:
 REVISIONS -
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 REVISIONS -



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Chicago, IL 60631

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
MAINTENANCE OF TRAFFIC - STAGE 1 PLAN

SCALE: 1"=20'
SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	14
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

SHEET TC101







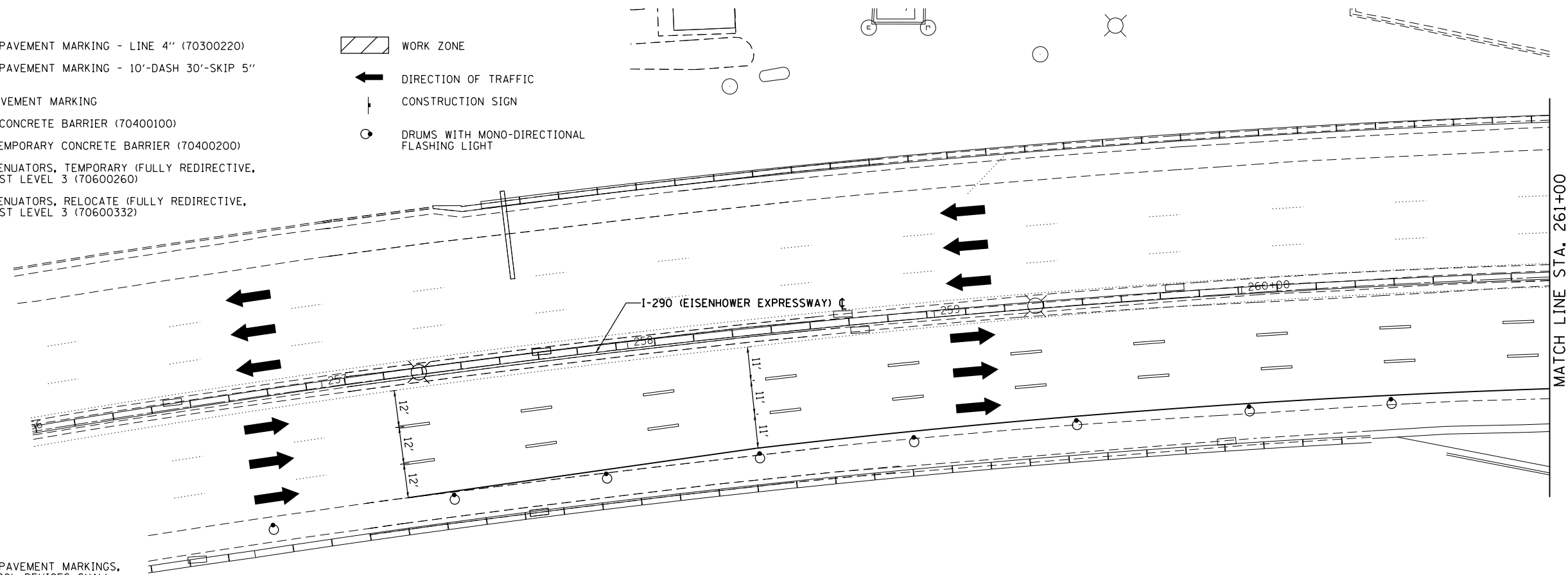
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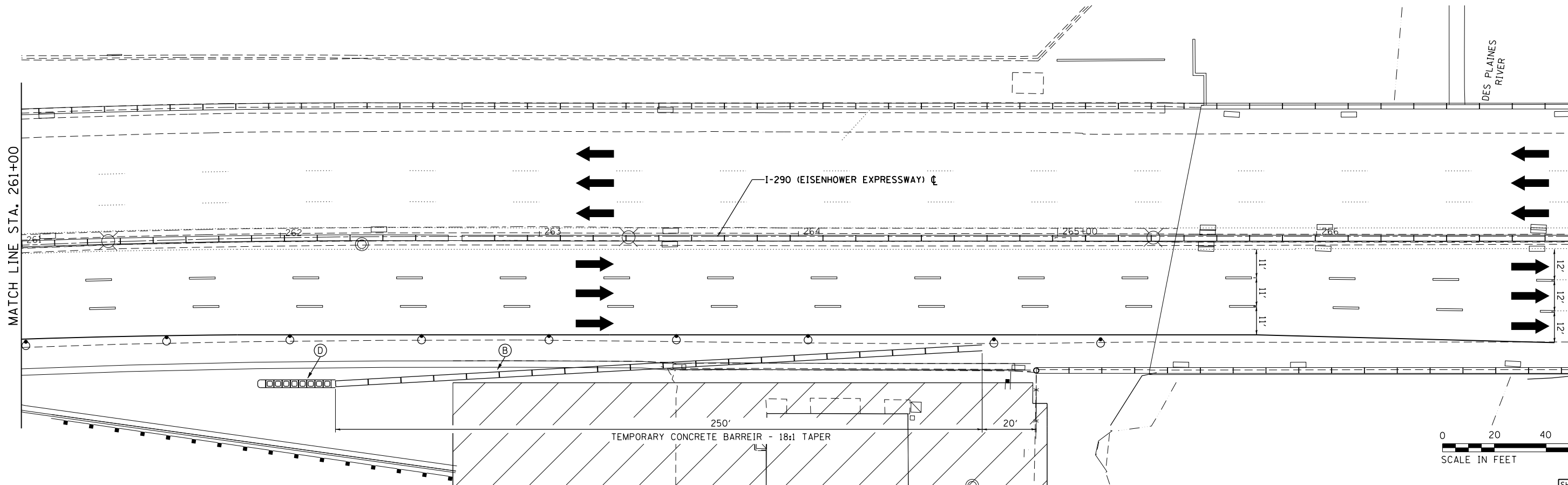
MOT LEGEND

- ① TEMPORARY PAVEMENT MARKING - LINE 4" (70300220)
- ② TEMPORARY PAVEMENT MARKING - 10'-DASH 30'-SKIP 5" (70300230)
- ③ EXISTING PAVEMENT MARKING
- Ⓐ TEMPORARY CONCRETE BARRIER (70400100)
- Ⓑ RELOCATE TEMPORARY CONCRETE BARRIER (70400200)
- Ⓒ IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3 (70600260)
- Ⓓ IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3 (70600332)

-  WORK ZONE
-  DIRECTION OF TRAFFIC
-  CONSTRUCTION SIGN
-  DRUMS WITH MONO-DIRECTIONAL FLASHING LIGHT



NOTE:
1. ALL TEMPORARY SIGNING, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL REMAIN IN THE STAGE 1 CONFIGURATION UNLESS SPECIFIED OTHERWISE.



D:\Projects\2019\I-290 Pump Station No. 4 Reconstruction\Drawings\Stage 2\TC102.dgn

FILE NAME = D191454-TC102.DGN
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

USER NAME = bgreen
 DESIGNED - JK
 DRAWN - JK
 PLOT SCALE = 20.0000' / in.
 CHECKED - EN
 PLOT DATE = 5/29/2019

REVISIED -
 REVISIED -
 REVISIED -
 REVISIED -

DATE - 05/30/2019

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
 MAINTENANCE OF TRAFFIC - STAGE 2 PLAN

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

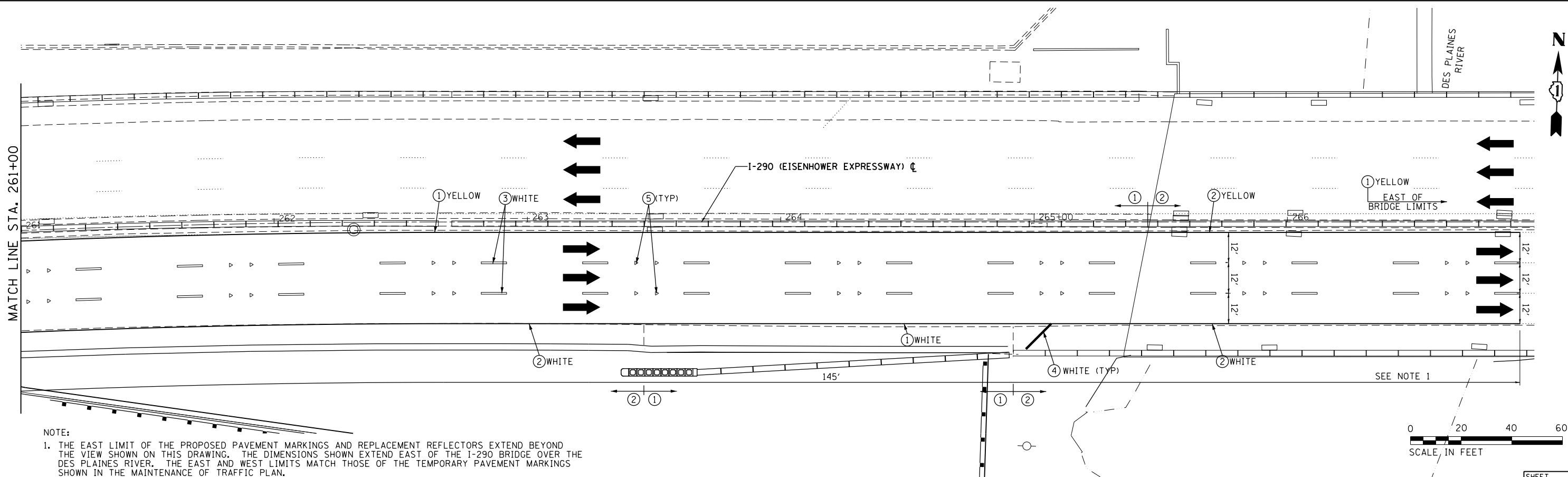
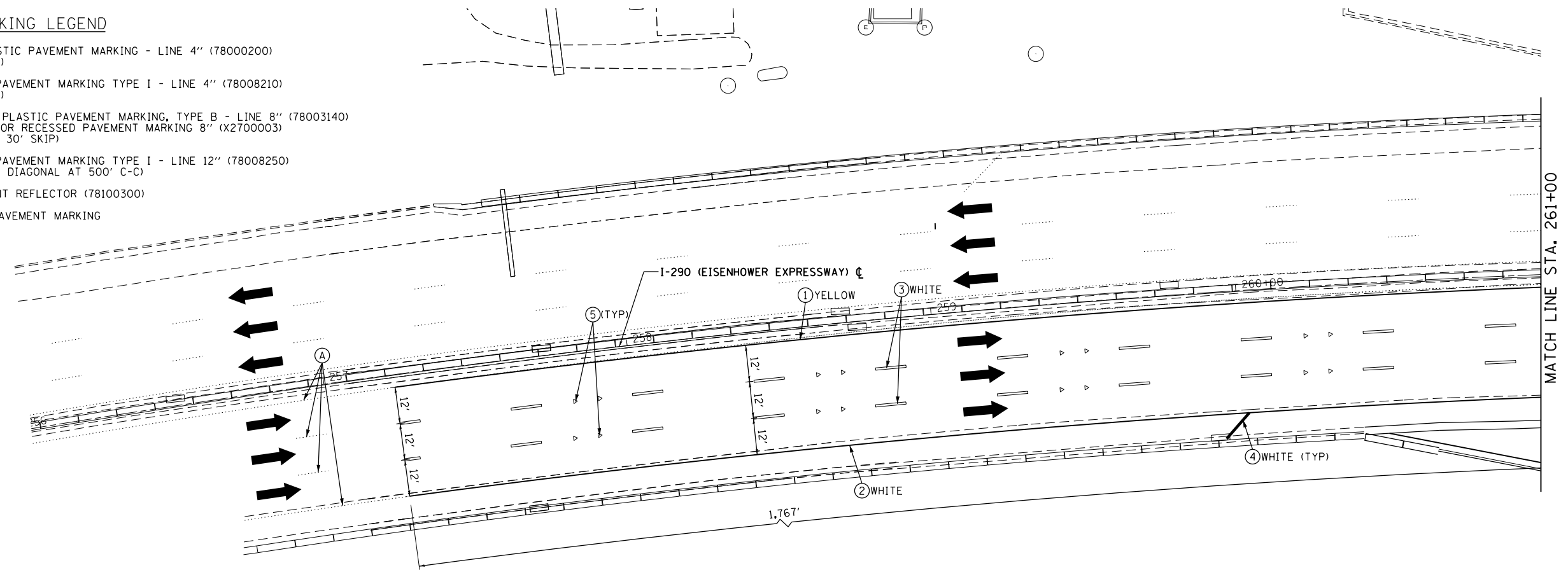
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290	3434-2321-R	COOK	232	15
CONTRACT NO. 62B78				

SHEET TC102

ILLINOIS FED. AID PROJECT

PAVEMENT MARKING LEGEND

- ① THERMOPLASTIC PAVEMENT MARKING - LINE 4" (78000200) (SOLID LINE)
- ② POLYUREA PAVEMENT MARKING TYPE I - LINE 4" (78008210) (SOLID LINE)
- ③ PREFORMED PLASTIC PAVEMENT MARKING, TYPE B - LINE 8" (78003140) GROOVING FOR RECESSED PAVEMENT MARKING 8" (X2700003) (10' DASH - 30' SKIP)
- ④ POLYUREA PAVEMENT MARKING TYPE I - LINE 12" (78008250) (SOLID LINE DIAGONAL AT 500' C-C)
- ⑤ REPLACEMENT REFLECTOR (78100300)
- Ⓐ EXISTING PAVEMENT MARKING



NOTE:
 1. THE EAST LIMIT OF THE PROPOSED PAVEMENT MARKINGS AND REPLACEMENT REFLECTORS EXTEND BEYOND THE VIEW SHOWN ON THIS DRAWING. THE DIMENSIONS SHOWN EXTEND EAST OF THE I-290 BRIDGE OVER THE DES PLAINES RIVER. THE EAST AND WEST LIMITS MATCH THOSE OF THE TEMPORARY PAVEMENT MARKINGS SHOWN IN THE MAINTENANCE OF TRAFFIC PLAN.

P:\1\4\APP\0408\Hort-Cent-el_Omaha\Documents\001915\CD\00078431\000000000271972\6.6.CAD_BIM\6.2_Work\In_Progress\6.2.2_CAD_Sheets\0191454-TC103.dgn

HDR
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
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USER NAME = bgreen
 DESIGNED - JK
 DRAWN - JK
 PLOT SCALE = 20.0000' / in.
 CHECKED - EN
 PLOT DATE = 5/29/2019

DESIGNED - JK
 DRAWN - JK
 CHECKED - EN
 DATE - 05/30/2019

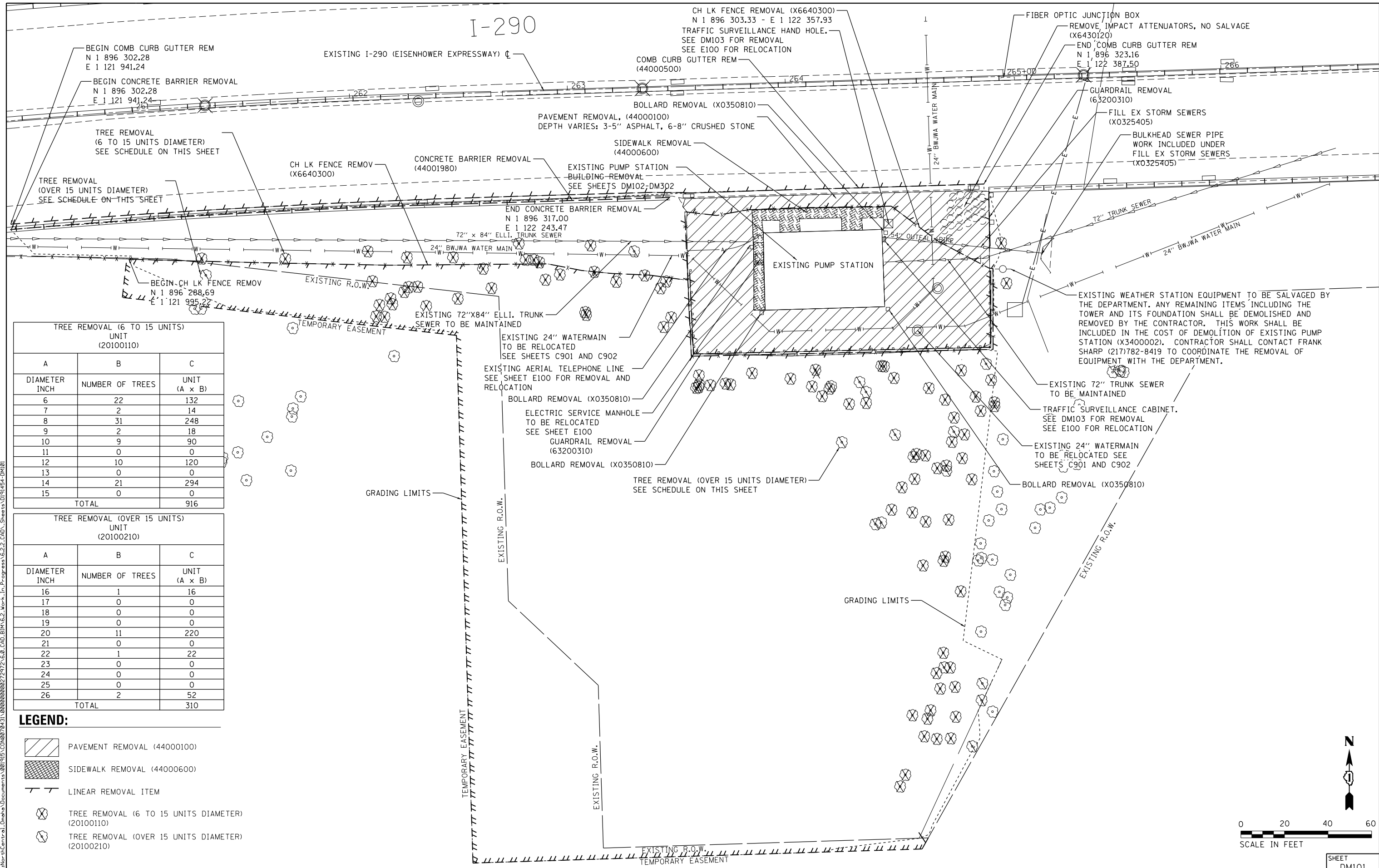
REVISED -
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
 PAVEMENT MARKING PLAN**
 SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	16
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

SHEET
 TC103



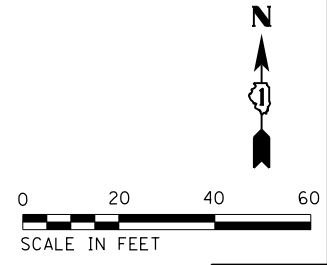
TREE REMOVAL (6 TO 15 UNITS) UNIT (20100110)

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DIAMETER INCH	NUMBER OF TREES	UNIT (A x B)
6	22	132
7	2	14
8	31	248
9	2	18
10	9	90
11	0	0
12	10	120
13	0	0
14	21	294
15	0	0
TOTAL		916

TREE REMOVAL (OVER 15 UNITS) UNIT (20100210)

A	B	C
DIAMETER INCH	NUMBER OF TREES	UNIT (A x B)
16	1	16
17	0	0
18	0	0
19	0	0
20	11	220
21	0	0
22	1	22
23	0	0
24	0	0
25	0	0
26	2	52
TOTAL		310

- LEGEND:**
- PAVEMENT REMOVAL (44000100)
 - SIDEWALK REMOVAL (44000600)
 - LINEAR REMOVAL ITEM
 - TREE REMOVAL (6 TO 15 UNITS DIAMETER) (20100110)
 - TREE REMOVAL (OVER 15 UNITS DIAMETER) (20100210)



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D191454-DM101.DGN
2im Group, LLC
 118 South Clinton St.
 Suite 350
 Chicago, IL 60661

USER NAME = bgreen
PLOT SCALE = 20.0000' / 1"
PLOT DATE = 5/29/2019

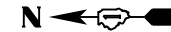
DESIGNED - 21M - J. RUEDA	REVISED -
DRAWN - 21M - J. RUEDA	REVISED -
CHECKED - 21M - Y. KIM	REVISED -
DATE - 03/15/2019	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
SITE DEMOLITION PLAN
 SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	17
CONTRACT NO. 62B78				

ILLINOIS FED. AID PROJECT	
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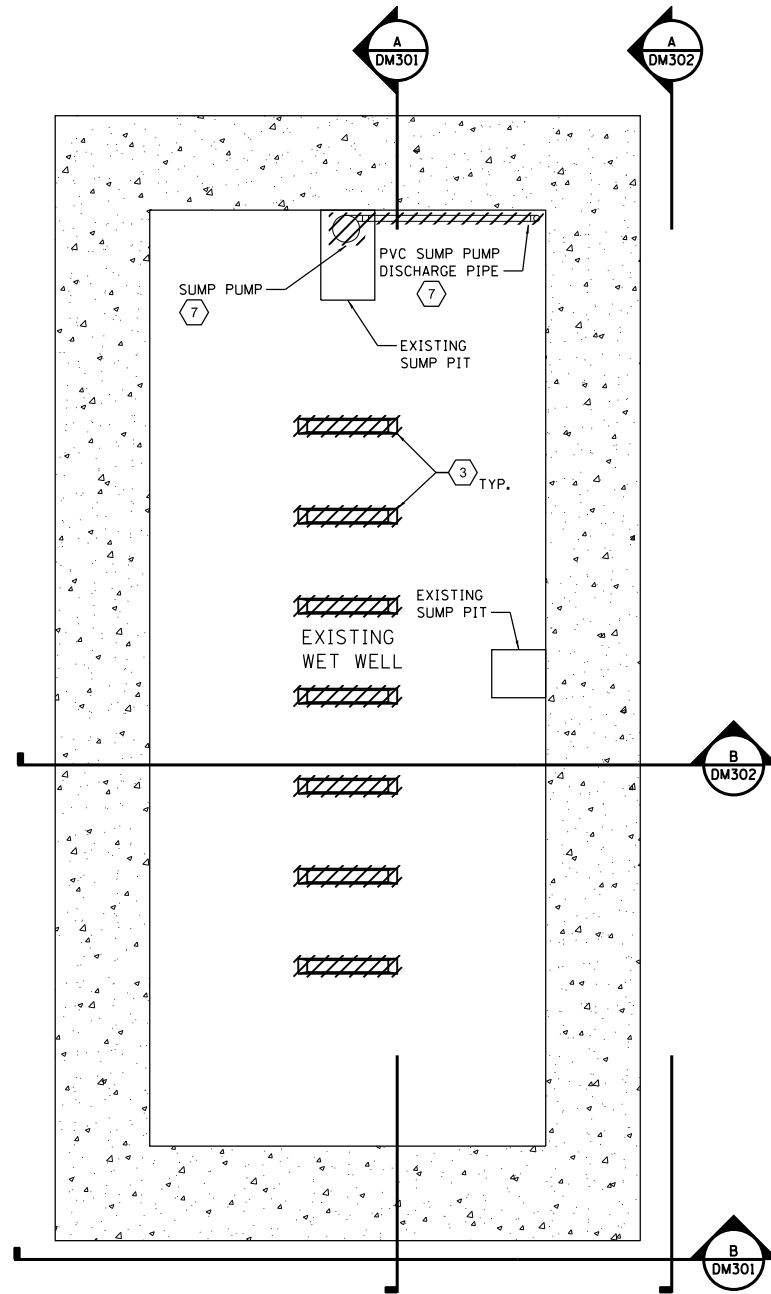


GENERAL NOTES

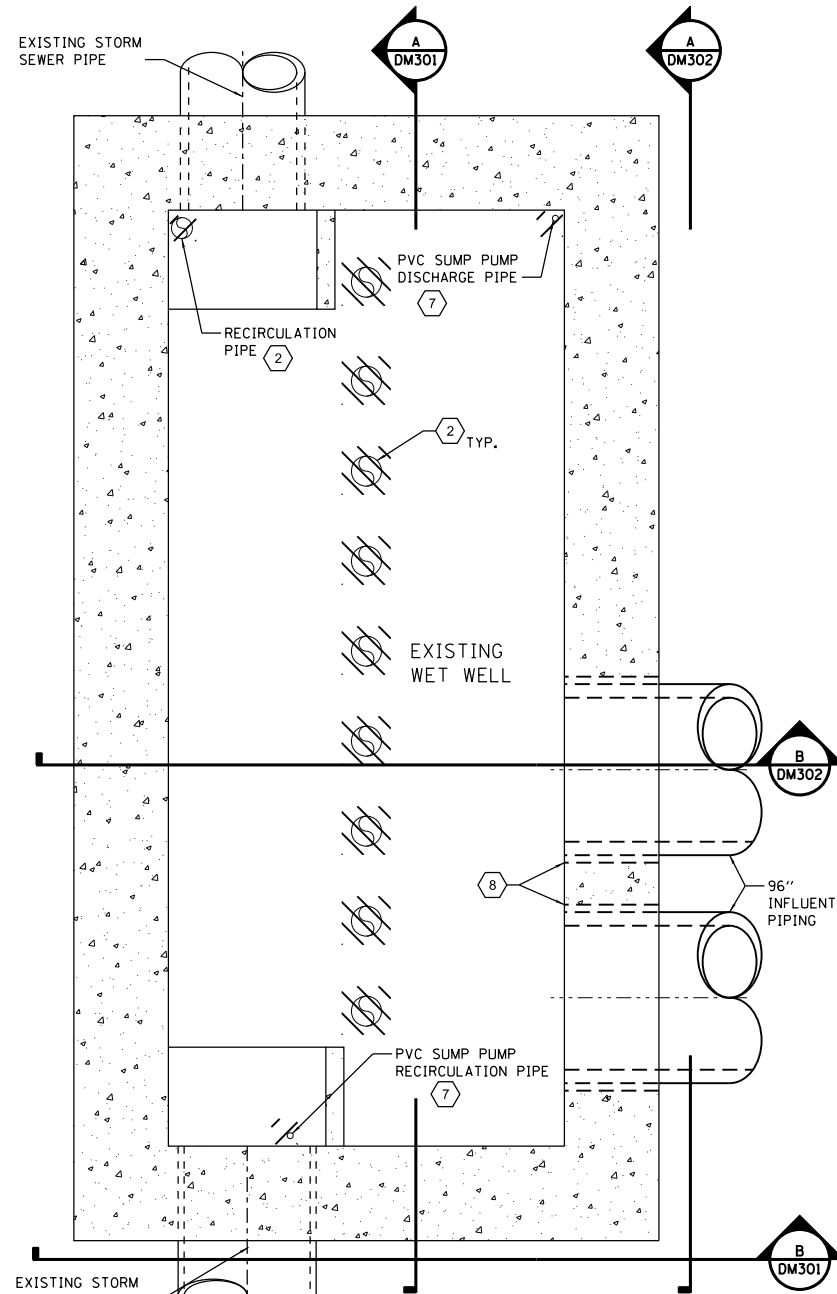
- WITH THE EXCEPTION OF THE INFLUENT PIPING TIE-IN WORK BETWEEN THE EXISTING AND NEW PUMP STATION, NO DEMOLITION IS TO BE STARTED BEFORE THE NEW PUMP STATION IS FULLY OPERATIONAL, ACCEPTED, AND AUTHORIZED BY ENGINEER IN A WRITTEN DIRECTIVE.
- DEMOLITION WORK SHALL BE PERFORMED AND COMPLETED DURING DRY WEATHER CONDITIONS.
- THE EXISTING PUMP STATION SHALL REMAIN IN OPERATION UNTIL FINAL ACCEPTANCE OF THE NEW PUMP STATION BY THE ENGINEER.

KEY NOTES

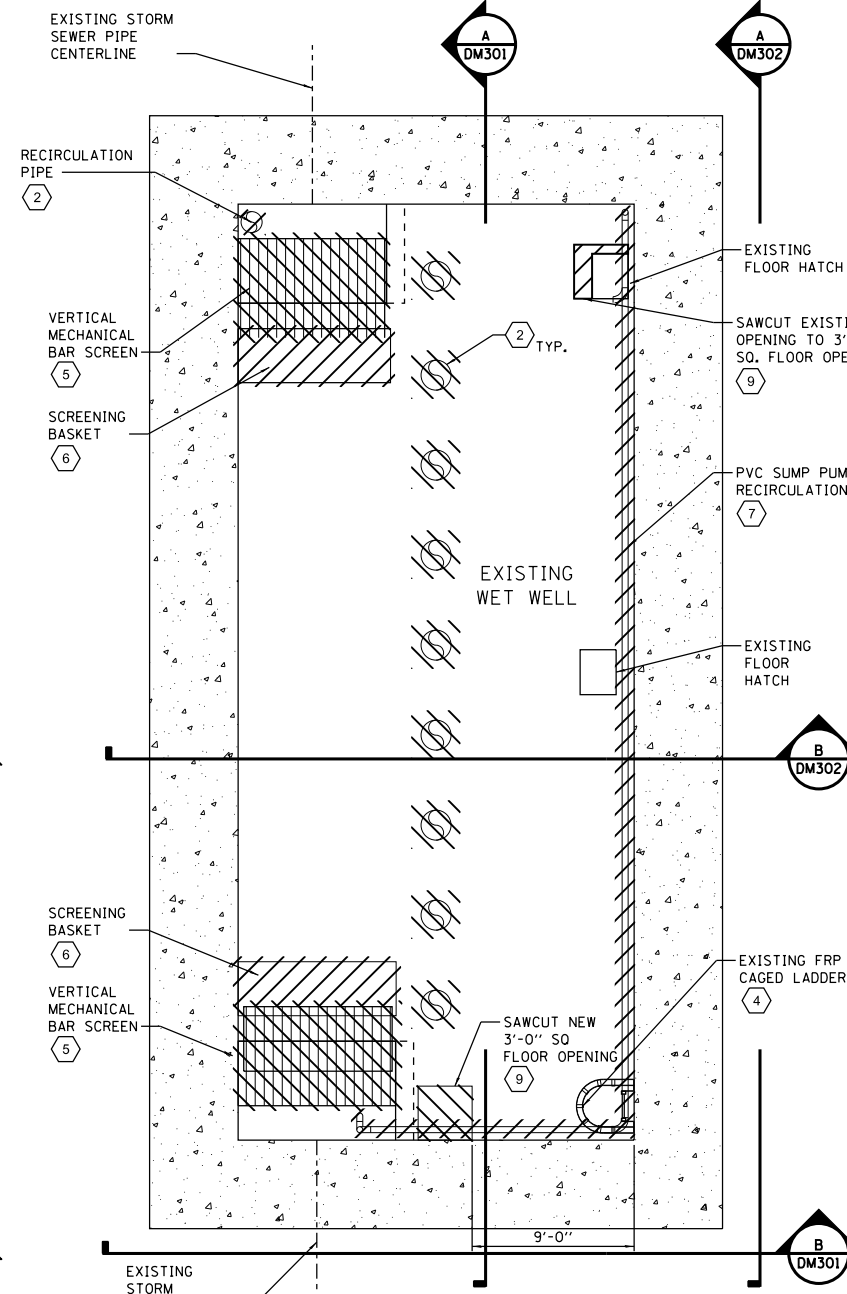
- NOT USED THIS SHEET
- REMOVE AND DISPOSE OF PUMPS, DISCHARGE PIPING, RECIRCULATION PIPING, FITTINGS AND APPURTENANT ITEMS.
- REMOVE BAFFLE WALLS AND REPAIR FLOOR.
- REMOVE AND DISPOSE OF LADDER AND APPURTENANT ITEMS.
- REMOVE AND DISPOSE OF EXISTING MECHANICAL BAR SCREEN.
- REMOVE AND DISPOSE SCREENING BASKET AND APPURTENANT ITEMS.
- REMOVE AND DISPOSE OF EXISTING SUMP AND DISCHARGE PIPING.
- CONTRACTOR SHALL MAKE PENETRATIONS THROUGH THE EXISTING PUMP STATION WALL TO RECEIVE NEW INFLUENT PIPING INVERT AND GRADE AND CREATE A WATERTIGHT SEAL AROUND THE PIPING PENETRATION.
- CUT NEW OPENING BY CORE DRILLING 4" DIA. HOLES AT EACH CORNER PRIOR TO CUTTING STRAIGHT SIDES. AVOID OVER CUTS @ CORNERS BY HAND CHIPPING AS REQUIRED. DRILL OUT ENDS OF ALL EXPOSED REBAR, MINIMUM 1/2" DEEP PATCH WITH EPOXY GROUT.



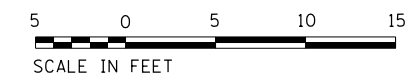
PLAN AT ELEVATION 561.87



PLAN AT ELEVATION 583.00



PLAN AT ELEVATION 593.08



FILE NAME = D191454-DM102.DGN USER NAME = bgreen DESIGNED - HDR - M. KASPER REVISED - DRAWN - HDR - RHA REVISED - CHECKED - HDR - E. BERGGREN REVISED - DATE - 05/30/2019 REVISED -



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DESIGNED - HDR - M. KASPER	REVISED -
DRAWN - HDR - RHA	REVISED -
CHECKED - HDR - E. BERGGREN	REVISED -
DATE - 05/30/2019	REVISED -

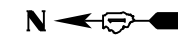
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
EXISTING PUMP STATION DEMOLITION PLANS**

SCALE: 3/8"=1'-0" SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	18
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

SHEET
DM102

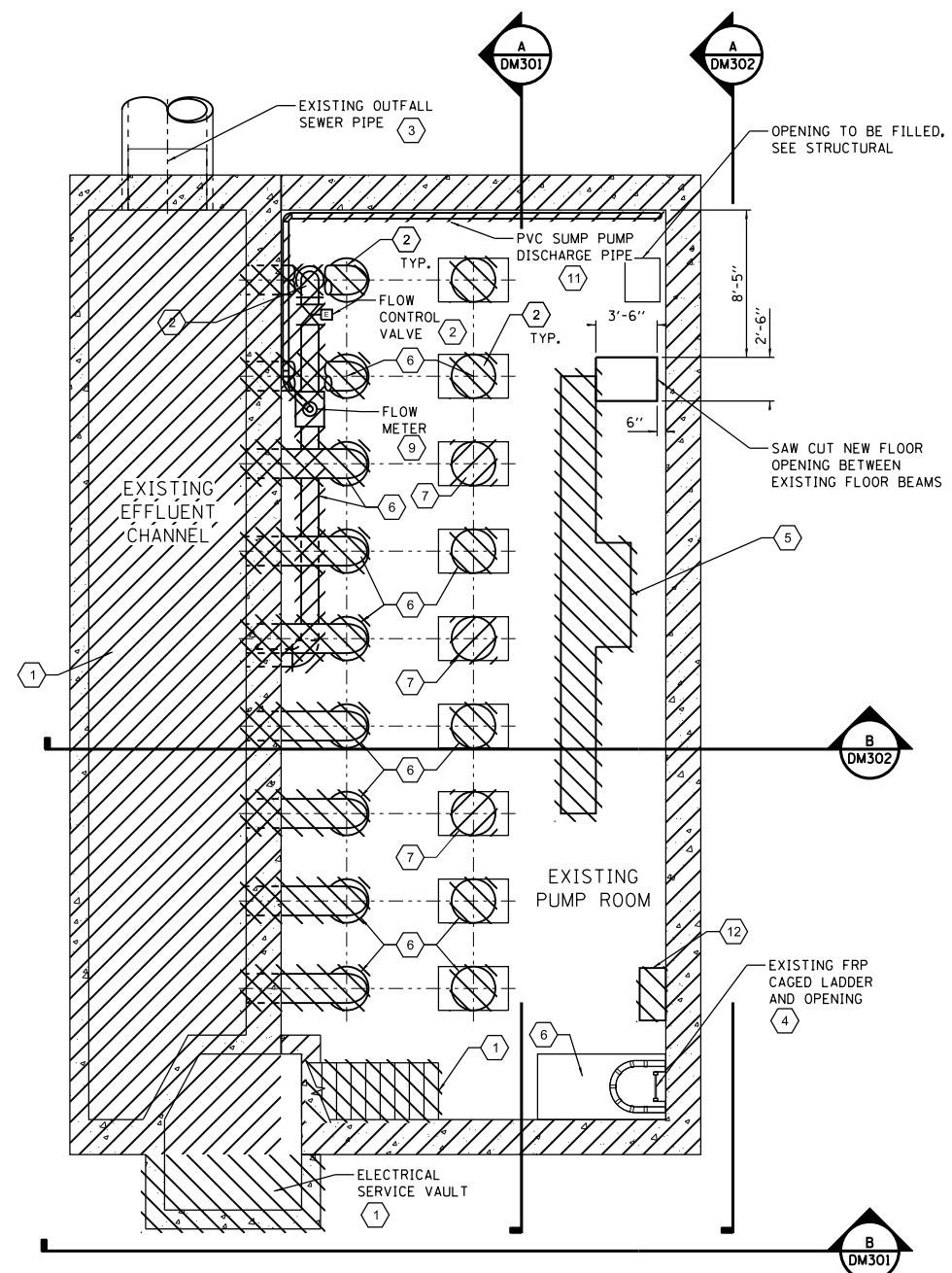


GENERAL NOTES

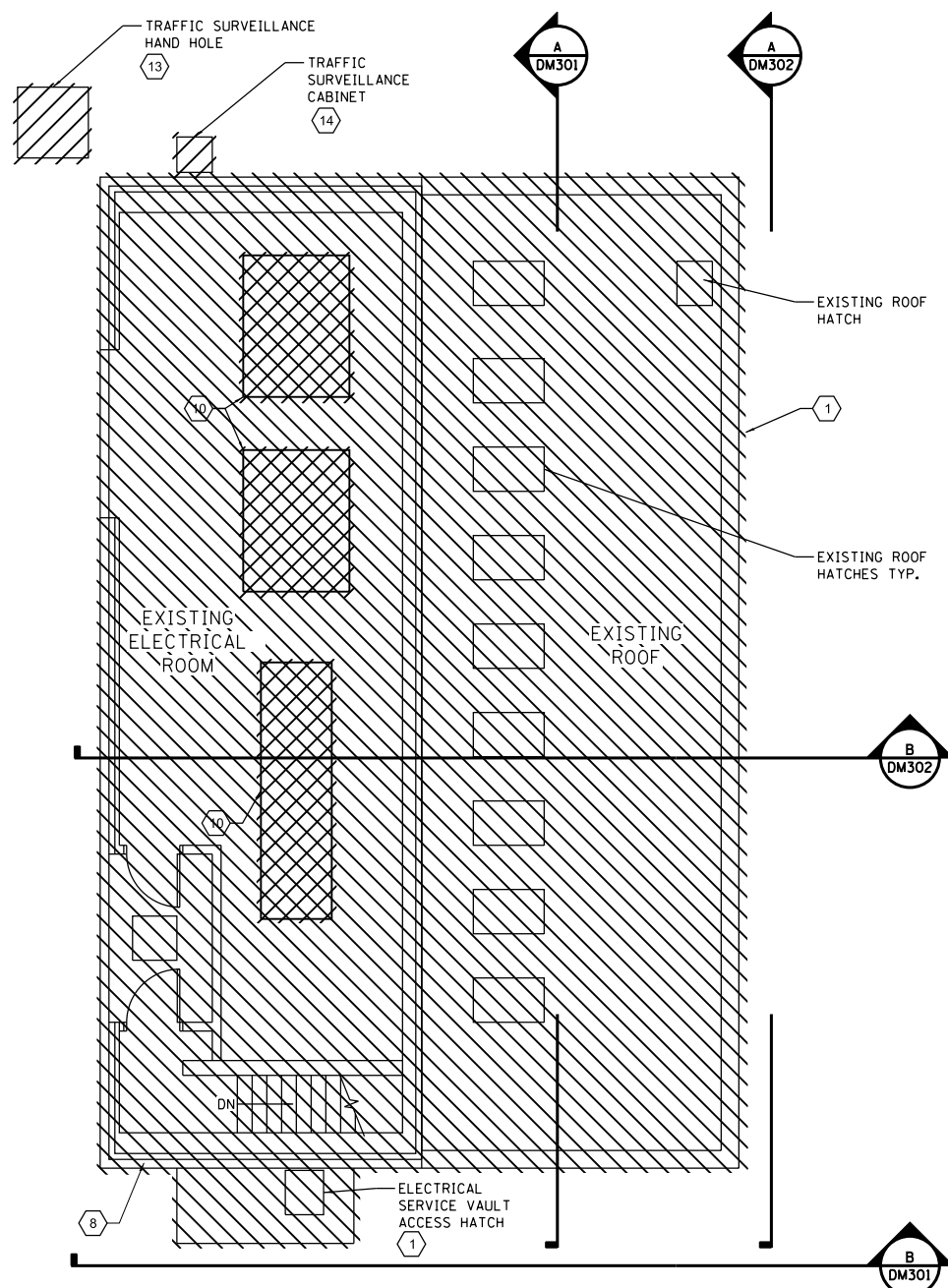
1. WITH THE EXCEPTION OF THE INFLUENT PIPING TIE-IN WORK BETWEEN THE EXISTING AND NEW PUMP STATION, NO DEMOLITION IS TO BE STARTED BEFORE THE NEW PUMP STATION IS FULLY OPERATIONAL, ACCEPTED, AND AUTHORIZED BY ENGINEER IN A WRITTEN DIRECTIVE.
2. DEMOLITION WORK SHALL BE PERFORMED AND COMPLETED DURING DRY WEATHER CONDITIONS.
3. THE EXISTING PUMP STATION SHALL REMAIN IN OPERATION UNTIL FINAL ACCEPTANCE OF THE NEW PUMP STATION BY THE ENGINEER.

KEY NOTES

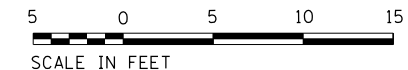
- 1 REMOVE AND DISPOSE OF PUMP STATION STRUCTURE AND APPURTENANT ITEMS.
- 2 REMOVE AND DISPOSE OF PUMPS, PIPING RECIRCULATION PIPING, FITTINGS, AND APPURTENANT ITEMS.
- 3 COMPLETELY FILL EXISTING OUTFALL SEWER PIPE WITH CLSM TO HEAD WALL
- 4 REMOVE AND DISPOSE OF LADDER.
- 5 COORDINATE WITH ENGINEER FOR ITEMS TO BE SALVAGED. REMOVE AND DISPOSE OF REMAINING ELECTRICAL EQUIPMENT, DELIVER ALL SALVAGED EQUIPMENT TO IDOT STORAGE FACILITY AS DIRECTED BY THE ENGINEER.
- 6 OPENING TO BE FILLED AFTER REMOVAL OF PIPES, SEE STRUCTURAL.
- 7 OPENING TO REMAIN OPEN AFTER REMOVAL OF PIPES, SEE STRUCTURAL.
- 8 REMOVE AND SALVAGE SUPPLY AND EXHAUST FANS AND DELIVER TO IDOT STORAGE FACILITY AS DIRECTED BY IDOT MAINTENANCE. DISPOSE OF ANY EQUIPMENT NOT SALVAGED AS DIRECTED BY THE ENGINEER
- 9 REMOVE AND SALVAGE FLOW METER ELEMENT AND TRANSMITTER AND DELIVER TO IDOT STORAGE FACILITY AS DIRECTED BY THE ENGINEER.
- 10 EXISTING ELECTRICAL EQUIPMENT OWNED BY COMED SHALL BE SALVAGED AND DELIVERED TO COMED. CONTRACTOR SHALL INITIATE AND COMPLETE CANCELLATION/TERMINATION OF BILLING FOR THE EXISTING ELECTRICAL SERVICE.
- 11 REMOVE AND DISPOSE OF EXISTING SUMP PUMP AND DISCHARGE PIPING
- 12 SALVAGE ALL SCADA EQUIPMENT AND FIBER OPTIC PATCH PANEL AND DELIVER TO IDOT STORAGE FACILITY AS DIRECTED BY IDOT MAINTENANCE.
- 13 REMOVE AND DISPOSE OF TRAFFIC SURVEILLANCE HAND HOLE. PRIOR TO DEMOLITION MOVE ALL ACTIVE SERVICES TO THE NEW TRAFFIC SURVEILLANCE HAND HOLE. SEE SHEET E100.
- 14 REMOVE AND RELOCATE TRAFFIC SURVEILLANCE CABINET SEE SHEET E100.



PLAN AT ELEVATION 614.83



PLAN AT ELEVATION 626.00



D:\Projects\2019\1-290 Pump Station No. 4 Reconstruction\Drawings\Sheet\1-290-Pump Station No. 4 Reconstruction-DEMOLITION PLANS-DM103.dwg

FILE NAME = D191454-DM103.DGN
 USER NAME = bgreen
 DESIGNED - HDR - M. KASPER
 DRAWN - HDR - RHA
 CHECKED - HDR - E. BERGGREN
 DATE - 05/30/2019

REVISIONS
 REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**1-290 PUMP STATION NO. 4 RECONSTRUCTION
 EXISTING PUMP STATION DEMOLITION PLANS**
 SCALE: 3/8"=1'-0" SHEET OF SHEETS STA. TO STA.

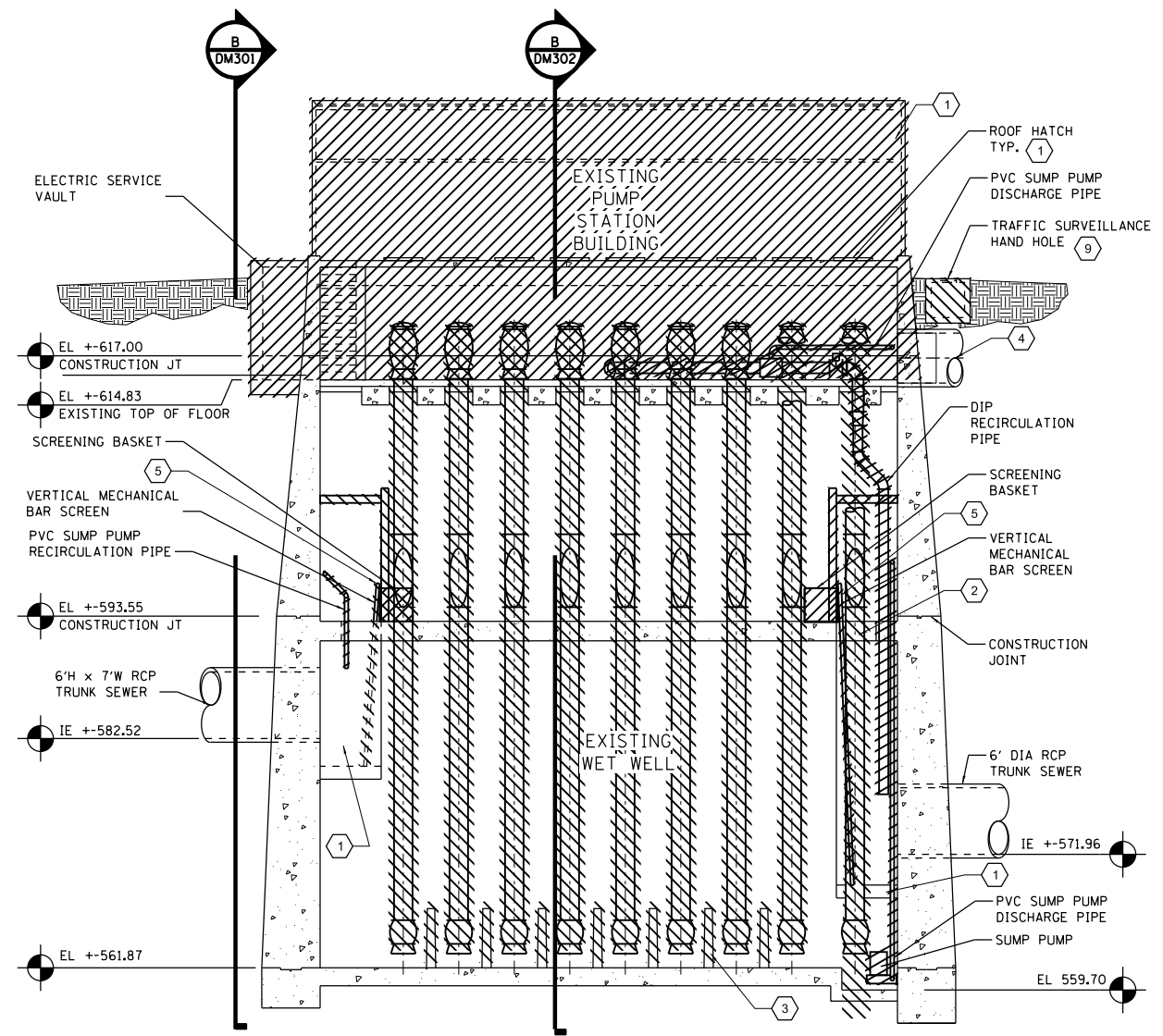
SHEET NO. DM103		TOTAL SHEETS 232		SHEET NO. 19	
F.A.I. RTE. 290	SECTION 3434-2321-R	COUNTY COOK	CONTRACT NO. 62B78		
ILLINOIS FED. AID PROJECT					

GENERAL NOTES

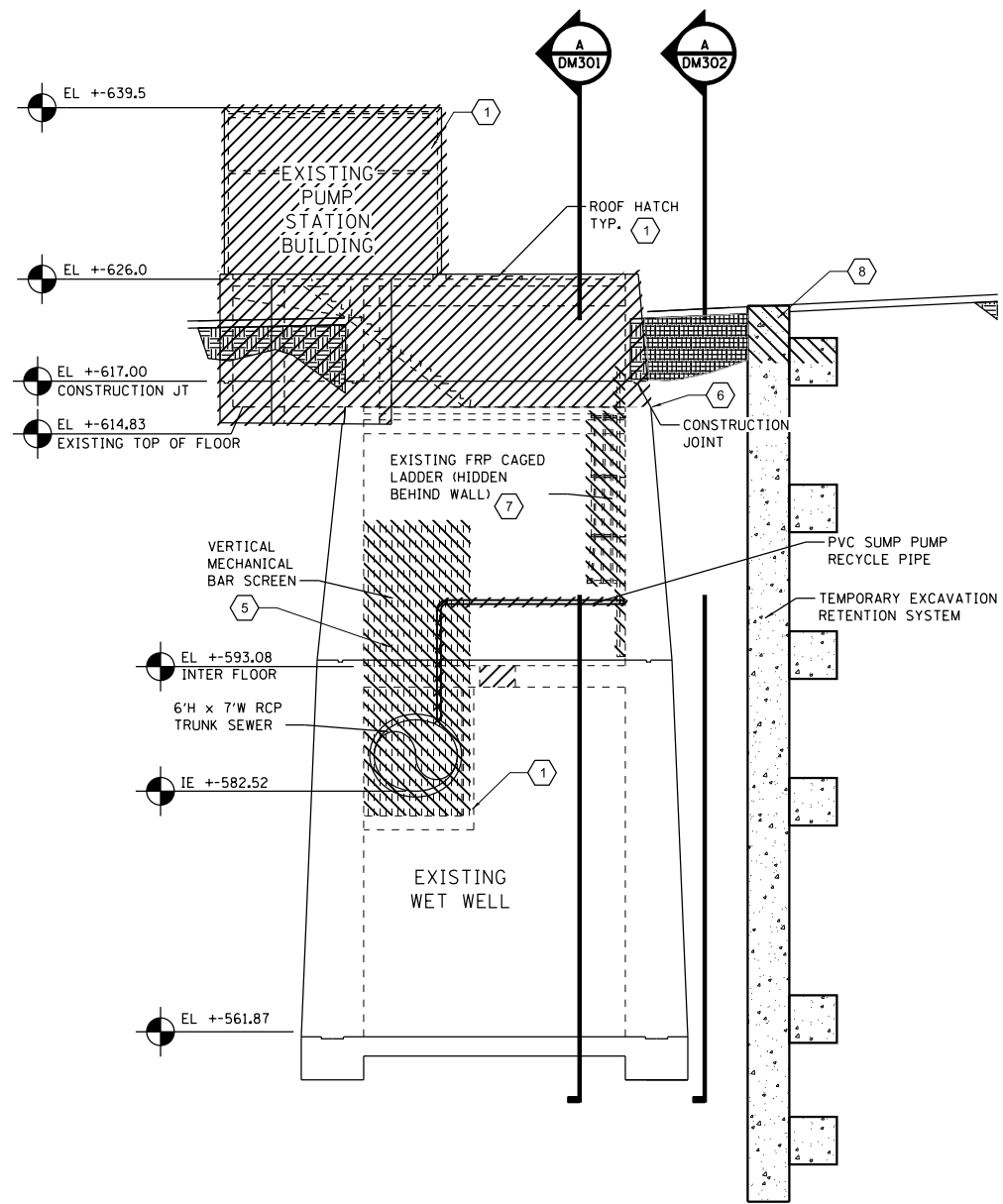
1. WITH THE EXCEPTION OF THE INFLUENT PIPING TIE-IN WORK BETWEEN THE EXISTING AND NEW PUMP STATION, NO DEMOLITION IS TO BE STARTED BEFORE THE NEW PUMP STATION IS FULLY OPERATIONAL, ACCEPTED, AND AUTHORIZED BY ENGINEER IN A WRITTEN DIRECTIVE.
2. DEMOLITION WORK SHALL BE PERFORMED AND COMPLETED DURING DRY WEATHER CONDITIONS.
3. THE EXISTING PUMP STATION SHALL REMAIN IN OPERATION UNTIL FINAL ACCEPTANCE OF THE NEW PUMP STATION BY THE ENGINEER.

KEY NOTES

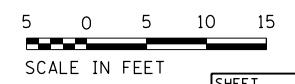
- 1 REMOVE AND DISPOSE OF EXISTING PUMP STATION STRUCTURE AND APPURTENANT ITEMS.
- 2 REMOVE AND DISPOSE OF PUMPS, PIPING, RECIRCULATION PIPING, FITTINGS, AND APPURTENANT ITEMS.
- 3 REMOVE Baffle WALLS AND REPAIR FLOOR.
- 4 COMPLETELY FILL EXISTING 54" DIA. OUTFALL SEWER PIPE WITH CLSM.
- 5 REMOVE AND DISPOSE OF EXISTING BAR SCREEN.
- 6 REMOVE PUMP STATION STRUCTURE ABOVE EXISTING TOP OF FLOOR ELEVATION 614.83. SEE STRUCTURAL DRAWINGS FOR EXISTING PUMP STATION MODIFICATIONS.
- 7 REMOVE AND DISPOSE OF LADDER.
- 8 REMOVE TEMPORARY EXCAVATION RETENTION SYSTEM PER SHEET S100.
- 9 REMOVE AND DISPOSE OF TRAFFIC SURVEILLANCE HAND HOLE. PRIOR TO DEMOLITION MOVE ALL ACTIVE SERVICES TO THE NEW TRAFFIC SURVEILLANCE HAND HOLE. SEE SHEET E100.



A SECTION
DMI02



B SECTION
DMI02



FILE NAME = D191454-DM301.DGN
 USER NAME = bgreen
 DESIGNED - HDR - M. KASPER
 DRAWN - HDR - RHA
 CHECKED - HDR - E. BERGGREN
 DATE - 05/30/2019
 PLOT SCALE = 0:1" = 1'-0"
 PLOT DATE = 5/29/2019
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
EXISTING PUMP STATION DEMOLITION SECTIONS**

SCALE: 1/8"=1'-0" SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	20
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

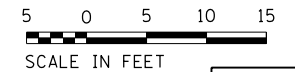
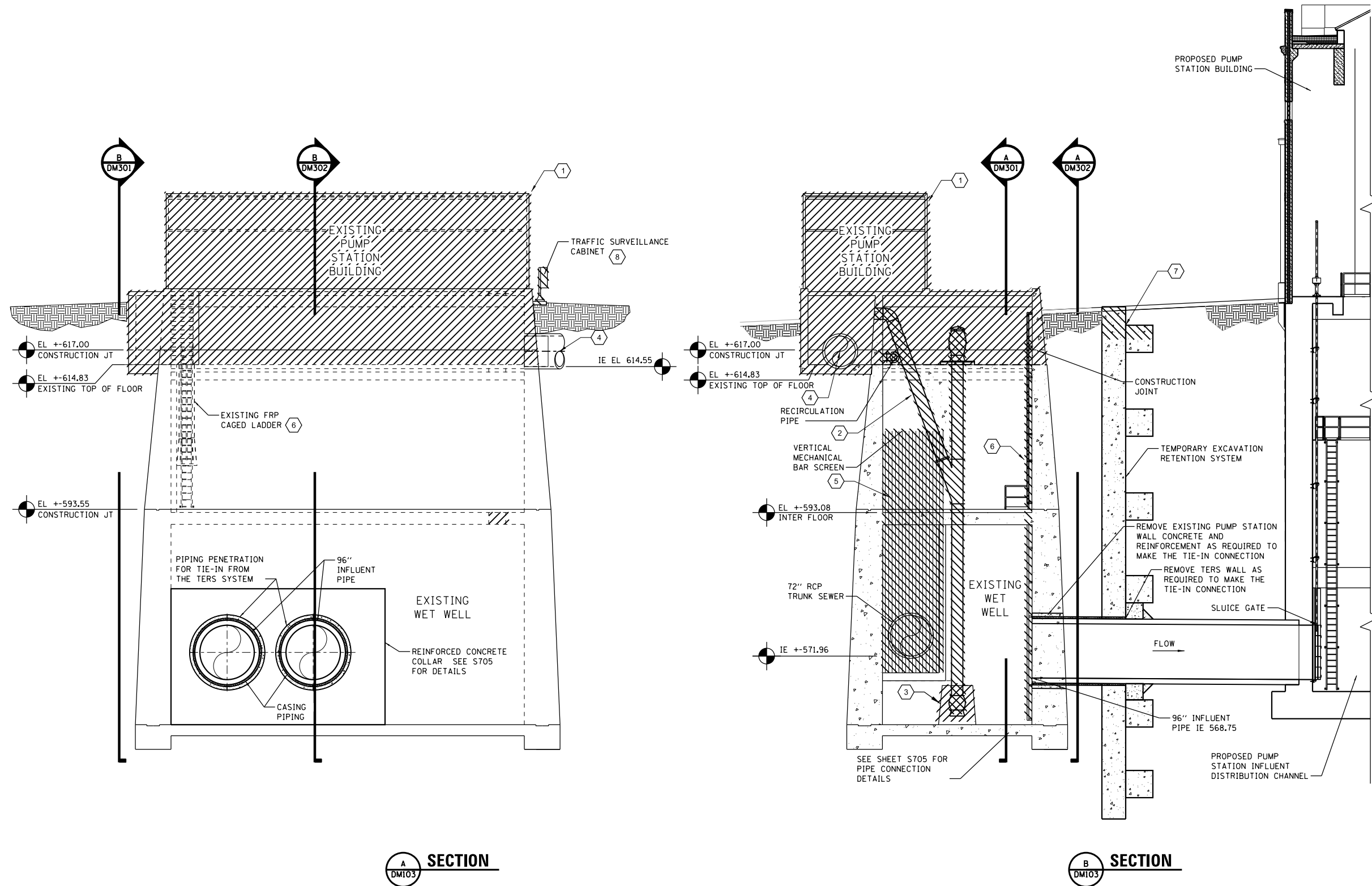
SHEET
DM301

GENERAL NOTES

1. WITH THE EXCEPTION OF THE INFLUENT PIPING TIE-IN WORK BETWEEN THE EXISTING AND NEW PUMP STATION, NO DEMOLITION IS TO BE STARTED BEFORE THE NEW PUMP STATION IS FULLY OPERATIONAL, ACCEPTED, AND AUTHORIZED BY ENGINEER IN A WRITTEN DIRECTIVE.
2. DEMOLITION WORK SHALL BE PERFORMED AND COMPLETED DURING DRY WEATHER CONDITIONS.
3. THE EXISTING PUMP STATION SHALL REMAIN IN OPERATION UNTIL FINAL ACCEPTANCE OF THE NEW PUMP STATION BY THE ENGINEER.

KEY NOTES

- 1 REMOVE AND DISPOSE OF EXISTING PUMP STATION STRUCTURE AND APPURTENANT ITEMS.
- 2 REMOVE AND DISPOSE OF PUMPS, DISCHARGE PIPING, RECIRCULATION PIPING, FITTINGS, AND APPURTENANT ITEMS.
- 3 REMOVE BAFFLE WALLS AND REPAIR FLOOR.
- 4 COMPLETELY FILL EXISTING OUTFALL SEWER PIPING WITH CLSM
- 5 REMOVE AND DISPOSE OF EXISTING BAR SCREEN.
- 6 REMOVE AND DISPOSE OF LADDER.
- 7 REMOVE TEMPORARY EXCAVATION RETENTION SYSTEM PER SHEET S100.
- 8 REMOVE AND RELOCATE TRAFFIC SURVEILLANCE CABINET TO NEW LOCATION.



P:\Projects\DM302\North-Centr-01\Omaha\Documents\001915\CON0078431\0000000002727972\6.6.CAD_BIM\6.2_Work\In_Progress\6.2.2_CAD_Sheets\0191454-DM302

FILE NAME = D191454-DM302.DGN
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

USER NAME = bgreen
 DESIGNED - HDR - M. KASPER
 DRAWN - HDR - RHA
 PLOT SCALE = 0:1' = 1/8" / 1/4"
 CHECKED - HDR - E. BERGGREN
 PLOT DATE = 5/29/2019

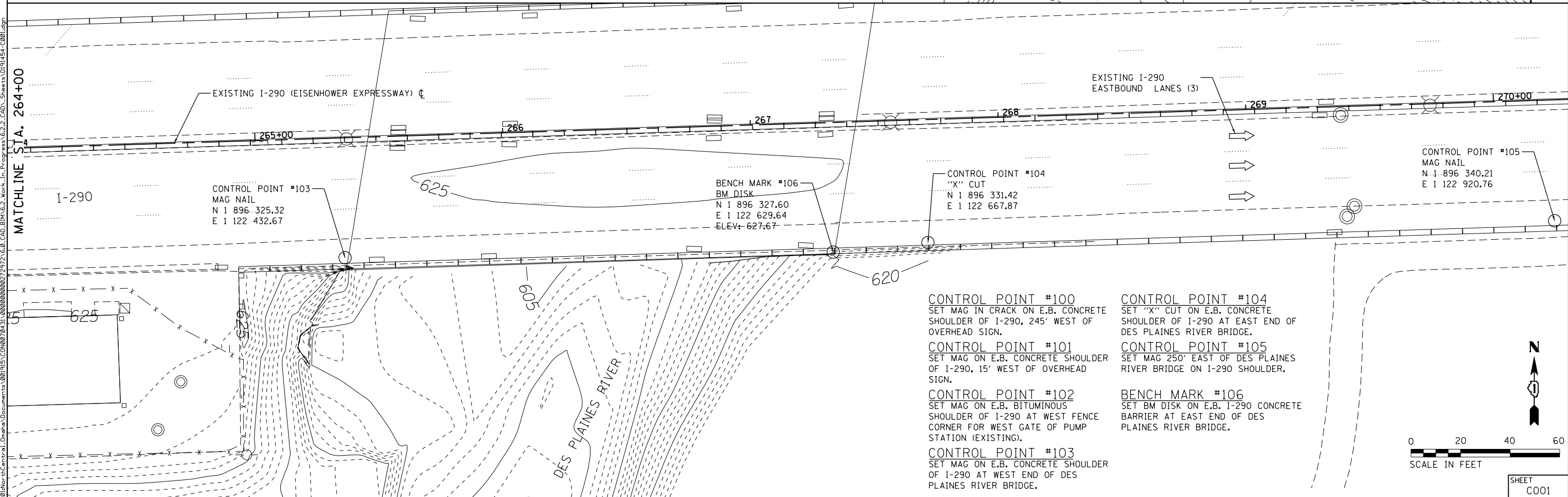
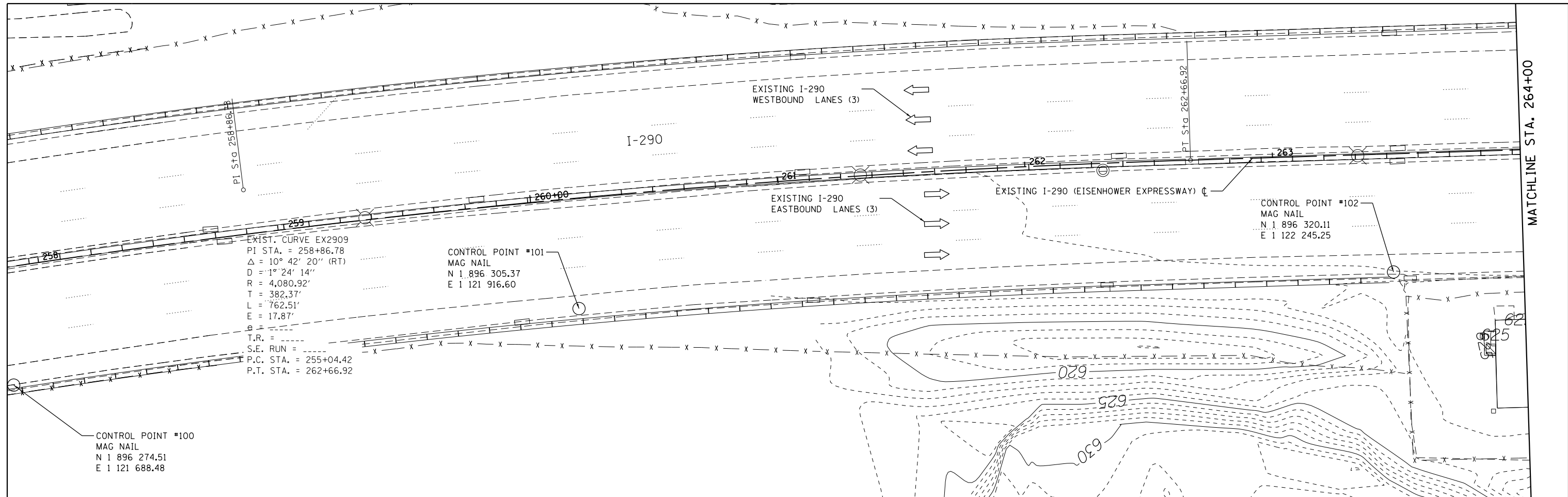
REVISED -
 REVISED -
 REVISED -
 REVISED -
 DATE - 05/30/2019

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
EXISTING PUMP STATION DEMOLITION SECTIONS
 SCALE: 1/8"=1'-0"
 SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	21
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

SHEET DM302



D:\P\Map\CDM\NorthCentr.al\Oneho\Documents\081915\CON\027972\6.6_CAD_BIM\6.2_Mort.Ln_Progress\6.2.2_CAD_Sheets\0191454-C001.dgn
 0191454-C001.DGN
 USER NAME = bgreen
 DESIGNED - 21M - J. RUEDA
 DRAWN - 21M - J. RUEDA
 CHECKED - 21M - O. ULGER
 DATE - 03/15/2019
 PLOT SCALE = 20.0000' / 1" IN.
 PLOT DATE = 5/29/2019



**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

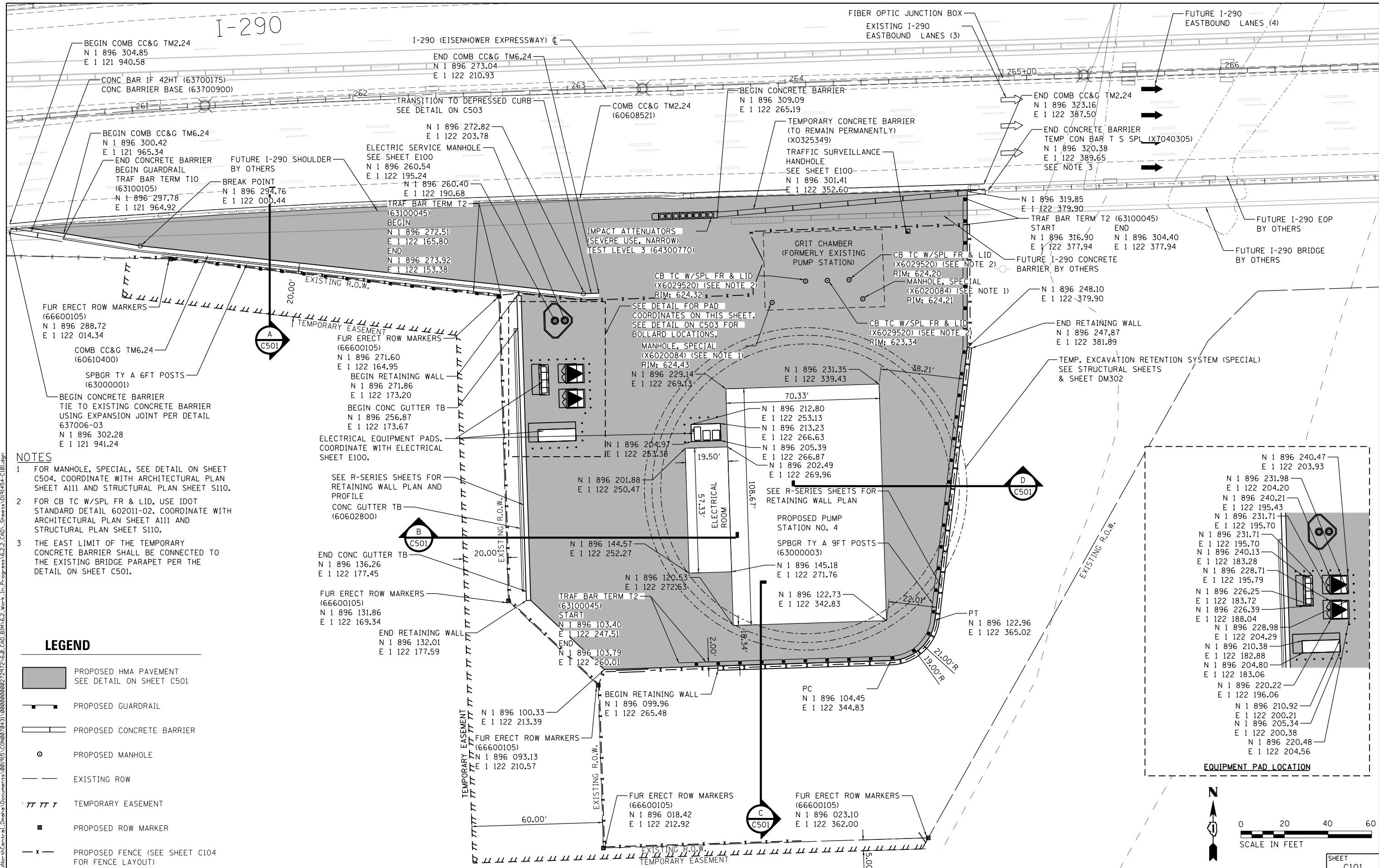
**I-290 PUMP STATION NO. 4 RECONSTRUCTION
 ALIGNMENTS, TIES, AND BENCHMARKS**

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	22
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

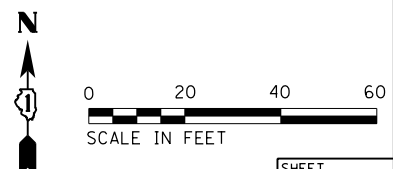
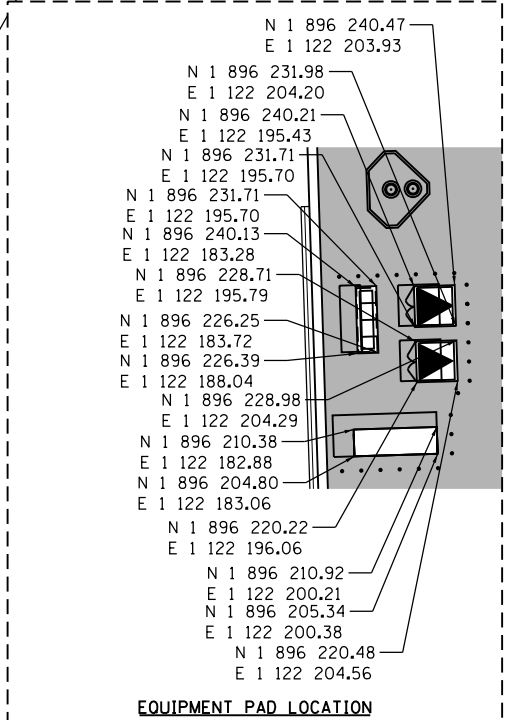


SHEET
 C001



- NOTES**
- FOR MANHOLE, SPECIAL, SEE DETAIL ON SHEET C504. COORDINATE WITH ARCHITECTURAL PLAN SHEET A111 AND STRUCTURAL PLAN SHEET S110.
 - FOR CB TC W/SPL FR & LID, USE IDOT STANDARD DETAIL 602011-02. COORDINATE WITH ARCHITECTURAL PLAN SHEET A111 AND STRUCTURAL PLAN SHEET S110.
 - THE EAST LIMIT OF THE TEMPORARY CONCRETE BARRIER SHALL BE CONNECTED TO THE EXISTING BRIDGE PARAPET PER THE DETAIL ON SHEET C501.

- LEGEND**
- PROPOSED HMA PAVEMENT
SEE DETAIL ON SHEET C501
 - PROPOSED GUARDRAIL
 - PROPOSED CONCRETE BARRIER
 - PROPOSED MANHOLE
 - EXISTING ROW
 - TEMPORARY EASEMENT
 - PROPOSED ROW MARKER
 - PROPOSED FENCE (SEE SHEET C104 FOR FENCE LAYOUT)

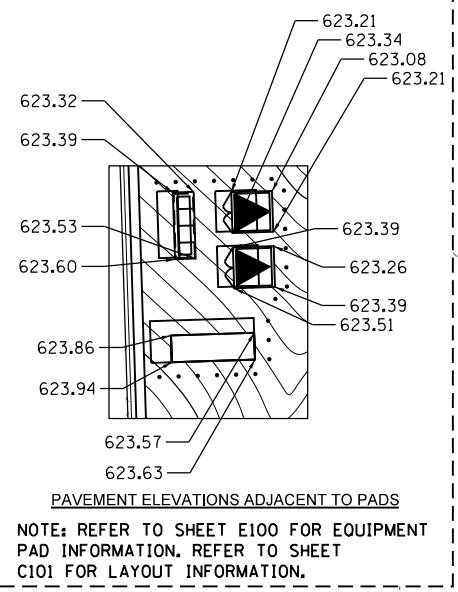
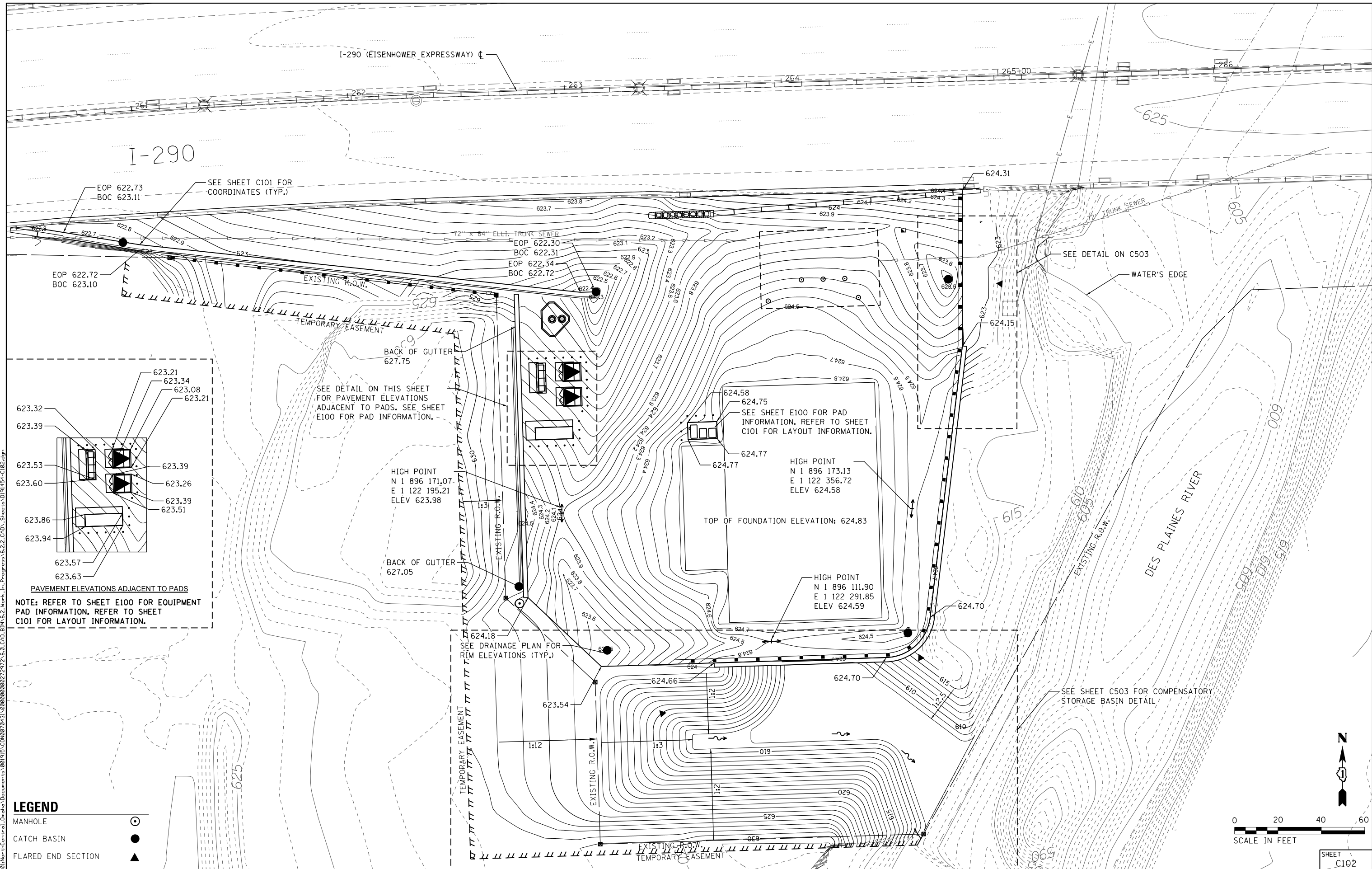


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		DRAWN - 2IM - J. RUEDA	REVISED -
	PLOT SCALE = 20.0000' / in.	CHECKED - 2IM - B. RUDDY	REVISED -
	PLOT DATE = 5/29/2019	DATE - 03/15/2019	REVISED -

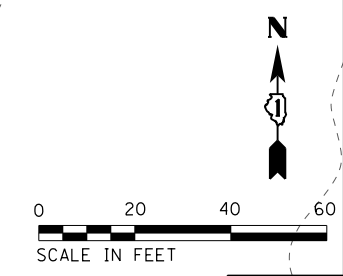
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

I-290 PUMP STATION NO. 4 RECONSTRUCTION SITE LAYOUT PLAN			
SCALE: 1"=20'	SHEET	OF SHEETS	STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	24
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				



- LEGEND**
- MANHOLE
 - CATCH BASIN
 - FLARED END SECTION



D191454-C102.DGN
 21M Group, LLC
 118 South Clinton St.
 Suite 350
 Chicago, IL 60661

USER NAME = bgreen
 PLOT SCALE = 20:0' = 1" = 1/8"
 PLOT DATE = 5/29/2019

DESIGNED - 21M - J. RUEDA	REVISED -
DRAWN - 21M - J. RUEDA	REVISED -
CHECKED - 21M - B. RUDDY	REVISED -
DATE - 03/15/2019	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

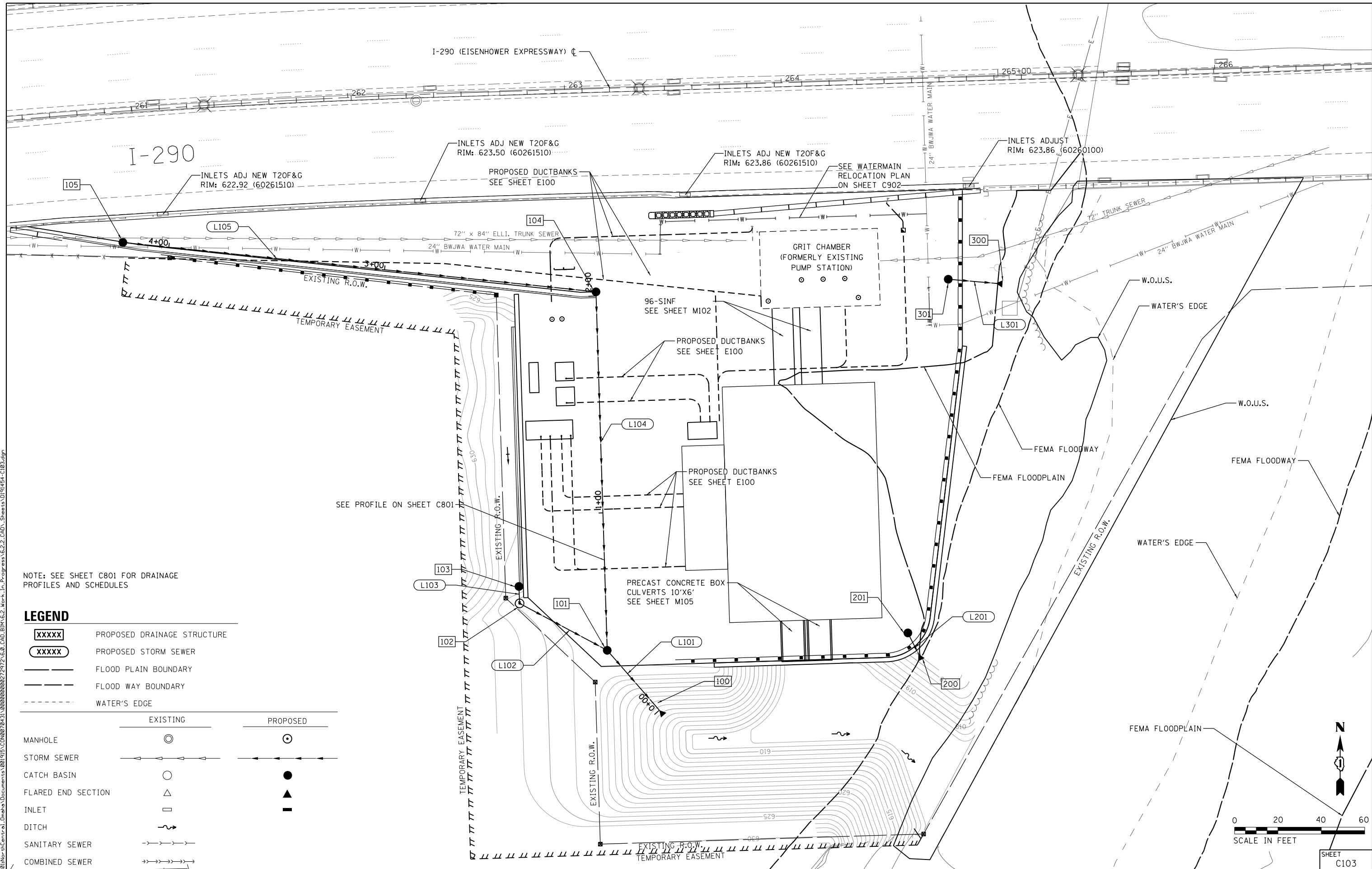
**I-290 PUMP STATION NO. 4 RECONSTRUCTION
 SITE GRADING PLAN**

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	25
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

SHEET
 C102

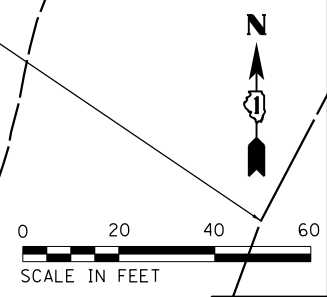
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NOTE: SEE SHEET C801 FOR DRAINAGE PROFILES AND SCHEDULES

LEGEND

	PROPOSED DRAINAGE STRUCTURE	
	PROPOSED STORM SEWER	
	FLOOD PLAIN BOUNDARY	
	FLOOD WAY BOUNDARY	
	WATER'S EDGE	
<hr/>		
	EXISTING	PROPOSED
MANHOLE		
STORM SEWER		
CATCH BASIN		
FLARED END SECTION		
INLET		
DITCH		
SANITARY SEWER		
COMBINED SEWER		



D191454-C103.DGN
 USER NAME = bgreen
 PLOT SCALE = 20:1
 PLOT DATE = 5/29/2019

DESIGNED - 21M - J. RUEDA	REVISED -
DRAWN - 21M - J. RUEDA	REVISED -
CHECKED - 21M - B. RUDDY	REVISED -
DATE - 03/15/2019	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

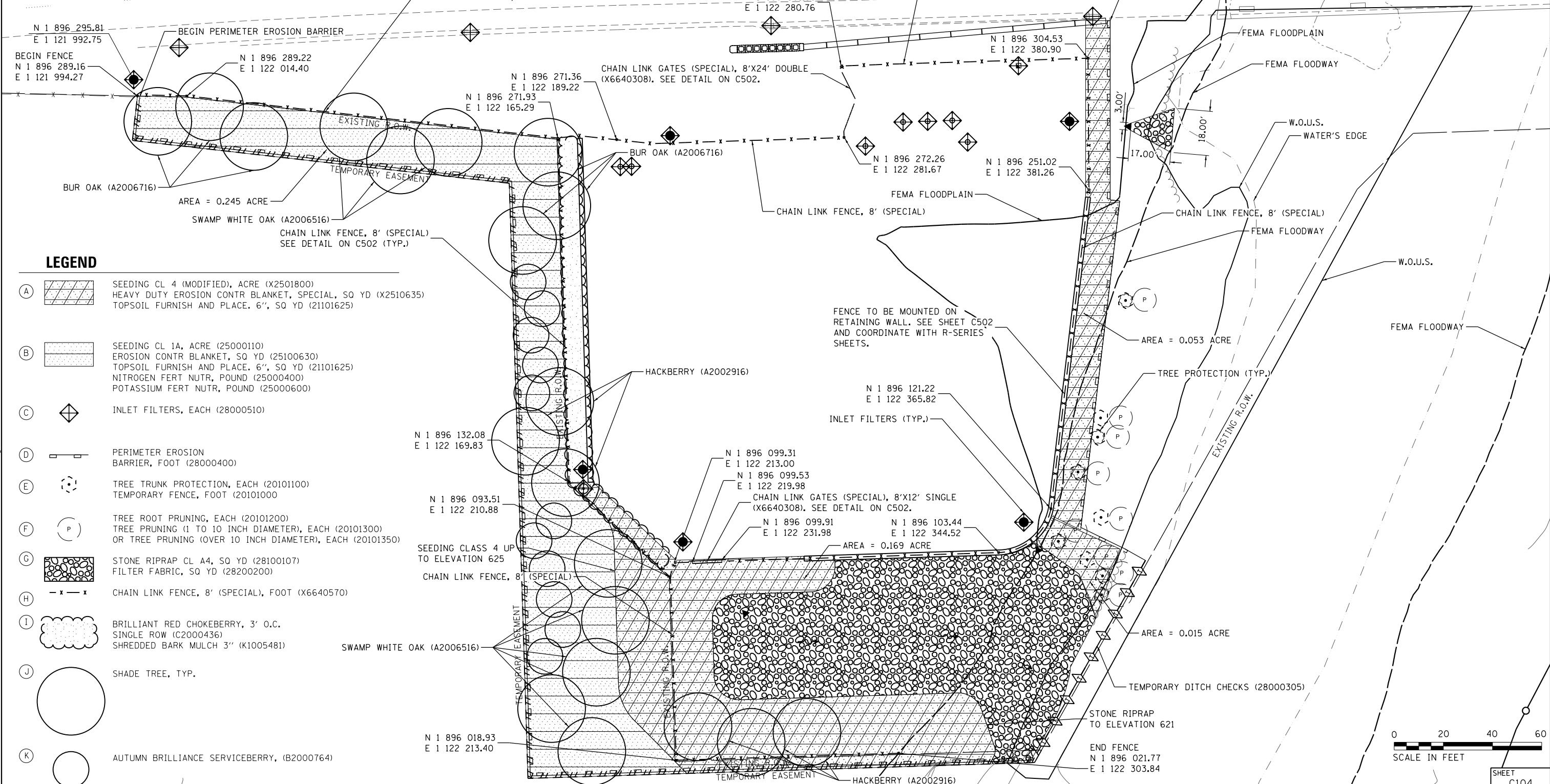
I-290 PUMP STATION NO. 4 RECONSTRUCTION
SEWER AND UTILITIES PLAN

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	26
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

SHEET C103

B2000764			A2006516			A2006716			A2002916		
AUTUMN BRILLIANCE SERVICEBERRY, EACH			SWAMP WHITE OAK, EACH			BUR OAK, EACH			HACKBERRY, EACH		
NORTHING	EASTING	QUANTITY	NORTHING	EASTING	QUANTITY	NORTHING	EASTING	QUANTITY	NORTHING	EASTING	QUANTITY
1896213.3	1122153.2	1	1896276.4	1122081.8	1	1896278.7	1122002.4	1	1896164.8	1122166.0	1
1896202.4	1122159.0	1	1896263.0	1122101.3	1	1896284.2	1122023.2	1	1896148.7	1122152.2	1
1896191.8	1122154.4	1	1896270.1	1122120.8	1	1896272.5	1122041.6	1	1896131.6	1122168.0	1
1896179.4	1122158.2	1	1896098.7	1122185.5	1	1896266.0	1122161.4	1	1896032.5	1122222.1	1
1896168.2	1122154.7	1	1896076.1	1122189.0	1	1896243.8	1122164.9	1	1896026.0	1122244.1	1
1896115.9	1122163.5	1	1896054.7	1122180.9	1	1896230.1	1122150.9	1	1896030.7	1122266.5	1
1896108.2	1122155.6	1	1896039.2	1122162.7	1	TOTAL =		6	TOTAL =		6
1896097.0	1122160.9	1	1896022.5	1122178.8	1						
1896084.1	1122163.7	1	TOTAL =		8						
1896071.8	1122167.2	1									
1896061.4	1122159.9	1									
TOTAL =		11									



LEGEND

- (A) SEEDING CL 4 (MODIFIED), ACRE (X2501800)
HEAVY DUTY EROSION CONTR BLANKET, SPECIAL, SQ YD (X2510635)
TOPSOIL FURNISH AND PLACE, 6", SQ YD (21101625)
- (B) SEEDING CL 1A, ACRE (25000110)
EROSION CONTR BLANKET, SQ YD (25100630)
TOPSOIL FURNISH AND PLACE, 6", SQ YD (21101625)
NITROGEN FERT NUTR, POUND (25000400)
POTASSIUM FERT NUTR, POUND (25000600)
- (C) INLET FILTERS, EACH (28000510)
- (D) PERIMETER EROSION BARRIER, FOOT (28000400)
- (E) TREE TRUNK PROTECTION, EACH (20101100)
TEMPORARY FENCE, FOOT (20101000)
- (F) TREE ROOT PRUNING, EACH (20101200)
TREE PRUNING (1 TO 10 INCH DIAMETER), EACH (20101300)
OR TREE PRUNING (OVER 10 INCH DIAMETER), EACH (20101350)
- (G) STONE RIPRAP CL A4, SQ YD (28100107)
FILTER FABRIC, SQ YD (28200200)
- (H) CHAIN LINK FENCE, 8" (SPECIAL), FOOT (X6640570)
- (I) BRILLIANT RED CHOKEBERRY, 3' O.C.
SINGLE ROW (C2000436)
SHREDDED BARK MULCH 3" (K1005481)
- (J) SHADE TREE, TYP.
- (K) AUTUMN BRILLIANCE SERVICEBERRY, (B2000764)

D:\P\Map\2019\I-290\Drawings\2019\20190315\CD\00279727\6.0_CAD_BIM\6.2_Work\In_Progress\6.2.2_CAD_Sheets\0191454-C104



D191454-C104.DGN	USER NAME = bgreen	DESIGNED - 21M - J. RUEDA	REVISED -
21M Group, LLC 118 South Clinton St. Suite 350 Chicago, IL 60661		DRAWN - 21M - J. RUEDA	REVISED -
	PLOT SCALE = 20.0000' / in.	CHECKED - 21M - B. RUDDY	REVISED -
	PLOT DATE = 5/29/2019	DATE - 03/15/2019	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
SITE LANDSCAPING AND EROSION CONTROL PLAN**

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

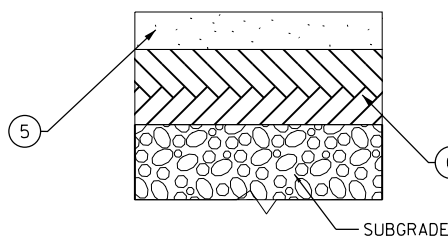
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	27
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

SHEET C104

TYPE	A	B	C	D	R	R
M-2.24	24	2	4	2	3	2

REFER TO MOUNTABLE CURB DETAILS IN IDOT STANDARD 606001-05

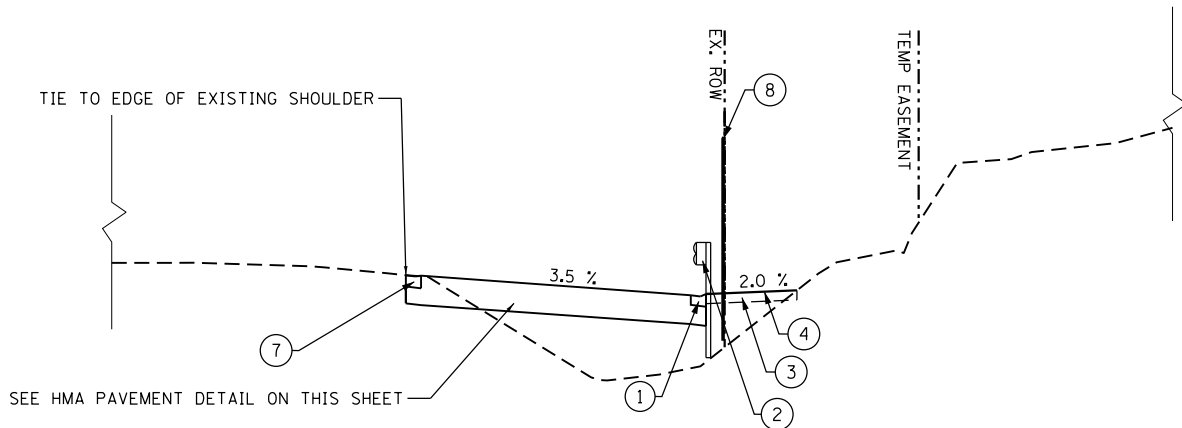
COMB CC&G TM2.24 DETAIL



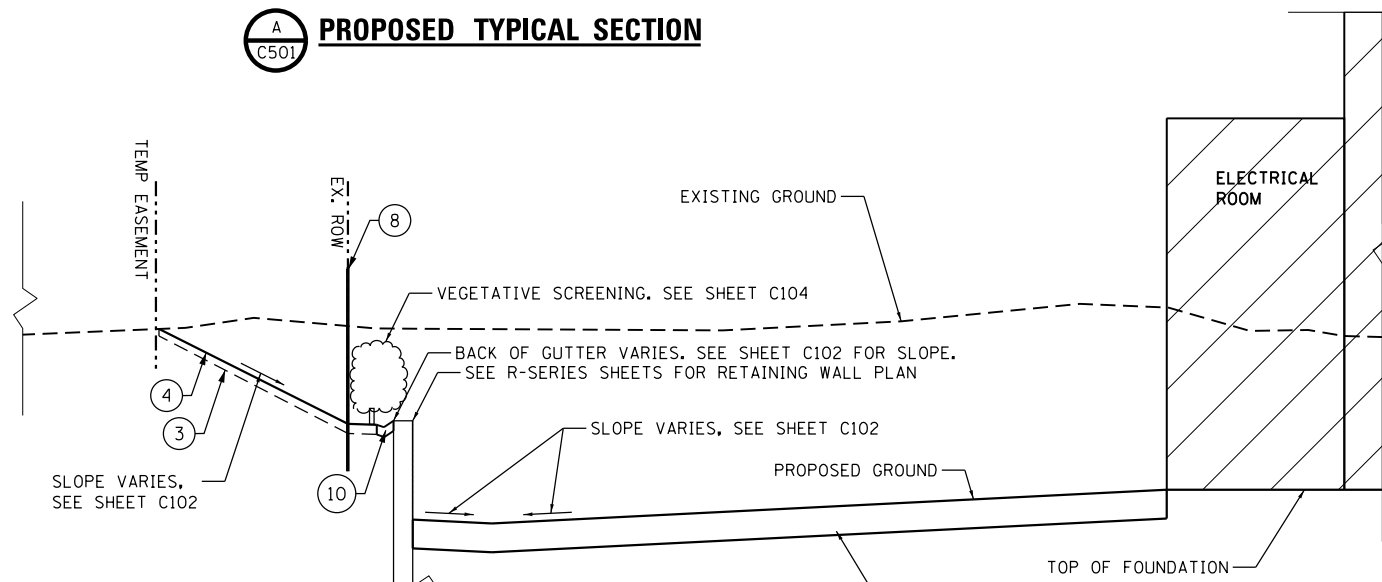
PROPOSED HMA PAVEMENT DETAIL

LEGEND

- ① COMBINATION CONCRETE CURB AND GUTTER, TYPE M-6.24, FOOT (60610400)
- ② STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS, FOOT (63000001)
- ③ 6"- TOPSOIL EXCAVATION AND PLACEMENT, CU YD (21101505)
- ④ SEEDING, CLASS 4A, ACRE (25000312)
- ⑤ HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 6", SQ YD (40701801)
2" HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70
4" HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70
- ⑥ AGGREGATE SUBGRADE IMPROVEMENT 12", SQ YD (30300112)
- ⑦ COMBINATION CONCRETE CURB AND GUTTER, TYPE M-2.24, FOOT (60608521)
- ⑧ CHAIN LINK FENCE, 8' (SPECIAL), FOOT (X6640570)
- ⑨ STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS, FOOT (63000003)
- ⑩ CONCRETE GUTTER, TYPE B (60602800)

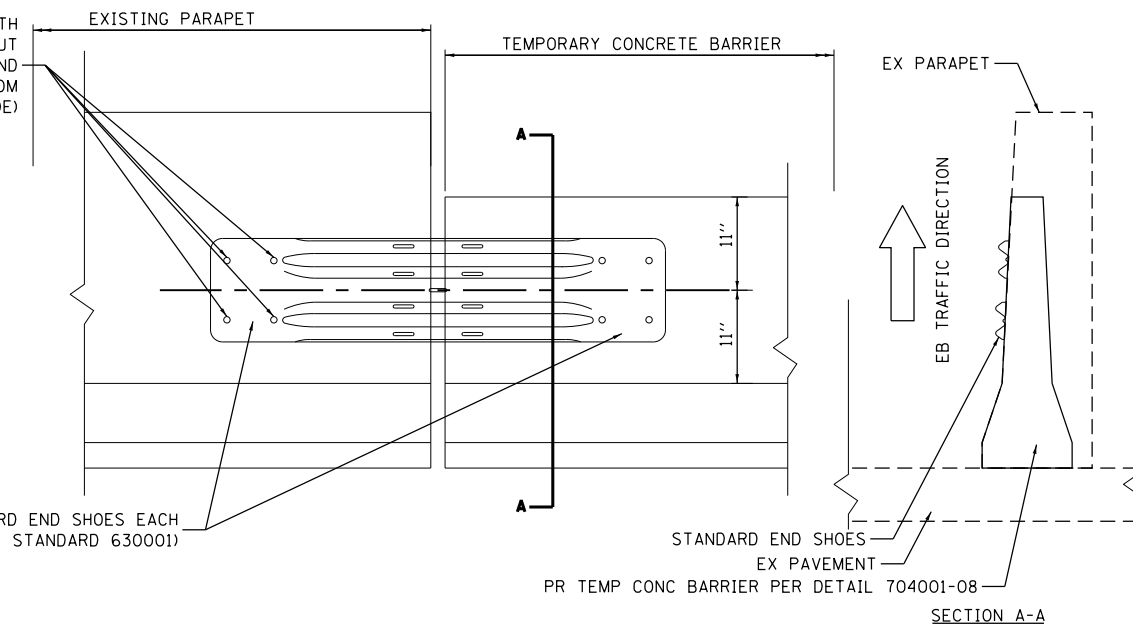


PROPOSED TYPICAL SECTION A
C501



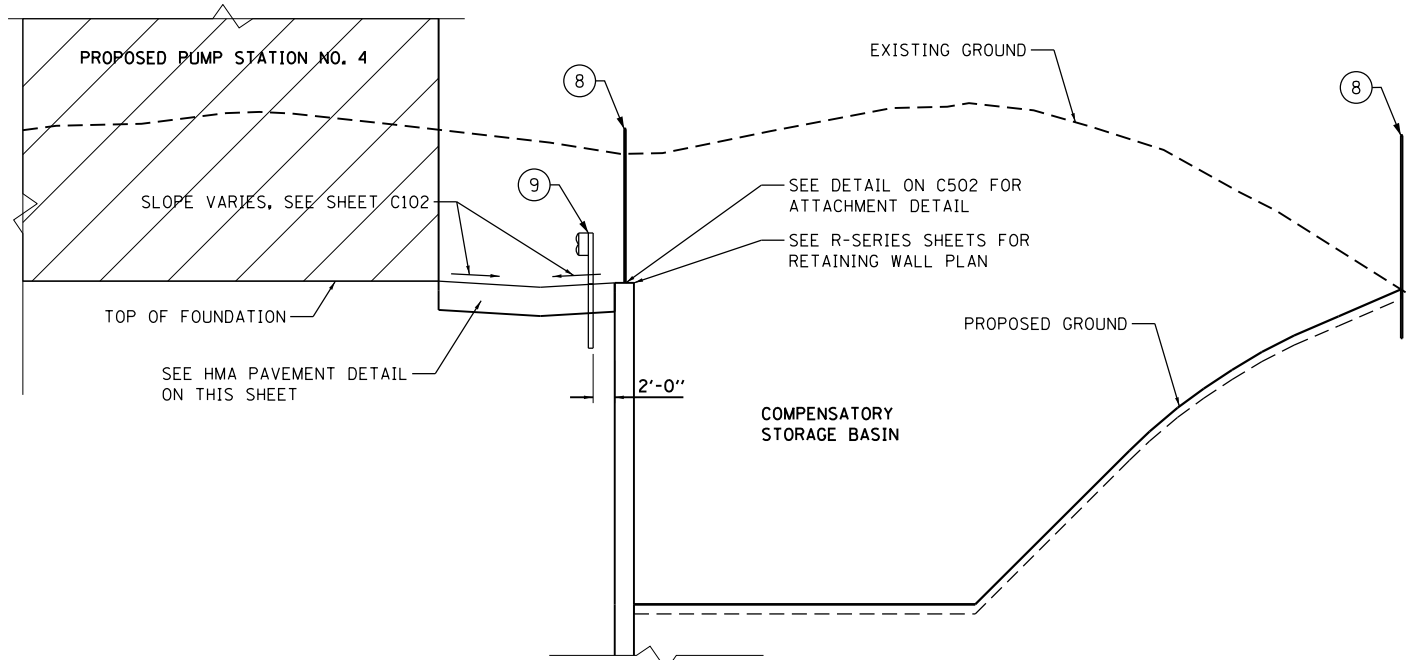
PROPOSED TYPICAL SECTION B
C501

4 EPOXY GROUTED 7/8" ANCHOR BOLTS WITH STANDARD WASHERS, AFTER TIGHTENING, CUT ANCHOR BOLTS FULSH WITH NUTS, AND DAMAGE BOLT HEADS TO PREVENT THEM FROM LOOSENING. (TYPICAL EACH SIDE)

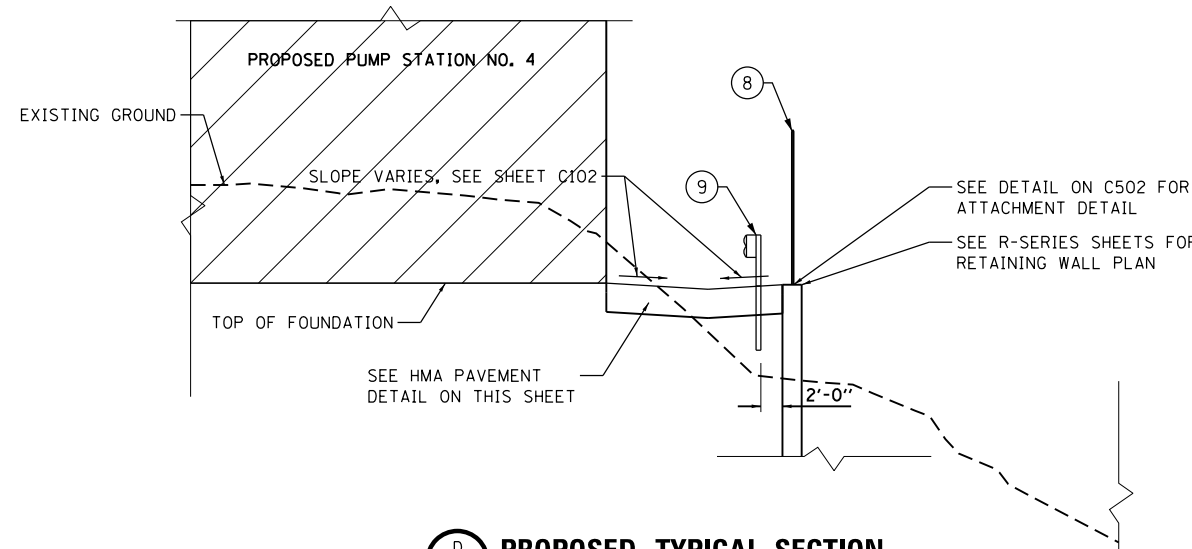


TEMPORARY CONCRETE BARRIER, TERMINAL SECTION (SPECIAL)

CONNECTION OF TEMPORARY CONCRETE BARRIER WALL TO THE EXISTING PARAPET WALL SHALL BE PAID FOR AS TEMPORARY CONCRETE BARRIER, TERMINAL SECTION (SPECIAL) (X7040305)



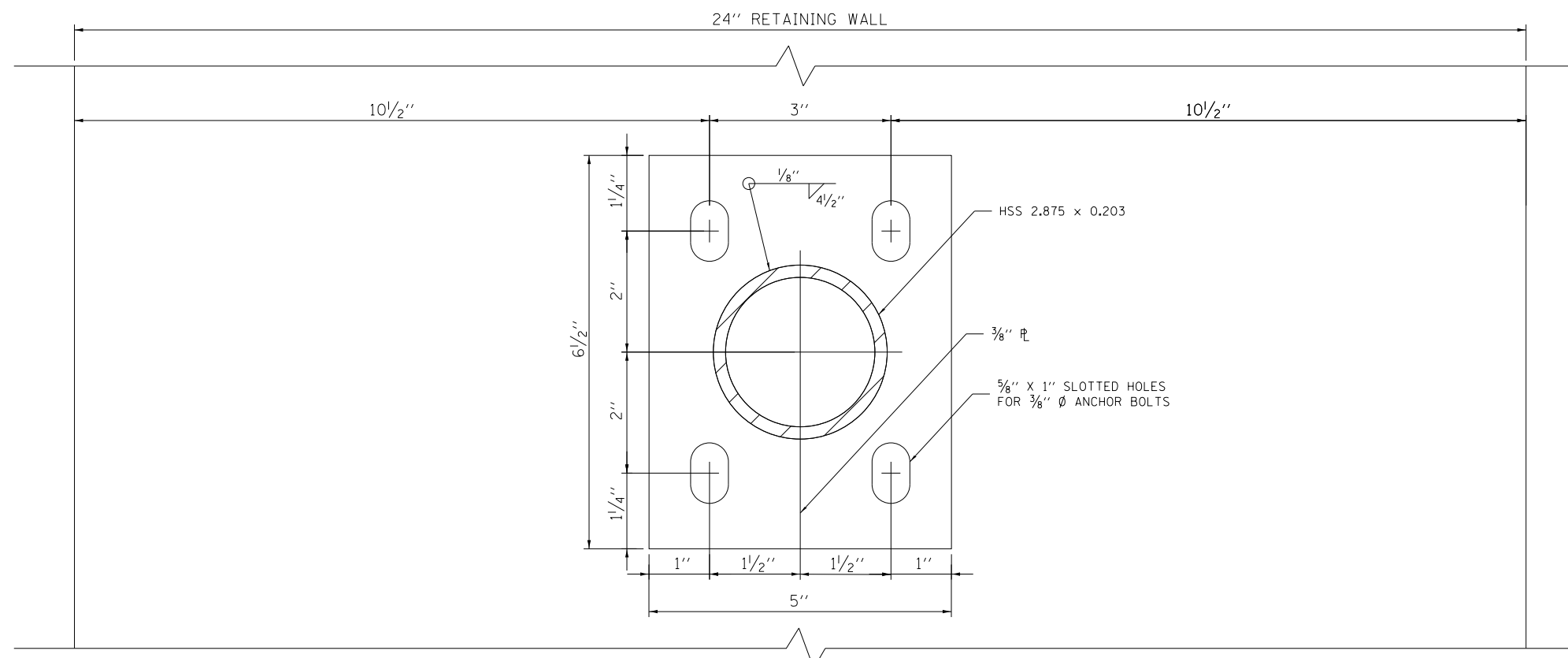
PROPOSED TYPICAL SECTION C
C501



PROPOSED TYPICAL SECTION D
C501

s:\p\p\d\m\j\shor-th\Central_Omaha\Documents\081915\C0501\20190502\2972\6_6_CAD_BIM\6.2_Work\In-Progress\6.2.2_CAD_Sheets\D191454-C501.dgn

		D191454-C501.DGN 2IM Group, LLC 118 South Clinton St. Suite 350 Chicago, IL 60661		USER NAME = bgreen DESIGNED - 2IM - J. RUEDA DRAWN - 2IM - J. RUEDA PLOT SCALE = 20.0000' / in. PLOT DATE = 5/29/2019		REVISED - REVISED - REVISED - REVISED -		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION				I-290 PUMP STATION NO. 4 RECONSTRUCTION SITE DETAILS				F.A.I RTE. 290	SECTION 3434-2321-R	COUNTY COOK	TOTAL SHEETS 232	SHEET NO. 28
SCALE:		SHEET		OF		SHEETS										STA.		TO		STA.



BASE PLATE DETAIL

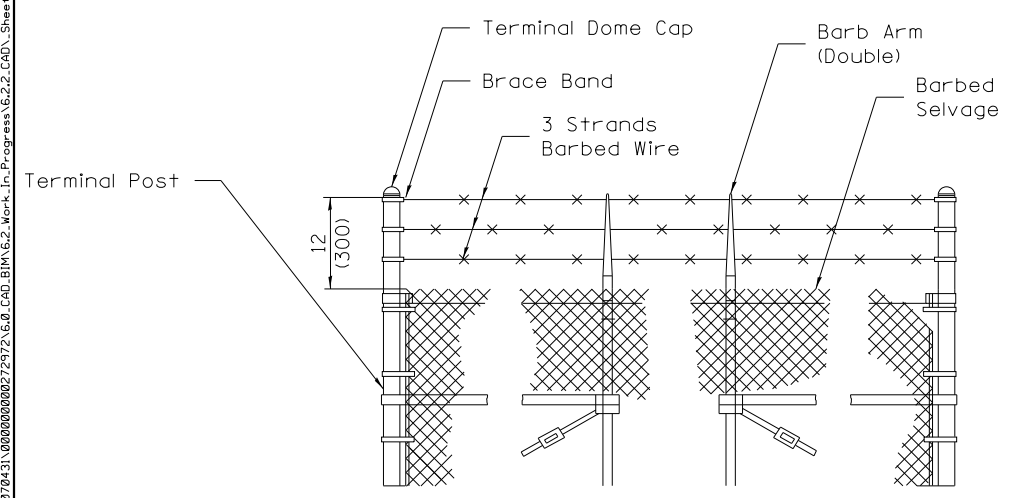
GENERAL NOTES

FENCING SHALL BE ACCORDING TO SECTION 664 OF THE STANDARD SPECIFICATIONS AND HIGHWAY STANDARD 664001, EXCEPT AS NOTED. FENCING SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT FOR CHAIN LINK FENCE, 8' (SPECIAL), (X6640570).

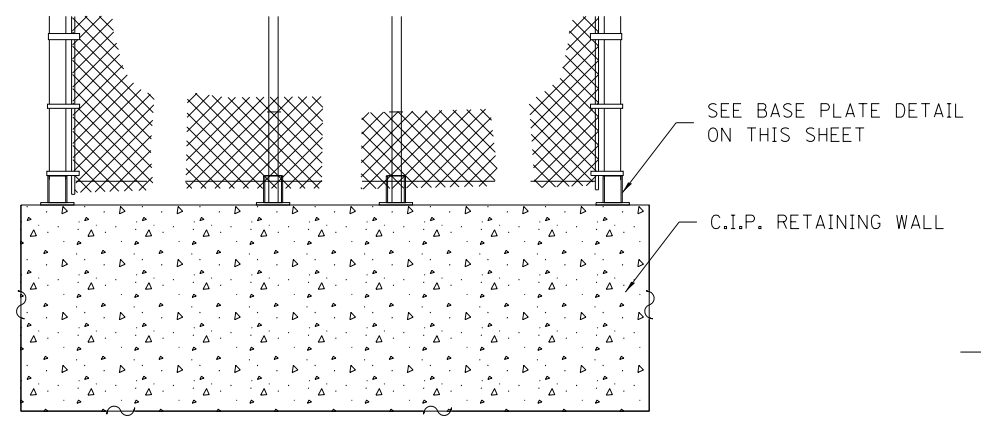
GATES SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR CHAIN LINK GATES (SPECIAL) (6640308) OF THE SIZE SPECIFIED ON THE PLANS.

THE CONTRACTOR SHALL USE THE CAPSULE OR THE ADHESIVE CARTRIDGE TYPE ANCHOR RODS THAT HAVE BEEN PREVIOUSLY TESTED AND GIVEN A PRIOR APPROVAL BY THE DEPARTMENT. THE CONTRACTOR SHALL INSTALL THESE ANCHOR RODS IN PRE-DRILLED HOLES ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES. THE CAPSULE OR THE ADHESIVE CARTRIDGE SHALL BE SEALED WITH PREMEASURED AMOUNTS OF THE ADHESIVE CHEMICAL.

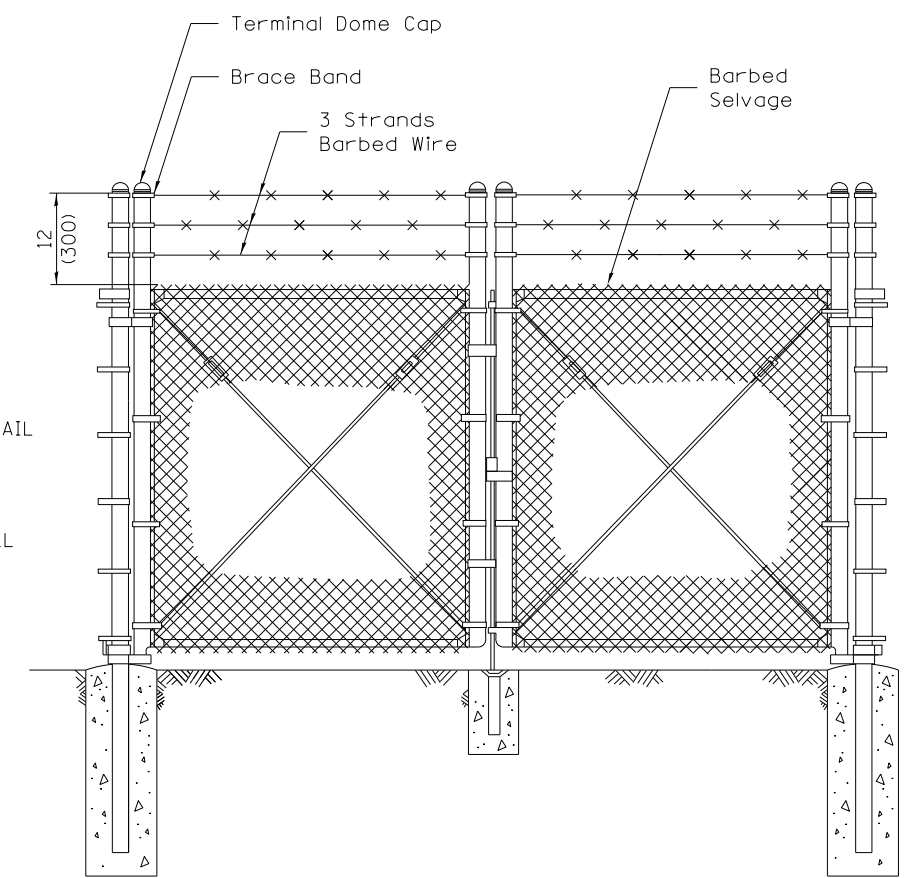
THE CHAIN LINK FENCE AND THE CHAIN LINK GATES SHALL BE CONTINUOUSLY ELECTRICALLY GROUNDED PER IDOT DESIGN GUIDELINES.



BARBED WIRE DETAIL



RETAINING WALL DETAIL



BARBED WIRE GATE DETAIL

C:\P\Map\PM\02\13\NorthCentral\Omaha\Documents\081915\CON\0279431\080808027972\6.6_CAD_BIM\6.2_Work\In_Progress\6.2.2_CAD_Sheets\0191454-C502.dgn



D191454-C502.DGN	USER NAME = bgreen	DESIGNED - 21M - J. RUEDA	REVISED -
21M Group, LLC 118 South Clinton St. Suite 350 Chicago, IL 60661		DRAWN - 21M - J. RUEDA	REVISED -
	PLOT SCALE = 0.0833' / in.	CHECKED - 21M - O. ULGER	REVISED -
	PLOT DATE = 5/29/2019	DATE - 03/15/2019	REVISED -

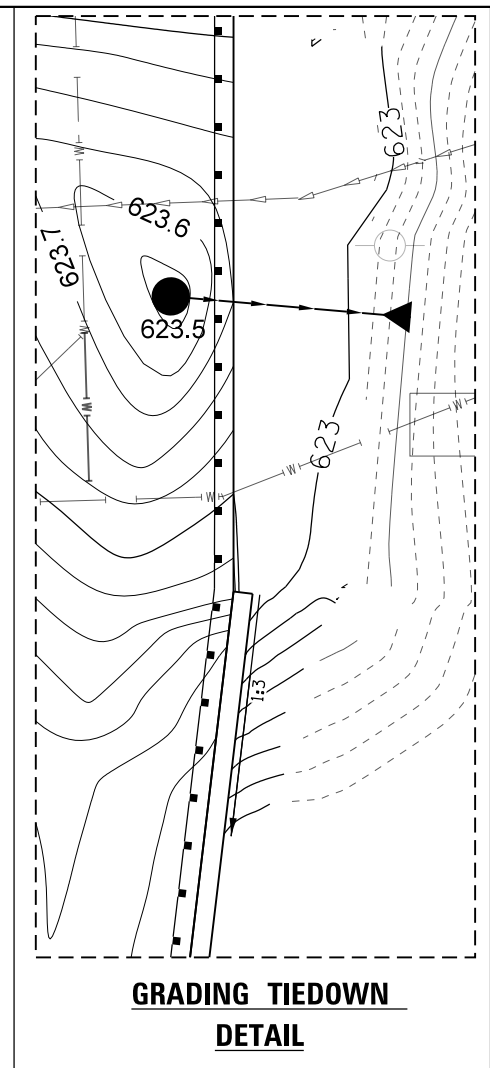
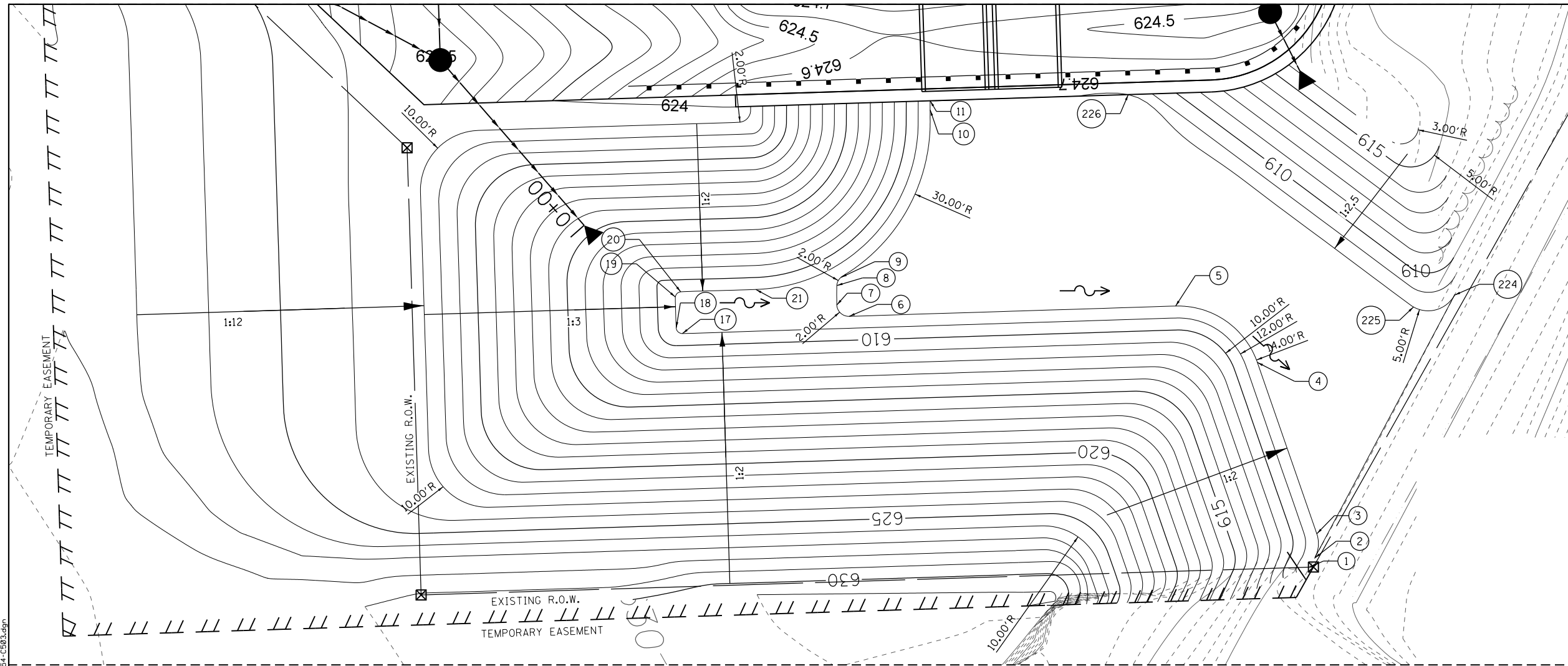
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
SITE DETAILS**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	29
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62B78	

SHEET
C502



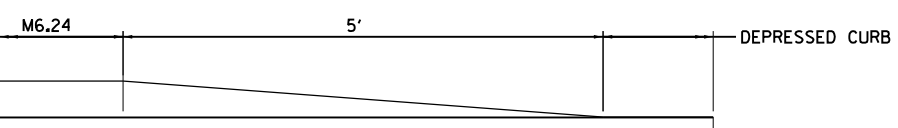
COMPENSATORY STORAGE BASIN GRADING DETAIL

GRADING TIEDOWN DETAIL

POINT NUMBER	CONTOUR	NORTHING	EASTING
1	608	1896023.08	1122361.38
2	608	1896024.61	1122362.22
3	608	1896028.66	1122362.56
4	608	1896057.28	1122352.63
5	608	1896066.68	1122338.96
6	608	1896064.92	1122284.23
7	608	1896066.79	1122282.39
8	608	1896070.02	1122282.36
9	608	1896071.89	1122283.73
10	608	1896099.45	1122297.96
11	608	1896100.98	1122297.96

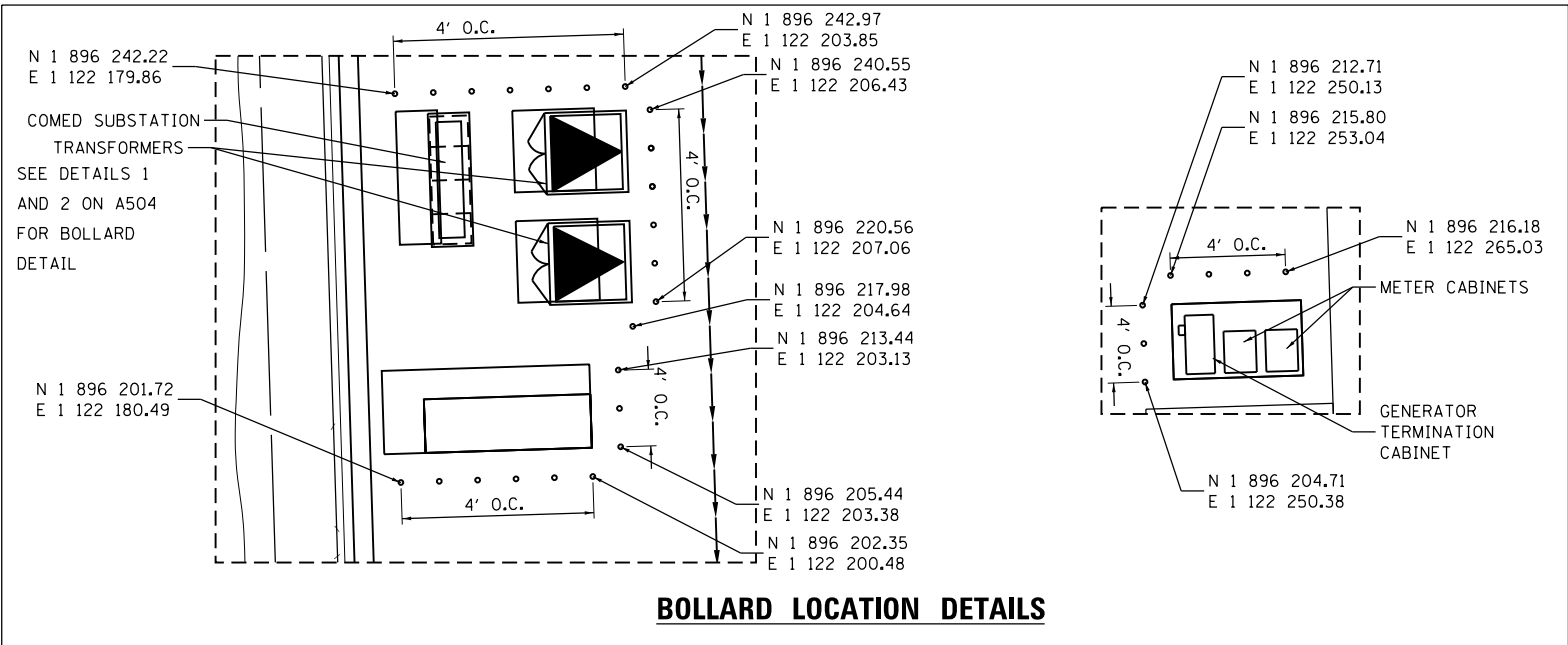
POINT NUMBER	CONTOUR	NORTHING	EASTING
17	609	1896062.1	1122256.57
18	609	1896063.06	1122255.54
19	609	1896068.06	1122255.38
20	609	1896069.08	1122256.87
21	609	1896069.49	1122268.84

POINT NUMBER	CONTOUR	NORTHING	EASTING
224	608	1896068.57	1122385.60
225	608	1896066.88	1122378.18
226	608	1896102.02	1122331.06

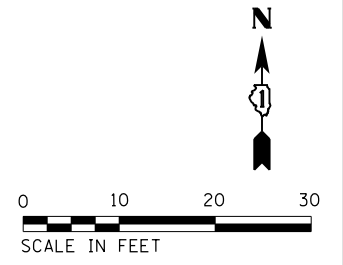


FOR CURB AND GUTTER AND DEPRESSED CURB DETAILS, SEE STANDARD 606001-06

CURB AND GUTTER TRANSITION



BOLLARD LOCATION DETAILS



D:\P\Map\PM\02\Job\NorthCentr.al_Omaha\Documents\081915\CON\0279431\02020202027972\6.6_CAD_BIM\6.2_Mort..._In_Progress\6.2.2_CAD_Sheets\0191454-C503.dgn



USER NAME = bgreen
 DESIGNED - 2IM - J. RUEDA
 DRAWN - 2IM - J. RUEDA
 PLOT SCALE = 10.0000' / 1" = 100
 CHECKED - 2IM - O. ULGER
 PLOT DATE = 5/29/2019
 DESIGNED - 2IM - J. RUEDA
 DRAWN - 2IM - J. RUEDA
 CHECKED - 2IM - O. ULGER
 DATE - 03/15/2019

DESIGNED - 2IM - J. RUEDA
 DRAWN - 2IM - J. RUEDA
 CHECKED - 2IM - O. ULGER
 DATE - 03/15/2019

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
 SITE DETAILS**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	30
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

SHEET C503

See notes for frame and lid

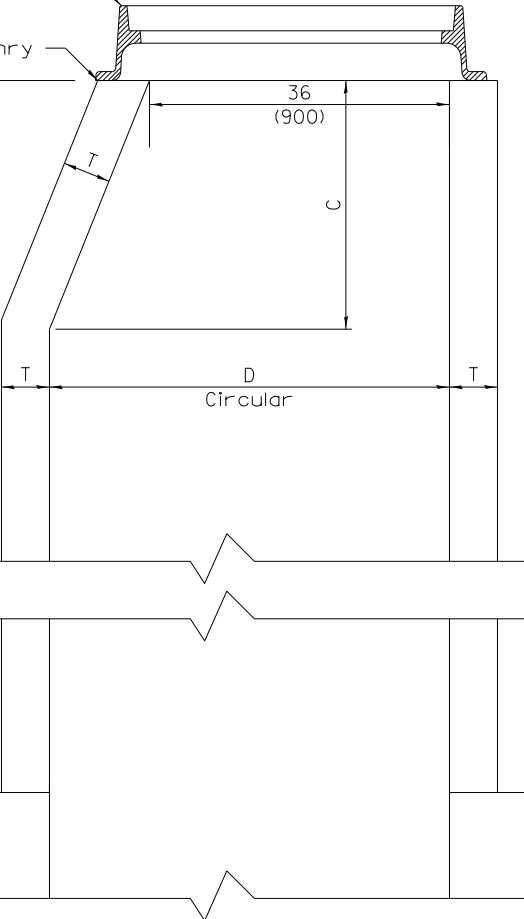
Top of masonry

Variable
20' (6.10 m) max.

36
(900)

C

D
Circular



Grit chamber slab
See structural sheet S110

ELEVATION

ALTERNATE MATERIALS FOR WALLS	D	C*	T (min.)
Concrete Masonry Unit	4'-0" (1.2 m)	30 (750) 3'-9" (1.15 m)	5 (125) 5 (125)
Brick Masonry	4'-0" (1.2 m)	30 (750) 3'-9" (1.15 m)	8 (200) 8 (200)
Precast Reinforced Concrete Section	4'-0" (1.2 m)	30 (750) 3'-9" (1.15 m)	4 (100) 5 (125)
Cast-in-place Concrete	4'-0" (1.2 m)	30 (750) 3'-9" (1.15 m)	6 (150) 6 (150)

* For precast reinforced concrete sections, dimension "C" may vary from the dimension given to plus 6 (150).

GENERAL NOTES

Manhole shall be paid for at the contract unit price per EACH for MANHOLE, SPECIAL, (X6020084).

Connect riser to slab as specified on sheets S110 and S510.

All dimensions are in inches (millimeters) unless otherwise shown.

See special provision SPECIAL DRAINAGE STRUCTURES for frame and lid.

C:\P\Map\PM\02\Job\NorthCentral\Omaha\Documents\081915\CON\0279431\080808080279431\080808080279431\6.0_CAD_BIM\6.2_Mort...In_Progress\6.2.2_CAD_Sheets\0191454-C504.dgn

2im
GROUP

D191454-C504.DGN
2IM Group, LLC
118 South Clinton St.
Suite 350
Chicago, IL 60661

USER NAME = bgreen	DESIGNED - 2IM - J. RUEDA	REVISED -
	DRAWN - 2IM - J. RUEDA	REVISED -
PLOT SCALE = 0.0833' / in.	CHECKED - 2IM - O. ULGER	REVISED -
PLOT DATE = 5/29/2019	DATE - 03/15/2019	REVISED -

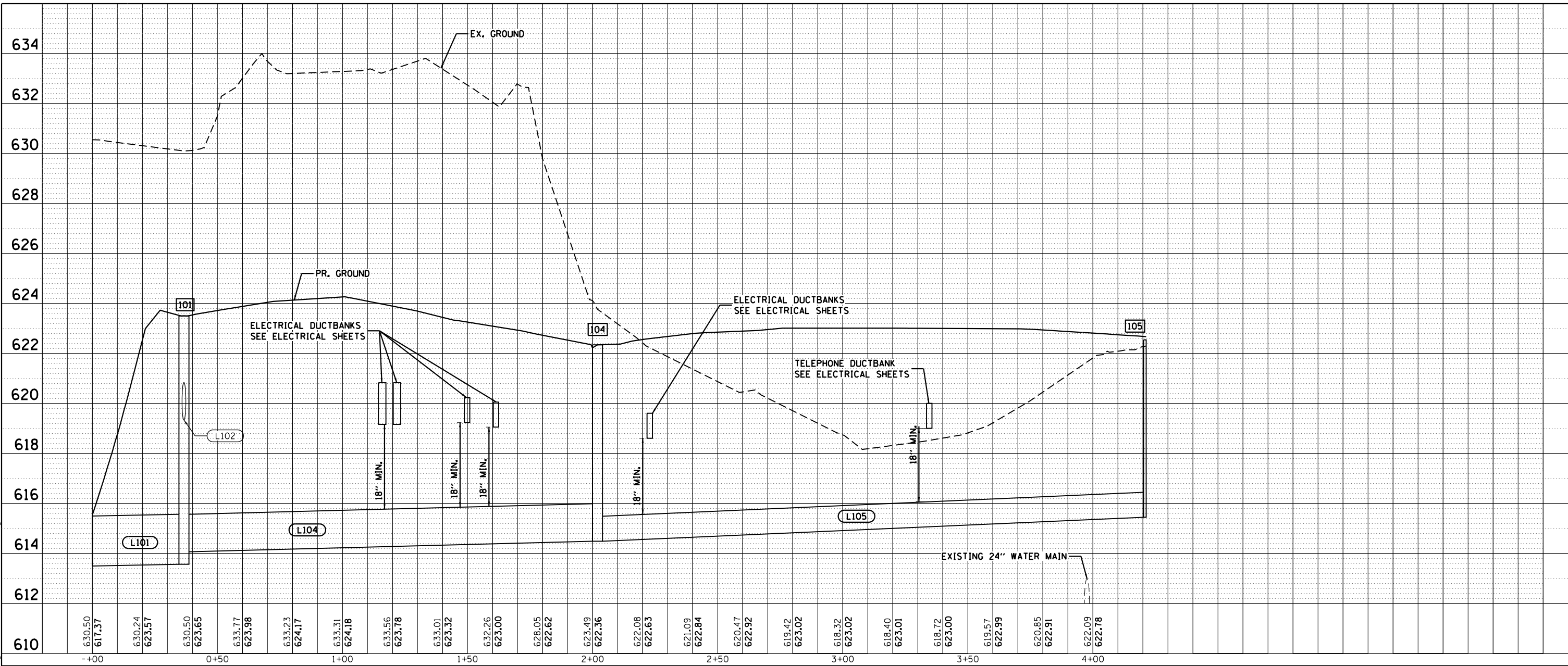
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

I-290 PUMP STATION NO. 4 RECONSTRUCTION SITE DETAILS			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	31
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62B78	

SHEET
C504

C:\Users\jruddy\Documents\081915\CAD\027943\0200000000027943\6.0_CAD_BIM\6.2_Work\In_Progress\6.2.2_CAD_Sheets\0191454-C801.dgn



STRUCTURE NO.	STATION	OFFSET	NORTHING	EASTING	RIM ELEV.	STRUCTURE TYPE	PAY ITEM NUMBER	INVERT			
								NORTH	SOUTH	EAST	WEST
100	0+00.00	0	1896080.16	1122240.16	N/A	PRC FLAR END SEC 24	54213669	613.50			
101	0+36.60	0	1896107.76	1122216.12	623.51	CB TA 4 DIA TIF OL	60200105	616.03	613.57		619.34
102	0+59.61	-39.7	1896129.52	1122175.72	624.76	CB TA 4 DIA TIF CL	60200205	620.73		619.52	
103	0+67.37	-39.78	1896137.27	1122175.40	626.92	INLETS TA T10F&G	60236700		620.76		
104	2+01.95	0	1896273.04	1122210.93	622.35	CB TA 4 DIA TIF OL	60200105		614.49		614.49
105	4+21.32	0	1896295.81	1121992.75	622.55	CB TC T20F&G	60208210			615.45	
200	N/A	N/A	1896104.79	1122360.32	N/A	PRC FLAR END SEC 12	54213657	615.89			
201	N/A	N/A	1896115.81	1122354.73	624.50	CB TA 4 DIA TIF OL	60200105		616.00		
300	N/A	N/A	1896276.92	1122395.41	N/A	PRC FLAR END SEC 12	54213657				619.42
301	N/A	N/A	1896278.83	1122373.35	623.46	CB TA 4 DIA TIF OL	60200105			619.51	

PIPE NO.	FROM STRUCTURE NO.	TO STRUCTURE NO.	PAY ITEM DESCRIPTION	PAY ITEM NUMBER	TRENCH BACKFILL (CY) (20800150)	LENGTH (FT)	SLOPE (%)
L101	101	100	STORM SEW CL A 2 24	550A0410	20.0	34.6	0.20
L102	102	101	STORM SEW CL A 2 12	550A0340	19.5	41.9	0.43
L103	103	102	STORM SEW CL A 2 12	550A0340	0.0	3.8	0.80
L104	104	101	STORM SEW CL A 2 18	550A0380	224.9	161.4	0.26
L105	105	104	STORM SEW WM REQ 12	Z0056608	237.4	216.4	0.44
L201	201	200	STORM SEW CL A 2 12	550A0340	6.3	10.4	1.06
L301	301	300	STORM SEW CL A 2 12	550A0340	1.2	20.1	0.45

D191454-C801.DGN
 2IM Group, LLC
 118 South Clinton St.
 Suite 350
 Chicago, IL 60661

USER NAME = bgreen	DESIGNED - 2IM - J. RUEDA	REVISED -
PLOT SCALE = 20:0' = 1"	DRAWN - 2IM - J. RUEDA	REVISED -
PLOT DATE = 5/29/2019	CHECKED - 2IM - B. RUDDY	REVISED -
	DATE - 03/15/2019	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

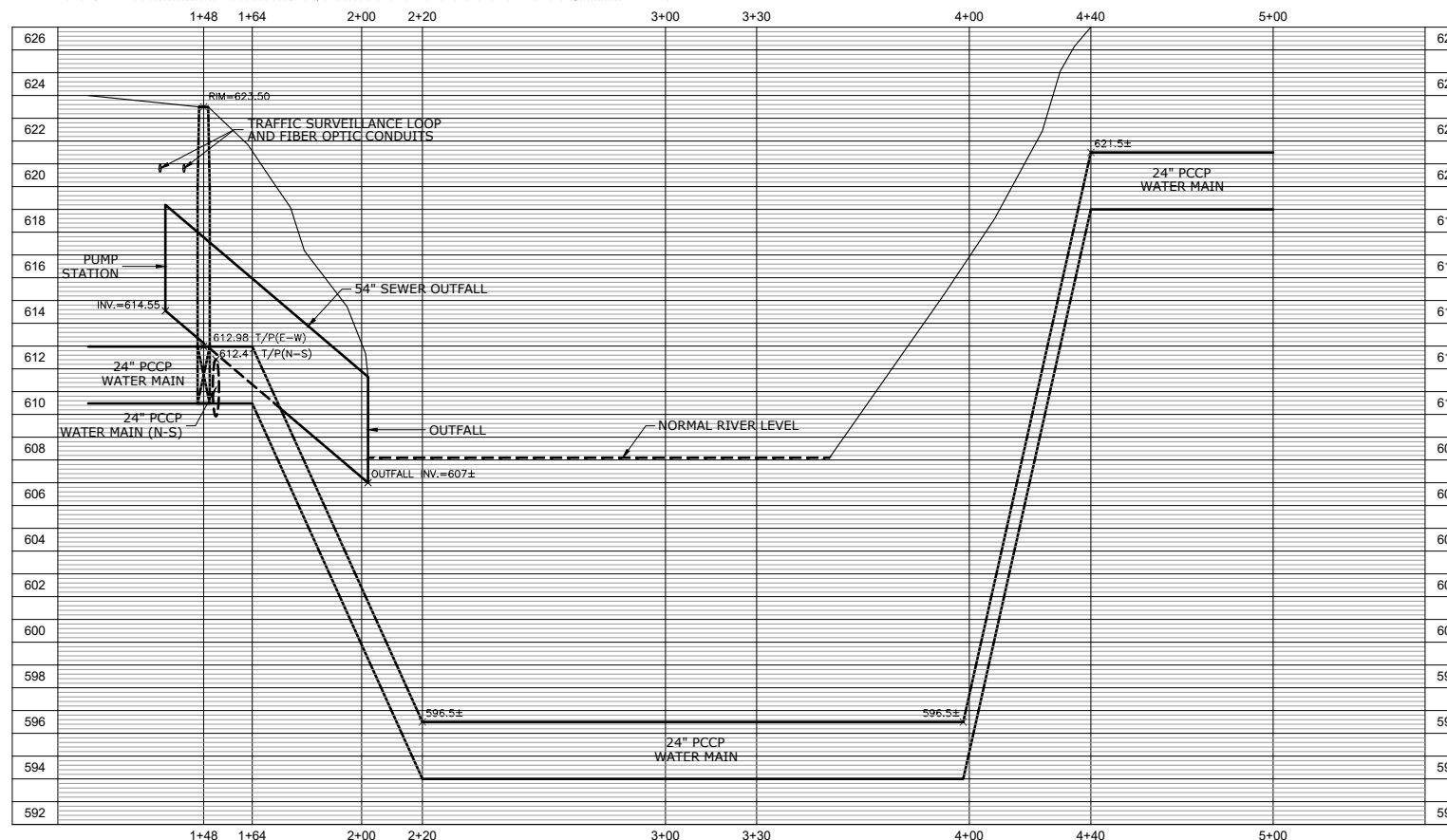
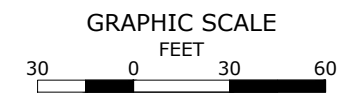
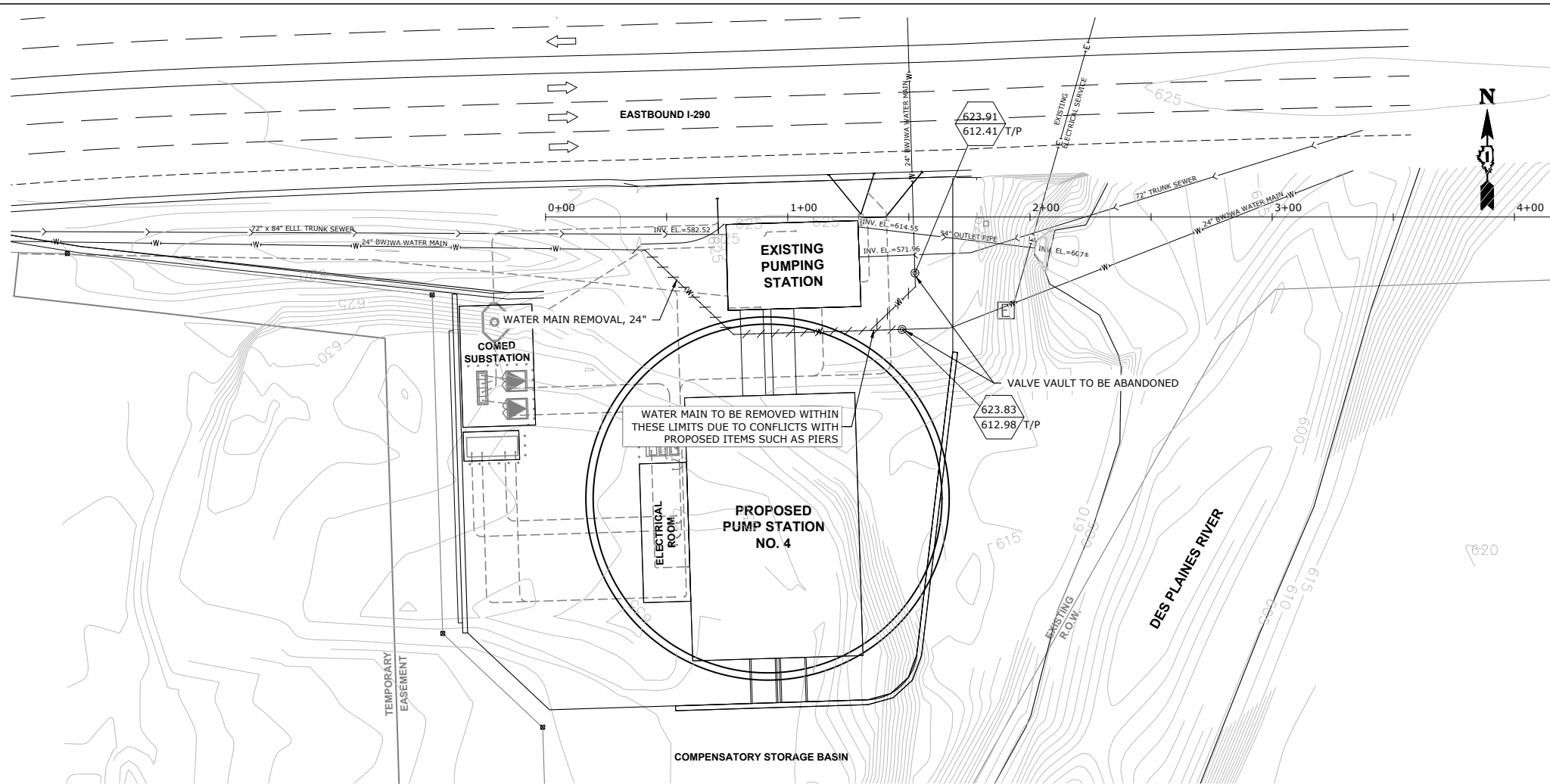
I-290 PUMP STATION NO. 4 RECONSTRUCTION
STORM SEWER PROFILES AND SCHEDULES

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	32
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

SHEET
C801

Drawing file: W:\Projects_by_Village\Westchester-Broadview Wtr Comm\64015254 - IDOT I-290 Pump Sta. MM Relocation\I-290 Pump Station.dwg May 23, 2019 - 8:59am



**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
EXISTING WATER MAIN PLAN AND PROFILE**

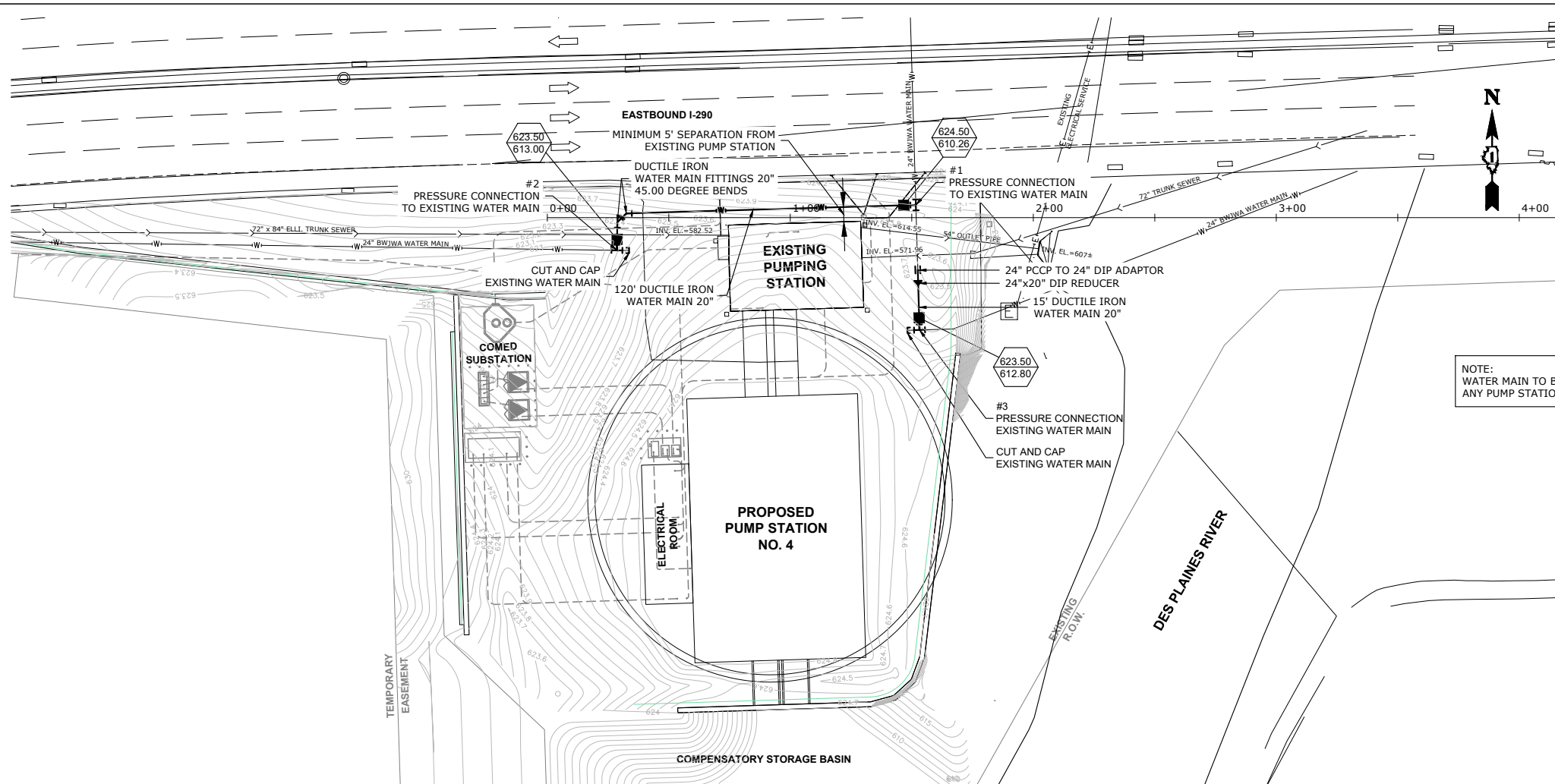
SCALE: 1"=30'H; 1"=4'V SHEET OF SHEETS STA. TO STA.

HANCOCK ENGINEERING
 Civil Engineers
 Municipal Consultants
 Established 1911

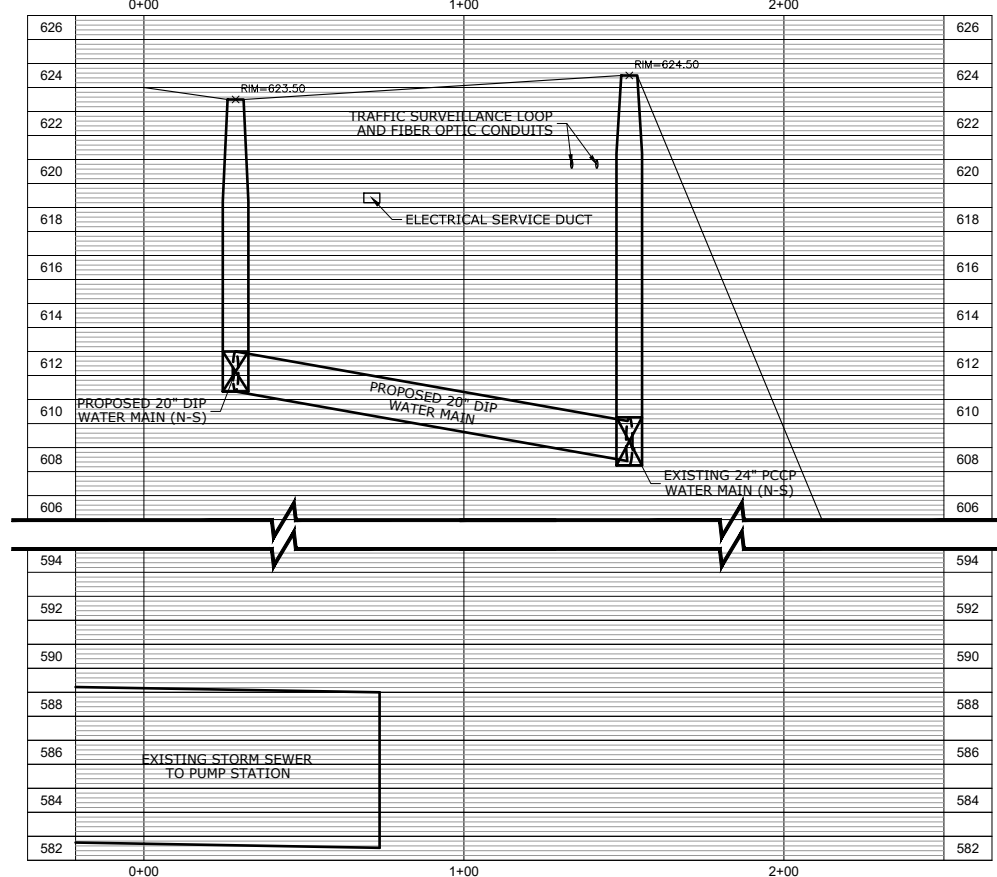
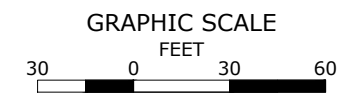
DESIGNED - JGG	REVISED - 05/30/2019
DRAWN - TG	REVISED -
CHECKED - MWV	REVISED -
DATE - 08/14/2017	REVISED -

SHEET C901		TOTAL SHEETS 33	
F.A.I. RTE. 290	SECTION 3434-2321-R	COUNTY COOK	SHEET NO. 33
CONTRACT NO. 62B78			
ILLINOIS FED. AID PROJECT			

Drawing file: W:\Projects_by_Village\Westchester-Broadview Wtr Comm\8401924 - I-290 Pump Sta WM Relocation\I-290 Pump Station.dwg May 23, 2019 - 8:59am



NOTE:
WATER MAIN TO BE RELOCATED BEFORE
ANY PUMP STATION WORK IS PERFORMED



**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
PROPOSED WATER MAIN PLAN AND PROFILE**

DESIGNED	— JGG	REVISED	— 05/30/2019
DRAWN	— TG	REVISED	—
CHECKED	— MWV	REVISED	—
DATE	— 08/14/2017	REVISED	—

SCALE: 1"=30'H; 1"=4'V SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	34
			CONTRACT NO. 62B78	
ILLINOIS FED. AID PROJECT				

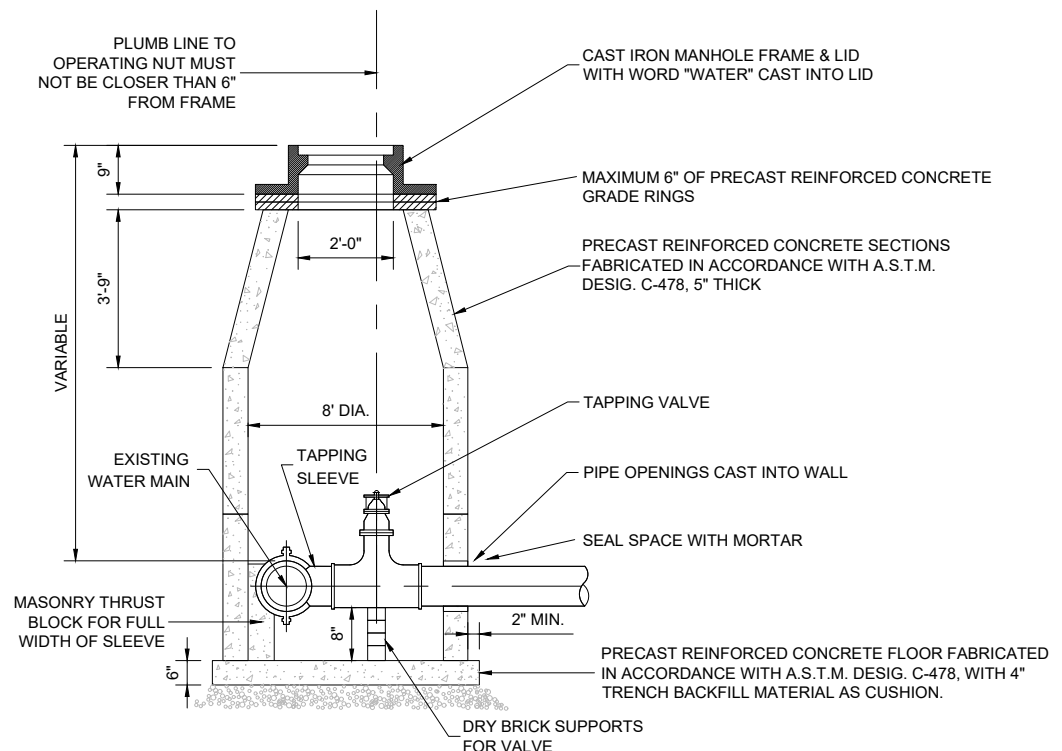
HANCOCK ENGINEERING

- ◆ Civil Engineers
- ◆ Municipal Consultants
- ◆ Established 1911

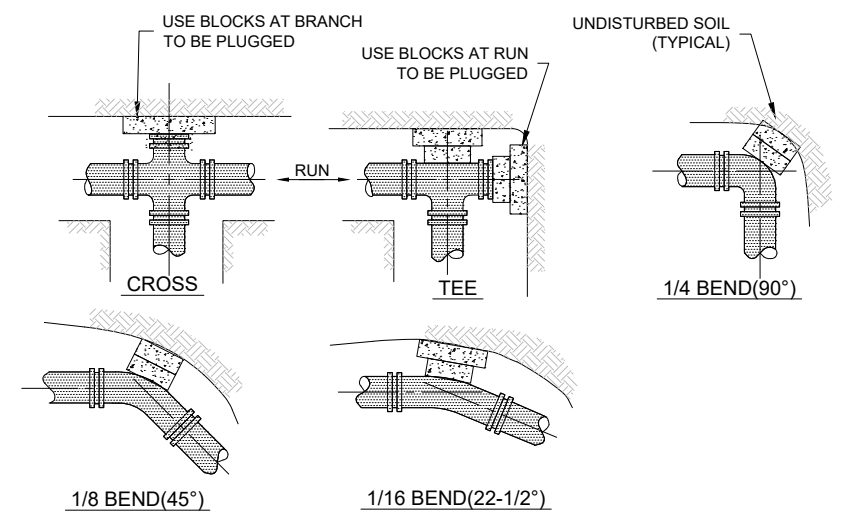
1995 Professional Road
Westchester, IL 60184-0700
Phone: 708/664-0300
www.hancockeng.com

SHEET
C902

Drawing file: W:\Projects_by_Village\Westchester-Broadview Wtr Comm\84015254 - IDOT I290 Pump Sta WM Relocation-Details (-290 Pump Station).dwg May 23, 2019 - 8:09am



PRESSURE CONNECTION VAULT



- GENERAL NOTES:**
- THRUST BLOCKS TO BE USED AT 1/16 (22-1/2°) OR GREATER BENDS AND AT ALL ENDS TO BE PLUGGED.
 - THRUST BLOCKS TO BE CONCRETE BLOCKS CENTERED ON THE WATER MAIN AND PLACED AGAINST FIRM, UNDISTURBED SOIL.

THRUST BLOCKS

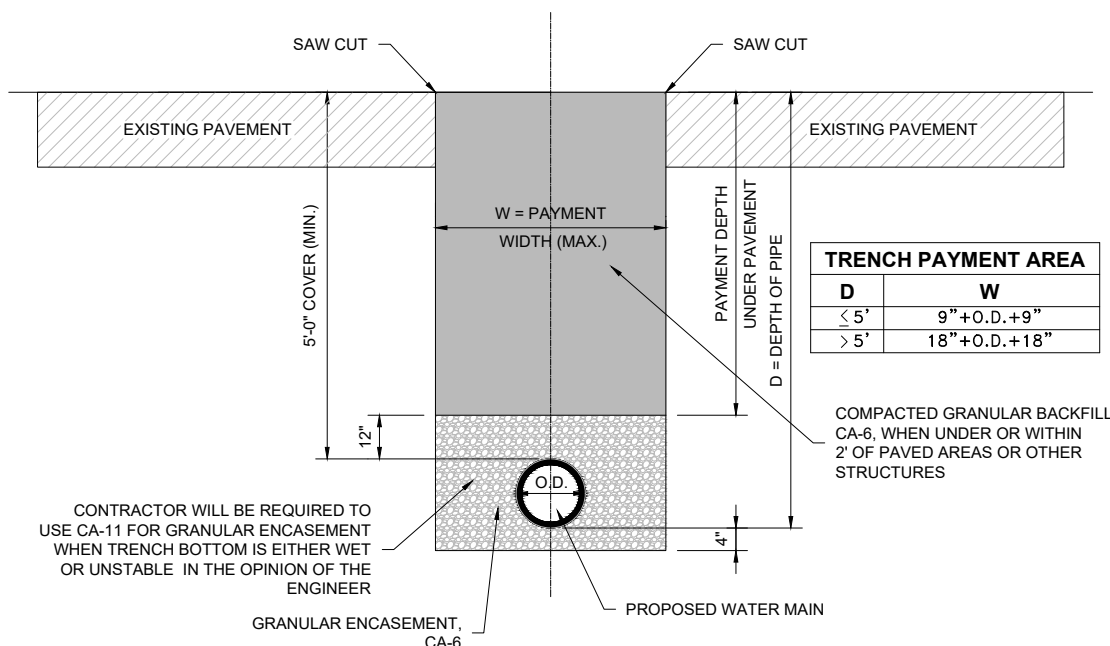
SCHEDULE OF QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
20800150	TRENCH BACKFILL	CU YD	1500
56103510	DUCTILE IRON WATER MAIN 20"	FOOT	135
X5610004	DUCTILE IRON WATER MAIN FITTINGS	POUND	4000
X5610724	WATER MAIN REMOVAL, 24"	FOOT	140
XX000679	CUT AND CAP EXISTING WATER MAIN	EACH	3
	PRESSURE TESTING AND DISINFECTION	LSUM	1
XX001047	VALVE VAULTS TO BE ABANDONED	EACH	2
Z0044298	PRESSURE CONNECTION TO EXISTING WATER MAIN	EACH	3

WATER MAIN GENERAL NOTES

- THE BROADVIEW-WESTCHESTER JOINT WATER AGENCY (PAUL DOWD AT 708-990-5291) AND THE EDWIN HANCOCK ENGINEERING COMPANY (JIM GOUMAS AT 708-259-0572) SHALL BE NOTIFIED AT LEAST TWO (2) DAYS IN ADVANCE OF ANY WORK ON THE EXISTING WATER MAIN
- ALL PROPOSED WATER MAINS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS INCLUDED IN THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS", SEVENTH EDITION, DATED 2014, AND ALL REVISIONS THERETO
- THE CONTRACTOR SHALL VERIFY THE TYPE OF ALL WATER MAIN HARDWARE WITH THE BROADVIEW-WESTCHESTER JOINT WATER AGENCY PRIOR TO ORDERING SUCH MATERIAL

SUGGESTED SEQUENCING OF WORK

- PRESSURE CONNECTION #1
- PRESSURE CONNECTION #2
- INSTALLATION OF 20" DIP MAIN BETWEEN PRESSURE CONNECTION NO. 1 AND PRESSURE CONNECTION NO. 2
- PRESSURE TEST AND CHLORINATE NEW MAIN
- PRESSURE CONNECTION NO. 3
- INSTALLATION OF 20" MAIN FROM PRESSURE CONNECTION NO. 3 TO EXISTING MAIN
- CUT AND CAP EXISTING WATER MAIN BY PRESSURE CONNECTION NO. 2
- CUT AND CAP EXISTING WATER MAIN BY PRESSURE CONNECTION NO. 3
- CUT AND CAP EXISTING WATER MAIN BY CONNECTION POINT TO EXISTING MAIN
- WATER MAIN REMOVAL



TYPICAL WATER MAIN TRENCH

TRENCH PAYMENT AREA	
D	W
< 5'	9" + O.D. + 9"
> 5'	18" + O.D. + 18"



Civil Engineers
Municipal Consultants
 Established 1911

DESIGNED — JGG	REVISED — 05/30/2019
DRAWN — TG	REVISED —
CHECKED — MWV	REVISED —
DATE — 08/14/2017	REVISED —

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
DETAILS, WATER MAIN GENERAL NOTES
AND SCHEDULE OF QUANTITIES

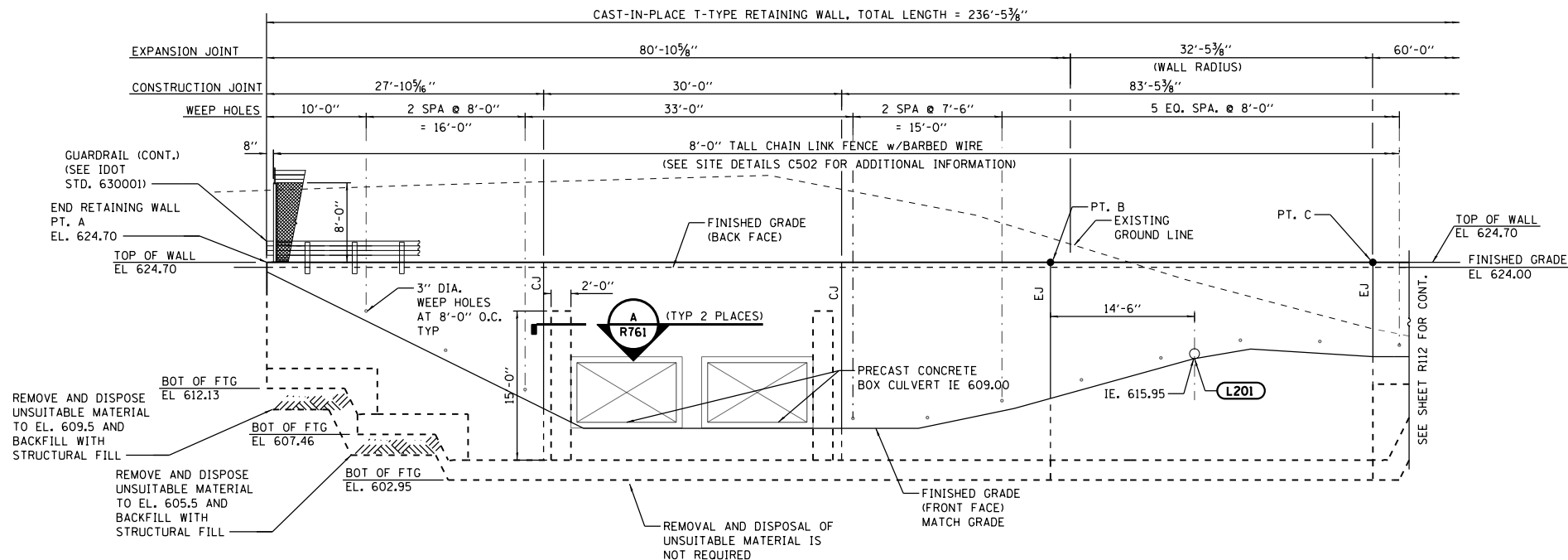
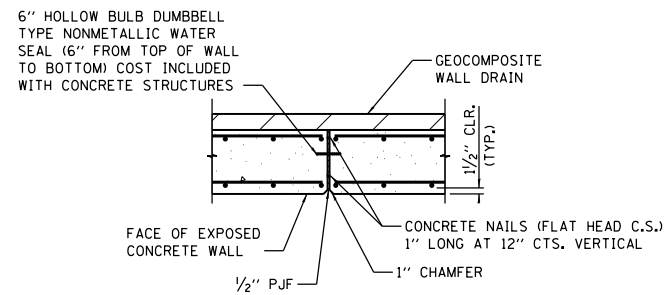
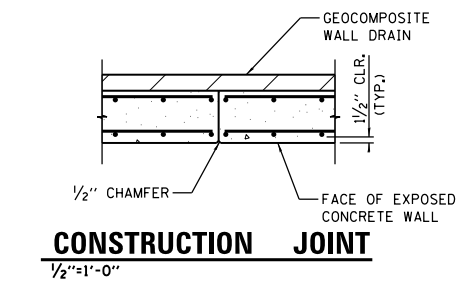
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	35
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62B78	

BENCHMARK: SET MAG CONTROL POINT #102 ON E.B. BITUMINOUS SHOULDER OF I-290 AT WEST FENCE CORNER FOR WEST GATE OF PUMP STATION (EXISTING); APPROX STA. 263+47.38, OFFSET 47.68' RT., ELEV. 623.92 (NAVD 88).

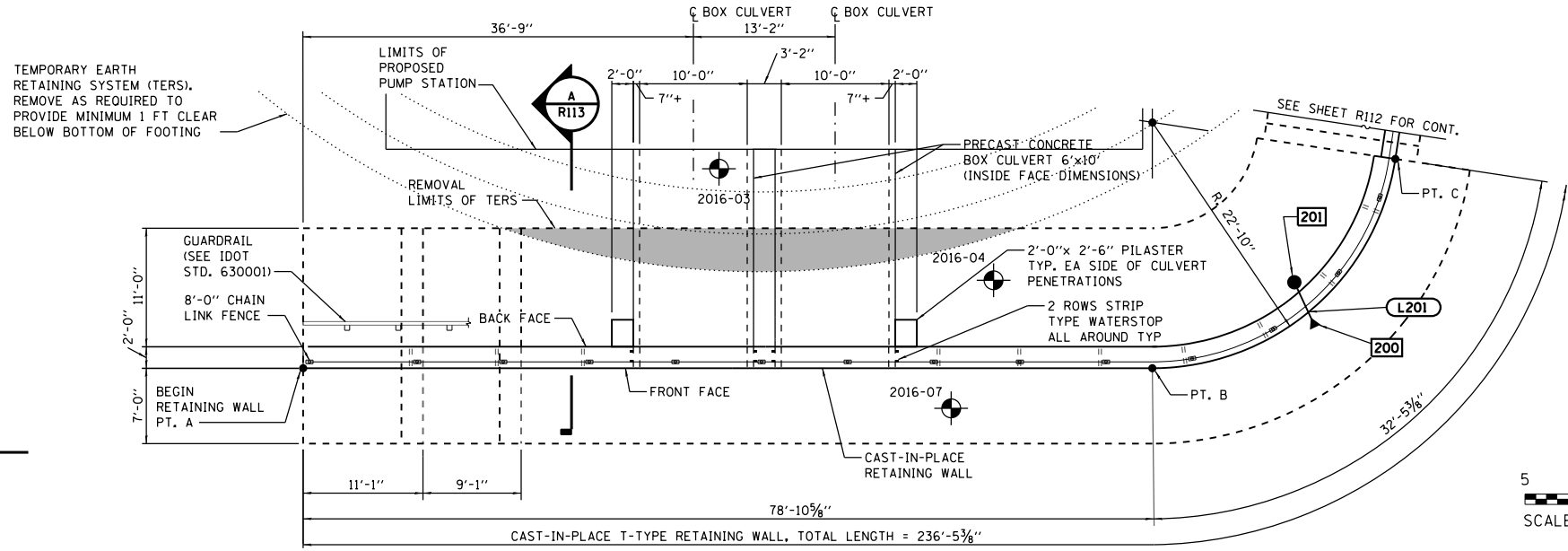
EXISTING STRUCTURE: NONE.

TRAFFIC CONTROL: NO MAINTENANCE REQUIRED.

SALVAGE: NONE.

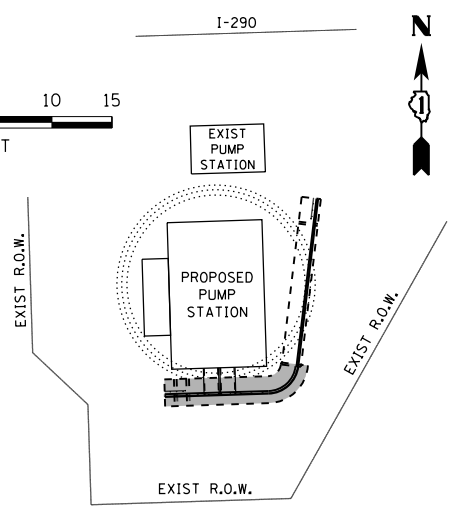
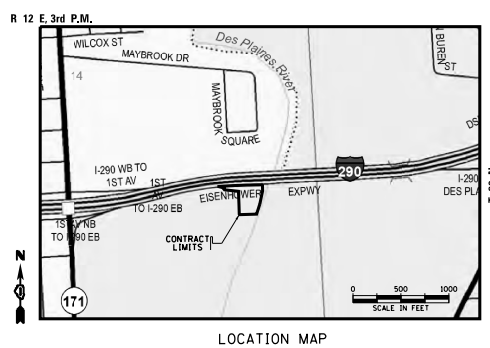


NOTE:
FOR CONTROL JOINT (CJ) AND
EXPANSION JOINT (EJ),
SEE DETAILS THIS SHEET.



LOCATION	NORTHING	EASTING	STATION	OFFSET	LT/RT
A	1896099.96	1122265.48	263+60.70	268.36	RT
B	1896102.44	1122344.55	264+39.81	268.36	RT
C	1896122.72	1122367.01	264+62.89	248.79	RT
D	1896182.30	1122374.09	264+71.84	189.46	RT
E	1896247.87	1122381.89	264+81.69	124.17	RT

NOTE:
STATIONING AND OFFSET BASED FROM I-290 AT FRONT FACE OF WALL



DESIGN SPECIFICATIONS

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH ED. (2014 WITH 2015 & 2016 INTERIM REVISIONS)

DESIGN STRESSES

(FIELD UNITS)
f'c = 3,500 psi
fy = 60,000 psi (REINFORCEMENT)

NOTE:

1. WEEPHOLE TO BE LOCATED 12" ABOVE FINISHED GRADE IN FRONT OF THE RETAINING WALL

GENERAL NOTES:

- FOR GENERAL STRUCTURAL NOTES, SEE SHEET S001.
- FOR TYPICAL STRUCTURAL DETAILS, SEE S500 SERIES SHEETS.
- ABANDONED TEMPORARY SOIL RETENTION STRUCTURE MAY EXIST NEAR EXISTING PUMP STATION. CONTRACTOR SHALL EXCAVATE & PROBE TO DETERMINE POSSIBLE INTERFERENCE NEAR EXISTING PUMP STATION PRIOR TO DESIGN OF TERS FOR NEW PUMP STATION.
- MAXIMUM APPLIED SERVICE BEARING PRESURE = OMAX = 2000 PSF
- THE CONTRACTOR IS ALERTED TO THE POSSIBILITY THAT THE WORK TO CONSTRUCT THE RETAINING WALLS MAY INCLUDE DEWATERING DUE TO THE HIGH GROUND WATER ELEVATION. IN ACCORDANCE WITH ARTICLE 502.13, DEWATERING WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST FOR STRUCTURE EXCAVATION NORMAL RIVER WATER LEVEL = EL. 608.50 SEE ALSO M303.
- CONCRETE: IDOT STANDARD CLASS SI.
- THE LIMITS AND QUANTITIES OF REMOVAL AND REPLACEMENT SHOWN ARE BASED ON THE BORING DATA AND MAY BE MODIFIED BY THE DISTRICT GEOTECHNICAL AND FIELD ENGINEERS FOR VARIABLE SUBSURFACE CONDITIONS ENCOUNTER IN THE FIELD.
- CONTRACTOR TO VERIFY FINAL OUTSIDE DIMENSIONS OF PRECAST BOX CULVERT AND REVISE REINFORCING AS REQUIRED. SUBMIT REQUIRED REINFORCING CHANGE PRIOR TO REBAR FABRICATION.

D:\Projects\2019\I-290 Pump Station No. 4 Reconstruction\Drawings\Sheet\11\11111111.dgn

FILE NAME = D191454-R111.DGN
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

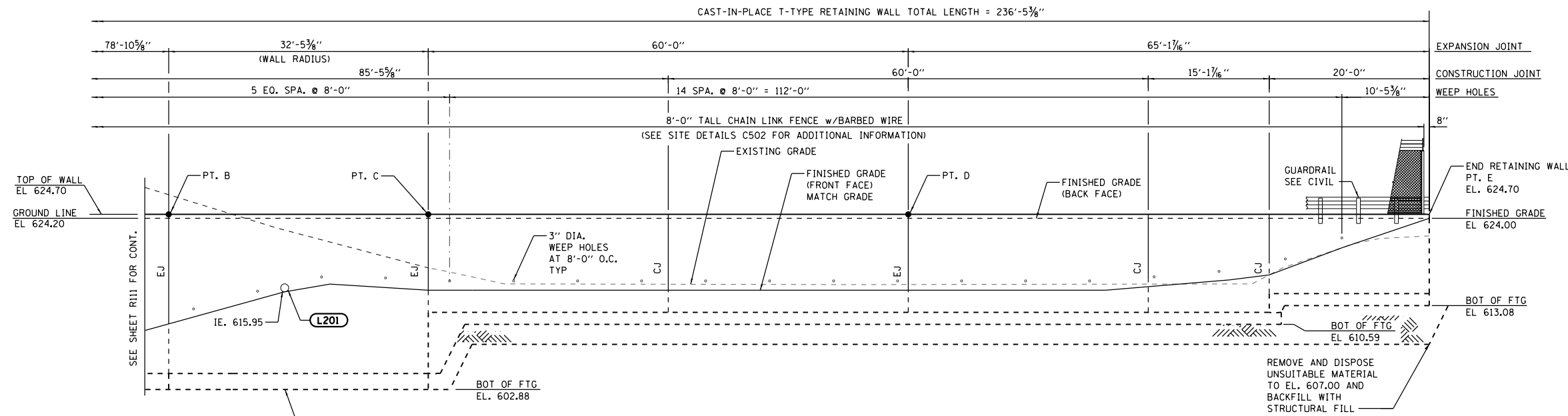
USER NAME = bgreen	DESIGNED - HDR - K. KIRCHNER	REVISED -
PLOT SCALE = 0.1" = 1'-0"	DRAWN - HDR - B. GREEN	REVISED -
PLOT DATE = 5/29/2019	CHECKED - HDR - B. BRADLEY	REVISED -
	DATE - 05/30/2019	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
EAST RETAINING WALL PLAN AND ELEVATION**
 SCALE: 1/8"=1'-0" SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	36
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

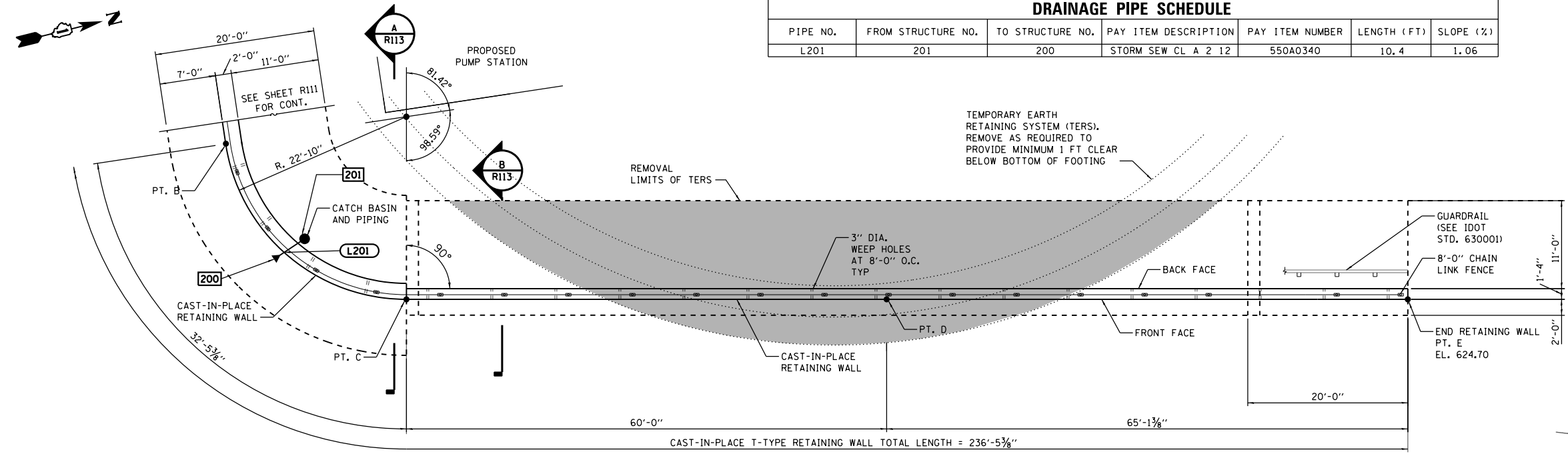
SHEET R111



CAST-IN-PLACE RETAINING WALL - ELEVATION

(DIMENSION MEASURED ALONG FRONT FACE OF WALL)
(ELEVATION SHOWN FLAT, LOOKING AT FRONT FACE)

NOTE:
FOR CONTROL JOINT (CJ) AND
EXPANSION JOINT (EJ),
SEE DETAILS SHEET R111.

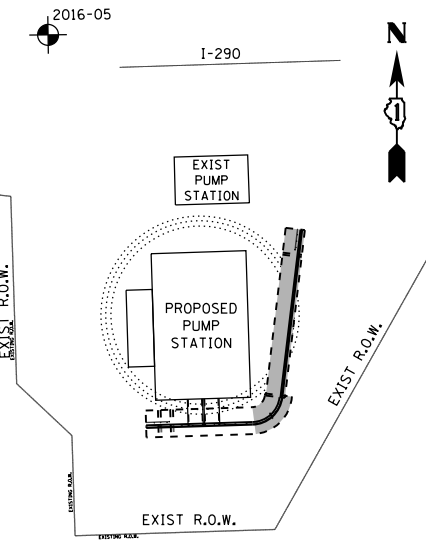
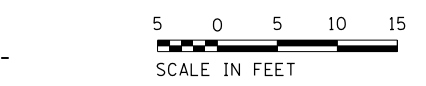


CAST-IN-PLACE RETAINING WALL - PLAN

(DIMENSION MEASURED ALONG FRONT FACE OF WALL)
(LOOKING AT FRONT FACE)

DRAINAGE PIPE SCHEDULE						
PIPE NO.	FROM STRUCTURE NO.	TO STRUCTURE NO.	PAY ITEM DESCRIPTION	PAY ITEM NUMBER	LENGTH (FT)	SLOPE (%)
L201	201	200	STORM SEW CL A 2 12	550A0340	10.4	1.06

DRAINAGE STRUCTURE SCHEDULE							
STRUCTURE NO.	STATION	OFFSET	NORTHING	EASTING	RIM ELEV.	STRUCTURE TYPE	INVERT
200	264+55.64	266.50 R	1896104.79	1122360.32	N/A	PRC FLAR END SEC 12	615.89
201	264+50.41	255.31 R	1896115.81	1122354.73	624.5	CB TA 4 DIA TIF OL	616.00



KEY PLAN

NOTE: SEE CIVIL PLANS FOR INFORMATION
NOT CONTAINED HEREIN.

FILE NAME = D191454-R112.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 CHECKED - HDR - B. BRADLEY
 DATE - 05/30/2019
 PLOT SCALE = 1/8" = 1'-0"
 PLOT DATE = 5/29/2019



DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 CHECKED - HDR - B. BRADLEY
 DATE - 05/30/2019

REVISED -
 REVISED -
 REVISED -
 REVISED -

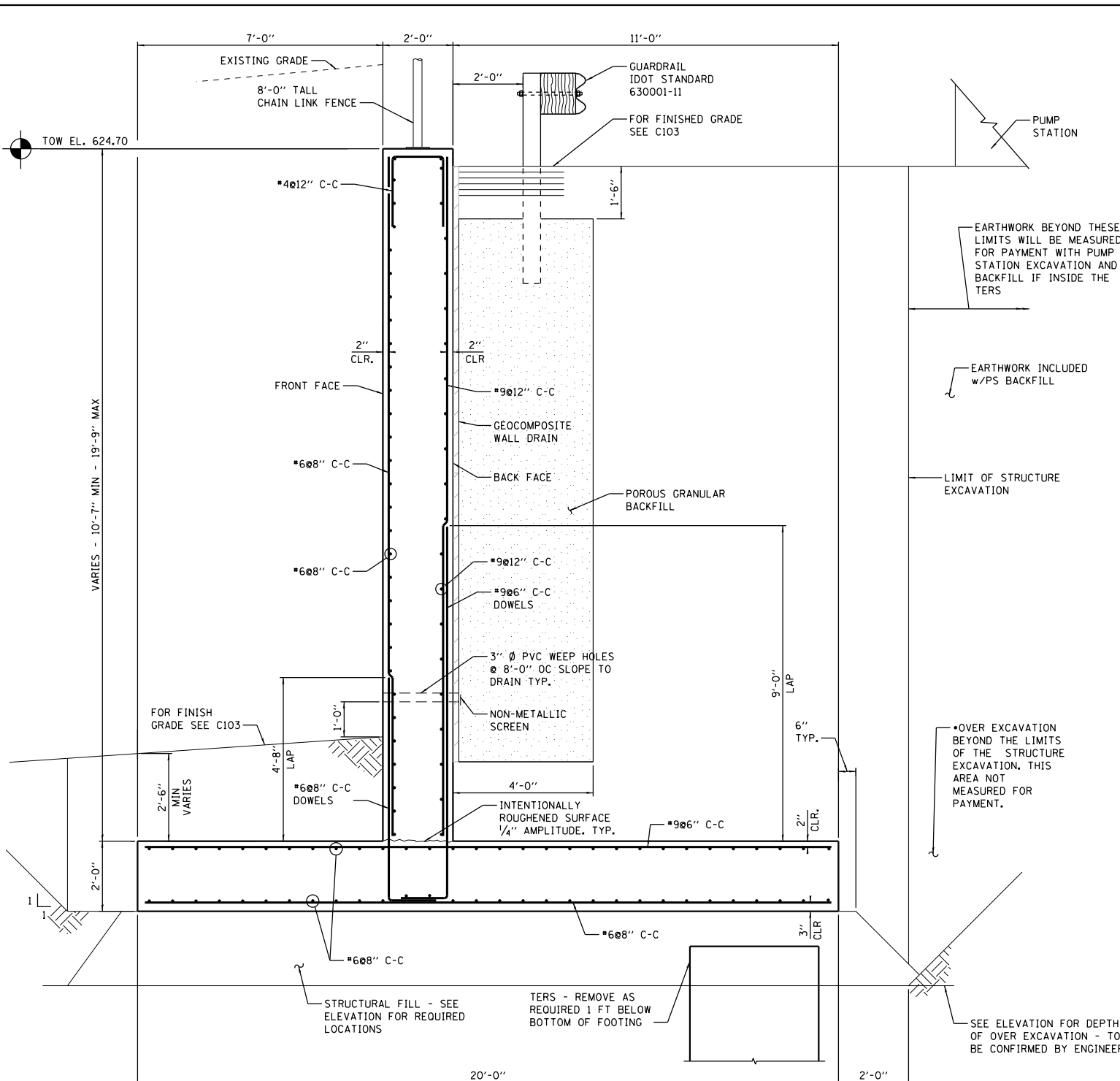
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
EAST RETAINING WALL PLAN AND ELEVATION
 SCALE: 1/8" = 1'-0" SHEET OF SHEETS STA. TO STA.

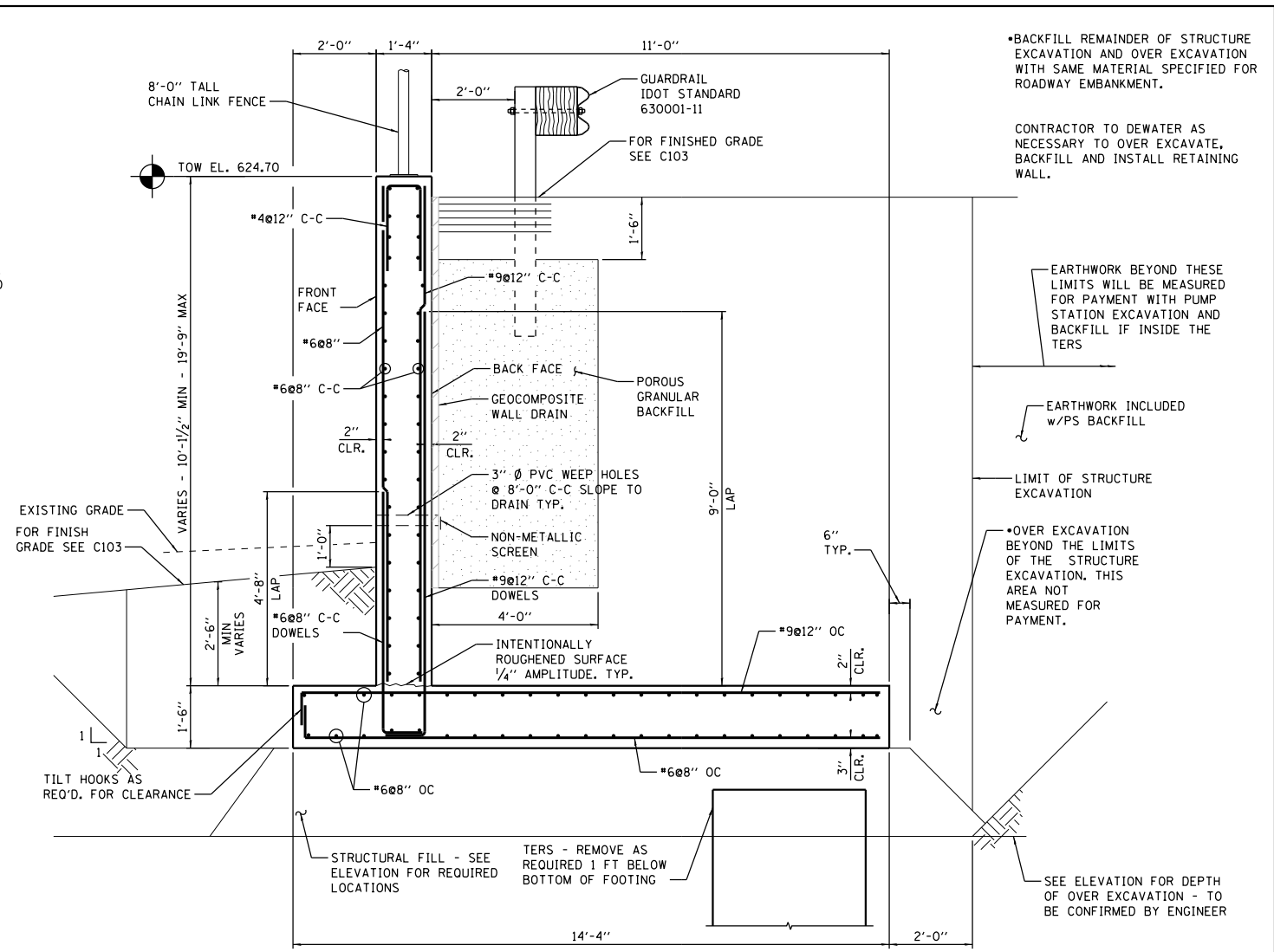
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	37

SHEET R112
 CONTRACT NO. 62B78
 ILLINOIS FED. AID PROJECT

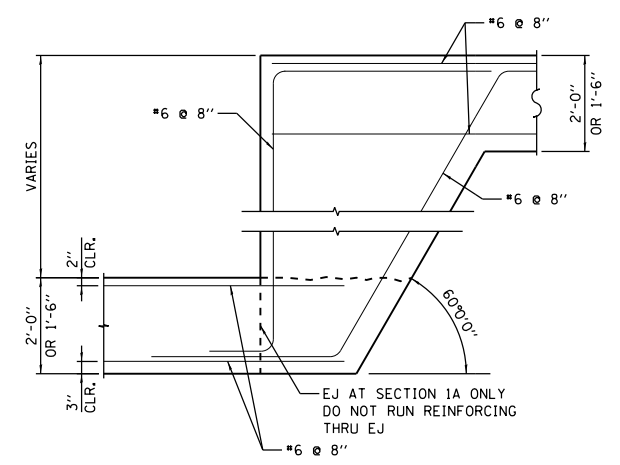
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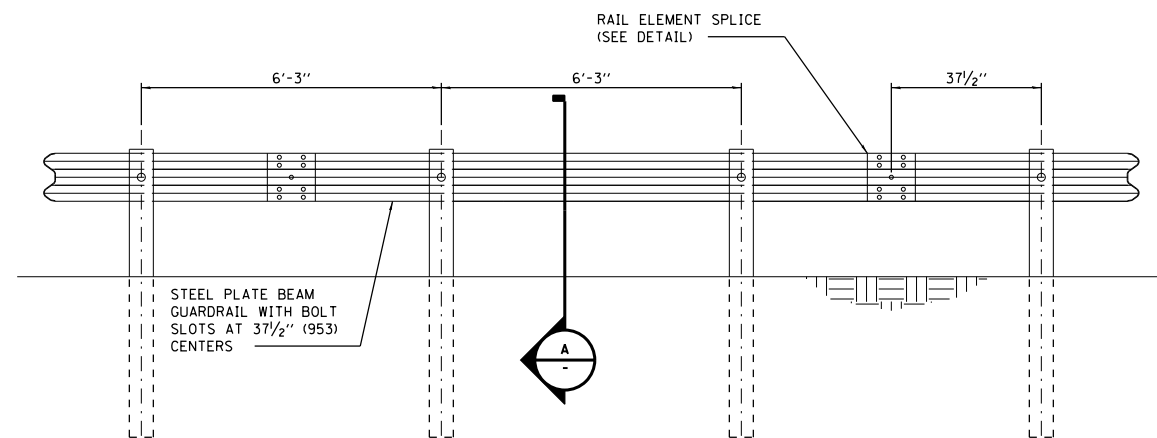
A RETAINING WALL SECTION
 SCALE: 1/2" = 1'-0"



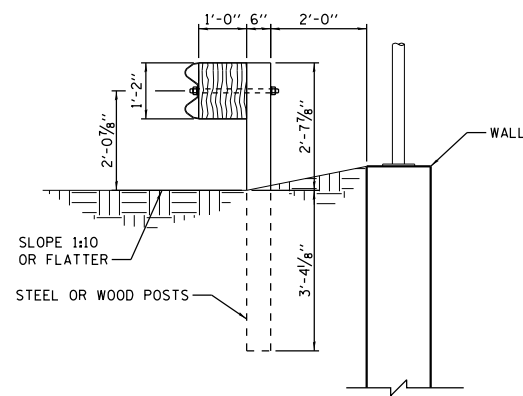
B RETAINING WALL SECTION
 SCALE: 1/2" = 1'-0"



RETAINING WALL STEP FOOTING DETAIL
 SCALE: 1/2" = 1'-0"



ELEVATION
GUARDRAIL TYPE A
 6'-3" TYPICAL POST SPACING



SECTION
 1/2" = 1'-0"

WHEN "S" IS LESS THAN 3 THE DISTANCE FROM THE BACK OF POST IS LESS THAN 24" (610), THE POST SHALL BE STEEL AND THE EMBEDMENT SHALL BE 7 1/8" (1934)

P:\1\146P\146P\NorthCentral\Omaha\Documents\001915\CON0078431\00000000271972\6.0_CAD_BIM\6.2_Work\In_Progress\6.2.2_CAD_Sheets\0191454-R114

FILE NAME = D191454-R114.DGN
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

USER NAME = bgreen
 PLOT SCALE = 1/2" = 1'-0"
 PLOT DATE = 5/29/2019

DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 CHECKED - HDR - B. BRADLEY
 DATE - 05/30/2019

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
EAST RETAINING WALL PLAN, ELEVATION, AND SECTION

SCALE: 1/2"=1'-0" SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	39
			CONTRACT NO. 62B78	
ILLINOIS FED. AID PROJECT				

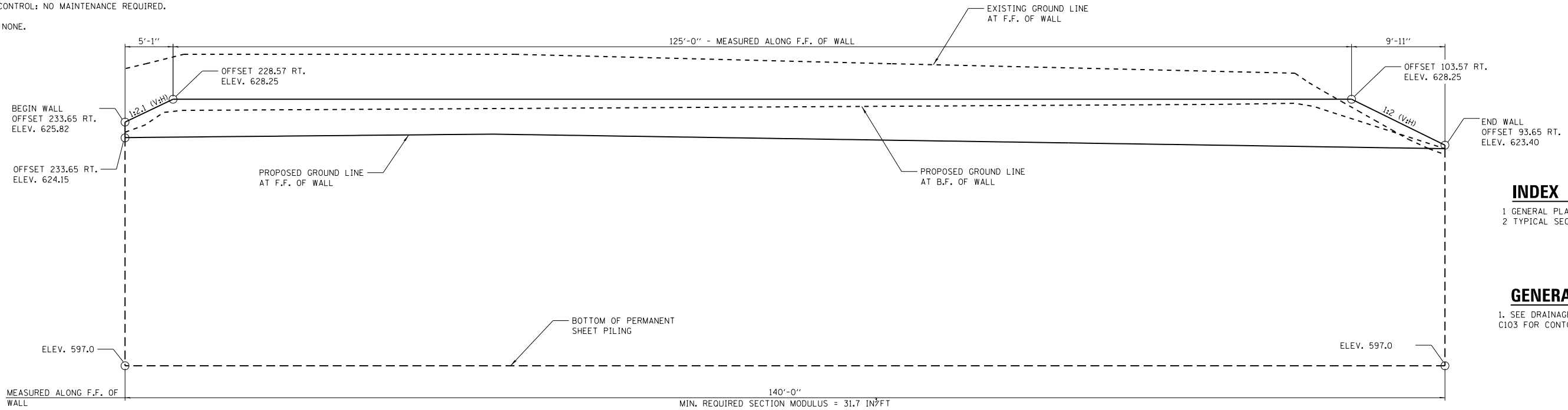
SHEET
 R114

BENCHMARK: SET MAG CONTROL POINT #102 ON E.B. BITUMINOUS SHOULDER OF I-290 AT WEST FENCE CORNER FOR WEST GATE OF PUMP STATION (EXISTING); APPROX STA. 263+47.38, OFFSET 47.68' RT., ELEV. 623.92 (NAVD 88).

EXISTING STRUCTURE: NONE.

TRAFFIC CONTROL: NO MAINTENANCE REQUIRED.

SALVAGE: NONE.



INDEX OF SHEETS

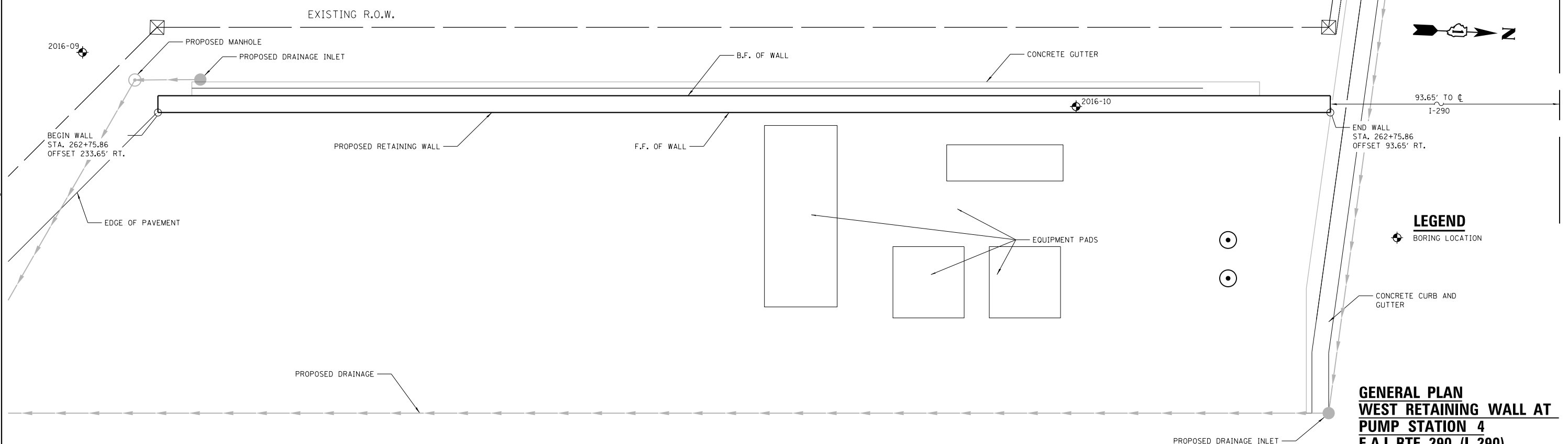
- 1 GENERAL PLAN AND ELEVATION
- 2 TYPICAL SECTION AND DETAILS

GENERAL NOTES

- 1. SEE DRAINAGE PLANS, SHEETS C102 AND C103 FOR CONTOURS AND DRAINAGE PLAN.

ELEVATION

(LOOKING WEST, STA. 262+75.86)



LEGEND

- ⊕ BORING LOCATION

**GENERAL PLAN
WEST RETAINING WALL AT
PUMP STATION 4
F.A.I. RTE. 290 (I-290)
COOK COUNTY
STATION 262+75.86 OFFSET
93.65 RT. TO 233.65 RT.**

**DESIGN STRESSES
FIELD UNITS**

Fy = 50,000 PSI (PERMANENT SHEET PILING)

DESIGN SPECIFICATIONS

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION
WITH 2015 AND 2016 INTERIM REVISIONS

PLAN

FILE NAME = D191454-R121.DGN
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

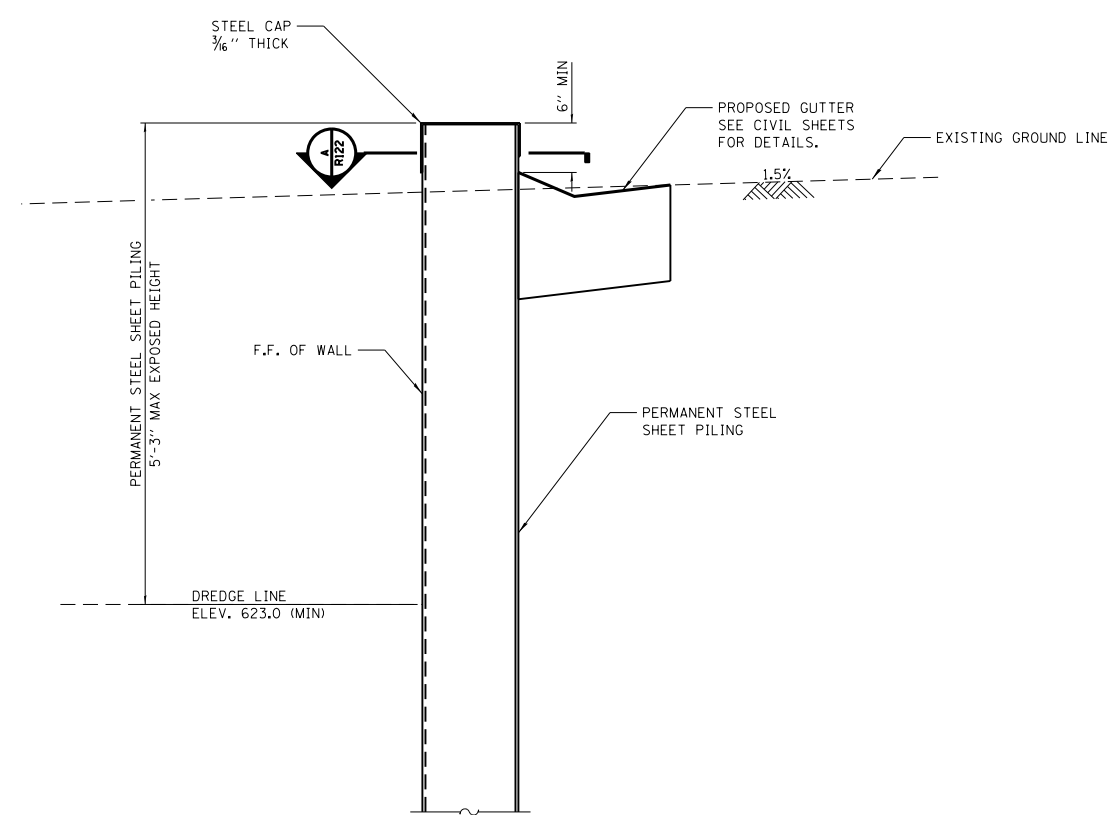
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PLOT DATE = 5/29/2019	CHECKED -	REVISED -
	DATE = 05/30/2019	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

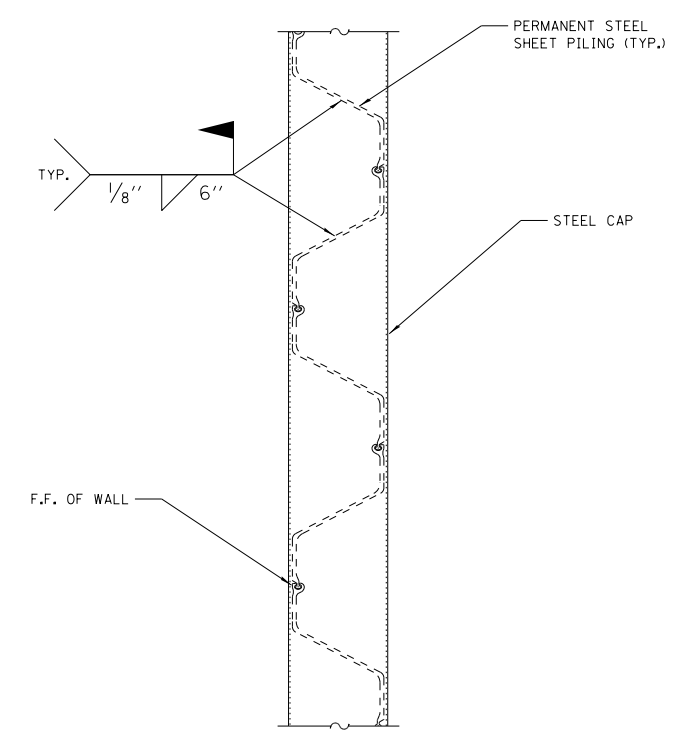
**I-290 PUMP STATION NO. 4 RECONSTRUCTION
WEST RETAINING WALL PLAN AND ELEVATION**
 SCALE: AS NOTED SHEET 1 OF 2 SHEETS STA. TO STA.

F.A.I. RTE. 290	SECTION 3434-2321-R	COUNTY COOK	TOTAL SHEETS 232	SHEET NO. 40
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

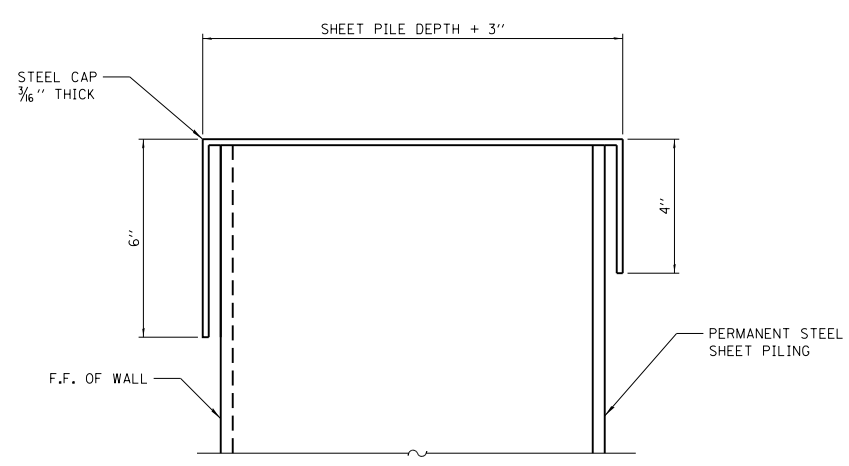
P:\191454\191454-R121\191454-R121\191454-R121.dgn



TYPICAL WALL SECTION



**SECTION A-A
SECTION THRU CAP**



CAP DETAIL

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FILE NAME = D191454-R122.DGN
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

USER NAME = bgreen	DESIGNED -	REVISED -
PLOT SCALE = 0:1' = 1/8" = 1/8"	DRAWN -	REVISED -
PLOT DATE = 5/29/2019	CHECKED -	REVISED -
	DATE = 05/30/2019	REVISED -

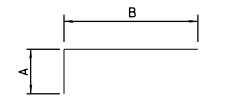
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
WEST RETAINING WALL TYPICAL SECTIONS AND DETAILS**
 SCALE: AS NOTED SHEET 2 OF 2 SHEETS STA. TO STA.

SHEET R122		F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		290	3434-2321-R	COOK	232	41
CONTRACT NO. 62B78						
ILLINOIS FED. AID PROJECT						

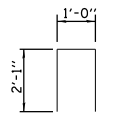
BILL OF MATERIALS

BAR	NO.	SIZE	LENGTH	SHAPE
d2001(E)	22	6	10'-9"	
d2002(E)	22	6	9'-6"	
h2001(E)	38	6	29'-8"	
h2002(E)	26	9	29'-8"	
h2003(E)	19	6	29'-8"	
h2004(E)	13	9	29'-8"	
h2005(E)	17	6	19'-8"	
h2006(E)	11	9	19'-8"	
h2007(E)	19	6	14'-9"	
h2008(E)	13	9	14'-9"	
n2001(E)	189	6	7'-0"	
n2002(E)	127	9	12'-3"	
s2001(E)	188	4	5'-2"	
t2001(E)	192	6	15'-0"	
t2002(E)	128	9	15'-7"	
w2001(E)	132	6	31'-6"	
w2002(E)	88	6	19'-8"	
v2001(E)	158	6	11'-10"	
v2002(E)	106	9	11'-10"	
v2003(E)	31	6	9'-7"	
v2004(E)	21	9	9'-7"	
REINFORCING BARS EPOXY COATED			POUND	45,486
CONCRETE STRUCTURES			CU YD	175

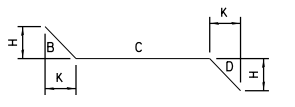


BAR	SIZE	A	B
n2001(E)	6	1'-0"	6'-0"
n2002(E)	9	1'-6"	10'-9"
t2001(E)	6	1'-0"	14'-0"
t2002(E)	9	1'-7"	14'-0"

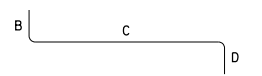
BARS n2001(E), n2002(E), t2001(E)



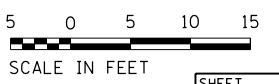
BAR s2001(E)



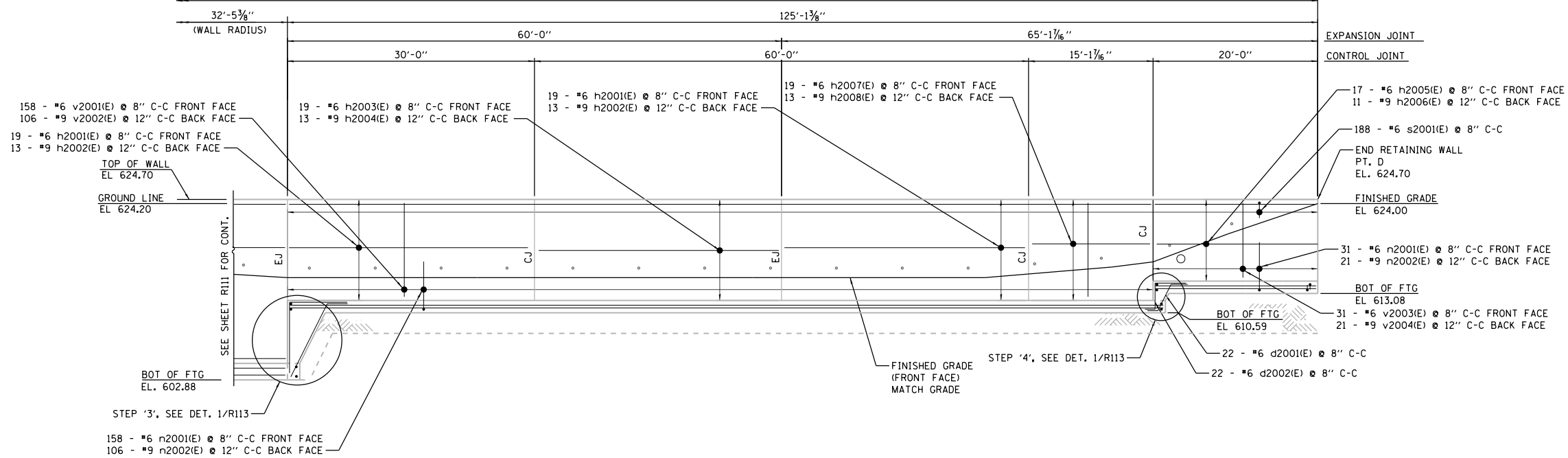
BAR	NO.	SIZE	B	C	D	H	K	LENGTH
d2001(E)	22	6	2'-0"	4'-0"	2'-0"	1'-9/2"	10/2"	10'-9"



BAR	NO.	SIZE	B	C	D	LENGTH
d2002(E)	22	6	4'-0"	3'-6"	2'-0"	9'-6"



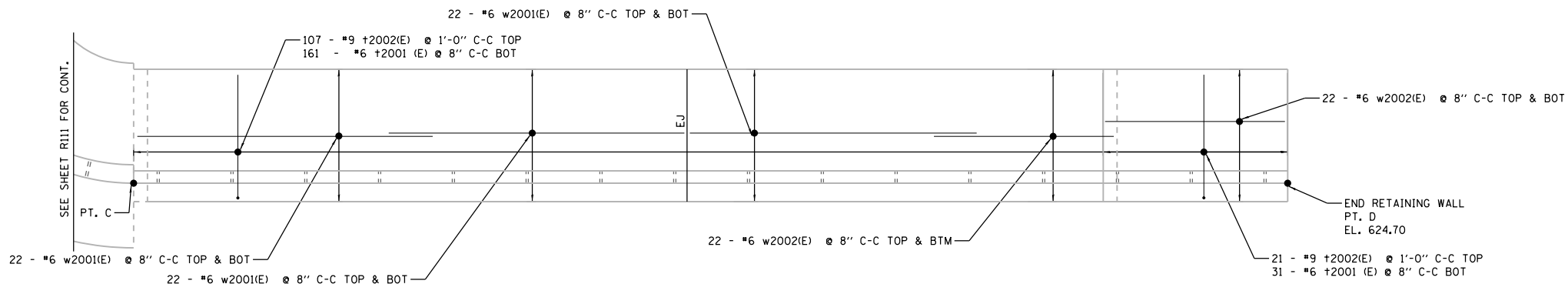
CAST-IN-PLACE T-TYPE RETAINING WALL TOTAL LENGTH = 234'-5 3/8"



CAST-IN-PLACE RETAINING WALL – ELEVATION

(DIMENSION MEASURED ALONG FRONT FACE OF WALL)
(ELEVATION SHOWN FLAT, LOOKING AT FRONT FACE)

NOTE:
FOR CONTROL JOINT (CJ) AND
EXPANSION JOINT (EJ),
SEE DETAILS SHEET R111.



CAST-IN-PLACE RETAINING WALL – PLAN

(DIMENSION MEASURED ALONG FRONT FACE OF WALL)
(LOOKING AT FRONT FACE)

D:\Projects\2019\1-290 Pump Station No. 4 Reconstruction\Drawings\Sheet\1-290 Pump Station No. 4 Reconstruction - East Retaining Wall Reinforcing Plan and Elevation.dwg

FILE NAME = D191454-R762.DGN
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

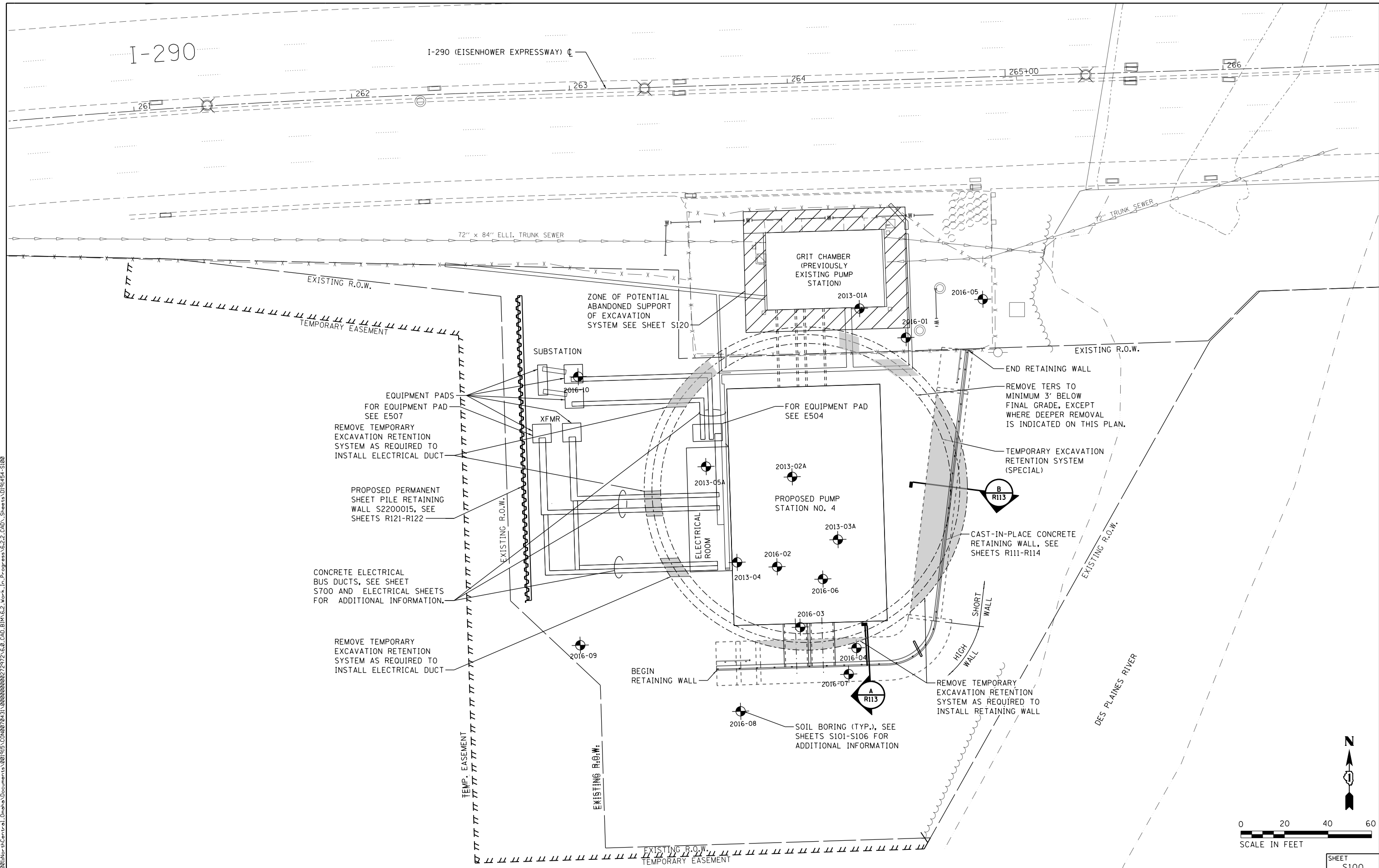
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PLOT SCALE = 0:1' = 1/4" = 1/4"	DRAWN - HDR - B. GREEN	REVISED -
PLOT DATE = 5/29/2019	CHECKED - HDR - B. BRADLEY	REVISED -
	DATE - 05/30/2019	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

1-290 PUMP STATION NO. 4 RECONSTRUCTION
EAST RETAINING WALL REINFORCING PLAN AND ELEVATION
 SCALE: 1/8"=1'-0" SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	43
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

SHEET	R762
TOTAL SHEETS	232
SHEET NO.	43



P:\1\4\APP\048\Hort-Centr-al_Dmaha\Documents\001915\CON\0078431\00000000271972\6.0_CAD_BIM\6.2_Work\In_Progress\6.2.2_CAD_Sheets\0191454-S100

FILE NAME = D191454-S100.DGN
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

USER NAME = bgreen
 DESIGNED - 21M - J. RUEDA
 DRAWN - 21M - J. RUEDA
 PLOT SCALE = 20x0' / 1" =
 PLOT DATE = 5/29/2019

REVISIONS:
 REVISED -
 REVISED -
 REVISED -
 REVISED -
 REVISED -
 DATE - 05/30/2019

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
 SITE AND BORING LOCATION PLAN
 SCALE: 1"=20'
 SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	46
CONTRACT NO. 62B78				

ILLINOIS FED. AID PROJECT
 SHEET S100

Geo Services, Inc.
 Geotechnical, Environmental & Civil Engineering
 800 Amphlett Court, Suite 204
 Naperville, Illinois 60565
 (630) 350-8888

SOIL BORING LOG
 Page 1 of 2
 GSI Job No. 12174
 DATE 7/25/2016
 LOGGED BY RT

ROUTE -- DESCRIPTION IDOT Pump Station No. 4, I-290 & Des Plaines River, Cook County, IL

SECTION -- LOCATION SE 1/4 SEC. 14, TWP. T39N, RNG. R12E, 3rd PM

COUNTY Cook DRILLING METHOD HSA/Mud Rotary HAMMER TYPE CME Automatic

STRUCT. NO. -- CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
 Station -- Core Diameter 2.0 in
 BORING NO. 2016-01
 Station -- Top of Rock Elev. 557.1
 Offset -- Begin Core Elev. 555.1
 Ground Surface Elev. 623.6

SOIL LOG TABLE: Includes columns for Depth (ft), Moisture (%), Specific Gravity (Gs), and Soil Description (e.g., 2.0" ASPHALT, 8.0" CRUSHED STONE, SANDY CLAY LOAM-gray-stiff, SILTY CLAY LOAM-gray-stiff to very stiff (F#), SILTY CLAY LOAM-gray-very stiff to hard (Apparent F#), SILTY CLAY with Organics-dark gray-medium stiff, SANDY CLAY LOAM-gray-stiff).

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
 BBS, from 137 (Rev. 8-99)

Geo Services, Inc.
 Geotechnical, Environmental & Civil Engineering
 800 Amphlett Court, Suite 204
 Naperville, Illinois 60565
 (630) 350-8888

SOIL BORING LOG
 Page 2 of 2
 GSI Job No. 12174
 DATE 7/25/2016
 LOGGED BY RT

ROUTE -- DESCRIPTION IDOT Pump Station No. 4, I-290 & Des Plaines River, Cook County, IL

SECTION -- LOCATION SE 1/4 SEC. 14, TWP. T39N, RNG. R12E, 3rd PM

COUNTY Cook DRILLING METHOD HSA/Mud Rotary HAMMER TYPE CME Automatic

STRUCT. NO. -- CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
 Station -- Core Diameter 2.0 in
 BORING NO. 2016-01
 Station -- Top of Rock Elev. 557.1
 Offset -- Begin Core Elev. 555.1
 Ground Surface Elev. 623.6

SOIL LOG TABLE: Continuation of SOIL BORING LOG PAGE 1 of 2.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
 BBS, from 137 (Rev. 8-99)

Geo Services, Inc.
 Geotechnical, Environmental & Civil Engineering
 800 Amphlett Court, Suite 204
 Naperville, Illinois 60565
 (630) 350-8888

ROCK CORE LOG
 PAGE 1 of 3
 DATE 7/25/2016
 LOGGED BY RT
 GSI JOB No. 12174

ROUTE -- DESCRIPTION IDOT Pump Station No. 4

SECTION -- LOCATION SE 1/4 SEC. 14, TWP. T39N, RNG. R12E, 3rd PM

COUNTY Cook DRILLING METHOD Rotary Wash

STRUCT. NO. -- CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
 Station -- Core Diameter 2.0 in
 BORING NO. 2016-01
 Station -- Top of Rock Elev. 557.1
 Offset -- Begin Core Elev. 555.1
 Ground Surface Elev. 623.6

SOIL LOG TABLE: Includes columns for Depth (ft), UCS Failure Mode (B, S, P), and Rock Description (SILURIAN SYSTEM, NIAGARAN SERIES DOLOMITE RUN 1 (-68.5' to -77.5') and RUN 2 (-77.5' to -88.0')).

Color pictures of the cores Yes. Cores will be stored for examination for --
 The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

Geo Services, Inc.
 Geotechnical, Environmental & Civil Engineering
 800 Amphlett Court, Suite 204
 Naperville, Illinois 60565
 (630) 350-8888

ROCK CORE LOG
 PAGE 2 of 3
 DATE 7/25/2016
 LOGGED BY RT
 GSI JOB No. 12174

ROUTE -- DESCRIPTION IDOT Pump Station No. 4

SECTION -- LOCATION SE 1/4 SEC. 14, TWP. T39N, RNG. R12E, 3rd PM

COUNTY Cook DRILLING METHOD Rotary Wash

STRUCT. NO. -- CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
 Station -- Core Diameter 2.0 in
 BORING NO. 2016-01
 Station -- Top of Rock Elev. 557.1
 Offset -- Begin Core Elev. 555.1
 Ground Surface Elev. 623.6

SOIL LOG TABLE: Continuation of ROCK CORE LOG PAGE 1 of 3.

Color pictures of the cores Yes. Cores will be stored for examination for --
 The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)



Geo Services, Inc.
 Geotechnical, Environmental & Civil Engineering
 800 Amphlett Court, Suite 204
 Naperville, Illinois 60565
 (630) 350-8888

ROCK CORE LOG
 PAGE 3 of 3
 DATE 7/25/2016
 LOGGED BY RT
 GSI JOB No. 12174

ROUTE -- DESCRIPTION IDOT Pump Station No. 4

SECTION -- LOCATION SE 1/4 SEC. 14, TWP. T39N, RNG. R12E, 3rd PM

COUNTY Cook DRILLING METHOD Rotary Wash

STRUCT. NO. -- CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
 Station -- Core Diameter 2.0 in
 BORING NO. 2016-01
 Station -- Top of Rock Elev. 557.1
 Offset -- Begin Core Elev. 555.1
 Ground Surface Elev. 623.6

SOIL LOG TABLE: Continuation of ROCK CORE LOG PAGE 2 of 3.

Color pictures of the cores Yes. Cores will be stored for examination for --
 The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

Geo Services, Inc.
 Geotechnical, Environmental & Civil Engineering
 800 Amphlett Court, Suite 204
 Naperville, Illinois 60565
 (630) 350-8888

SOIL BORING LOG
 Page 1 of 2
 GSI Job No. 12174
 DATE 7/21/16
 LOGGED BY TZ

ROUTE -- DESCRIPTION IDOT Pump Station No. 4, I-290 & Des Plaines River, Cook County, IL

SECTION -- LOCATION SE 1/4 SEC. 14, TWP. T39N, RNG. R12E, 3rd PM

COUNTY Cook DRILLING METHOD HSA/Mud Rotary HAMMER TYPE CME Automatic

STRUCT. NO. -- CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
 Station -- Core Diameter 2.0 in
 BORING NO. 2016-02
 Station -- Top of Rock Elev. 557.1
 Offset -- Begin Core Elev. 555.1
 Ground Surface Elev. 632.50

SOIL LOG TABLE: Includes columns for Depth (ft), Moisture (%), Specific Gravity (Gs), and Soil Description (CLAY LOAM-brown & gray spotted black-stiff to hard (F#), SANDERS with Brick & Wood-black-medium dense (F#), SILTY CLAY-dark brown & gray-stiff, CLAY to CLAY LOAM-gray-stiff (A-B), SILTY CLAY LOAM-gray-medium dense to dense).

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
 BBS, from 137 (Rev. 8-99)

Geo Services, Inc.
 Geotechnical, Environmental & Civil Engineering
 800 Amphlett Court, Suite 204
 Naperville, Illinois 60565
 (630) 350-8888

SOIL BORING LOG
 Page 2 of 2
 GSI Job No. 12174
 DATE 7/21/16
 LOGGED BY TZ

ROUTE -- DESCRIPTION IDOT Pump Station No. 4, I-290 & Des Plaines River, Cook County, IL

SECTION -- LOCATION SE 1/4 SEC. 14, TWP. T39N, RNG. R12E, 3rd PM

COUNTY Cook DRILLING METHOD HSA/Mud Rotary HAMMER TYPE CME Automatic

STRUCT. NO. -- CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
 Station -- Core Diameter 2.0 in
 BORING NO. 2016-02
 Station -- Top of Rock Elev. 557.1
 Offset -- Begin Core Elev. 555.1
 Ground Surface Elev. 632.50

SOIL LOG TABLE: Continuation of SOIL BORING LOG PAGE 1 of 2.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
 BBS, from 137 (Rev. 8-99)

Geo Services, Inc.
 Geotechnical, Environmental & Civil Engineering
 800 Amphlett Court, Suite 204
 Naperville, Illinois 60565
 (630) 350-8888

ROCK CORE LOG
 PAGE 3 of 3
 DATE 7/25/2016
 LOGGED BY RT
 GSI JOB No. 12174

ROUTE -- DESCRIPTION IDOT Pump Station No. 4

SECTION -- LOCATION SE 1/4 SEC. 14, TWP. T39N, RNG. R12E, 3rd PM

COUNTY Cook DRILLING METHOD Rotary Wash

STRUCT. NO. -- CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
 Station -- Core Diameter 2.0 in
 BORING NO. 2016-01
 Station -- Top of Rock Elev. 557.1
 Offset -- Begin Core Elev. 555.1
 Ground Surface Elev. 623.6

SOIL LOG TABLE: Continuation of ROCK CORE LOG PAGE 2 of 3.

Color pictures of the cores Yes. Cores will be stored for examination for --
 The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)



D:\Projects\2016\12174\IBS_IDOT_PUMP_STATION_NO_4_I_290_DES_PLAINES_RIVER_COOK_COUNTY_IL\Soils\Drawings\BBS\BBS_S102.dwg

FILE NAME = D191454-S102.DGN
 USER NAME = bgreen
 PLOT SCALE = 0.1" = 1'-0"
 PLOT DATE = 5/29/2019

DESIGNED -	HDR - K. KIRCHNER	REVISED -	
DRAWN -	HDR - B. GREEN	REVISED -	
CHECKED -	HDR - B. BRADLEY	REVISED -	
DATE	09/09/2016	REVISED -	

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP NO. 4 RECONSTRUCTION
 SOIL BORING INFORMATION**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	232	48
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

SHEET
 S102

Geotechnical, Environmental & Civil Engineering 800 Avenue Clark, Suite 204 Naperville, Illinois 60565 (630) 353-3836		GSI Job No. 12174				
SOIL BORING LOG						
ROUTE -		DESCRIPTION IDOT Pump Station No. 4, I-290 & Des Plaines River, Cook County, IL		LOGGED BY NW		
SECTION -		LOCATION SE 1/4, SEC. 14, TWP. T39N, RNG. R12E, 3 rd PM		DATE 7/27/16		
COUNTY Cook		DRILLING METHOD HSA/Mud Rotary		HAMMER TYPE CME Automatic		
STRUCT. NO. Station BORING NO. Station Offset Ground Surface Elev.	D E L C U		M O I S		M O I S	
	P T W H S	O S I S	Q T	H S Q T	H S Q T	H S Q T
ft (ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
3.0' TOPSOIL						
SANDY CLAY LOAM-dark brown spotted black-medium dense (Fill)						
CLAY LOAM-dark brown spotted black-medium stiff to stiff (Fill)						
WOOD (Fill)						

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer). The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206).
BBS, from 137 (Rev. 8-99)

Geotechnical, Environmental & Civil Engineering 800 Avenue Clark, Suite 204 Naperville, Illinois 60565 (630) 353-3836		GSI Job No. 12174				
SOIL BORING LOG						
ROUTE -		DESCRIPTION IDOT Pump Station No. 4, I-290 & Des Plaines River, Cook County, IL		LOGGED BY NW		
SECTION -		LOCATION SE 1/4, SEC. 14, TWP. T39N, RNG. R12E, 3 rd PM		DATE 7/27/16		
COUNTY Cook		DRILLING METHOD HSA/Mud Rotary		HAMMER TYPE CME Automatic		
STRUCT. NO. Station BORING NO. Station Offset Ground Surface Elev.	D E L C U		M O I S		M O I S	
	P T W H S	O S I S	Q T	H S Q T	H S Q T	H S Q T
ft (ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
CLAY TO CLAY LOAM-gray-very stiff to hard (continued)						
SILTY CLAY LOAM-gray-very dense (continued)						
SILTY LOAM-gray-dense to very dense						
CLAYEY SAND, GRAVEL & FRACTURED ROCK-gray-very dense						
SILTY CLAY LOAM-gray-very dense						

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer). The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206).
BBS, from 137 (Rev. 8-99)

Geotechnical, Environmental & Civil Engineering 800 Avenue Clark, Suite 204 Naperville, Illinois 60565 (630) 353-3836		GSI Job No. 12174				
ROCK CORE LOG						
ROUTE -		DESCRIPTION IDOT Pump Station No. 4		LOGGED BY NW		
SECTION -		LOCATION SE 1/4, SEC. 14, TWP. T39N, RNG. R12E, 3 rd PM		DATE 7/27/2016		
COUNTY Cook		CORING METHOD Rotary Wash		GSI JOB No. 12174		
STRUCT. NO. Station BORING NO. Station Offset Ground Surface Elev.	D E L C U		M O I S		M O I S	
	P T W H S	O S I S	Q T	H S Q T	H S Q T	H S Q T
ft (ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
SILLURIAN SYSTEM, NIAGARAN SERIES DOLOMITE RUN 1 (-78.0' to -88.0')						

Color pictures of the cores: Yes. Cores will be stored for examination for: -
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

Geotechnical, Environmental & Civil Engineering 800 Avenue Clark, Suite 204 Naperville, Illinois 60565 (630) 353-3836		GSI Job No. 12174				
ROCK CORE LOG						
ROUTE -		DESCRIPTION IDOT Pump Station No. 4		LOGGED BY NW		
SECTION -		LOCATION SE 1/4, SEC. 14, TWP. T39N, RNG. R12E, 3 rd PM		DATE 7/27/2016		
COUNTY Cook		CORING METHOD Rotary Wash		GSI JOB No. 12174		
STRUCT. NO. Station BORING NO. Station Offset Ground Surface Elev.	D E L C U		M O I S		M O I S	
	P T W H S	O S I S	Q T	H S Q T	H S Q T	H S Q T
ft (ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
SILLURIAN SYSTEM, NIAGARAN SERIES DOLOMITE RUN 2 (-88.0' to -93.0')						

Color pictures of the cores: Yes. Cores will be stored for examination for: -
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

Geotechnical, Environmental & Civil Engineering 800 Avenue Clark, Suite 204 Naperville, Illinois 60565 (630) 353-3836		GSI Job No. 12174				
SOIL BORING LOG						
ROUTE -		DESCRIPTION IDOT Pump Station No. 4, I-290 & Des Plaines River, Cook County, IL		LOGGED BY TC		
SECTION -		LOCATION SE 1/4, SEC. 14, TWP. T39N, RNG. R12E, 3 rd PM		DATE 7/26/16		
COUNTY Cook		DRILLING METHOD HSA/Mud Rotary		HAMMER TYPE CME Automatic		
STRUCT. NO. Station BORING NO. Station Offset Ground Surface Elev.	D E L C U		M O I S		M O I S	
	P T W H S	O S I S	Q T	H S Q T	H S Q T	H S Q T
ft (ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
CRUSHED ASPHALT & STONE-loose to medium dense (Fill)						
CLAY LOAM with Wood & Stone-dark gray to black-soft (Fill)						
ORGANIC SILTY CLAY-black-loose						
SILTY CLAY-dark gray-soft to medium stiff						
becoming brown & gray @ -18.5'						

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer). The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206).
BBS, from 137 (Rev. 8-99)

Geotechnical, Environmental & Civil Engineering 800 Avenue Clark, Suite 204 Naperville, Illinois 60565 (630) 353-3836		GSI Job No. 12174				
SOIL BORING LOG						
ROUTE -		DESCRIPTION IDOT Pump Station No. 4, I-290 & Des Plaines River, Cook County, IL		LOGGED BY NW		
SECTION -		LOCATION SE 1/4, SEC. 14, TWP. T39N, RNG. R12E, 3 rd PM		DATE 7/28/16		
COUNTY Cook		DRILLING METHOD Hollow Stem Auger		HAMMER TYPE CME Automatic		
STRUCT. NO. Station BORING NO. Station Offset Ground Surface Elev.	D E L C U		M O I S		M O I S	
	P T W H S	O S I S	Q T	H S Q T	H S Q T	H S Q T
ft (ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
WOOD (Fill)						
SILTY SAND & GRAVEL-brown (Fill)						
CLAY LOAM-dark brown spotted black-stiff to hard (Fill)						
SILTY CLAY LOAM with Organics-dark gray-stiff (A-6)						
CLAY-gray-stiff						
SILTY SAND-dark gray-very loose						
SILTY CLAY LOAM-gray-hard						
WOOD (Fill)						

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer). The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206).
BBS, from 137 (Rev. 8-99)

Geotechnical, Environmental & Civil Engineering 800 Avenue Clark, Suite 204 Naperville, Illinois 60565 (630) 353-3836		GSI Job No. 12174				
SOIL BORING LOG						
ROUTE -		DESCRIPTION IDOT Pump Station No. 4, I-290 & Des Plaines River, Cook County, IL		LOGGED BY NW		
SECTION -		LOCATION SE 1/4, SEC. 14, TWP. T39N, RNG. R12E, 3 rd PM		DATE 7/14/16		
COUNTY Cook		DRILLING METHOD Hollow Stem Auger		HAMMER TYPE CME Automatic		
STRUCT. NO. Station BORING NO. Station Offset Ground Surface Elev.	D E L C U		M O I S		M O I S	
	P T W H S	O S I S	Q T	H S Q T	H S Q T	H S Q T
ft (ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
WOOD (Fill)						
SAND-brown & gray-medium dense						
CLAY LOAM-dark brown spotted black-stiff to hard (Fill)						
CLAY LOAM-dark brown spotted black-very stiff (Fill)						
SILTY CLAY LOAM with Cinders & Brick-black-loose (Fill)						

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer). The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206).
BBS, from 137 (Rev. 8-99)

Geotechnical, Environmental & Civil Engineering 800 Avenue Clark, Suite 204 Naperville, Illinois 60565 (630) 353-3836		GSI Job No. 12174				
SOIL BORING LOG						
ROUTE -		DESCRIPTION IDOT Pump Station No. 4, I-290 & Des Plaines River, Cook County, IL		LOGGED BY NW		
SECTION -		LOCATION SE 1/4, SEC. 14, TWP. T39N, RNG. R12E, 3 rd PM		DATE 7/29/16		
COUNTY Cook		DRILLING METHOD Hollow Stem Auger		HAMMER TYPE CME Automatic		
STRUCT. NO. Station BORING NO. Station Offset Ground Surface Elev.	D E L C U		M O I S		M O I S	
	P T W H S	O S I S	Q T	H S Q T	H S Q T	H S Q T
ft (ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
3.0' CLAYEY TOPSOIL						
CLAY LOAM-dark brown spotted black-very stiff to hard (Fill)						
SILTY CLAY with Organics-black-loose						
SILTY CLAY-dark brown & gray-soft to medium stiff						
SILTY SAND & GRAVEL-gray-loose						
CLAY LOAM-dark brown spotted black-very stiff to hard (Fill)						
SILTY CLAY LOAM-gray-hard						
some wood from -18.5' to -20.0'						
End Of Boring @ -40.0'. Boring backfilled with cuttings.						

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer). The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206).
BBS, from 137 (Rev. 8-99)

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SOIL BORING LOG

GSI Job No. 12174

Page 1 of 1

Date 7/29/16

ROUTE - DESCRIPTION IDOT Pump Station No. 4, I-290 & Des Plaines River, Cook County, IL LOGGED BY NW

SECTION - LOCATION SE 1/4, SEC. 14, TWP. T39N, RNG. R12E, 3rd PM

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.	D	B	U	M	Surface Water Elev.	D	B	U	M
Station	E	L	C	O	n/a	E	L	C	O
	P	O	S	I	ft	P	O	S	I
	T	W	Q	S	ft	T	W	S	Q
	H	S	u	T	ft	H	S	u	T
BORING NO. 2016-09					Groundwater Elev.:				
Station					First Encounter				
Orset					Upon Completion				
Ground Surface Elev. 629.10	ft	(ft)	(6")	(tsf)	(%)	ft	(ft)	(6")	(tsf)
628.93									
2.0' TOPSOIL with Wood & Stone-dark brown & black (Fill)									
CLAY LOAM-dark brown spotted black-stiff to hard (Fill)									
End Of Boring @ -20.0' Boring backfilled with cuttings.									
613.60									
CINDERS, SAND & STONE-black-bose (Fill)									
611.10									
SILTY SAND, GRAVEL & STONE-dark brown & gray-medium dense (Fill)									
609.10									

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
 BBS, from 137 (Rev. 8-99)



SOIL BORING LOG

GSI Job No. 12174

Page 1 of 1

Date 7/28/16

ROUTE - DESCRIPTION IDOT Pump Station No. 4, I-290 & Des Plaines River, Cook County, IL LOGGED BY NW

SECTION - LOCATION SE 1/4, SEC. 14, TWP. T39N, RNG. R12E, 3rd PM

COUNTY Cook DRILLING METHOD Hand Auger HAMMER TYPE CME Automatic

STRUCT. NO.	D	B	U	M	Surface Water Elev.	D	B	U	M
Station	E	L	C	O	n/a	E	L	C	O
	P	O	S	I	ft	P	O	S	I
	T	W	Q	S	ft	T	W	S	Q
	H	S	u	T	ft	H	S	u	T
BORING NO. 2016-10					Groundwater Elev.:				
Station					First Encounter				
Orset					Upon Completion				
Ground Surface Elev. 631.60	ft	(ft)	(6")	(tsf)	(%)	ft	(ft)	(6")	(tsf)
631.60									
CLAY LOAM-dark brown spotted black-medium stiff to very stiff (Fill)									
End Of Boring @ -10.0' Boring backfilled with cuttings.									
621.60									

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
 BBS, from 137 (Rev. 8-99)

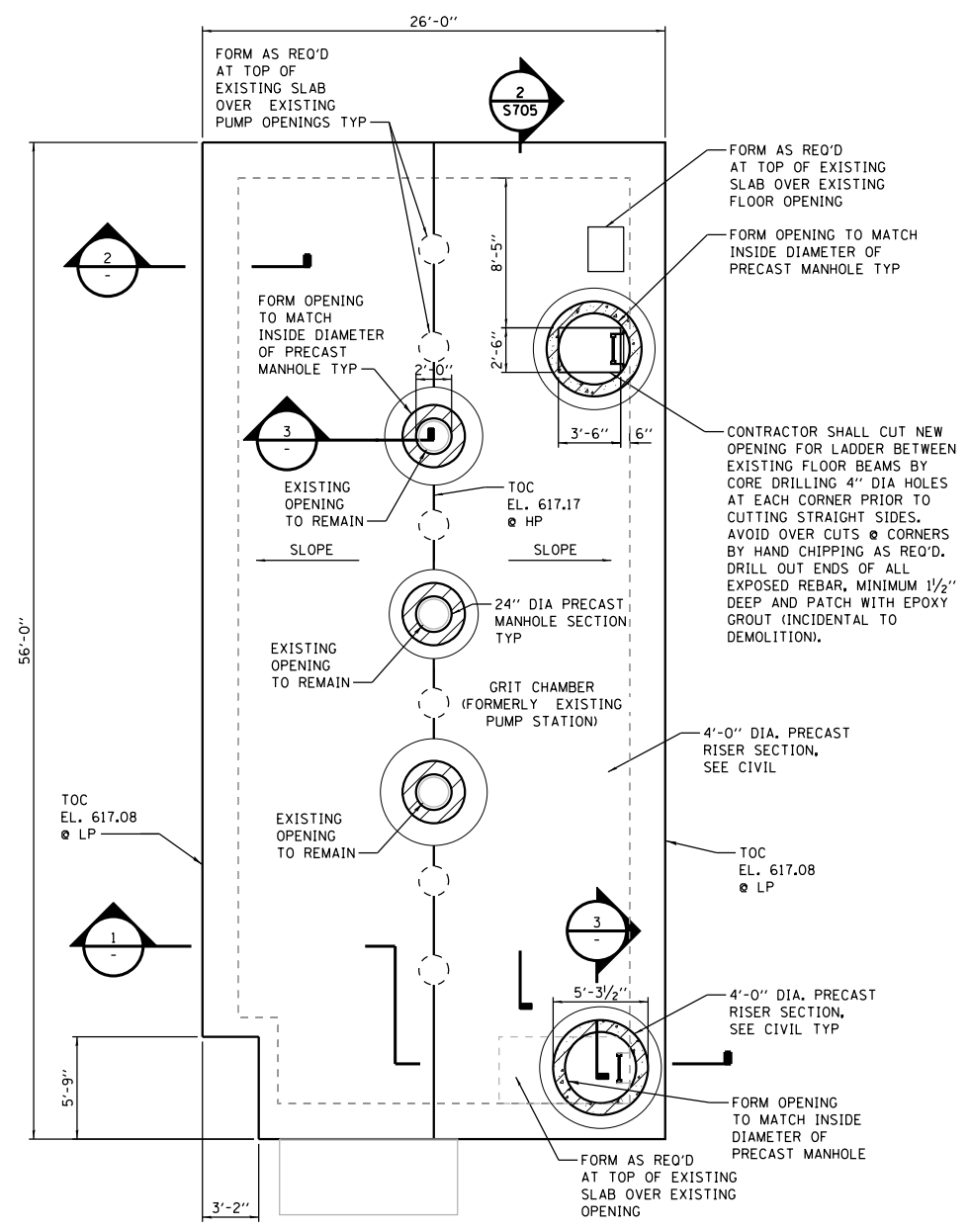
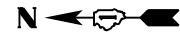
FILE NAME = D:\191454-S105.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 CHECKED - HDR - B. BRADLEY
 DATE - 09/09/2016
 PLOT SCALE = 0:1" = 1'-0"
 PLOT DATE = 5/29/2019
 SHEET S110

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP NO. 4 RECONSTRUCTION
SOIL BORING INFORMATION**

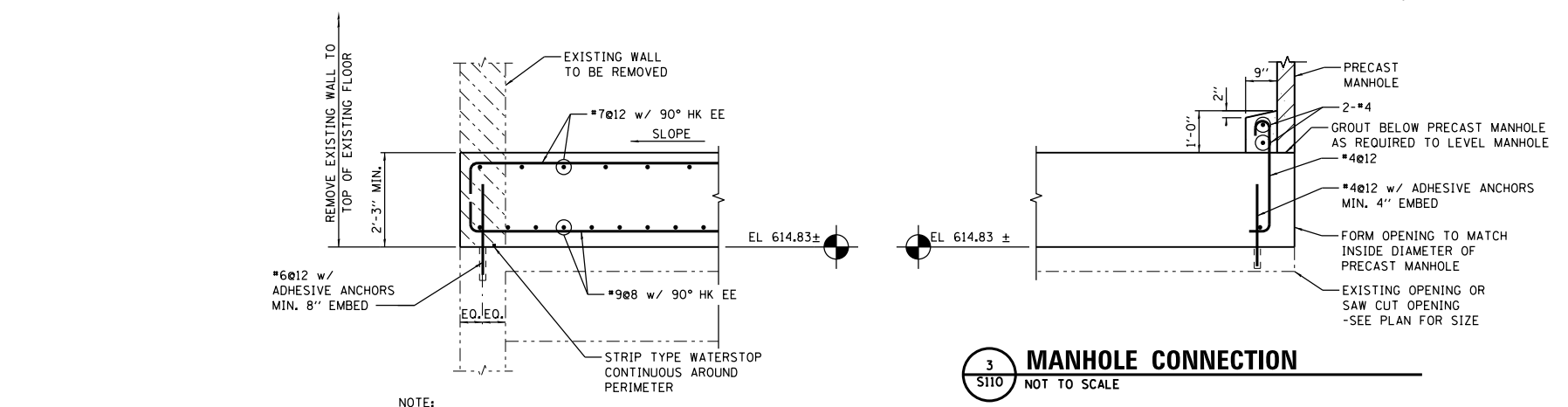
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	232	51
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

SHEET
S105



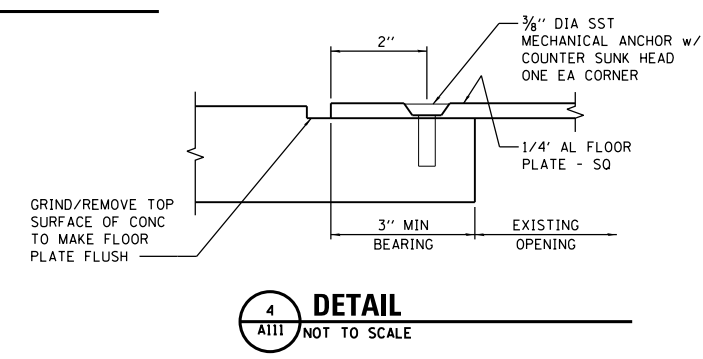
**GRIT CHAMBER
(FORMERLY EXISTING PUMP STATION)
FLOOR PLAN AT EL. 617.00**

- NOTES:
- FIELD VERIFY ALL EXISTING DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATING REINFORCING
 - SUPPORT EXISTING FLOOR AS REQUIRED PRIOR TO PLACING NEW CONCRETE.
 - ROOF DESIGN LIVE LOAD:
UNIFORM LIVE LOAD: 240 PSF
AASHTO HS-20
CONCENTRATED LIVE LOAD: 45 KIPS OVER 18"x18" AREA
 - CONCRETE: CONCRETE STRUCTURES (SPECIAL)

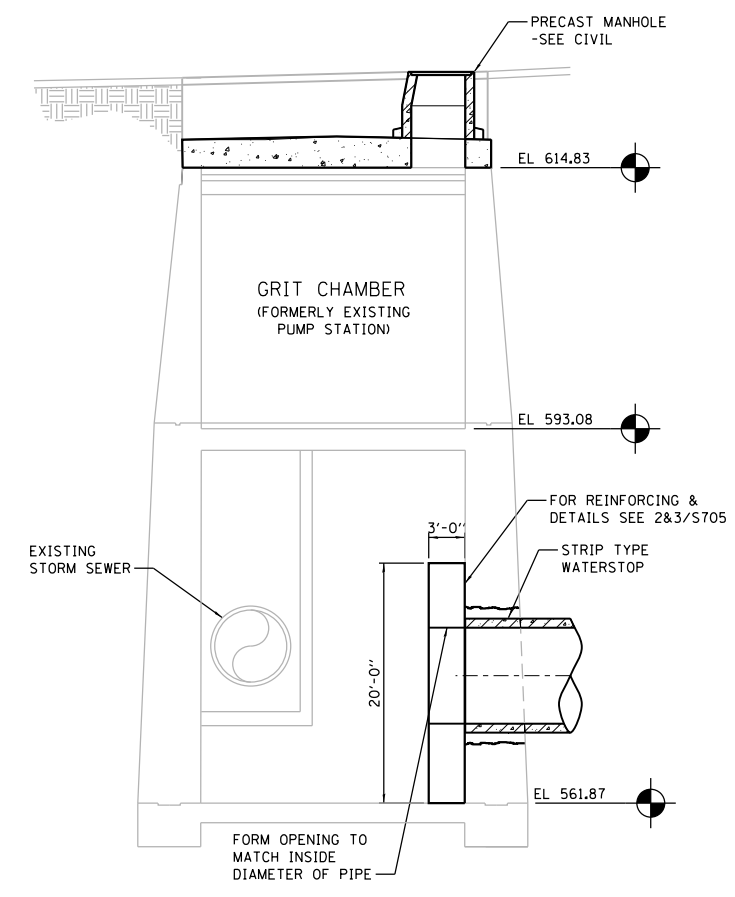


2 PERIMETER DETAIL
S110 NOT TO SCALE

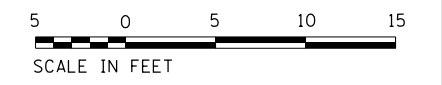
- NOTE:
- SUPPORT EXISTING FLOOR AS REQUIRED TO PLACE NEW CONCRETE.



4 DETAIL
A111 NOT TO SCALE



1 SECTION
S110 SCALE: 1/8" = 1'-0"

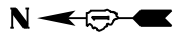


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USER NAME = bgreen	DESIGNED - HDR - K. KIRCHNER	REVISED -
PLOT SCALE = 0:1' = 1/8"	DRAWN - HDR - B. GREEN	REVISED -
PLOT DATE = 5/29/2019	CHECKED - HDR - E. BERGGREN	REVISED -
	DATE - 05/30/2019	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-232-R	COOK	232	52

CONTRACT NO. 62B78
 ILLINOIS FED. AID PROJECT

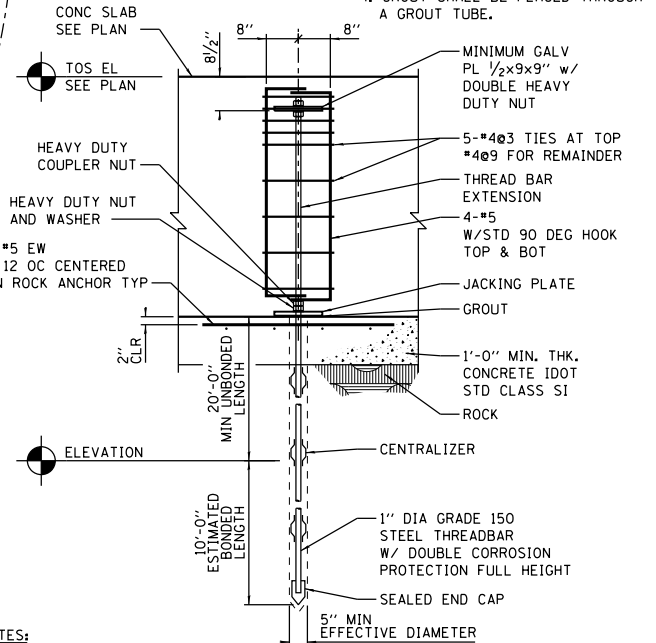
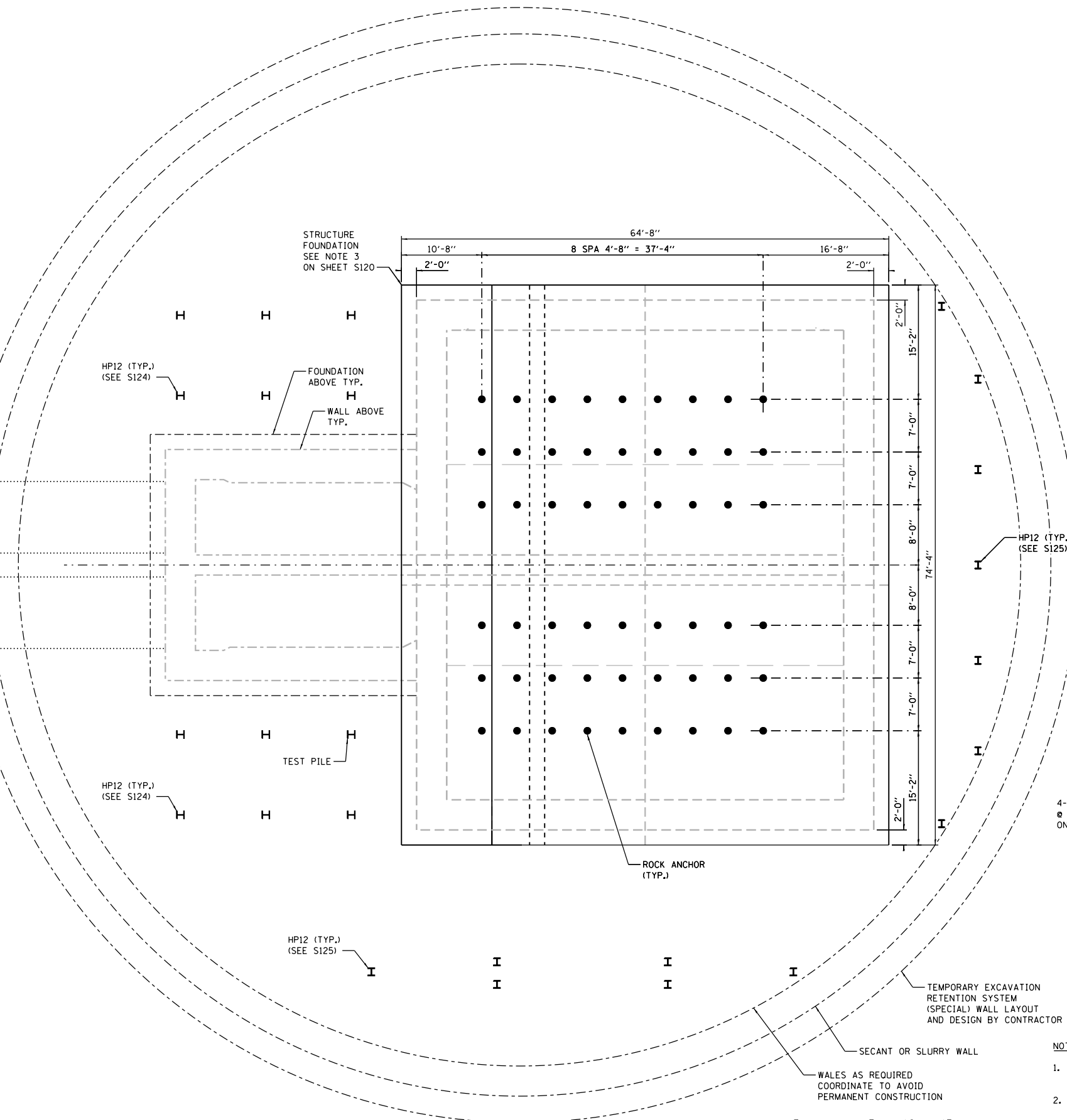
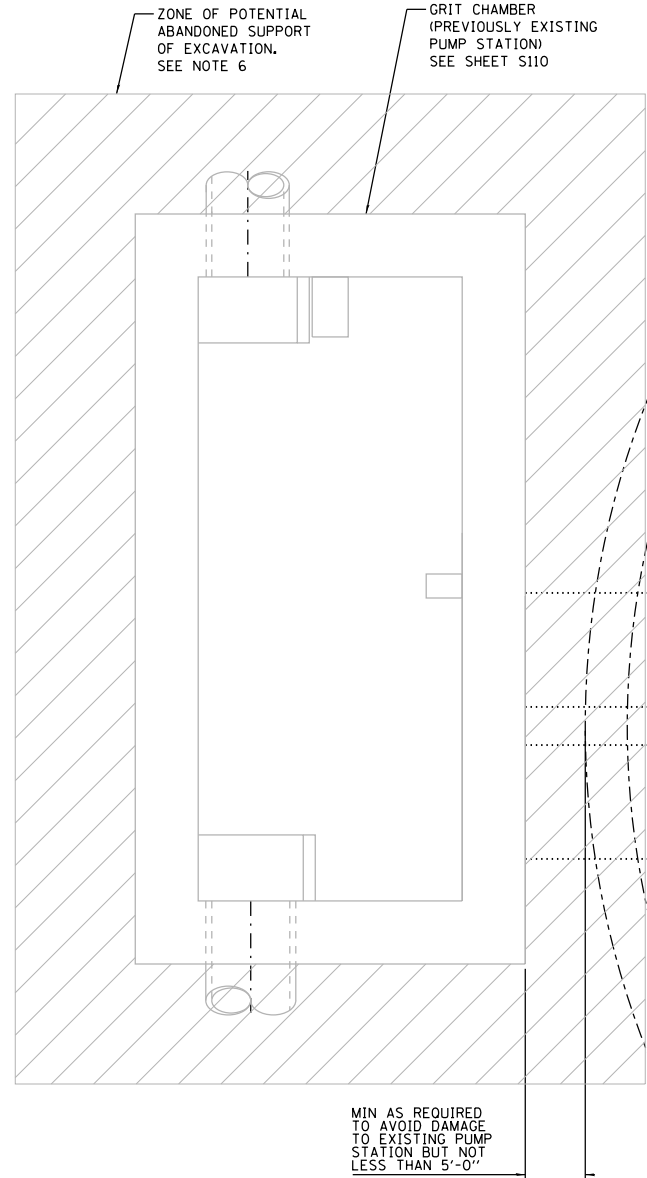


GENERAL NOTES:

- FOR GENERAL STRUCTURAL NOTES, SEE SHEET S001.
- FOR TYPICAL STRUCTURAL DETAILS, SEE S500 SERIES SHEETS.
- FOR ADDITIONAL FOUNDATION INFORMATION, SEE SHEETS S121 TO S125.
- SEE SPECIAL PROVISIONS FOR SUPPORT OF EXCAVATION REQUIREMENTS.
- BLASTING IS NOT PERMITTED.
- CONTRACTOR IS ADVISED OF THE POTENTIAL PRESENCE OF ABANDONED SUPPORT OF EXCAVATION FOR THE EXISTING PUMP STATION. CONTRACTOR SHALL EXCAVATE TEST PITS AND /OR PROBE THIS AREA IN ADVANCE OF TERS DESIGN. THE TERS SHALL BE DESIGNED TO MINIMIZE POTENTIAL CONFLICTS IN THIS AREA AND PROVIDE FOR REMOVAL OF OBSTRUCTIONS IF ENCOUNTERED.
- FOR BUILDING COORDINATES SEE CIVIL DRAWINGS.
- SEAL LEAKS IN ROCK OR INSTALL PVC DRAINS AS REQUIRED TO REMOVE ANY LEAKING GROUNDWATER INTO 1'-0" MIN. CONCRETE MAT. OBTAIN ENGINEERS APPROVAL FOR DRAIN LOCATIONS WITHIN 18" OF ROCK ANCHORS.

ROCK ANCHOR CORROSION PROTECTION NOTES:

- SEE SPEC. 31 51 00.
- ALL STEEL BAR ANCHORS SHALL BE COMPLETELY COVERED IN A CORRUGATED SHEATHING BONDED TO THE ANCHOR.
- IN ADDITION IN THE UNBONDED LENGTH A SMOOTH PVC SLEEVE SHALL BE PLACED OVER THE CORRUGATED SLEEVE. THIS SLEEVE SHALL BE SEALED AT EACH END AND FILLED WITH A CORROSION INHIBITING COMPOUND.
- GROUT SHALL BE PLACED THROUGH A GROUT TUBE.



NOTES:

- CONTRACTOR TO DESIGN AND COORDINATE TENSIONING FORCES AND DETAILS WITH SPECIFICATION REQUIREMENTS AND CONCRETE FILL AND ROCK CHARACTERISTICS.
- REQUIRED MINIMUM UPLIFT CAPACITY = 55k (SERVICE)

ROCK ANCHOR DETAIL

NOT TO SCALE

SHEET
S120

EXCAVATION AND ROCK ANCHOR REINFORCING PLAN



FILE NAME = D191454-S120.DGN
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR-J. SCHIEVELBEIN
 CHECKED - HDR - B. BRADLEY
 DATE - 05/30/2019

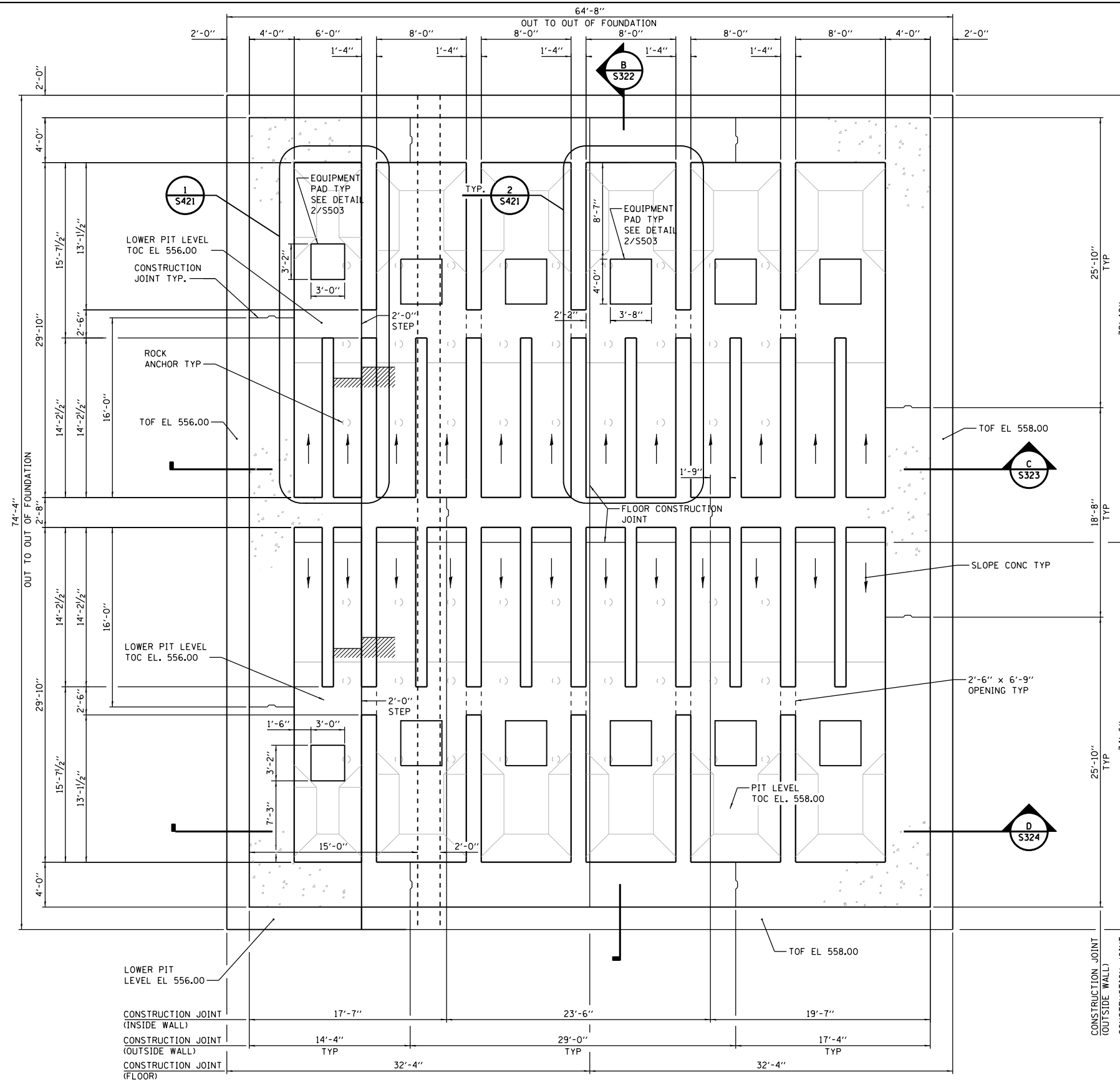
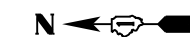
REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
 EXCAVATION AND ROCK ANCHOR PLAN

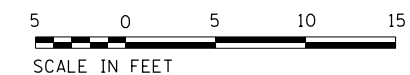
SCALE: 1/8"=1'-0" SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	53
ILLINOIS FED. AID PROJECT				CONTRACT NO. 62B78



- GENERAL NOTES:**
1. FOR GENERAL STRUCTURAL NOTES, SEE SHEET S001.
 2. FOR TYPICAL STRUCTURAL DETAILS, SEE S500 SERIES SHEETS.
 3. COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.
 4. PROVIDE CONTINUOUS WATERSTOP IN ALL CONSTRUCTION JOINTS BELOW EL. 623.83
 5. FOR ADDITIONAL PILES NOT SHOWN, SEE SHEET S120.
 6. INDICATES STEP IN CONCRETE.
 7. COORDINATE SIZE AND LOCATION OF PUMP EQUIPMENT PADS TO SUIT PUMPS FURNISHED.

FOUNDATION PLAN - EL 558.00



FILE NAME = D191454-S121.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 CHECKED - HDR - B. BRADLEY
 DATE - 05/30/2019
 PLOT SCALE = 3/16"=1'-0"
 PLOT DATE = 5/29/2019



DESIGNED - HDR - K. KIRCHNER	REVISED -
DRAWN - HDR - B. GREEN	REVISED -
CHECKED - HDR - B. BRADLEY	REVISED -
DATE - 05/30/2019	REVISED -

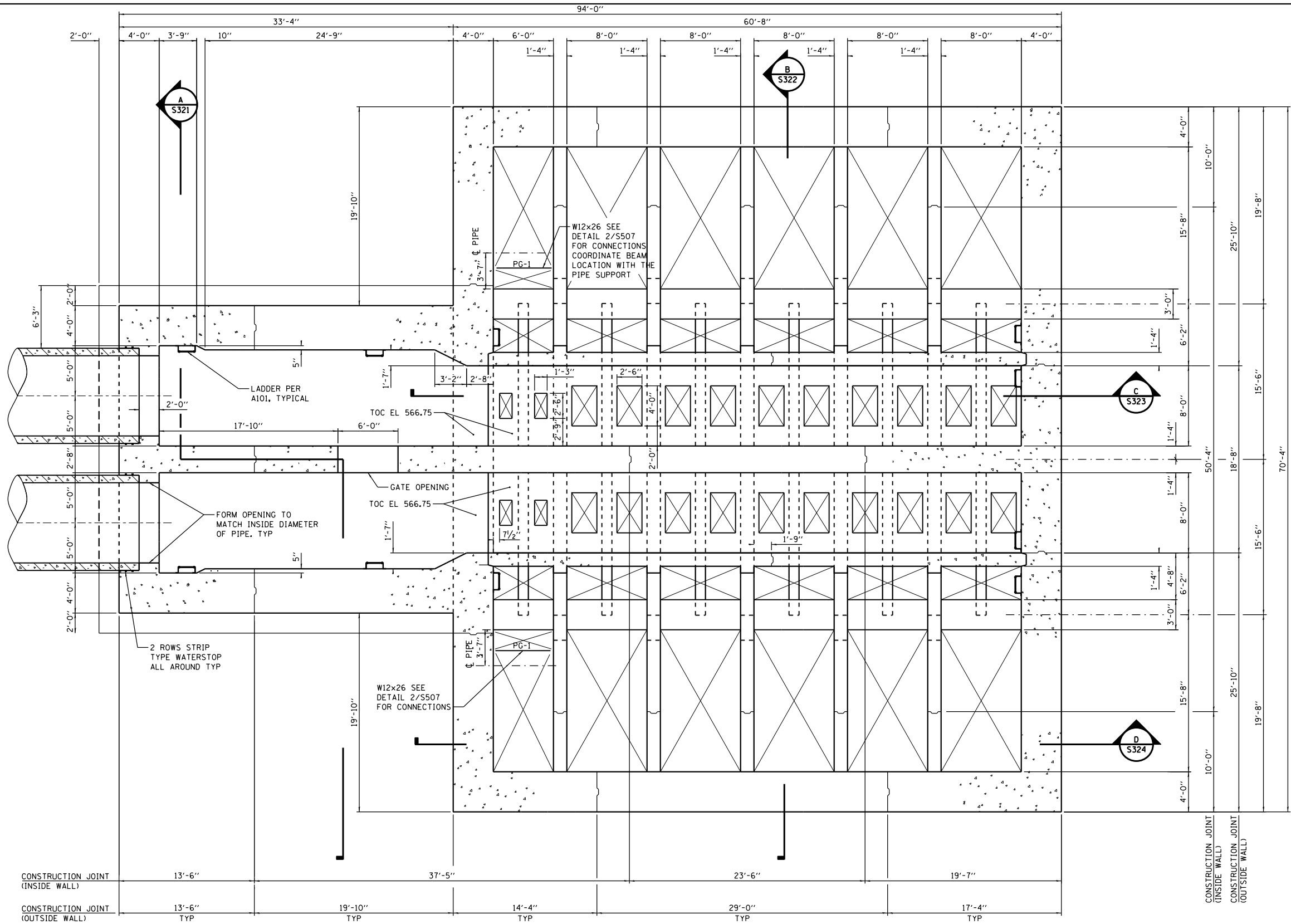
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
PIT LEVEL PLAN AT ELEVATION 558.00**

SCALE: 3/16"=1'-0" SHEET OF SHEETS STA. TO STA.

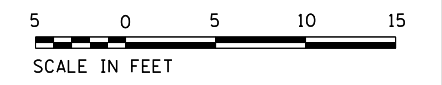
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	54
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

SHEET S121



- GENERAL NOTES:**
1. FOR GENERAL STRUCTURAL NOTES, SEE SHEET S001.
 2. FOR TYPICAL STRUCTURAL DETAILS, SEE S500 SERIES SHEETS.
 3. COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.
 4. PROVIDE CONTINUOUS WATERSTOPS IN ALL CONSTRUCTION JOINTS BELOW EL 623.83
 5. FOR PILES NOT SHOWN, SEE SHEET NO. S120.

FRAMING PLAN - EL 566.75



P:\1\1\4\2\1\4\31\000000002271972\6.0_CAD_BIM\6.2_Work\In_Progress\6.2.2_CAD_Sheets\191454-S122



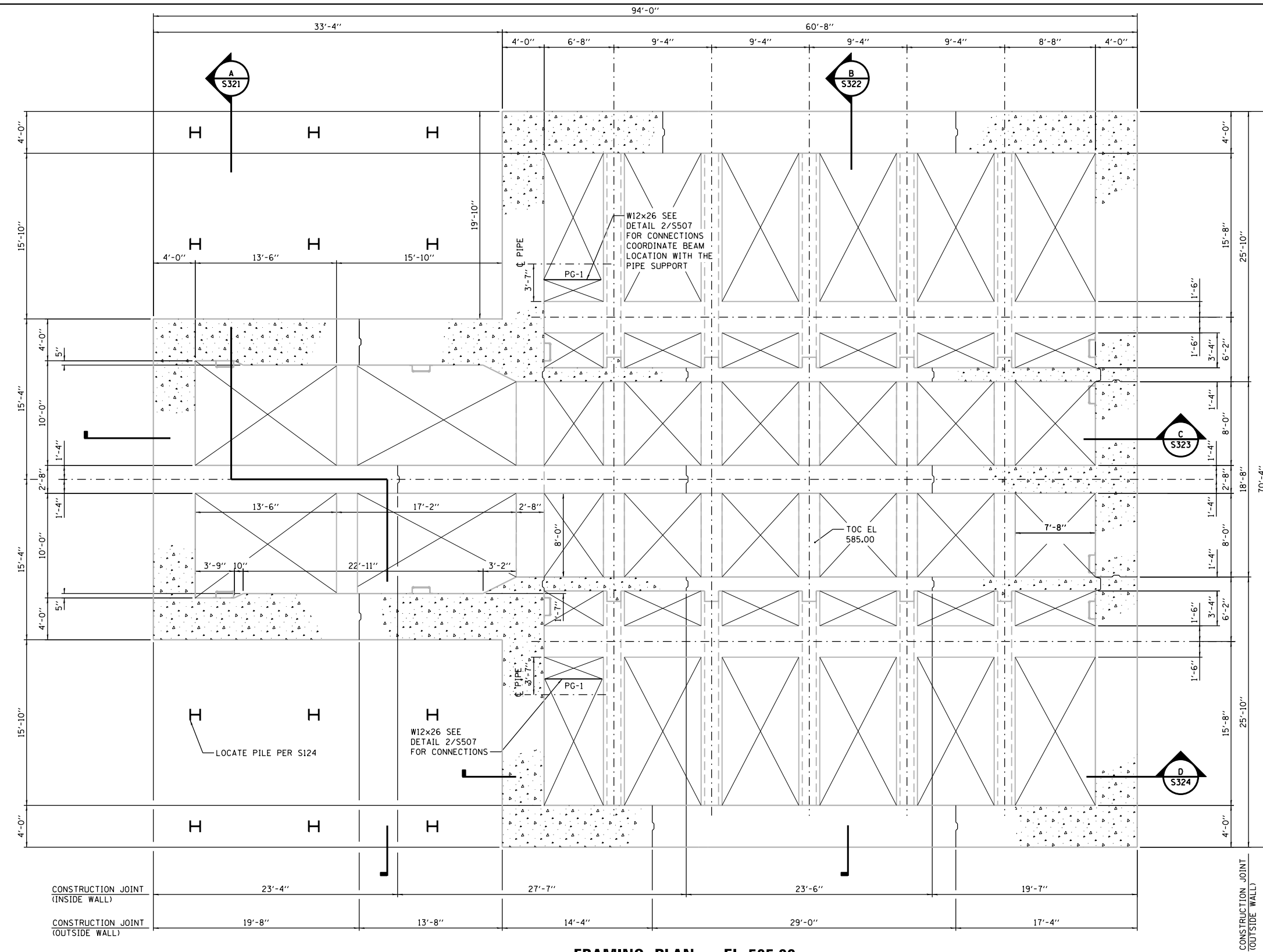
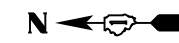
FILE NAME = D191454-S122.DGN	USER NAME = bgreen	DESIGNED - HDR - K. KIRCHNER	REVISED -
		DRAWN - HDR - B. GREEN	REVISED -
		CHECKED - HDR - B. BRADLEY	REVISED -
		DATE - 05/30/2019	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
INFLUENT CHANNEL LEVEL PLAN AT ELEVATION 566.75**

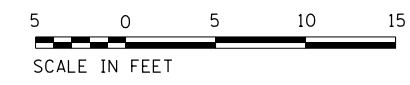
SCALE: 3/16"=1'-0" SHEET OF SHEETS STA. TO STA.

SHEET		S122	
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS
290	3434-2321-R	COOK	232
			55
			CONTRACT NO. 62B78
ILLINOIS FED. AID PROJECT			



FRAMING PLAN - EL 585.00

- GENERAL NOTES:**
1. FOR GENERAL STRUCTURAL NOTES, SEE SHEET S001.
 2. FOR TYPICAL STRUCTURAL DETAILS, SEE S500 SERIES SHEETS.
 3. COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.
 4. PROVIDE CONTINUOUS WATERSTOPS IN ALL CONSTRUCTION JOINTS BELOW EL 623.83



FILE NAME = D191454-S123.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 PLOT SCALE = 3/16" = 1'-0"
 PLOT DATE = 5/29/2019
 STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 I-290 PUMP STATION NO. 4 RECONSTRUCTION
 FRAMING LEVEL PLAN AT ELEVATION 585.00
 SCALE: 3/16"=1'-0" SHEET OF SHEETS STA. TO STA.
 SHEET S123
 TOTAL SHEETS 232 SHEET NO. 56
 CONTRACT NO. 62B78
 ILLINOIS FED. AID PROJECT

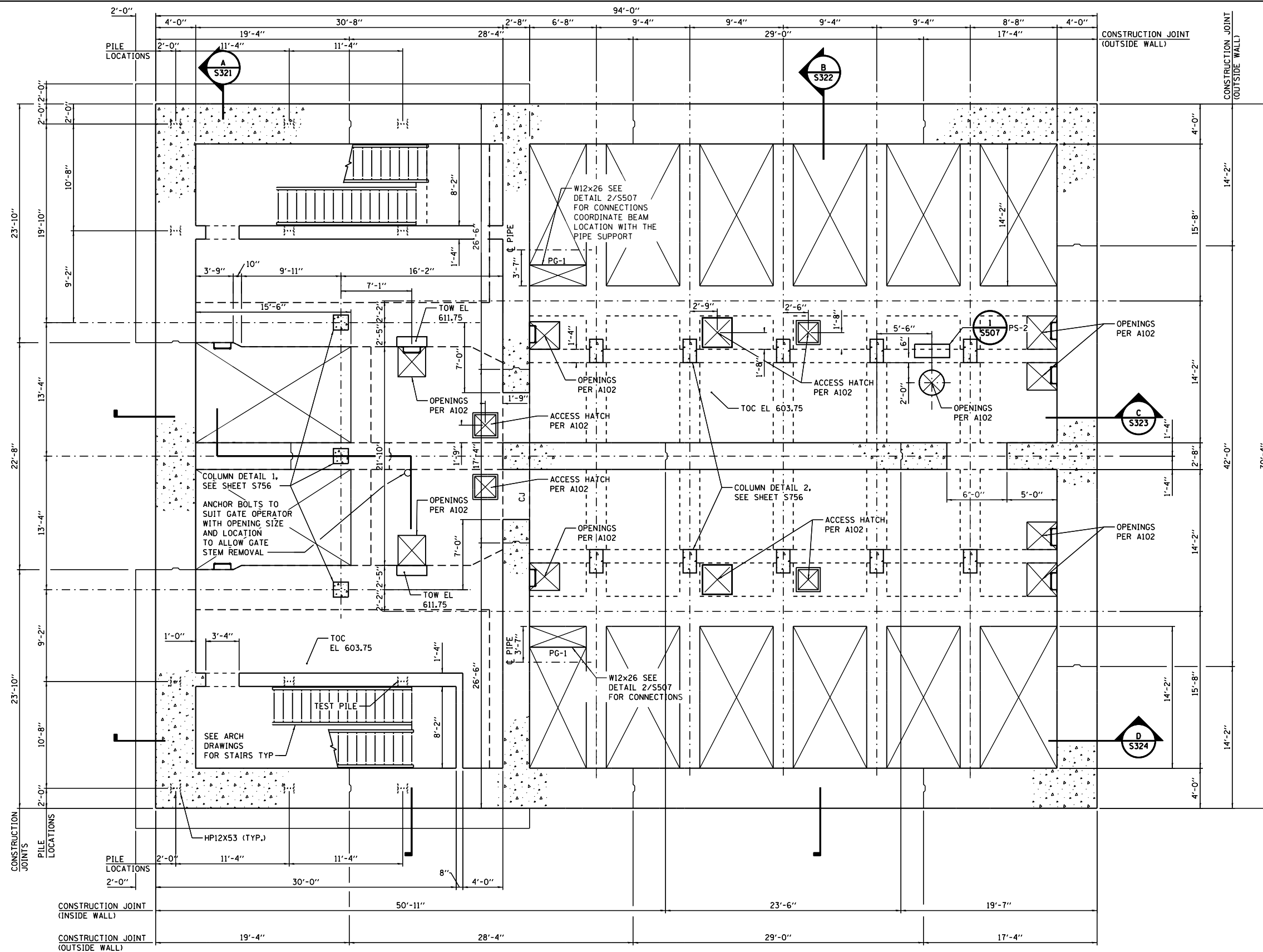
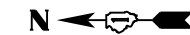


FILE NAME = D191454-S123.DGN	USER NAME = bgreen	DESIGNED - HDR - K. KIRCHNER	REVISED -
HDR, Inc. 8550 W. Bryn Mawr Ave., Suite 900 Chicago, IL 60631		DRAWN - HDR - B. GREEN	REVISED -
	PLOT SCALE = 3/16" = 1'-0"	CHECKED - HDR - B. BRADLEY	REVISED -
	PLOT DATE = 5/29/2019	DATE - 05/30/2019	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
FRAMING LEVEL PLAN AT ELEVATION 585.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	56
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				



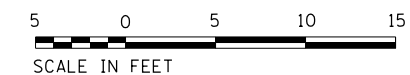
- GENERAL NOTES:**
- FOR GENERAL STRUCTURAL NOTES, SEE SHEET S001.
 - FOR TYPICAL STRUCTURAL DETAILS, SEE S500 SERIES SHEETS.
 - COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.
 - PROVIDE CONTINUOUS WATERSTOPS IN ALL CONSTRUCTION JOINTS BELOW EL 623.83

- PILE DATA:**
- PILE TYPE AND SIZE: STEEL HP12x53 WITH PILE SHOES
 - NOMINAL REQUIRED BEARING: 419 KIPS
 - ALLOWABLE RESISTANCE AVAILABLE (HP12x53): 153 KIPS
 - ESTIMATED LENGTH: 45'-0"
 - NUMBER OF PRODUCTION PILES: 11
 - NUMBER OF TEST PILES: 1
 - ESTIMATED TOP OF ROCK ELEVATION 555.25

BILL OF MATERIALS:

FURNISH STEEL PILES HP 12x53	FOOT	495
DRIVING PILES	FOOT	540
TEST PILE STEEL HP 12x53	EACH	1
PILE SHOES	EACH	12

INTERMEDIATE LEVEL PLAN – EL 603.75



FILE NAME = D191454-S124.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 CHECKED - HDR - B. BRADLEY
 DATE - 05/30/2019
 PLOT SCALE = 0.1" = 1'-0"
 PLOT DATE = 5/29/2019

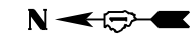


FILE NAME = D191454-S124.DGN	USER NAME = bgreen	DESIGNED - HDR - K. KIRCHNER	REVISED -
HDR, Inc. 8550 W. Bryn Mawr Ave. Suite 900 Chicago, IL 60631		DRAWN - HDR - B. GREEN	REVISED -
		CHECKED - HDR - B. BRADLEY	REVISED -
		DATE - 05/30/2019	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

I-290 PUMP STATION NO. 4 RECONSTRUCTION			
INTERMEDIATE LEVEL PLAN AT ELEVATION 603.75			
SCALE: 3/16"=1'-0"	SHEET	OF	SHEETS
STA.	TO	STA.	

SHEET S124	
F.A.I. RTE.	TOTAL SHEETS
SECTION	SHEET NO.
290	232
3434-2321-R	57
COUNTY	CONTRACT NO.
COOK	62B78
ILLINOIS FED. AID PROJECT	



GENERAL NOTES:

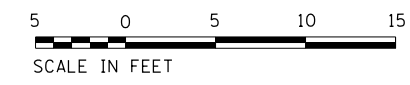
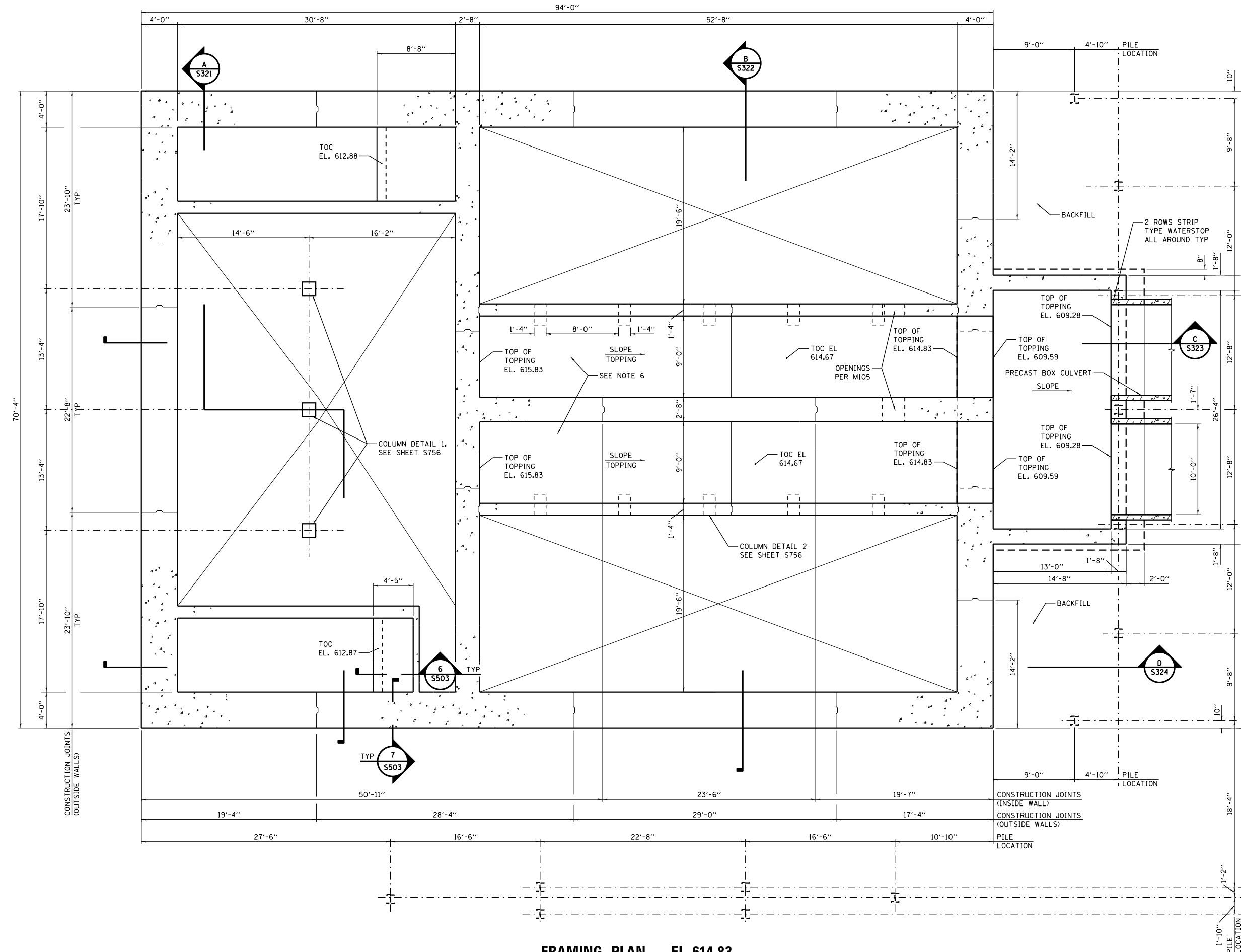
- FOR GENERAL STRUCTURAL NOTES, SEE SHEET S001.
- FOR TYPICAL STRUCTURAL DETAILS, SEE S500 SERIES SHEETS.
- COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.
- PROVIDE CONTINUOUS WATERSTOPS IN ALL CONSTRUCTION JOINTS BELOW EL 623.83
- TOPPING CONCRETE: IDOT STD CLASS BS
- SEE ELECTRICAL DRAWINGS FOR SST HEAVY DUTY MODULAR UNISTRUT EMBEDDED IN BOTTOM OF SLAB. COORDINATE LOCATION WITH ELECTRICAL.

PILE DATA:

- PILE TYPE AND SIZE STEEL: HP12x53 WITH PILE SHOES
- NOMINAL REQUIRED BEARING: 419 KIPS
- ALLOWABLE RESISTANCE AVAILABLE (HP12x53): 153 KIPS
- ESTIMATED LENGTH:
 - 6 @ 63'-1"
 - 4 @ 63'-1"
 - 3 @ 50'-7"
- NUMBER OF PRODUCTION PILES: 13
- NUMBER OF TEST PILES: 0
- ESTIMATED TOP OF ROCK ELEVATION 555.25

BILL OF MATERIALS:

FURNISH STEEL PILES HP 12x53	FOOT 782.7
DRIVING PILES	FOOT 782.7
PILE SHOES	EACH 13



FRAMING PLAN - EL 614.83

FILE NAME = D191454-S125.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - J. SCHIEVELBEIN
 PLOT SCALE = 1/8" = 1'-0"
 PLOT DATE = 5/29/2019
 HDR, Inc.
 8550 W. Bryn Mawr Ave.
 Suite 900
 Chicago, IL 60631

REVISED -
 REVISED -
 REVISED -
 REVISED -
 DATE - 05/30/2019

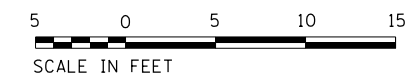
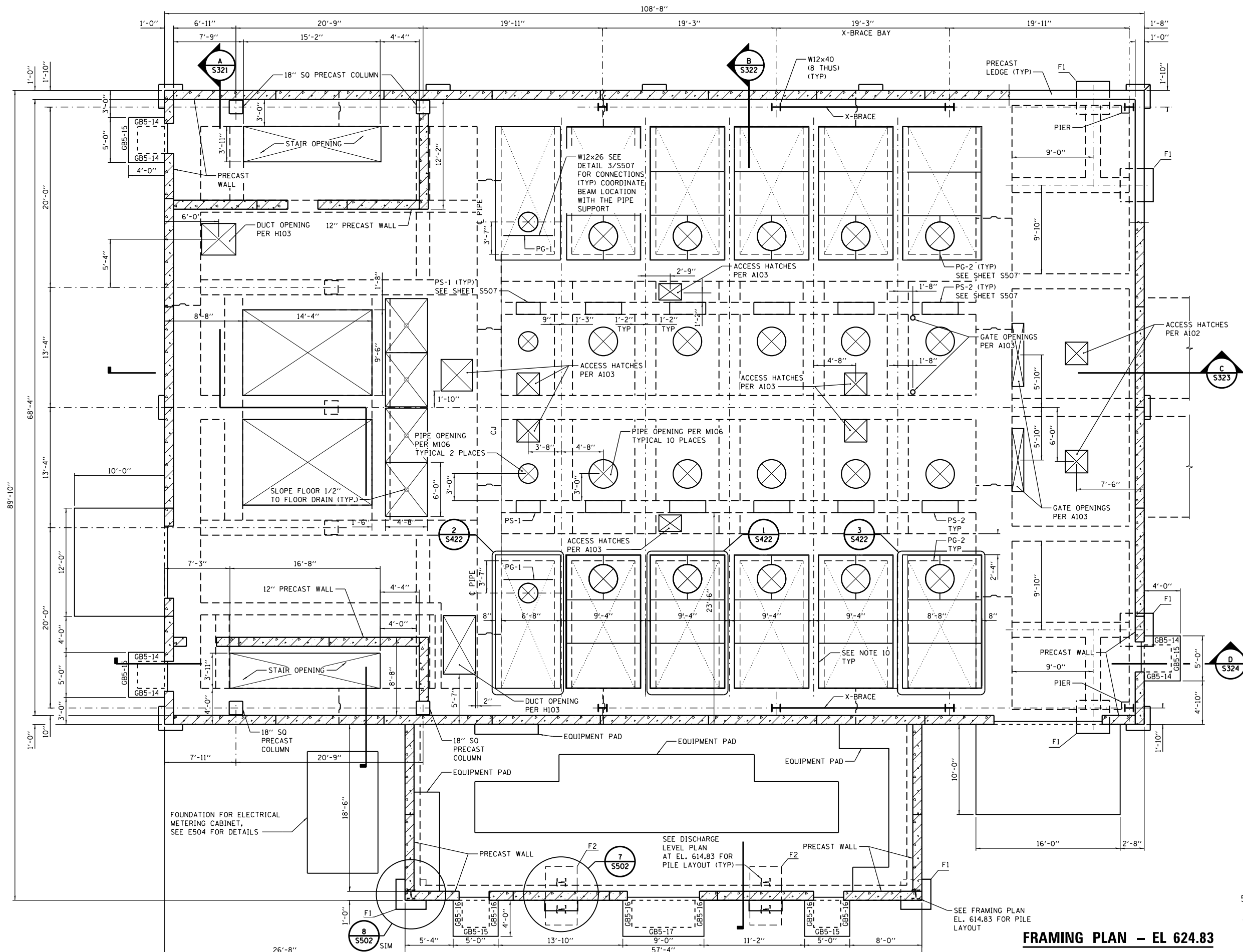
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-290 PUMP STATION NO. 4 RECONSTRUCTION
DISCHARGE LEVEL PLAN AT ELEVATION 614.83
 SCALE: 3/16"=1'-0" SHEET OF SHEETS STA. TO STA.

SHEET		S125	
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS
290	3434-2321-R	COOK	232
			SHEET NO.
			58
CONTRACT NO. 62B78			
ILLINOIS FED. AID PROJECT			



GENERAL NOTES:

- FOR GENERAL STRUCTURAL NOTES, SEE SHEET S501.
- FOR TYPICAL STRUCTURAL DETAILS, SEE S500 SERIES SHEETS.
- COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.
- FOR REMOVABLE COVER PLAN SEE SHEET S422 FOR ADDITIONAL INFORMATION
- PROVIDE CONTINUOUS WATERSTOPS IN ALL CONSTRUCTION JOINTS BELOW EL. 623.83
- ALL STEEL WORK SHOWN THIS DRAWING TO BE PAID FOR AS PUMP STATION GENERAL WORK.
- ALL PRECAST WORK SHOWN THIS DRAWING TO BE PAID FOR AS PRECAST PUMP STATION FACILITY BUILDING.
- ∇ F1 INDICATES PILE CAP TYPE. SEE S502 FOR DETAILS.
- PG-X AND PS-X INDICATE PIPE SUPPORT DETAILS. SEE DRAWING S507.
- SEE ELECTRICAL DRAWINGS FOR SST HEAVY DUTY MODULAR UNISTRUT EMBEDDED IN BOTTOM OF SLAB. COORDINATE WITH ELECTRICAL.



FRAMING PLAN - EL 624.83

SHEET
S126

FILE NAME = D191454-S126.DGN
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 PLOT SCALE = 3/16" = 1'-0"
 PLOT DATE = 5/29/2019

REVISD -
 REVISD -
 REVISD -
 REVISD -

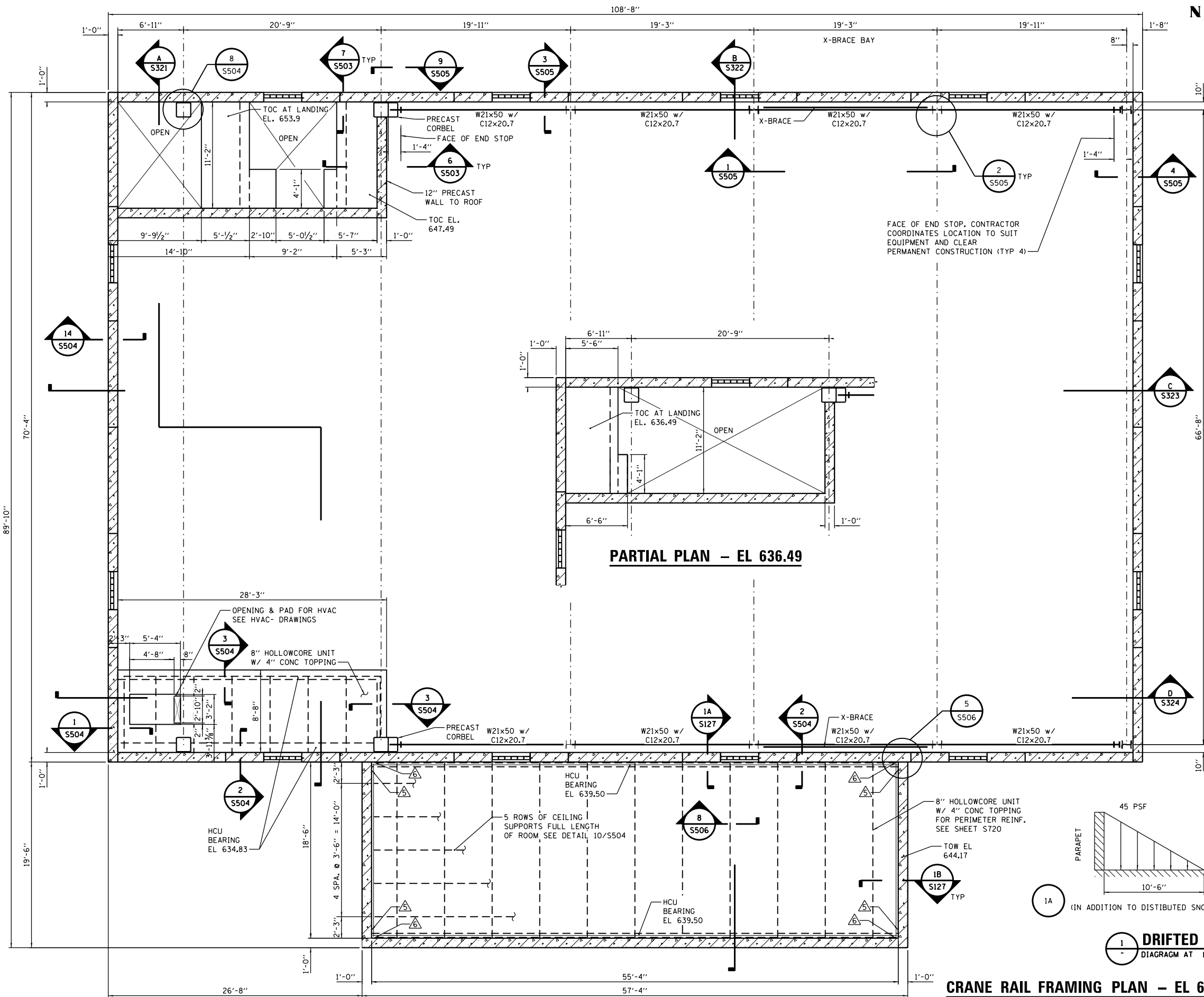
DATE - 05/30/2019

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
 GROUND LEVEL PLAN AT ELEVATION 624.83**

SCALE: 3/16"=1'-0" SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	59
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				



- GENERAL NOTES:**
- FOR GENERAL STRUCTURAL NOTES, SEE SHEET S001.
 - FOR TYPICAL STRUCTURAL DETAILS, SEE S500 SERIES SHEETS.
 - COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.
 - TOPPING CONCRETE: IDOT STANDARD CLASS BS.
 - ALL STEEL WORK SHOWN THIS DRAWING TO BE PAID FOR AS PUMP STATION GENERAL WORK.
 - ALL PRECAST CONCRETE WORK SHOWN THIS DRAWING TO BE PAID FOR AS PRECAST PUMP STATION BUILDING.

- SHEET NOTES:**
- THE FOLLOWING Δ INDICATES LIMITS OF DIAPHRAGM REACTION TO PRECAST SHEAR WALL:
 - Δ = 15.1K (WIND) OR 9.7K (SEISMIC)
 - Δ = 4.7K (WIND) OR 5.5K (SEISMIC)
 SEISMIC LOADS ARE NOT DIVIDED BY 1.4 NOR MULTIPLIED BY 0.7 FOR SERVICE LEVEL LOAD COMBINATIONS.
 WIND LOADS INCLUDE THE DIRECTIONALITY FACTOR $K_d=0.85$ AND ARE NOT MULTIPLIED BY 0.6 FOR SERVICE LEVEL LOAD COMBINATIONS.

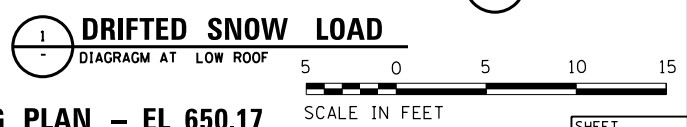
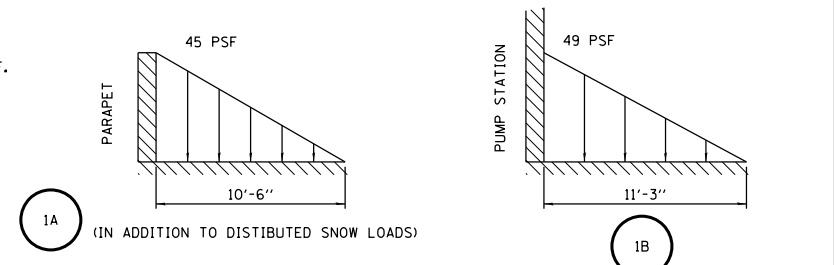
- PRECAST ROOF FRAMING NOTES:**
- PRECAST ROOF FRAMING MEMBERS SHALL HAVE 4" MIN. CONCRETE TOPPING SLAB W/ #4@12 OC EW CENTERED IN TOPPING.
 - DESIGN ROOF FRAMING MEMBERS FOR ADDITIONAL LOADS DUE TO ROOF MOUNTED EQUIPMENT INCLUDING ADDITIONAL DRIFTED SNOW IN ACCORDANCE WITH THE DRAWINGS.
 - DESIGN PRECAST ROOF FRAMING MEMBERS FOR THE FOLLOWING SUPERIMPOSED LOADS:

UNIFORM LOADS	5 PSF PLUS 4" TOPPING
DEAD LOADS (DL)	5 PSF PLUS 4" TOPPING
ROOF LIVE LOAD (LL)	20 PSF
COLLATERAL LOAD (CL)	20 PSF
SNOW LOAD (SL)	22 PSF
SNOW DRIFT LOAD AT ROOF PARAPET PER DETAIL 1	
THIS SHEET	
DESIGN PRECAST STAIR CEILING FRAMING MEMBERS FOR THE FOLLOWING SUPERIMPOSED LOADS:	
DEAD LOAD (DL)	4" TOPPING
LIVE LOAD (LL)	100 PSF

- ALL HOLLOW CORE UNITS ARE 8" THICK.
- COORDINATE ALL OPENING SIZES AND LOCATIONS PRIOR TO FABRICATION.
- PRECAST DESIGNER TO DETERMINE QUANTITY OF PRECAST TO SIDEWALL CONDITIONS TO TRANSFER DIAPHRAGM LOAD TO SHEARWALL WHERE INDICATED.
- DESIGN PRECAST ROOF FRAMING MEMBERS AND BEAMS TO LIMIT MAXIMUM TENSION IN BOTTOM OF MEMBERS TO THE RUPTURE STRENGTH OF CONCRETE UNDER ALL SERVICE LOADS.

KEYNOTES:

- MAJOR EQUIPMENT LOAD = 2.0K COORDINATE LOCATION OF UNIT WITH MECHANICAL.



CRANE RAIL FRAMING PLAN - EL 650.17

PARTIAL PLAN - EL 636.49

FILE NAME = D191454-S127.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 PLOT SCALE = 1/8" = 1'-0"
 PLOT DATE = 5/29/2019
 STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 I-290 PUMP STATION NO. 4 RECONSTRUCTION
 LOWER ROOF & CRANE LEVEL PLAN AT ELEVATION 650.17
 SCALE: 3/8" = 1'-0"
 SHEET OF SHEETS STA. TO STA.
 SHEET S127
 TOTAL SHEETS 60
 SECTION 3434-2321-R
 COUNTY COOK
 CONTRACT NO. 62B78
 ILLINOIS FED. AID PROJECT



GENERAL NOTES:

- FOR GENERAL STRUCTURAL NOTES, SEE SHEET S001.
- FOR TYPICAL STRUCTURAL DETAILS, SEE S500 SERIES SHEETS.
- COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.
- TOPPING CONCRETE: IDOT STANDARD CLASS BS.
- ALL PRECAST WORK SHOWN THIS DRAWING TO BE PAID FOR AS PRECAST PUMP STATION FACILITY BUILDING.

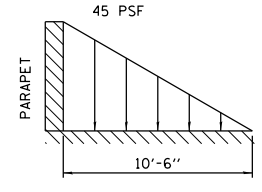
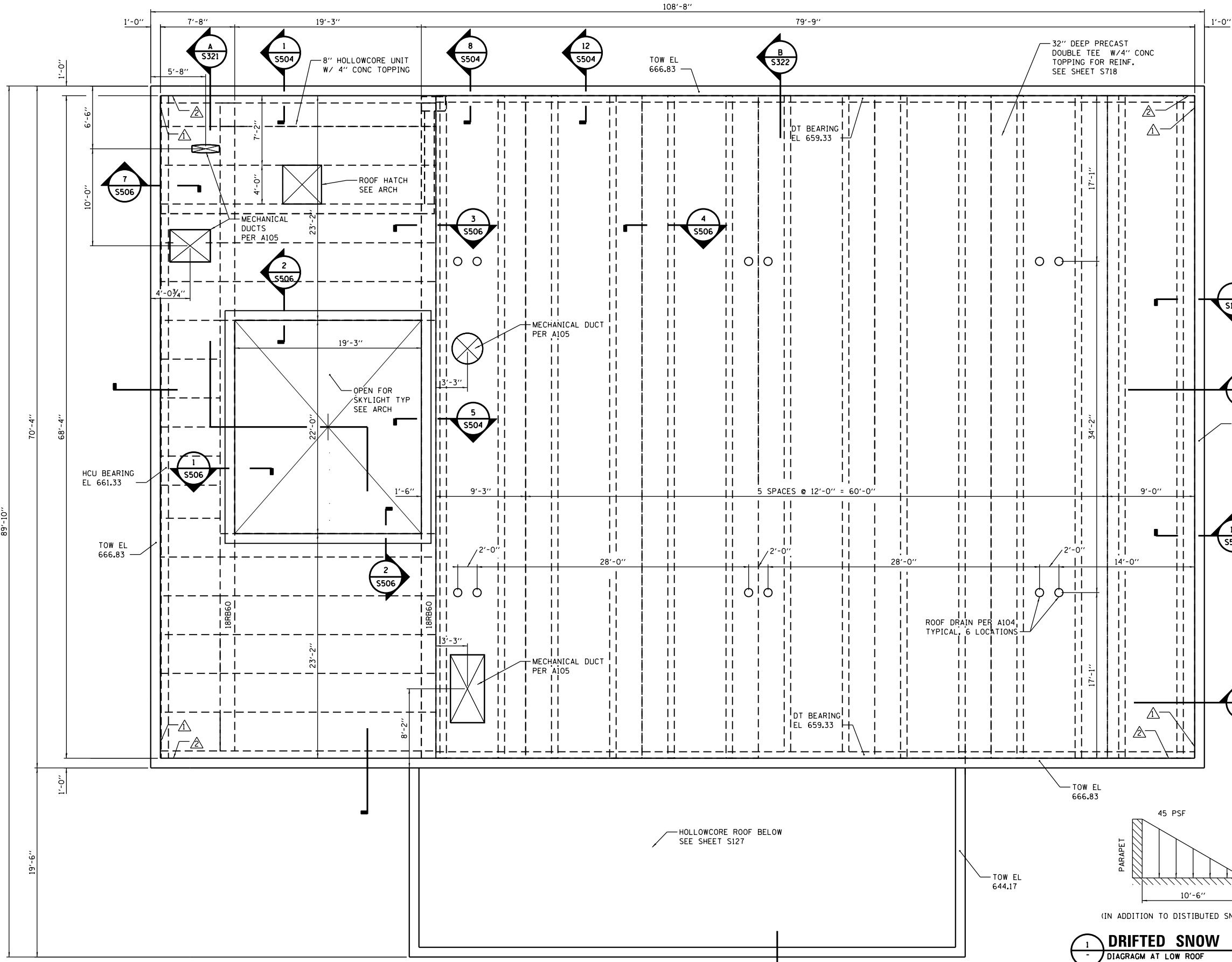
SHEET NOTES:

- THE FOLLOWING Δ INDICATES LIMITS OF DIAPHRAGM REACTION TO PRECAST SHEAR WALL:
 - $\Delta = 56.6^K$ (WIND) OR 46.4^K (SEISMIC)
 - $\Delta = 34.1^K$ (WIND) OR 37.2^K (SEISMIC)
 SEISMIC LOADS ARE NOT DIVIDED BY 1.4 NOR MULTIPLIED BY 0.7 FOR SERVICE LEVEL LOAD COMBINATIONS.
 WIND LOADS INCLUDE THE DIRECTIONALITY FACTOR $K_d=0.85$ AND ARE NOT MULTIPLIED BY 0.6 FOR SERVICE LEVEL LOAD COMBINATIONS.

PRECAST ROOF FRAMING NOTES:

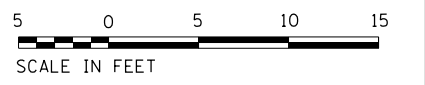
- PRECAST ROOF FRAMING MEMBERS SHALL HAVE 4" MIN. CONCRETE TOPPING SLAB W/ #4@12 OC EW CENTERED IN TOPPING.
- DESIGN ROOF FRAMING MEMBERS FOR ADDITIONAL LOADS DUE TO ROOF MOUNTED EQUIPMENT INCLUDING ADDITIONAL DRIFTED SNOW IN ACCORDANCE WITH THE DRAWINGS.
- DESIGN PRECAST ROOF FRAMING MEMBERS FOR THE FOLLOWING SUPERIMPOSED LOADS:

UNIFORM LOADS	
DEAD LOADS (DL)	5 PSF PLUS 4" TOPPING
ROOF LIVE LOAD (LL)	20 PSF
COLLATERAL LOAD (CL)	15 PSF
SNOW LOAD (SL)	22 PSF
SNOW DRIFT LOAD AT ROOF PARAPET	PER DETAIL 1 THIS SHEET
ADDITIONAL SLIDING SNOW AROUND THE SKYLIGHT	PER THE BUILDING CODE. SEE NOTE 8.
- ALL PRECAST DOUBLE TEES ARE 32" DEEP. ALL HOLLOW CORE UNITS HCU ARE 8" THICK.
- COORDINATE ALL OPENING SIZES AND LOCATIONS PRIOR TO FABRICATION.
- PRECAST DESIGNER TO DETERMINE QUALITY OF PRECAST TO SIDEWALL CONDITIONS TO TRANSFER DIAPHRAGM LOAD TO SHEARWALL WHERE INDICATED.
- DESIGN PRECAST ROOF FRAMING MEMBERS AND BEAMS TO LIMIT MAXIMUM TENSION IN BOTTOM OF MEMBERS TO THE RUPTURE STRENGTH OF CONCRETE UNDER ALL SERVICE LOADS.
- COORDINATE THE FINAL SKYLIGHT LOADS WITH THE SKYLIGHT MANUFACTURER, DESIGN PRECAST MEMBERS AROUND THE SKYLIGHT FOR ADDITIONAL SLIDING SNOW PER THE BUILDING CODE, BUT NOT LESS THAN 85 PLF ADDITIONAL SLIDING SNOW.



(IN ADDITION TO DISTRIBUTED SNOW LOADS)

1 DRIFTED SNOW LOAD
DIAGRAM AT LOW ROOF



ROOF FRAMING PLAN - EL 662.17

FILE NAME = D191454-S128.DGN USER NAME = bgreen DESIGNED - HDR - K. KIRCHNER REVISED - DRAWN - HDR - B. GREEN REVISED - CHECKED - HDR - B. BRADLEY REVISED - DATE - 05/30/2019 REVISED -

HDR, Inc.
 8550 W. Bryn Mawr Ave.
 Suite 900
 Chicago, IL 60631

USER NAME = bgreen
 PLOT SCALE = 0.1" = 1'-0"
 PLOT DATE = 5/29/2019

DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 CHECKED - HDR - B. BRADLEY
 DATE - 05/30/2019

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

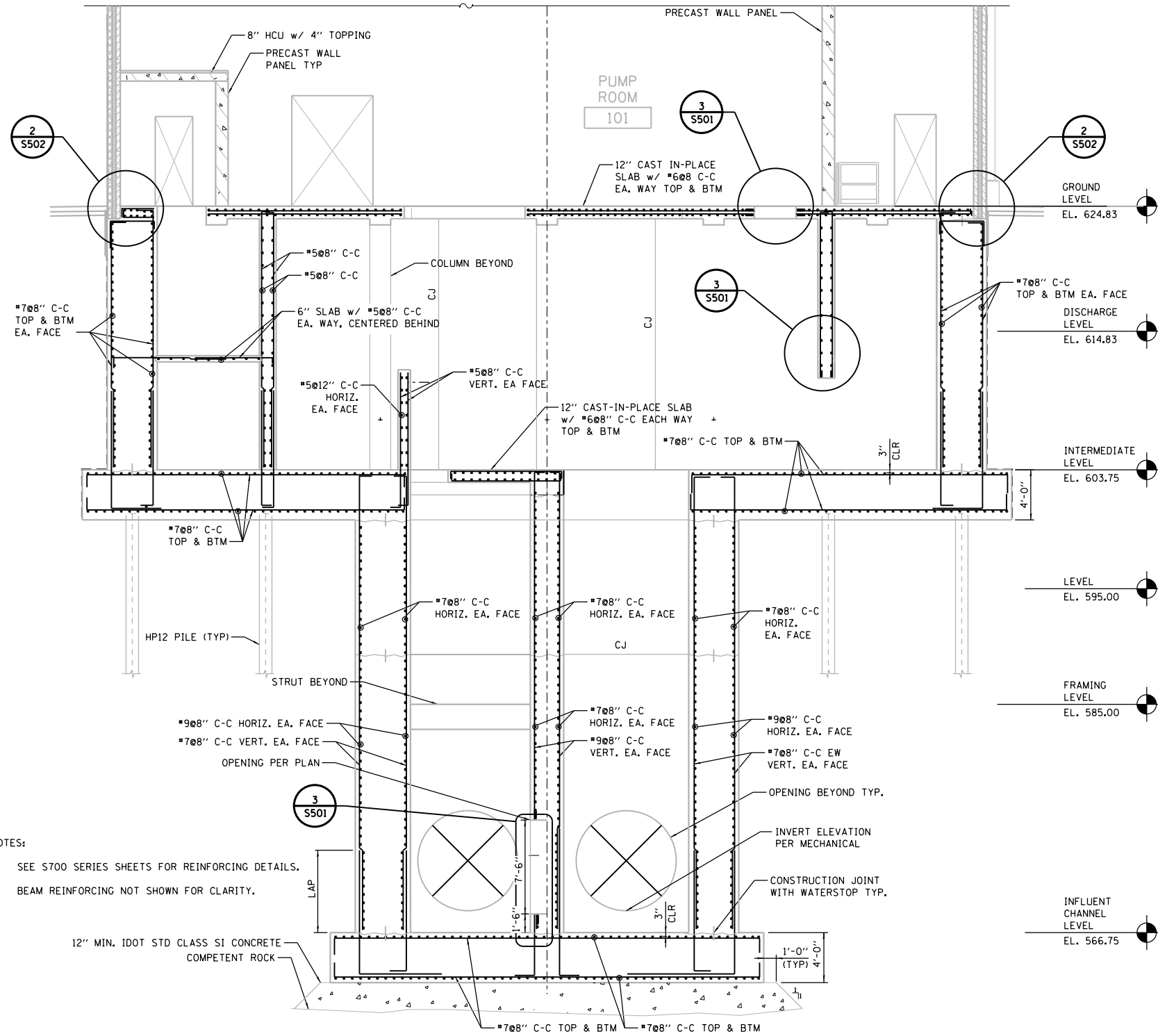
I-290 PUMP STATION NO. 4 RECONSTRUCTION
ROOF PLAN AT ELEVATION 662.17

SCALE: 3/16"=1'-0" SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.		SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290		3434-2321-R	COOK	232	61
CONTRACT NO. 62B78					
ILLINOIS FED. AID PROJECT					

SHEET S128

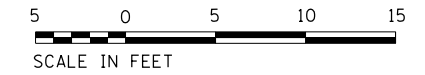
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NOTES:

1. SEE S700 SERIES SHEETS FOR REINFORCING DETAILS.
2. BEAM REINFORCING NOT SHOWN FOR CLARITY.

A SECTION



FILE NAME = D191454-S321.DGN
HDR
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 PLOT SCALE = 0:1' = 1/4" / 1/8"
 PLOT DATE = 5/29/2019

REVISIONS:
 REVISION NO. | DATE | REVISION
 1 | 05/30/2019 | REVISION
 2 | | REVISION

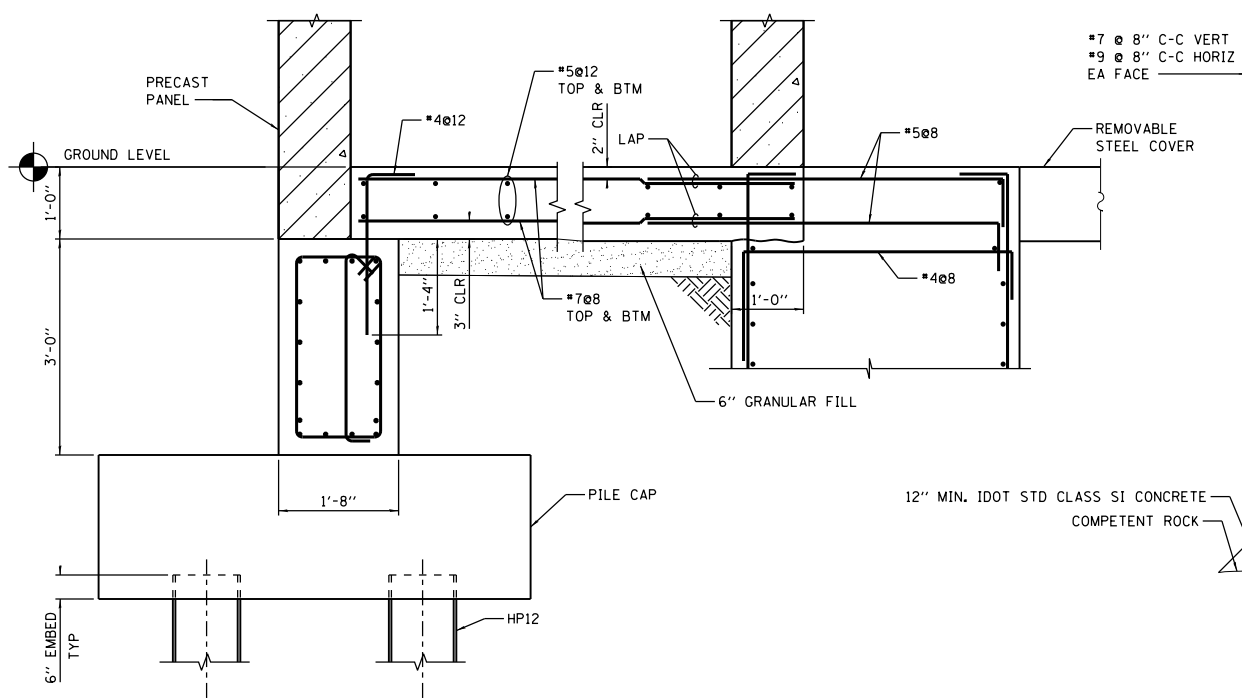
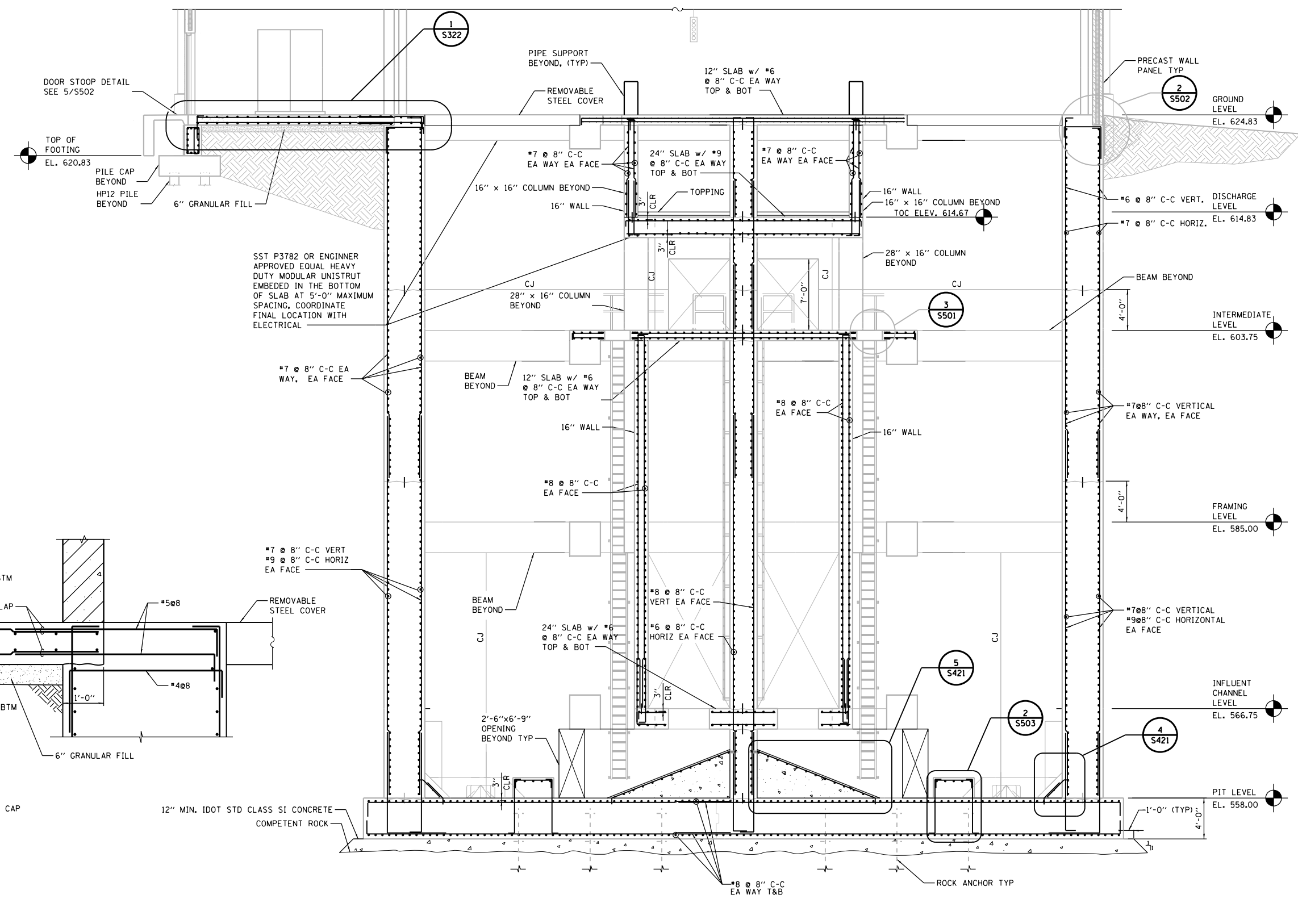
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
BUILDING SECTION
 SCALE: 3/8" = 1'-0" SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	62
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

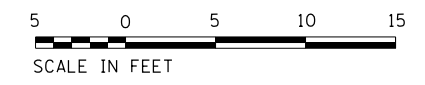
SHEET
S321

- NOTES:
- SEE S700 SERIES SHEETS FOR REINFORCING DETAILS.
 - BEAM REINFORCING NOT SHOWN FOR CLARITY.



SECTION-1
SECTION-ELECTRICAL ROOM FLOOR
NOT TO SCALE

B SECTION



D:\Projects\2019\191454-S322\Drawings\191454-S322.dgn

FILE NAME = D191454-S322.DGN
HDR, Inc.
8550 W. Bryn Mawr Ave.,
Suite 900
Chicago, IL 60631

USER NAME = bgreen
DESIGNED - HDR - M. KASPER
DRAWN - HDR - B. GREEN
PLOT SCALE = 1/8" = 1'-0"
PLOT DATE = 5/29/2019

REVISOR -
REVISION -
CHECKED - HDR - B. BRADLEY
DATE - 05/30/2019

REVISOR -
REVISION -
CHECKED - HDR - B. BRADLEY
DATE - 05/30/2019

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

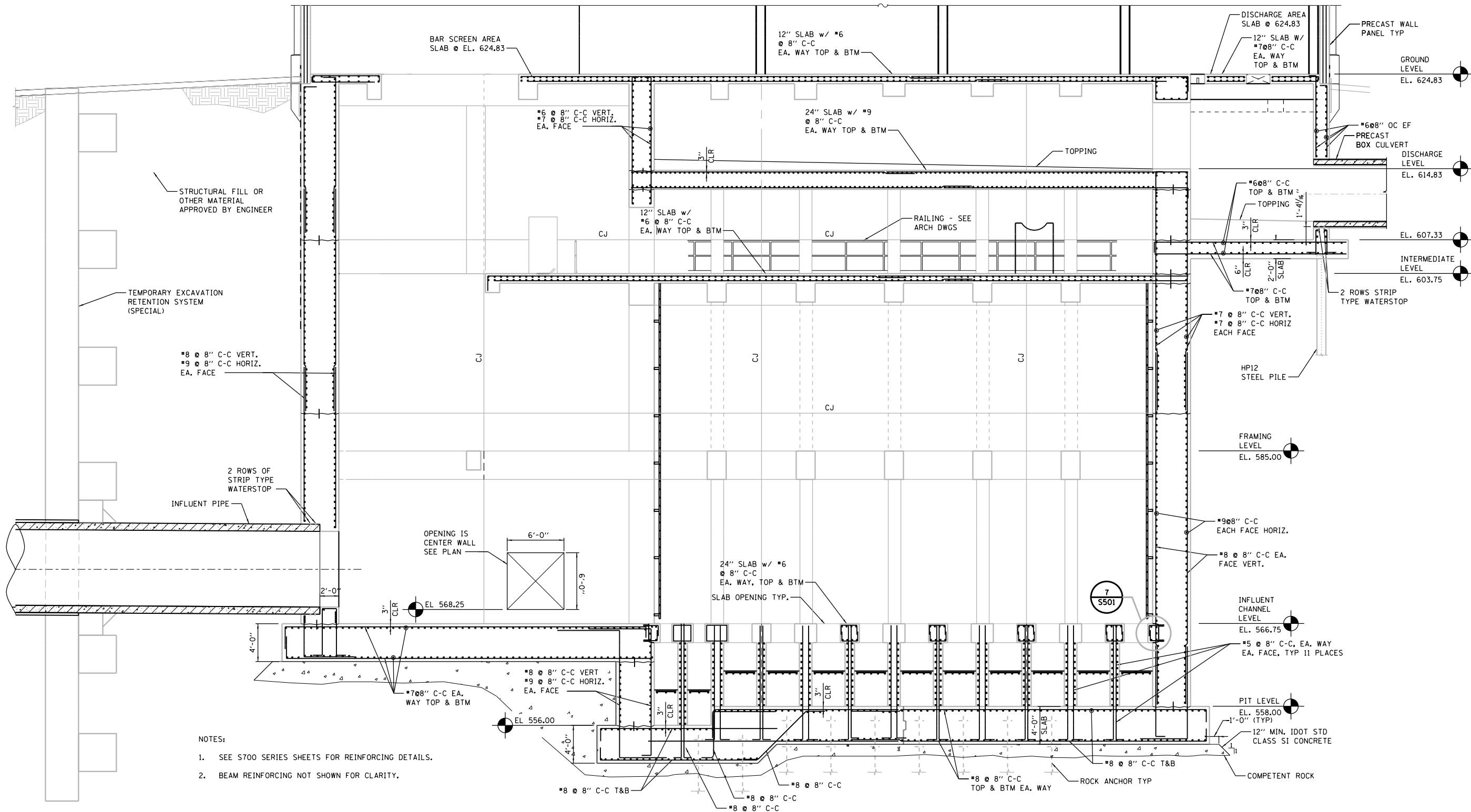
I-290 PUMP STATION NO. 4 RECONSTRUCTION
BUILDING SECTION

SCALE: 3/16" = 1'-0" SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	63
CONTRACT NO. 62B78				

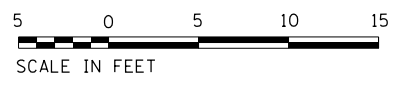
SHEET
S322

ILLINOIS FED. AID PROJECT



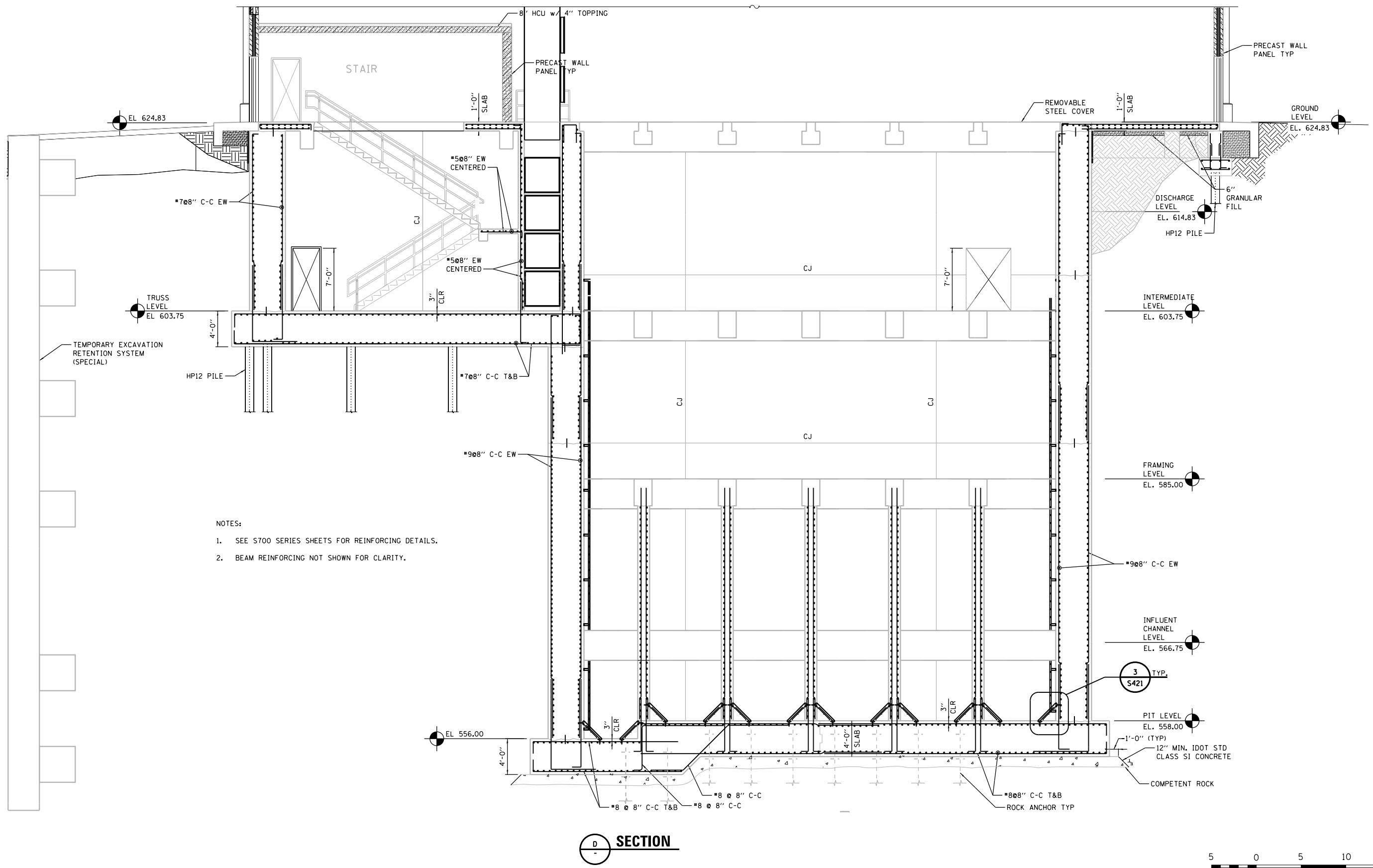
- NOTES:
- SEE S700 SERIES SHEETS FOR REINFORCING DETAILS.
 - BEAM REINFORCING NOT SHOWN FOR CLARITY.

C SECTION



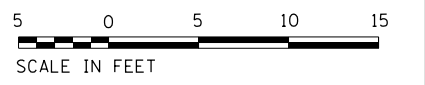
FILE NAME = D191454-S323.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 PLOT SCALE = 3/16" = 1'-0"
 PLOT DATE = 5/29/2019
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631
 STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 I-290 PUMP STATION NO. 4 RECONSTRUCTION
 BUILDING SECTION
 SCALE: 3/16"=1'-0" SHEET OF SHEETS STA. TO STA.
 SHEET 232 OF 232
 CONTRACT NO. 62B78
 ILLINOIS FED. AID PROJECT

FILE NAME = D191454-S323.DGN	USER NAME = bgreen	DESIGNED - HDR - K. KIRCHNER	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	I-290 PUMP STATION NO. 4 RECONSTRUCTION BUILDING SECTION	F.A.I. RTE. 290	SECTION 3434-2321-R	COUNTY COOK	TOTAL SHEETS 232	SHEET NO. 64		
DRAWN - HDR - B. GREEN	CHECKED - HDR - B. BRADLEY	REVISED -	SCALE: 3/16"=1'-0"			SHEET OF SHEETS	STA. TO STA.	CONTRACT NO. 62B78		ILLINOIS FED. AID PROJECT		
PLOT DATE = 5/29/2019	DATE - 05/30/2019	REVISED -										



NOTES:
 1. SEE S700 SERIES SHEETS FOR REINFORCING DETAILS.
 2. BEAM REINFORCING NOT SHOWN FOR CLARITY.

D SECTION



FILE NAME = D:\191454-S324.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 PLOT SCALE = 1/8" = 1' / 16"
 PLOT DATE = 5/29/2019
 DATE = 05/30/2019

HDR
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

DESIGNED - HDR - K. KIRCHNER	REVISED -
DRAWN - HDR - B. GREEN	REVISED -
CHECKED - HDR - B. BRADLEY	REVISED -
DATE - 05/30/2019	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

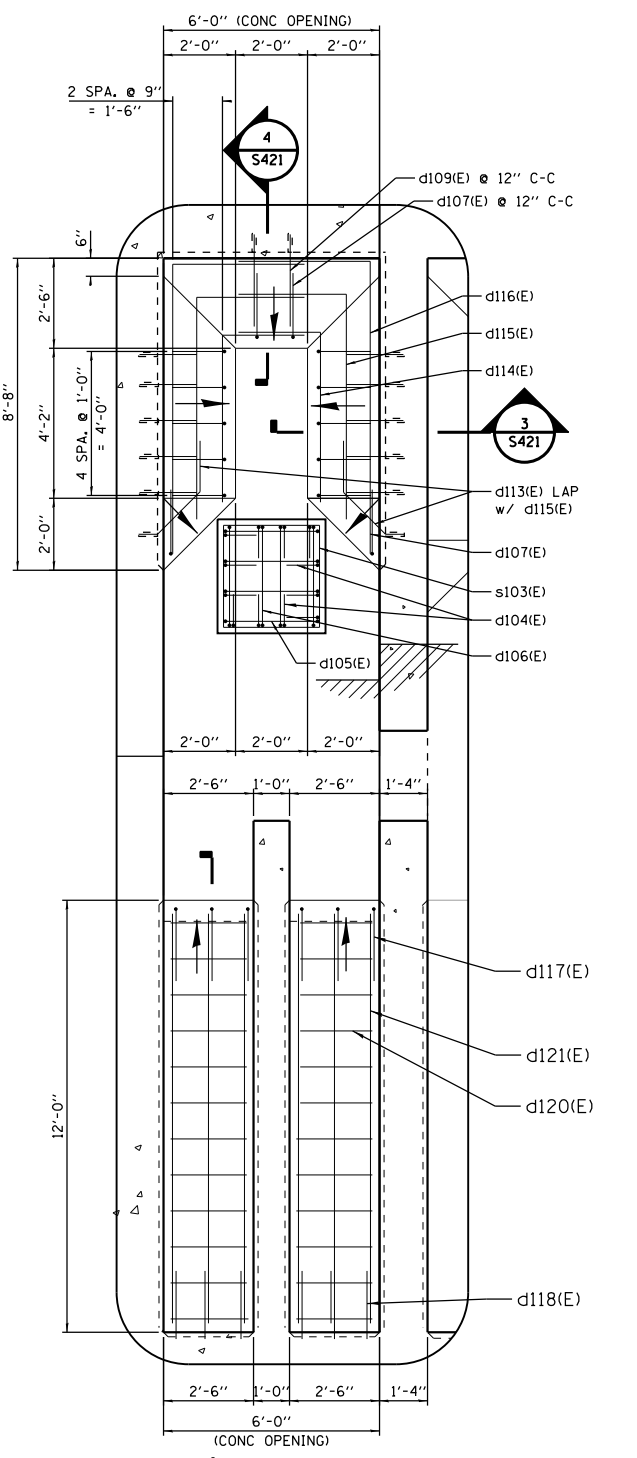
**I-290 PUMP STATION NO. 4 RECONSTRUCTION
 BUILDING SECTION**

SCALE: 3/16"=1'-0" SHEET OF SHEETS STA. TO STA.

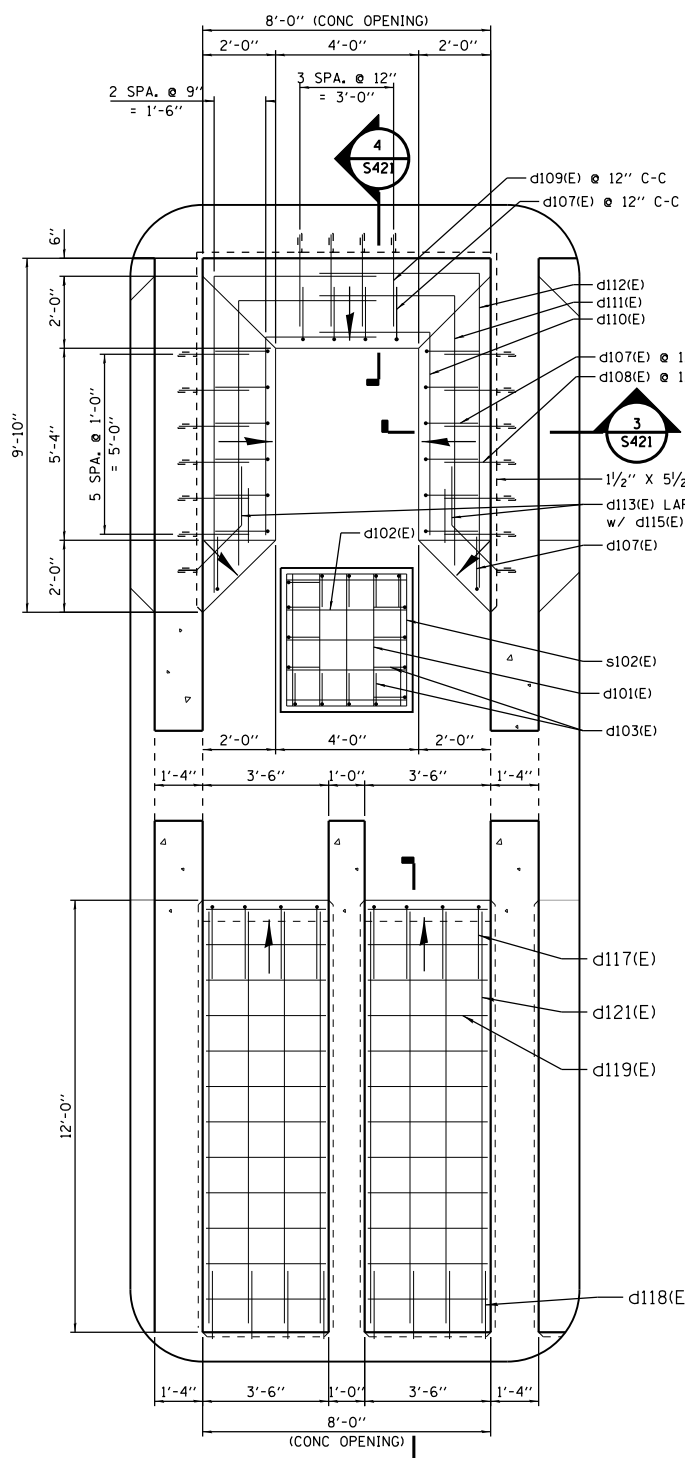
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	65
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

SHEET
S324

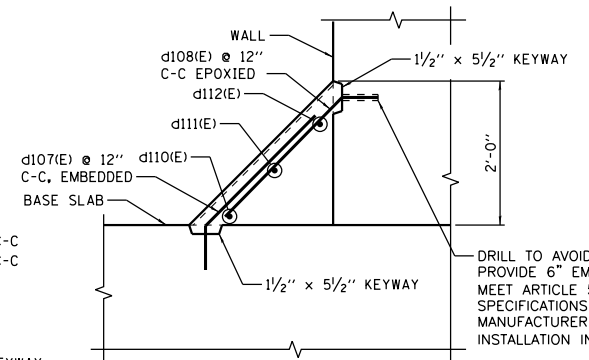
FILE NAME = D191454-S421.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 PLOT SCALE = 3/8" = 1'-0"
 PLOT DATE = 5/29/2019
 HDR, Inc.
 8550 W. Bryn Mawr Ave.
 Suite 900
 Chicago, IL 60631
 DESIGNED - HDR - K. KIRCHNER
 CHECKED - HDR - B. BRADLEY
 DATE - 05/30/2019
 REVISED -
 REVISED -
 REVISED -
 REVISED -
 I-290 PUMP STATION NO. 4 RECONSTRUCTION
 EXPANDED PLANS - PIT LEVEL AT ELEVATION 558.00
 SCALE: AS SHOWN
 SHEET OF SHEETS STA. TO STA.
 F.A.I. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.
 290 3434-2321-R COOK 232 66
 CONTRACT NO. 62B78
 ILLINOIS FED. AID PROJECT



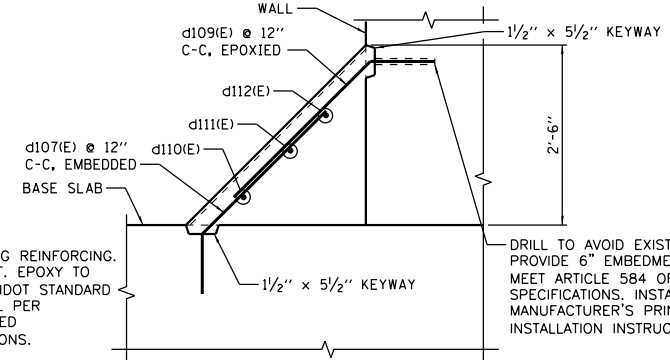
1 EXPANDED LOW FLOW PUMP PIT PLAN
 SCALE: 3/8"=1'-0"



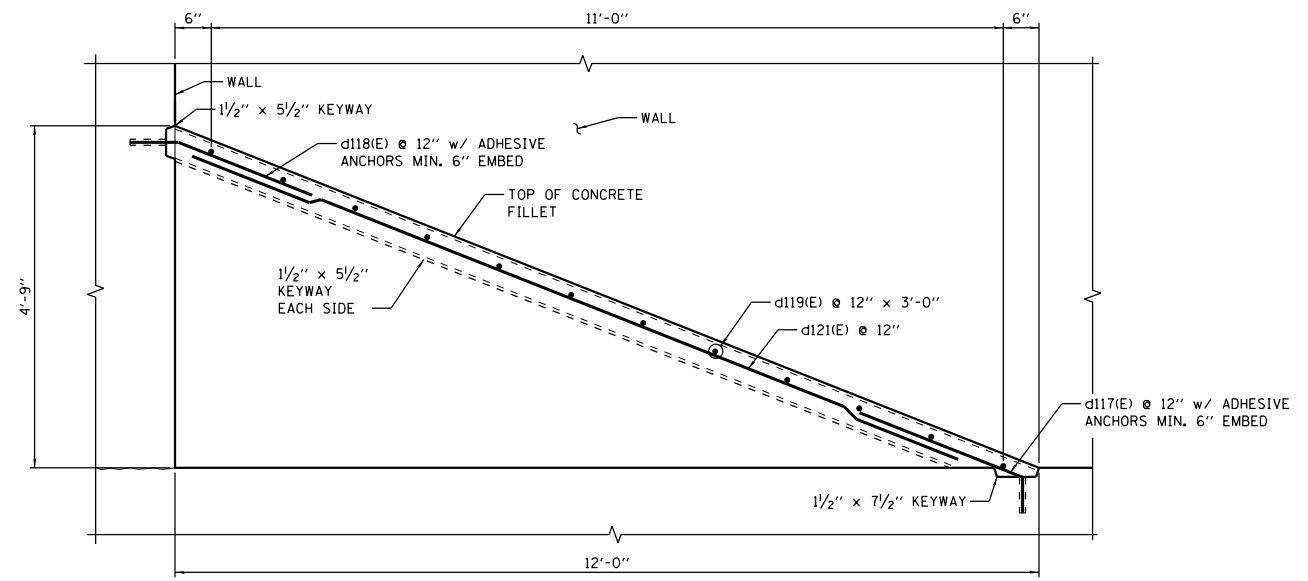
2 EXPANDED MAIN PUMP PIT PLAN
 SCALE: 3/8"=1'-0"



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



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



5 MAIN PUMP PIT DETAIL
 3/4"=1'-0"



FILE NAME = D191454-S421.DGN	USER NAME = bgreen	DESIGNED - HDR - K. KIRCHNER	REVISED -
HDR, Inc. 8550 W. Bryn Mawr Ave. Suite 900 Chicago, IL 60631		DRAWN - HDR - B. GREEN	REVISED -
	PLOT SCALE = 3/8" = 1'-0"	CHECKED - HDR - B. BRADLEY	REVISED -
	PLOT DATE = 5/29/2019	DATE - 05/30/2019	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

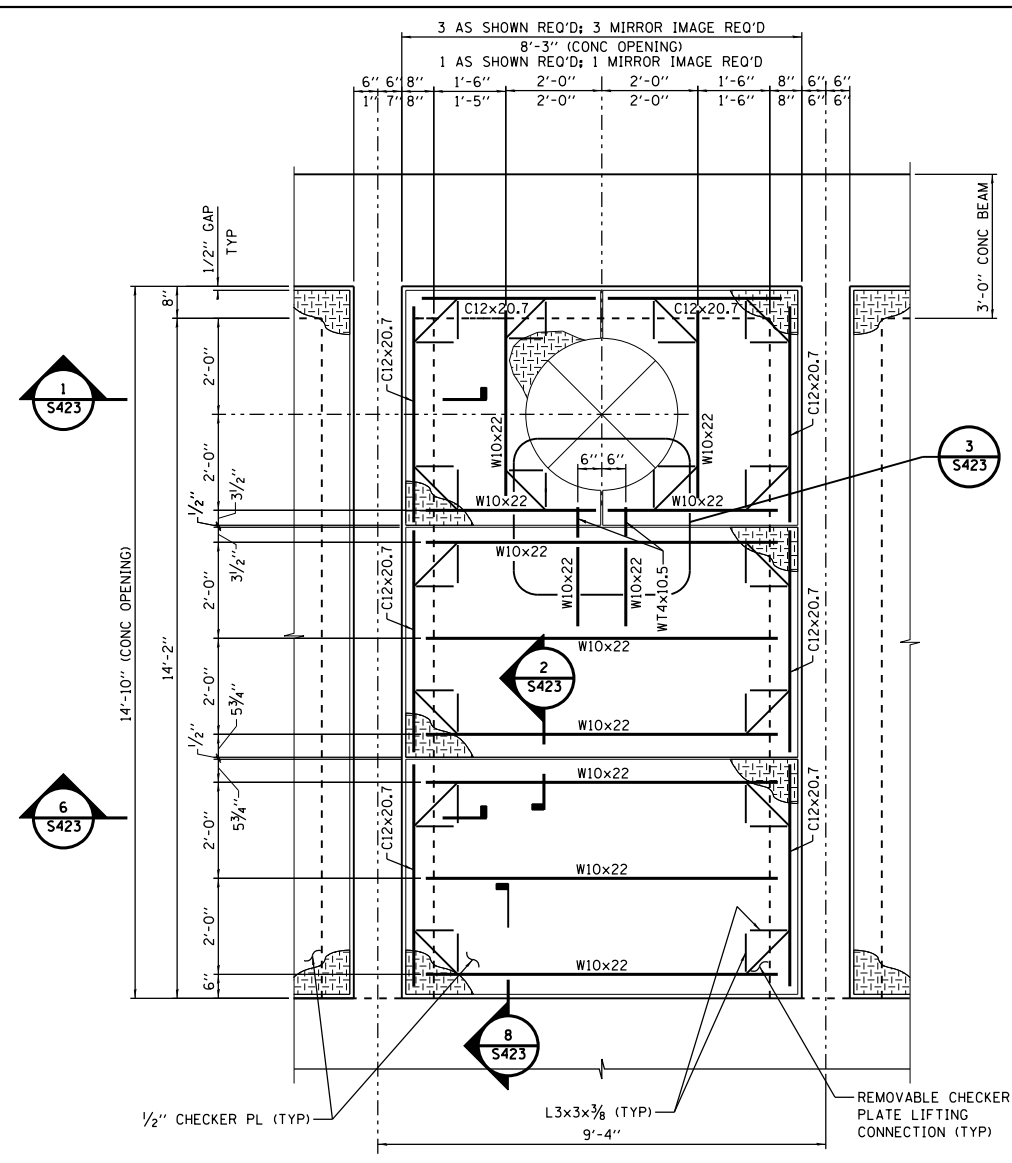
**I-290 PUMP STATION NO. 4 RECONSTRUCTION
 EXPANDED PLANS - PIT LEVEL AT ELEVATION 558.00**

SCALE: AS SHOWN SHEET OF SHEETS STA. TO STA.

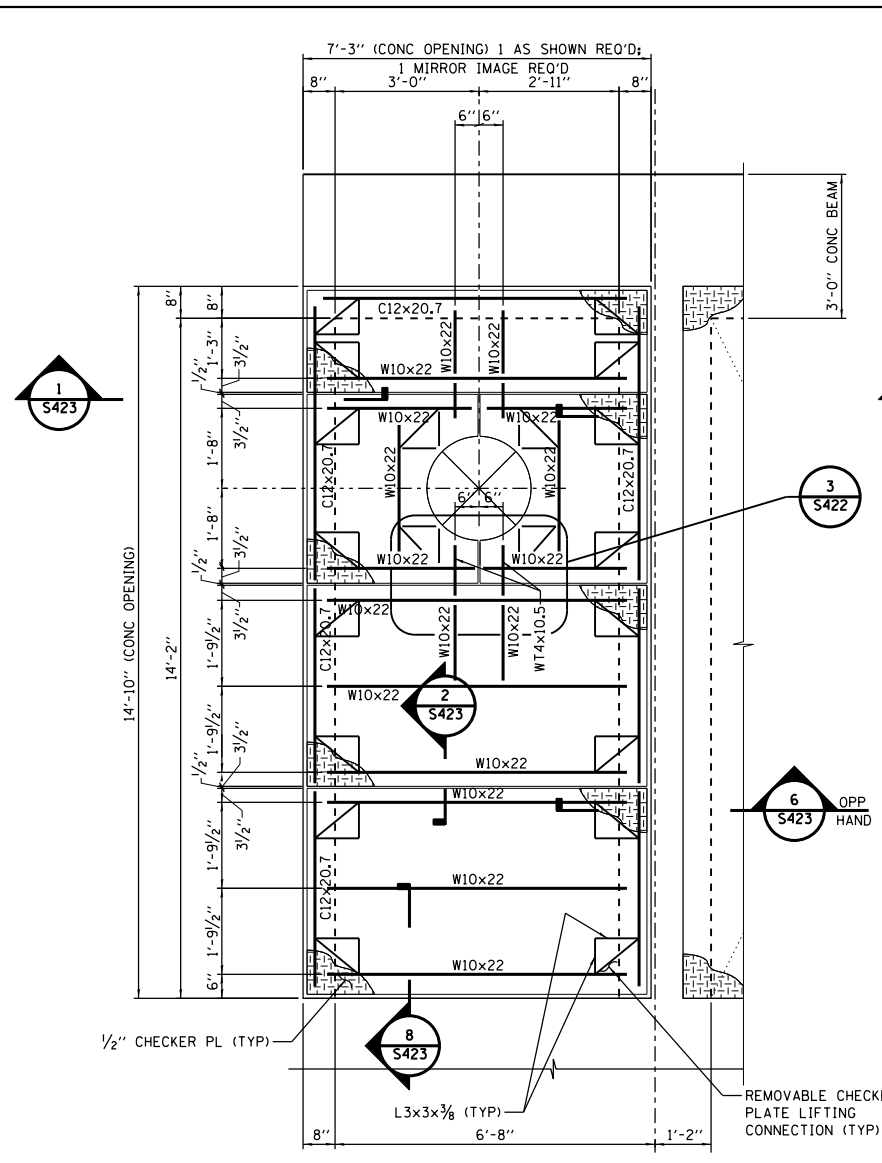
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	66
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

SHEET
S421

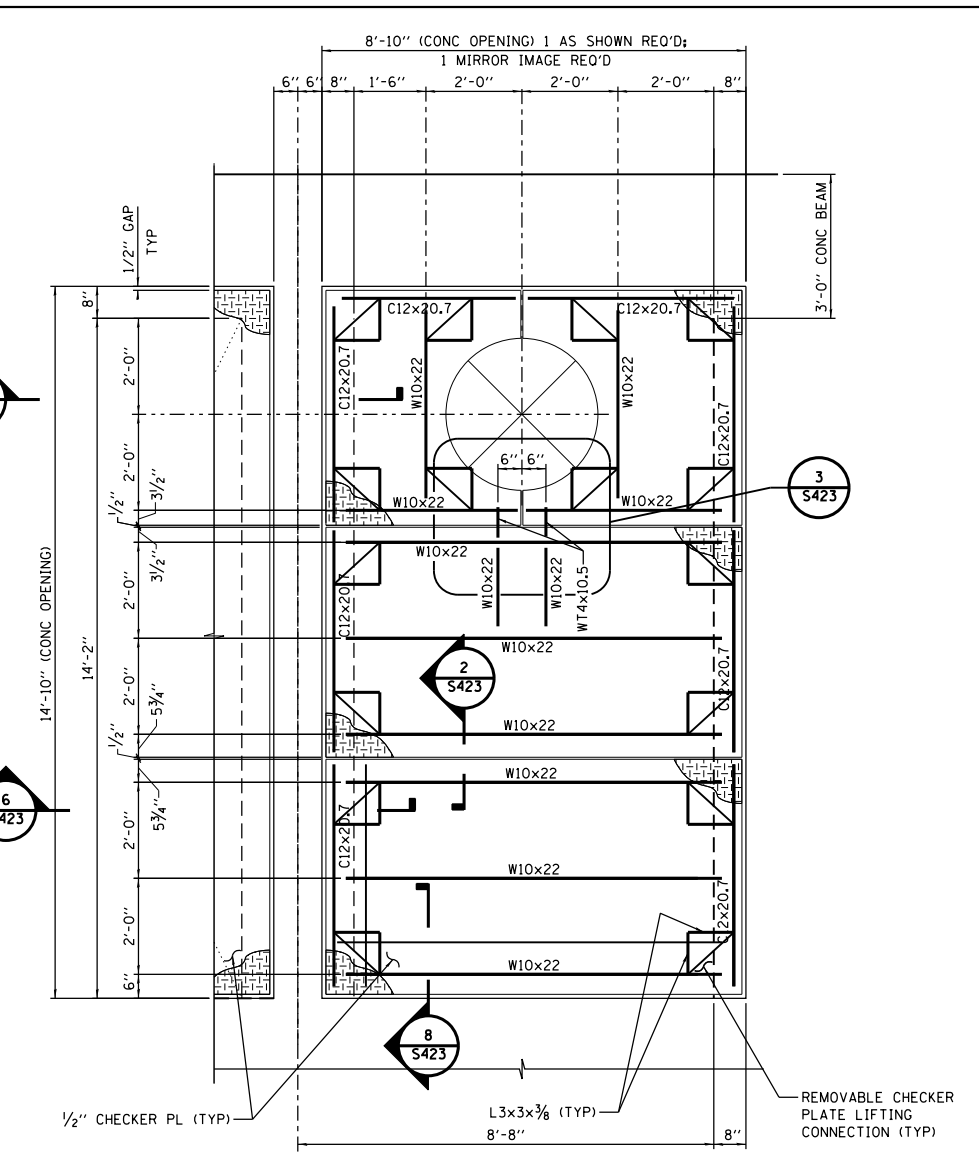
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1 REMOVABLE COVER PLAN
 S126 1/2"=1'-0"



2 REMOVABLE COVER PLAN
 S126 1/2"=1'-0"



3 REMOVABLE COVER PLAN
 S126 1/2"=1'-0"

NOTES:

- ALL WORK SHOWN THIS DRAWING TO BE PAID FOR AS PUMP STATION GENERAL WORK.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	67
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62B78	



USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 CHECKED - HDR - B. BRADLEY
 PLOT DATE = 5/29/2019

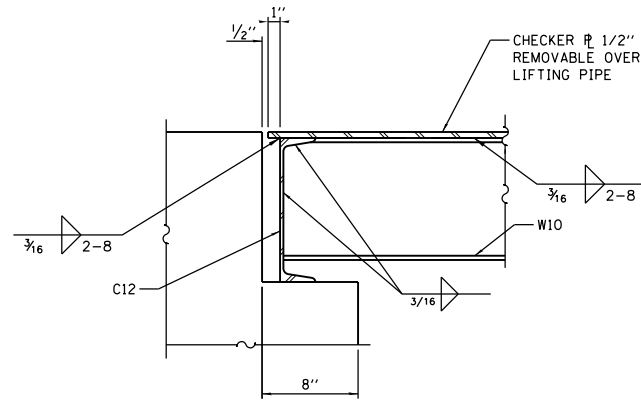
REVISED -
 REVISED -
 REVISED -
 REVISED -
 DATE - 05/30/2019

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

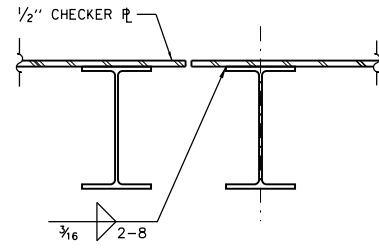
I-290 PUMP STATION NO. 4 RECONSTRUCTION
EXPANDED PLAN - FLOOR HATCHES OVER PUMPS

SCALE: AS SHOWN SHEET OF SHEETS STA. TO STA.

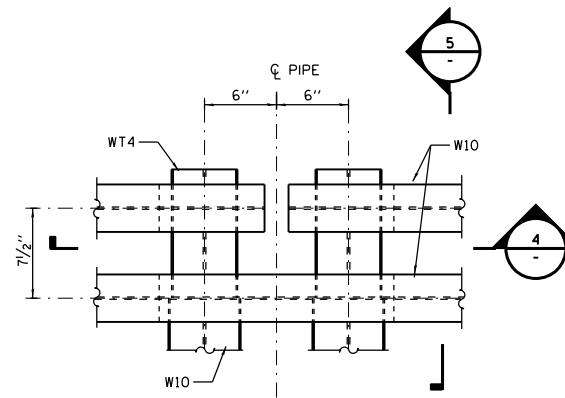
SHEET
 S422



1 C12 SUPPORT DETAIL

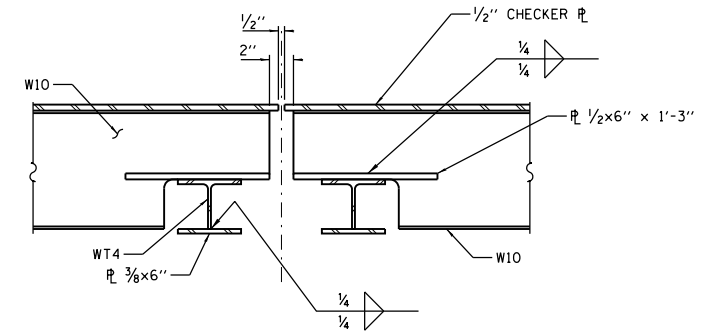


2 CHECKER PLATE JOINT DETAIL

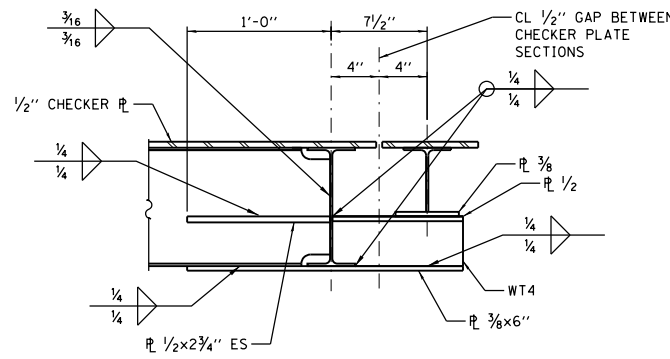


NOTE:
1/2" CHECKER PLATE NOT SHOWN FOR CLARITY

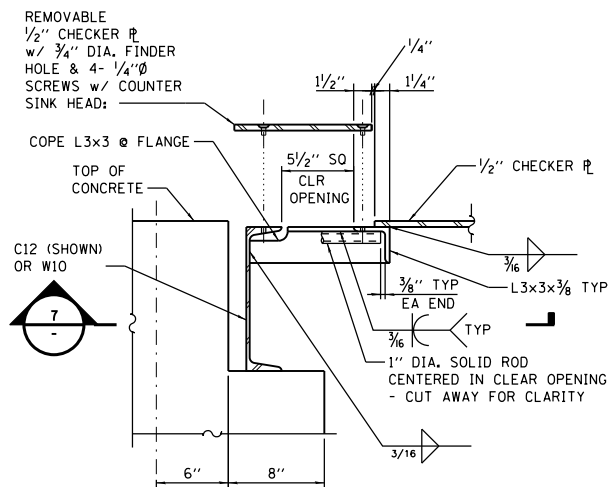
3 W10 SUPPORT DETAIL



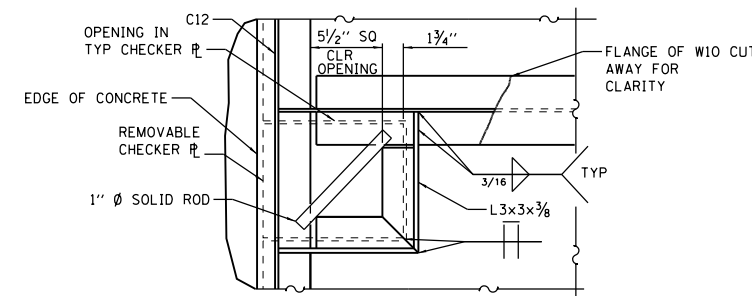
4 W10 SUPPORT DETAIL



5 W10 SUPPORT DETAIL



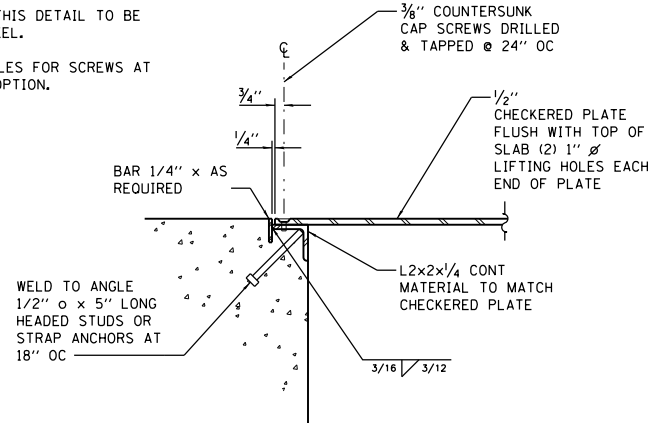
6 REMOVABLE PLATE LIFTING CONNECTION SECTION



7 REMOVABLE PLATE LIFTING CONNECTION DETAIL

NOTES:

- ALL MATERIAL THIS DETAIL TO BE GALVANIZED STEEL.
- FIELD DRILL HOLES FOR SCREWS AT CONTRACTOR'S OPTION.



8 STEEL CHECKERED PLATE SUPPORT

NOTES:

- ALL WORK SHOWN THIS DRAWING TO BE PAID FOR AS PUMP STATION GENERAL WORK.

USER NAME = bgreen	DESIGNED - HDR - M. KASPER	REVISED -
PLOT SCALE = 0:1' = 1/4" IN.	DRAWN - HDR - RHA	REVISED -
PLOT DATE = 5/29/2019	CHECKED - HDR - E. BERGGREN	REVISED -
	DATE - 05/30/2019	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	68
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62B78	

METRIC	INCH-POUND
#10	#3
#13	#4
#16	#5
#19	#6
#22	#7
#25	#8
#29	#9
#32	#10
#36	#11
#43	#14
#57	#18
GRADE 420	GRADE 60

NOTE:

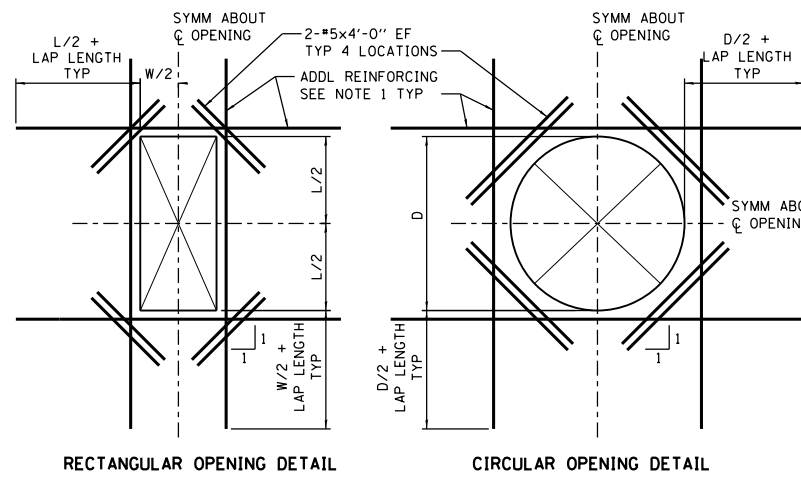
- BAR SIZES NOTED ON DRAWINGS ARE GIVEN IN "INCH-POUND" BAR SIZES. EQUIVALENT "METRIC BARS" HAVING THE SAME PHYSICAL SIZE AND MINIMUM YIELD STRENGTH MAY BE SUBSTITUTED PER THE TABLE ABOVE.

LAP SPLICE AND EMBEDMENT LENGTHS
f'c = 4.0 ksi fy = 60 ksi
f'c = 4.5 ksi

BAR	BARS SPACED GREATER THAN 4"	BARS SPACED LESS THAN OR EQUAL TO 4"
#3	20"	26"
#4	23"	42"
#5	31"	60"
#6	38"	81"
#7	62"	114"
#8	79"	140"
#9	100"	152"
#10	127"	183"
#11	157"	191"

NOTES:

- PROVIDE MINIMUM LAP SPLICE LENGTHS AND EMBEDMENTS PER TABLE UNLESS NOTED OTHERWISE. EMBEDMENT LENGTH EQUALS THE LAP SPLICE LENGTH UNLESS OTHERWISE NOTED.
- BAR SPACING AT LAP SPLICE IS THE MINIMUM CLEAR DISTANCE BETWEEN LAPPED BARS PLUS ONE BAR DIAMETER.
- ALL SPLICES TO BE CONTACT SPLICES AND WIRED TOGETHER UNLESS OTHERWISE APPROVED BY ENGINEER.



NOTES:

- PROVIDE ADDITIONAL REINFORCING THE SAME SIZE AS DISCONTINUOUS REINFORCEMENT AT OPENING. QUANTITY OF REINFORCING IN EACH DIRECTION SHALL BE EQUAL TO OR ONE GREATER THAN THE NUMBER OF DISCONTINUOUS BARS. PLACE 1/2 OF ADDITIONAL REINFORCING BARS EACH SIDE OF OPENING. PLACE ADDITIONAL REINFORCEMENT AT 3" OC (TYPICAL BOTH DIRECTIONS AND ALL LAYERS OF REINFORCEMENT). START FIRST BAR 2" CLEAR TO OPENING.
- EXTEND ADDITIONAL REINFORCING BEYOND EDGE OF OPENING AS SHOWN ABOVE. ADDITIONAL BARS MAY TERMINATE AT THE END OF THE WALL WITH A STANDARD HOOK WHERE THE LENGTH OF THE WALL WILL NOT PERMIT BARS TO EXTEND AS SHOWN ABOVE.
- TYPICAL WALL OR SLAB REINFORCING NOT SHOWN FOR CLARITY. TERMINATE TYPICAL REINFORCING 2" CLEAR TO OPENING.
- OPENINGS 12" OR LESS IN SLABS AND WALLS, NO EXTRA REBARS ARE REQUIRED UNLESS SHOWN OTHERWISE. TYPICAL REINFORCING SHALL BE RESPAVED (NOT CUT) TO ALLOW FOR OPENINGS TO BE MADE.
- UNLESS SHOWN OTHERWISE ON DRAWINGS, PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS AS SHOWN AND INDICATED ABOVE.
- PROVIDE ADDITIONAL DOWELS PER NOTE 1 ABOVE FOR ALL OPENINGS NEAR THE FLOOR SLAB, BASE SLAB, OR CORNERS.

REINFORCING BAR SIZE SCHEDULE

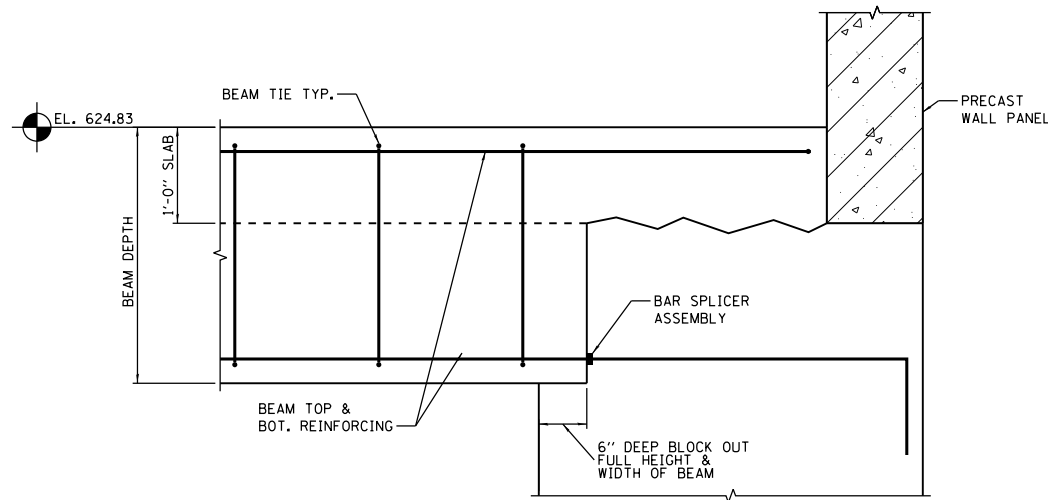
1 - NOT TO SCALE

CONCRETE REINFORCING LAP AND EMBEDMENT SCHEDULE

2 - NOT TO SCALE

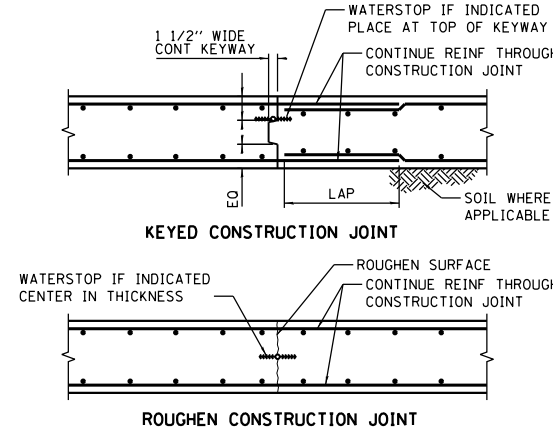
ADDITIONAL REINFORCING AROUND OPENINGS

3 - NOT TO SCALE



SECTION - FLOOR BEAM CONNECTION

SCALE: 1" = 1'-0"

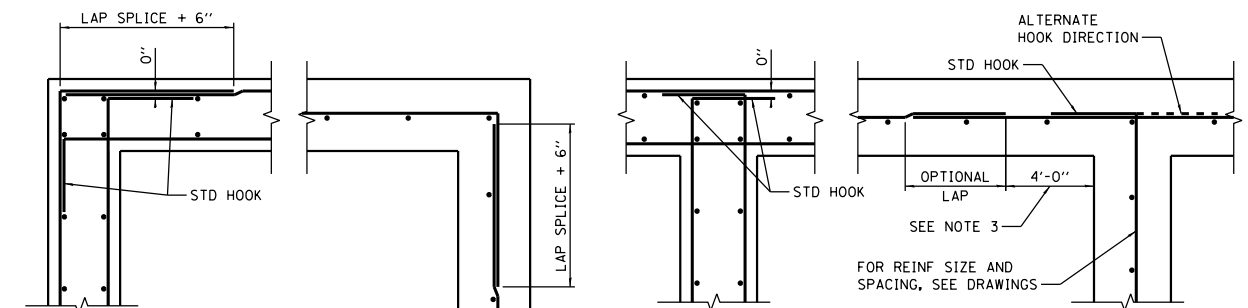


NOTE:

- SEE SPECIFICATION FOR REQUIREMENT TO TIE WATERSTOPS IN PLACE TO PREVENT MOVEMENT OR FOLDING OVER.

CONSTRUCTION JOINT (CJ)

5 - NOT TO SCALE

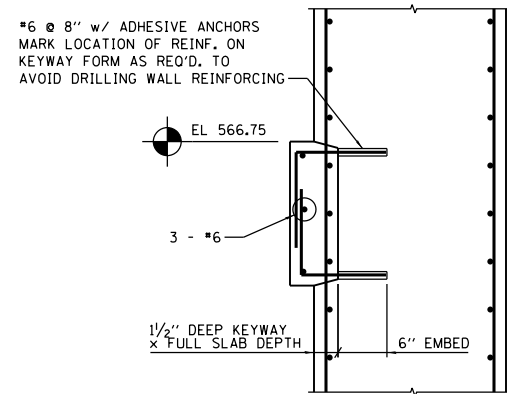


NOTES:

- ALL HOOKS SHALL BE STD 90 DEGREE HOOKS IN ACCORDANCE W/ ACI 318.
- SEE DRAWINGS FOR ADDITIONAL HORIZONTAL BARS. STAGGER BETWEEN TYPICAL REINF SPACING, EXTEND TO 1/5 OF DISTANCE TO NEAREST ADJACENT WALL IN EACH DIRECTION, UNO.
- OPTIONAL LAP LOCATION, APPLIES TO BOTH DOUBLE AND SINGLE LAYER CONDITIONS TYP.

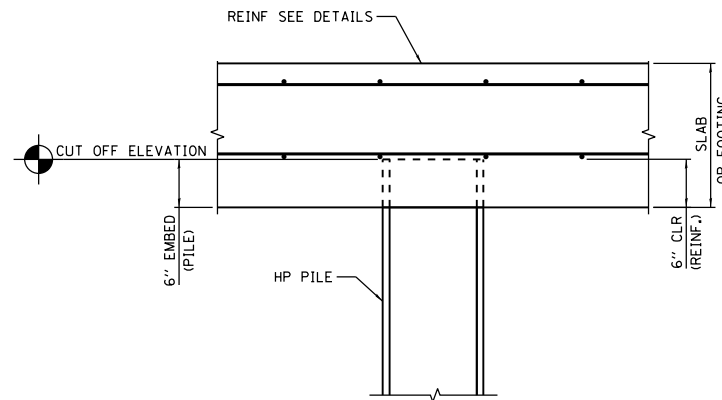
WALL REINFORCEMENT AT CORNERS AND INTERSECTIONS

6 - NOT TO SCALE



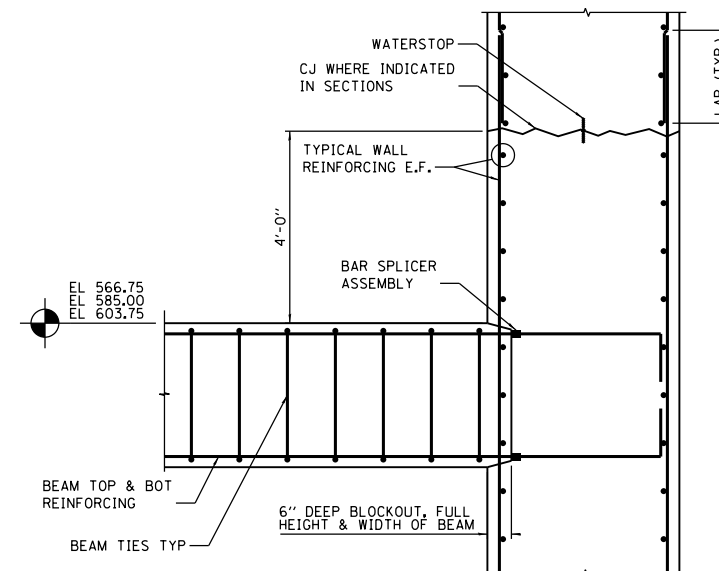
SECTION - STRUT CONNECTION

SCALE: 1/2"=1'-0"



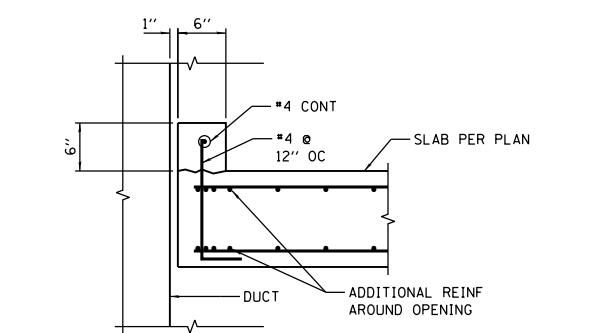
TYPICAL HP PILE AT END DETAIL

SCALE: 1" = 1'-0"



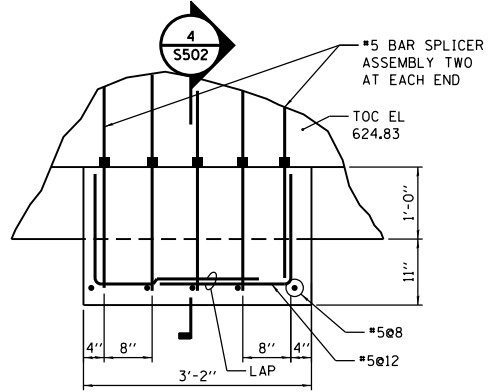
SECTION - STRUT CONNECTION

SCALE: 1/2"=1'-0"

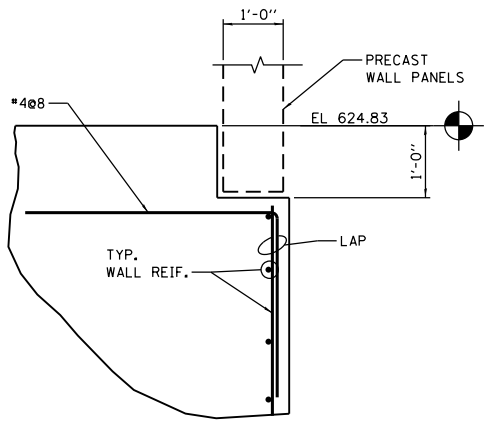


DUCT FLOOR CURB DETAIL

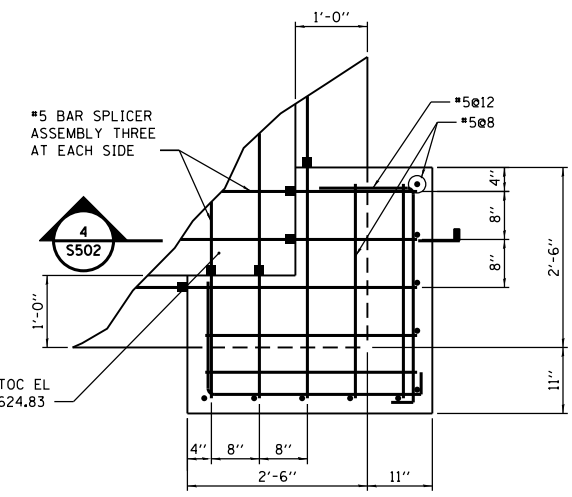
SCALE: 1" = 1'-0"



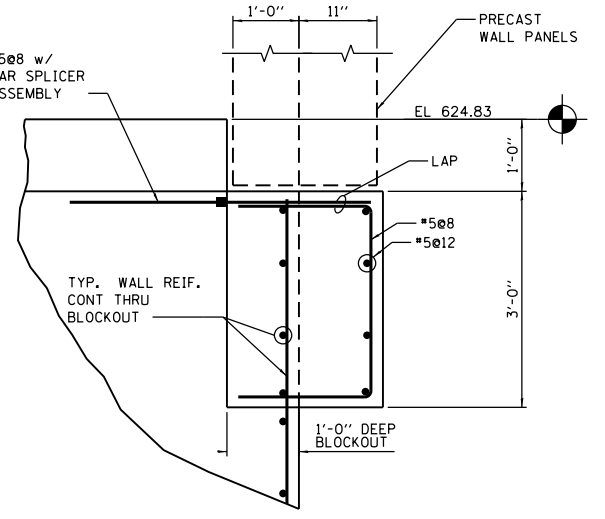
1 PLAN - SIDE WALL
3/4"=1'-0"



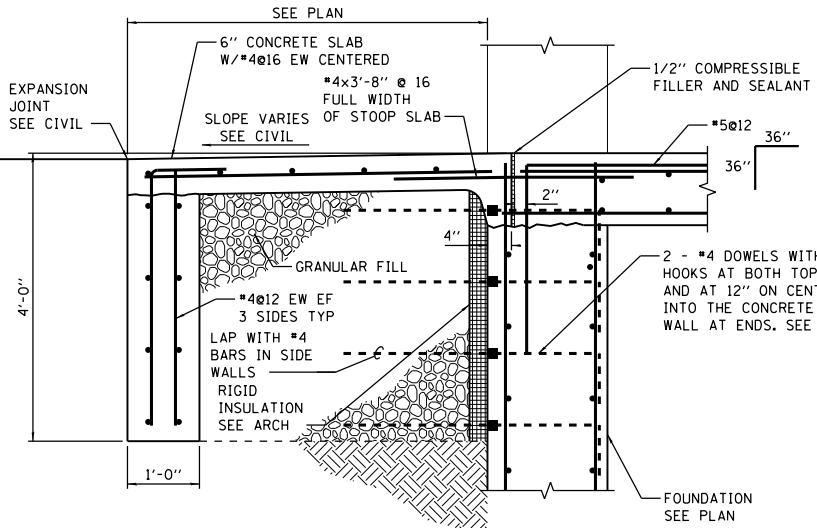
2 TYPICAL SECTION AT WALL
3/4"=1'-0"



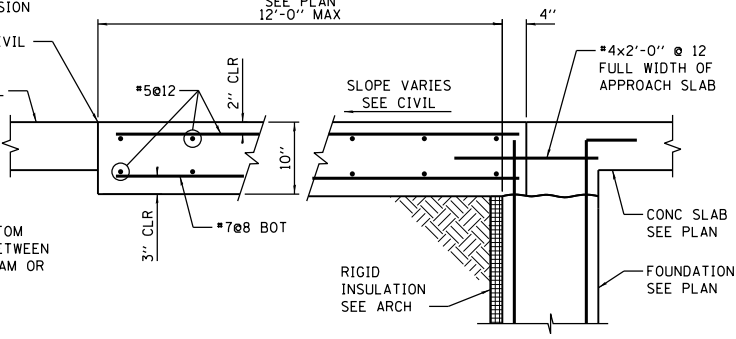
3 PLAN - CORNER
3/4"=1'-0"



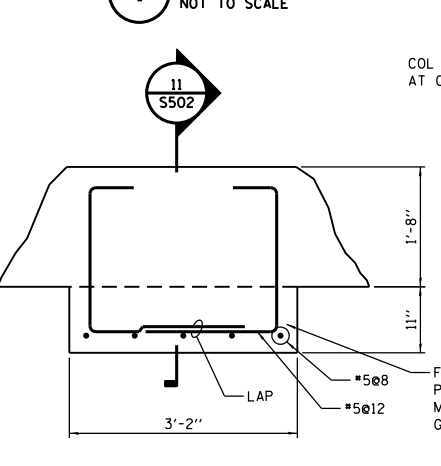
4 SECTION AT CORBEL
3/4"=1'-0"



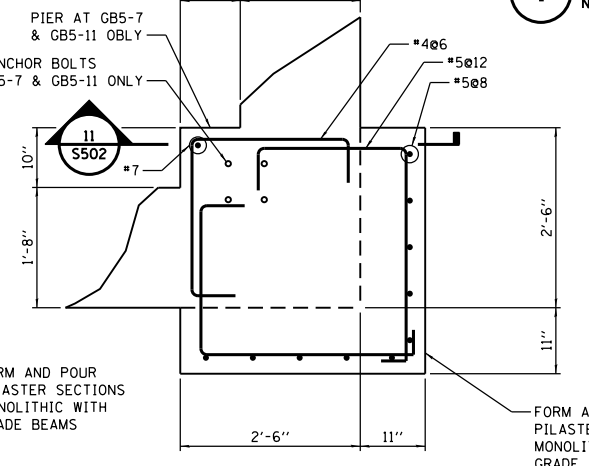
5 DOOR STOOP
NOT TO SCALE



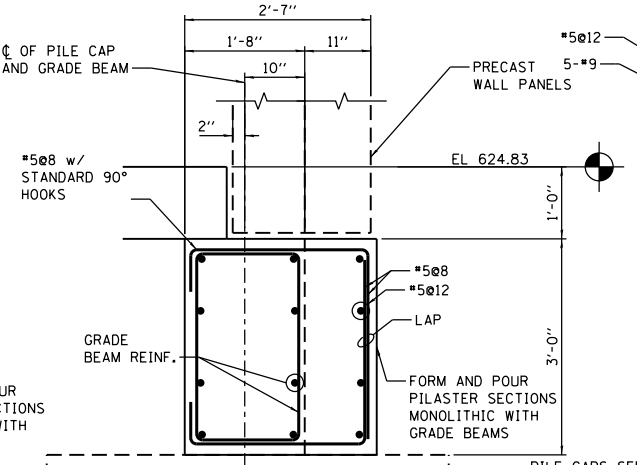
6 APPROACH SLAB
NOT TO SCALE



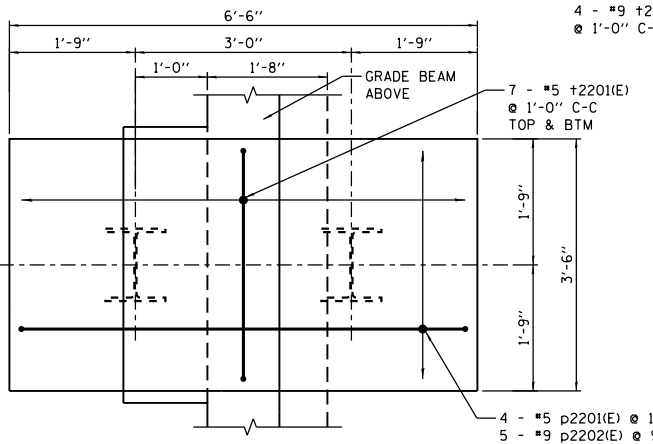
9 PLAN - SIDE WALL
3/4"=1'-0"



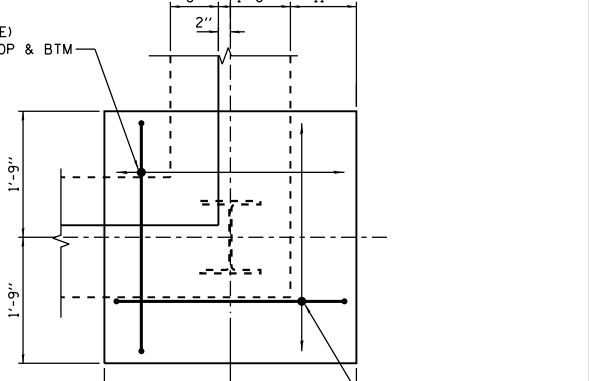
10 PLAN - CORNER
3/4"=1'-0"



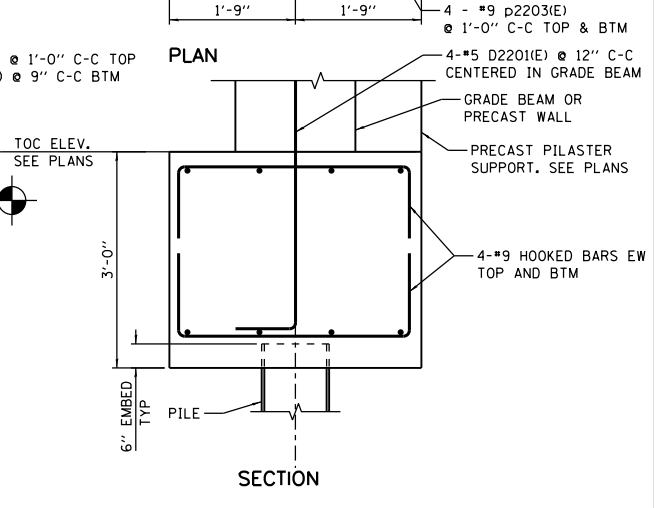
7 PILE CAP - 2 REQD
NOT TO SCALE



8 PILE CAP - 6 REQD
NOT TO SCALE



11 SECTION AT CORBEL
3/4"=1'-0"



BAR	QTY	SIZE	A	B	WEIGHT
p2201(E)	8	5	1'-0"	6'-2"	8'-2"
p2202(E)	10	9	1'-10"	6'-2"	9'-10"
p2203(E)	48	9	1'-10"	3'-2"	6'-10"
t2201(E)	28	5	1'-0"	3'-2"	5'-1"
t2202(E)	48	9	1'-10"	3'-2"	6'-10"
REINFORCING BARS EPOXY COATED					TOTAL WEIGHT 2,781 lbs

NOTE: REINFORCING BAR QUANTITIES SHOWN ARE FOR ALL REQUIRED PILE CAPS. CONCRETE QUANTITIES FOR PILE CAPS ARE INCLUDED WITH DRAWINGS.

BARS p2201(E), p2202(E), p2203(E), t2201(E), t2202(E)

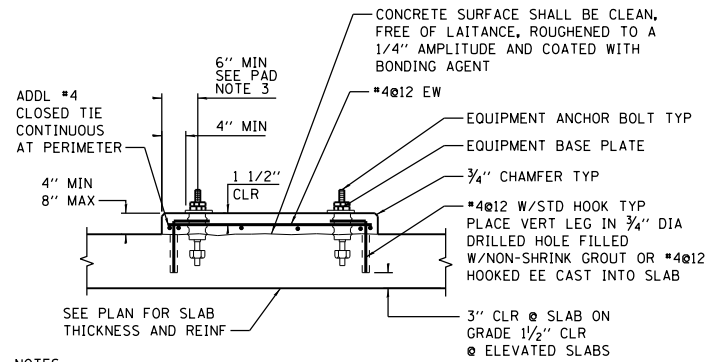
FILE NAME = D191454-S502.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B.GREEN
 CHECKED - HDR - B. BRADLEY
 DATE - 05/30/2019
 PLOT SCALE = 3/4" = 1'-0"
 PLOT DATE = 5/29/2019
 HDR, Inc.
 8550 W. Bryn Mawr Ave.
 Suite 900
 Chicago, IL 60631

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
TYPICAL DETAILS - CONCRETE

SCALE: 1/4"=1'-0" SHEET OF SHEETS STA. TO STA.

F.A.I R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	70
CONTRACT NO. 62B78				SHEET S502
ILLINOIS FED. AID PROJECT				

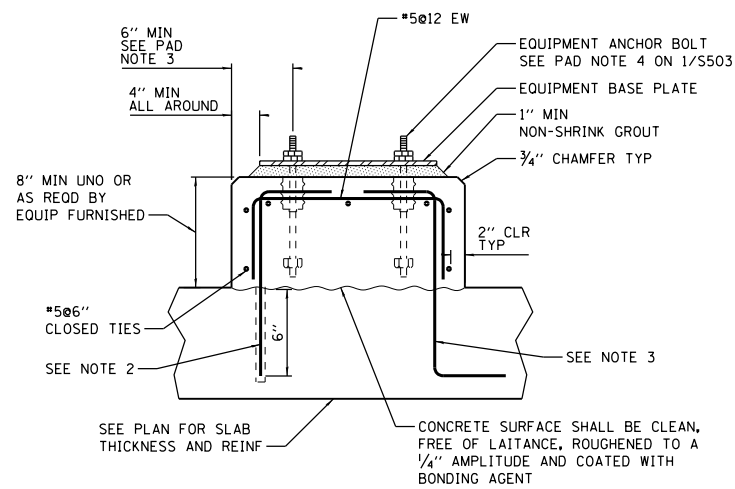


NOTES:

1. PROVIDE ABOVE PAD UNDER ALL ELECTRICAL AND MECHANICAL EQUIPMENT SUPPORTED ON STRUCTURAL SLABS. ALSO PROVIDE FOR EQUIPMENT WEIGHING LESS THAN 5000 POUNDS WHICH ARE SUPPORTED ON GRADE, OR WHERE SPECIFICALLY NOTED ON PLANS. FOR PAD HEIGHT GREATER THAN 8" SEE TALL EQUIPMENT SUPPORT PAD.
2. PAD THICKNESS SHALL BE A MINIMUM OF 4". CONTRACTOR SHALL VERIFY THE PAD THICKNESS WITH EQUIPMENT SUPPLIER. THICKEN SLAB ON GRADE BELOW EQUIPMENT PAD AS REQUIRED TO MAINTAIN MINIMUM 3" COVER ON EQUIPMENT ANCHOR BOLTS.
3. PROVIDE EMBEDDED CHANNELS FOR ANCHORING ELEC EQUIP WHERE REQUIRED.

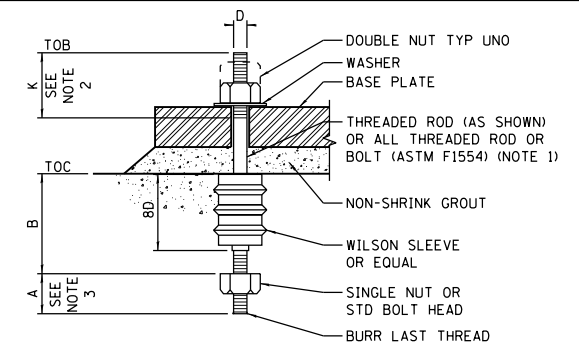
PAD NOTES:

1. PAD DETAILS 1, 2 AND 3 ON THIS SHEET APPLY FOR SUPPORT OF ALL EQUIPMENT UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
2. BEFORE EQUIPMENT SUPPORT PADS ARE CAST, THE PAD SIZES AND REINFORCING SHALL BE APPROVED BY THE ENGINEER AS BEING CAPABLE OF SUPPORTING EQUIPMENT TO BE PLACED THEREON. EQUIPMENT BASE DIMENSIONS SHALL BE THE LARGER OF AS DETERMINED BY THE EQUIPMENT MANUFACTURER OR AS INDICATED ON THE DRAWINGS. SUBMIT ALL EQUIPMENT DIMENSIONS AND LOADS TO ENGINEER.
3. 6" MINIMUM PAD EDGE DIMENSION TO EQUIPMENT AB APPLIES FOR ALL NON-ELECTRICAL EQUIPMENT SUPPORT PADS. AT ELECTRICAL EQUIPMENT PROVIDE 1" FROM EDGE OF EQUIPMENT TO EDGE OF EQUIPMENT PAD.
4. THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE AS DETERMINED BY THE EQUIPMENT MANUFACTURER AND SHALL BE AS APPROVED BY THE ENGINEER. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A TEMPLATE WHILE EQUIPMENT BASE IS BEING CAST, SEE DETAIL 4/S503.
5. EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS SPECIFIED OTHERWISE. TOLERANCE IS 1/8" ACROSS PLAN DIAGONALS.



NOTES:

1. SEE PAD NOTES ON DETAIL 1 THIS SHEET.
2. DRILL INTO SLAB TO INDICATED DEPTH AT 12" CENTERS AROUND PERIMETER OF EQUIPMENT BASE AND SET #5 DOWEL HOOKED AS SHOWN USING ADHESIVE ANCHORS.
3. FOR EQUIPMENT BASES ON NEW SLABS, PROVIDE #5 DOWELS HAVING TWO HOOKED ENDS AT 12" ON CENTER AROUND PERIMETER.



SCHEDULE-ANCHOR BOLT TYPE A				
D	A	B	K	REMARKS
3/8"	1"	6"	2 3/4"	
1/2"	1 1/4"	8"	3"	
5/8"	1 1/2"	10"	3 1/4"	
3/4"	1 3/4"	12"	3 1/2"	
7/8"	2"	14"	3 3/4"	
1"	2 1/4"	16"	4"	
1 1/8"	2 1/2"	18"	4 1/4"	
1 1/4"	2 3/4"	20"	4 1/2"	
1 3/8"	3"	22"	4 3/4"	
1 1/2"	3 1/4"	24"	5"	
1 3/4"	3 3/4"	28"	5 1/2"	
2"	4 1/4"	32"	6"	
2 1/2"	5 1/2"	48"	7"	
3"	6 1/4"	66"	8"	

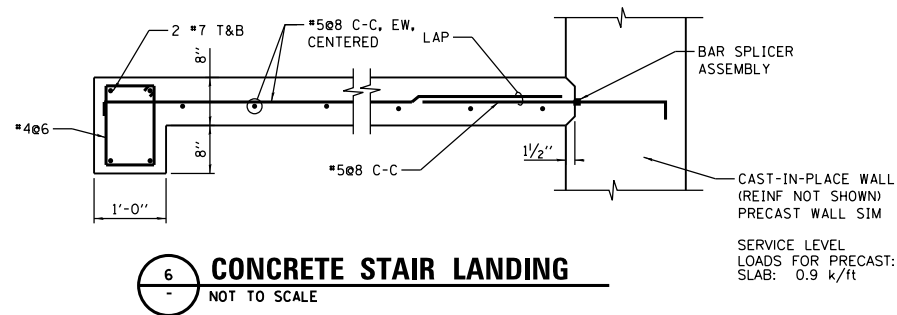
NOTES:

1. PROVIDE SST ANCHOR BOLTS WHERE INDICATED ON DRAWINGS.
2. STANDARD BOLT THREAD LENGTH MAY BE USED WHERE APPLICABLE.
3. DIMENSION IN SCHEDULE OR STANDARD BOLT HEAD.

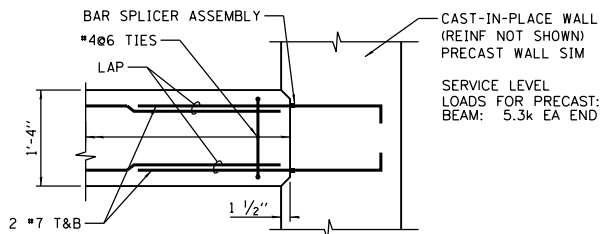
1 SHALLOW EQUIPMENT SUPPORT PAD
NOT TO SCALE

2 TALL EQUIPMENT SUPPORT PAD
NOT TO SCALE

4 ANCHOR BOLT DETAIL
NOT TO SCALE

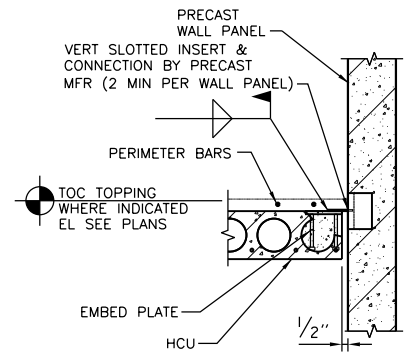


6 CONCRETE STAIR LANDING
NOT TO SCALE

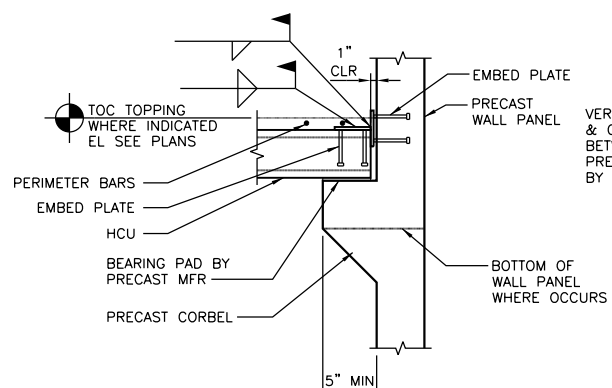


7 CONCRETE STAIR LANDING
NOT TO SCALE

P:\1\4\APP\04081\Hort-Cent-01\Documents\001915\CON\0078431\00000000271972\6.0_CAD_BIM\6.2_Work\In_Progress\6.2.2_CAD_Sheets\0191454-S503

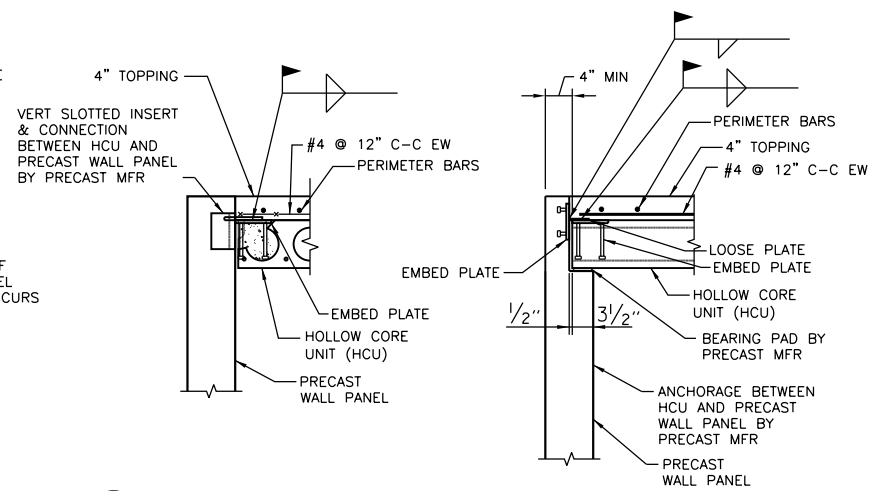


1 HOLLOW CORE NON-BEARING CONNECTION
NOT TO SCALE

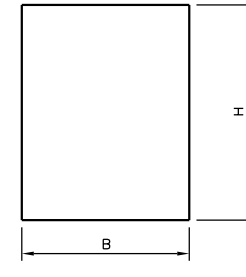


2 HOLLOW CORE BEARING CONNECTION
NOT TO SCALE

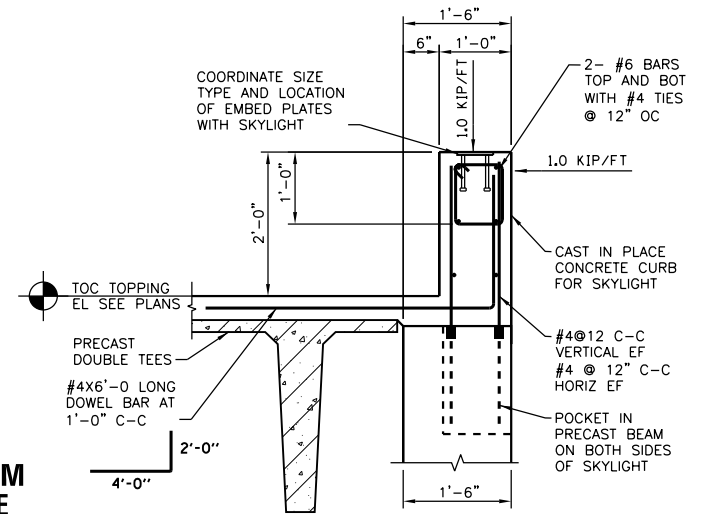
NOTE: CONNECT HCU TO PRECAST WALL PANEL AS REQ'D TO TRANSFER LATERAL LOADS INDICATED ON DRAWINGS.



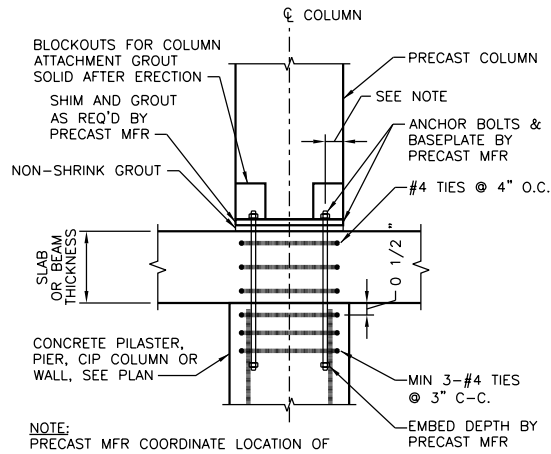
3 HOLLOW CORE CONNECTION
NOT TO SCALE



4 TYPICAL PRECAST BEAM DETAIL AND SCHEDULE
NOT TO SCALE

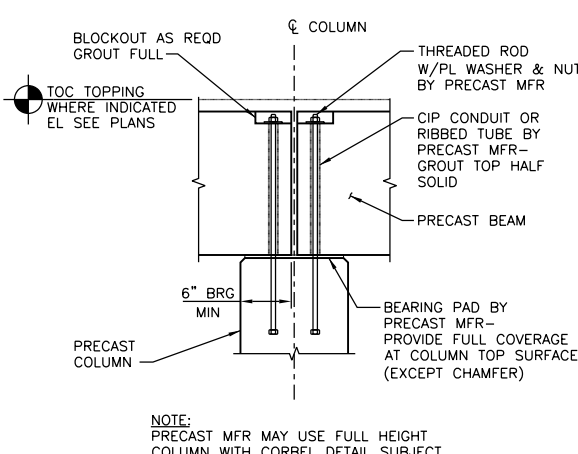


5 TYPICAL CURB AT SKYLIGHT
NOT TO SCALE



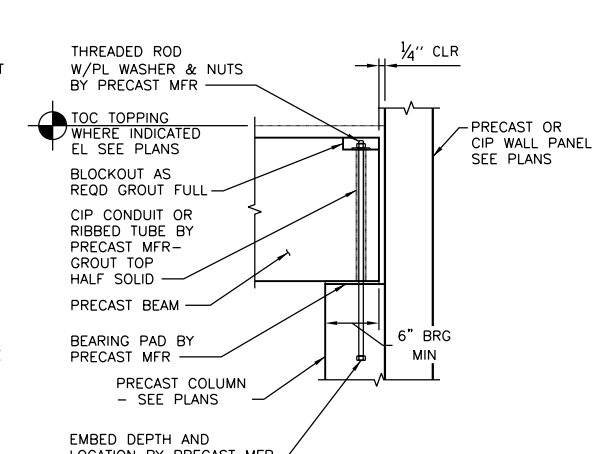
6 TYPICAL PRECAST COLUMN TO PILASTER DETAIL
NOT TO SCALE

NOTE: PRECAST MFR COORDINATE LOCATION OF ANCHOR BOLTS TO MISS VERT REBAR. SEE COLUMN DETAILS FOR ADDL INFO.



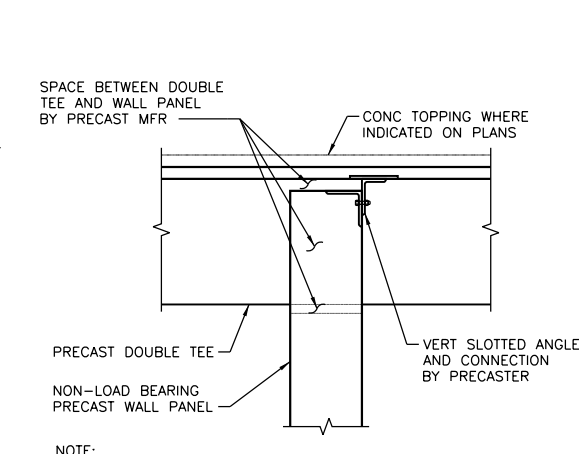
7 PRECAST BEAM TO COLUMN CONNECTION
NOT TO SCALE

NOTE: PRECAST MFR MAY USE FULL HEIGHT COLUMN WITH CORBEL DETAIL SUBJECT TO APPROVAL BY ENGINEER.



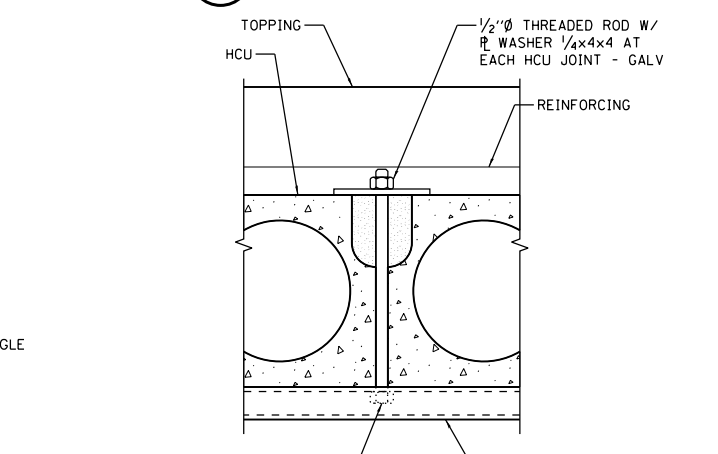
8 PRECAST BEAM TO PILASTER CONNECTION
NOT TO SCALE

NOTE: MINIMUM TWO CONNECTIONS PER PRECAST WALL PANEL.

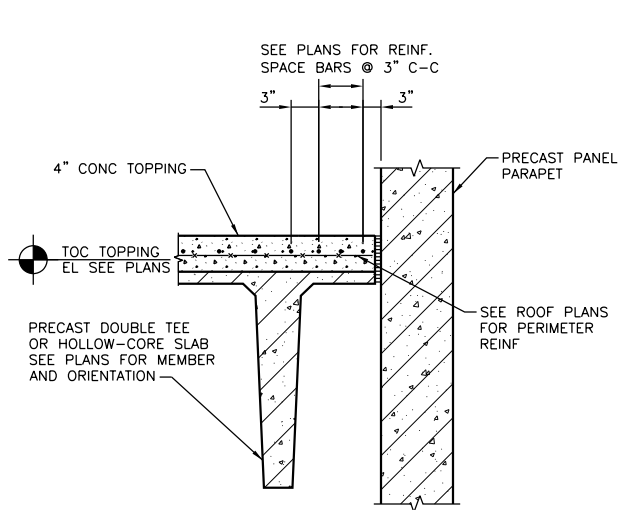


9 DOUBLE TEE CONNECTION TO PRECAST NON-LOAD BRG WALL
NOT TO SCALE

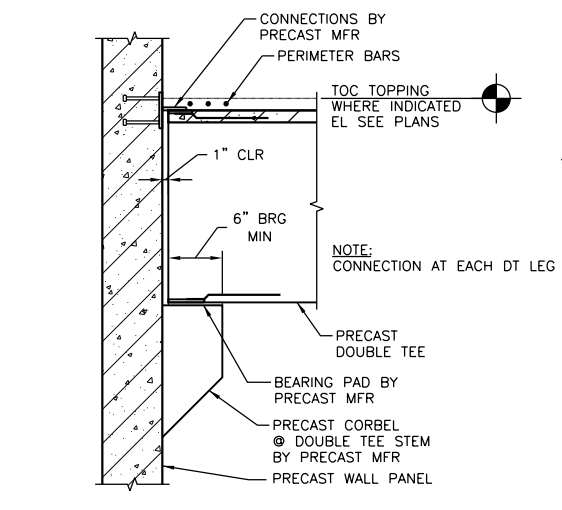
NOTE: MINIMUM TWO CONNECTIONS PER PRECAST WALL PANEL.



10 ELECTRICAL ROOM CEILING SUPPORTS
NOT TO SCALE

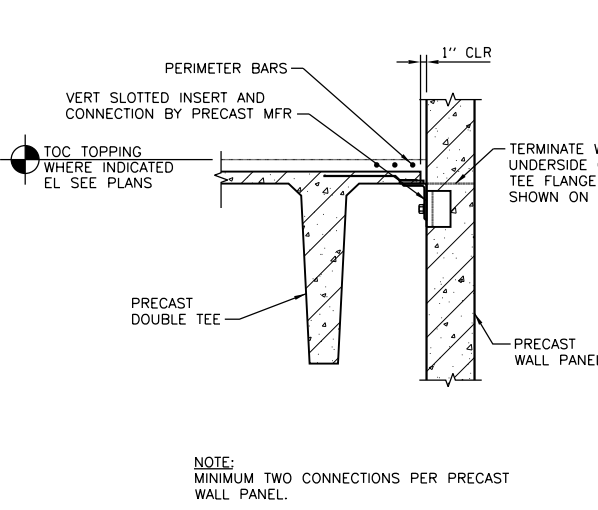


11 THICKENED CONCRETE TOPPING
NOT TO SCALE



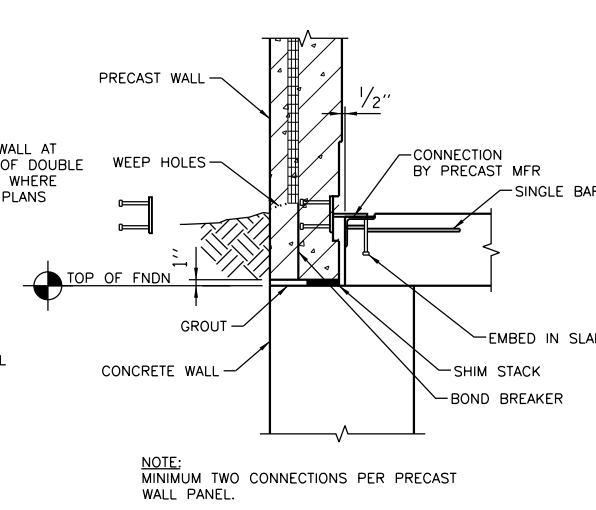
12 PRECAST DOUBLE TEE BEARING CONNECTION
NOT TO SCALE

NOTE: CONNECTION AT EACH DT LEG



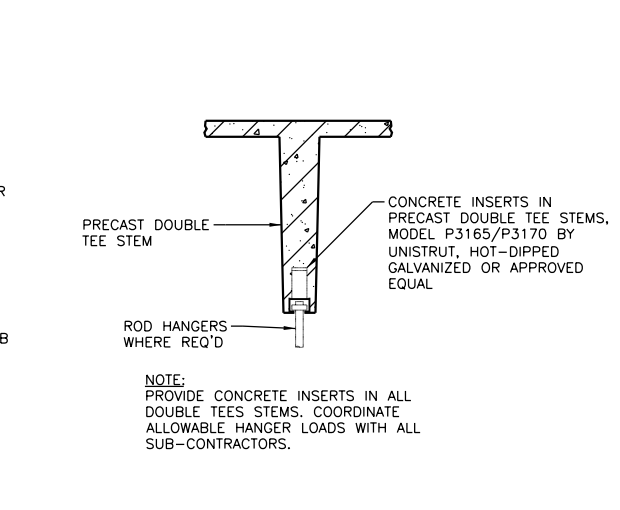
13 PRECAST DOUBLE TEE NON-BEARING CONNECTION
NOT TO SCALE

NOTE: MINIMUM TWO CONNECTIONS PER PRECAST WALL PANEL.



14 TYPICAL PRECAST CONNECTION TO FOUNDATION WALL
NOT TO SCALE

NOTE: MINIMUM TWO CONNECTIONS PER PRECAST WALL PANEL.



15 PRECAST DT EMBED (OPTIONAL)
NOT TO SCALE

NOTE: PROVIDE CONCRETE INSERTS IN ALL DOUBLE TEES STEMS. COORDINATE ALLOWABLE HANGER LOADS WITH ALL SUB-CONTRACTORS.

File Name: D:\191454-5504.DGN | User: bgreen | Date: 5/29/2019 | State of Illinois Department of Transportation | Project: I-290 Pump Station No. 4 Reconstruction | Typical Details - Precast Connection Details

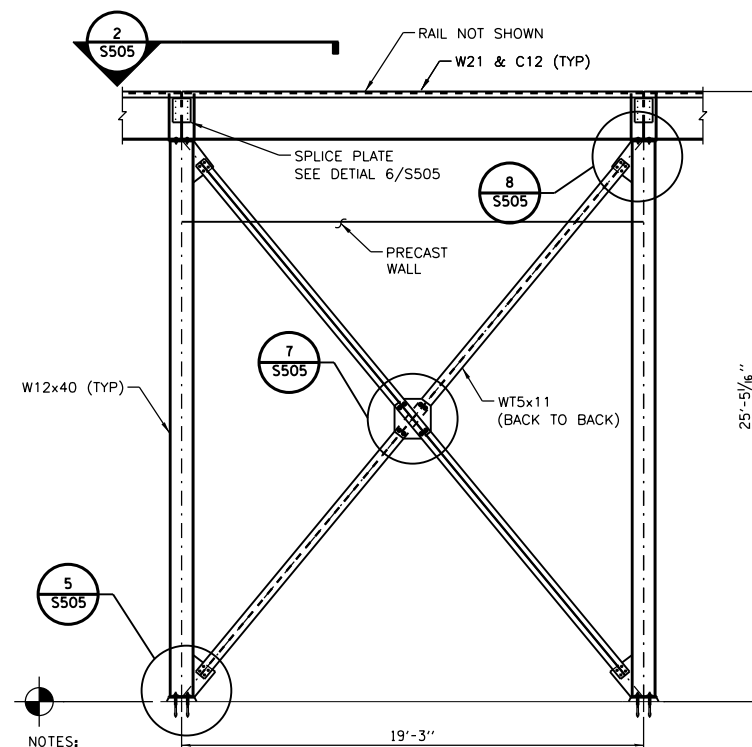
FILE NAME = D:\191454-5504.DGN	USER NAME = bgreen	DESIGNED - HDR - K. KIRCHNER	REVISED -
HDR, Inc. 8550 W. Bryn Mawr Ave., Suite 900 Chicago, IL 60631		DRAWN - HDR - B.GREEN	REVISED -
	PLOT SCALE = 0=1' / 1"	CHECKED - HDR - E. BERGGREN	REVISED -
	PLOT DATE = 5/29/2019	DATE - 05/30/2019	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION		SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
TYPICAL DETAILS - PRECAST CONNECTION DETAILS		290		COOK	232	72
SCALE: AS SHOWN		SHEET		OF SHEETS		STA. TO STA.
						ILLINOIS FED. AID PROJECT

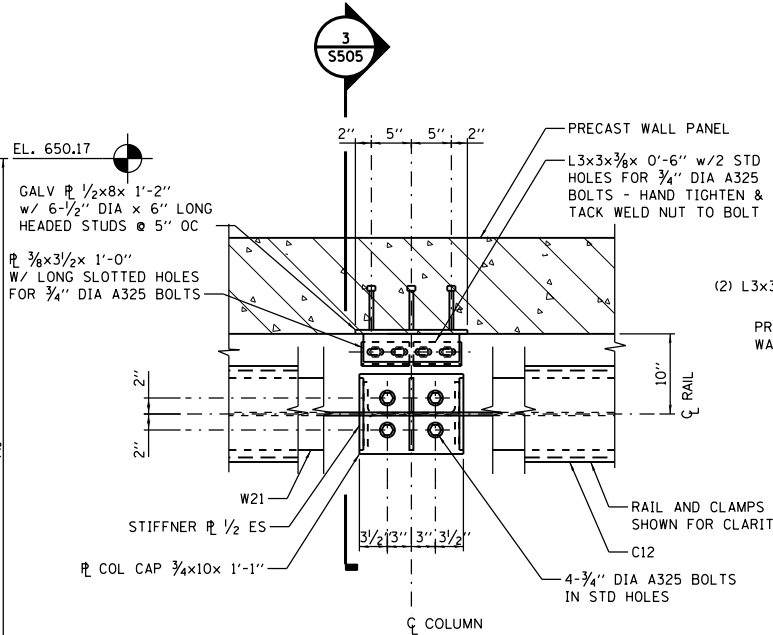
SHEET
S504

CONTRACT NO. 62B78



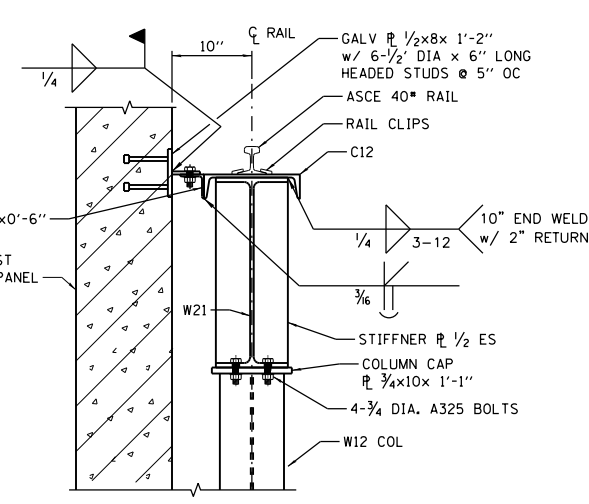
NOTES:
 GALVANIZE ALL STEEL ITEMS EXCEPT RAIL, TOUCH UP FIELD WELDED AREAS WITH ZINC - RICH PAINT.

1 PARTIAL ELEVATION
 SCALE: 1/4" = 1'-0"



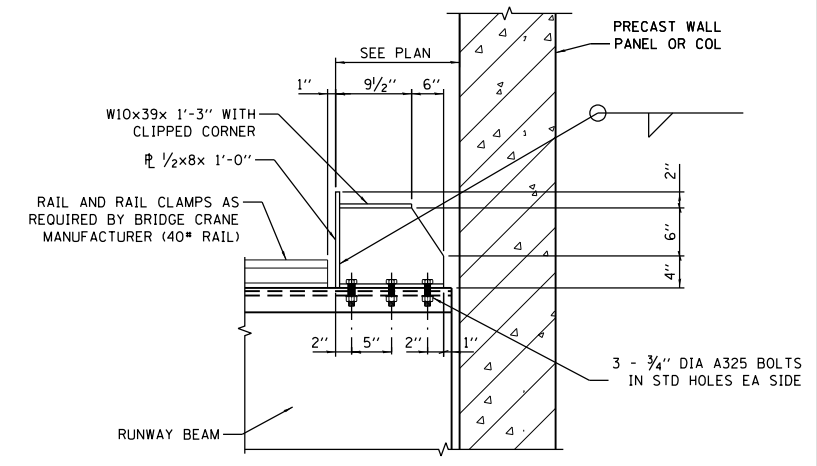
NOTES:
 1. CONNECTION IS SYMMETRICAL ABOUT CENTERLINE OF COLUMN
 2. FLANGES OF THE W21 AND C12 PARTIALLY REMOVED FOR CLARITY.

2 BRIDGE CRANE RUNWAY CONNECTION
 SCALE: 1" = 1'-0"



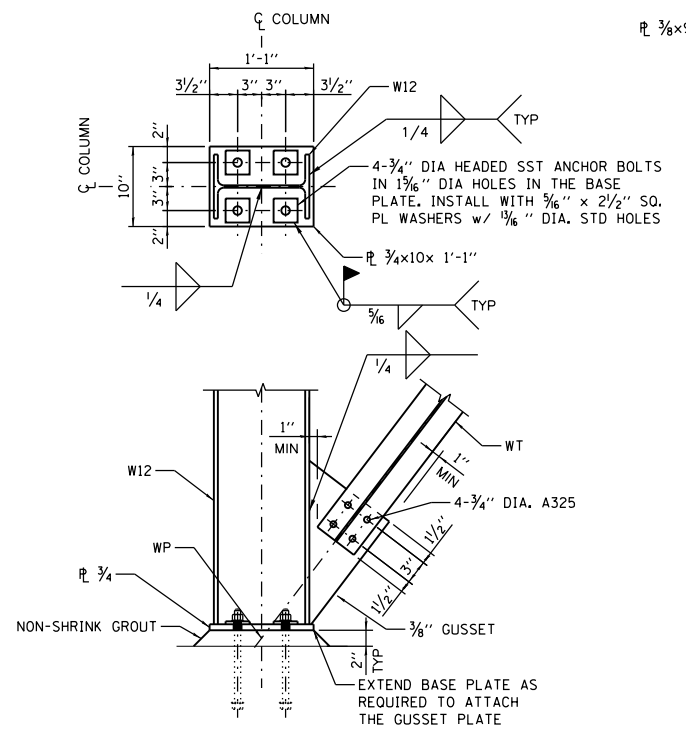
NOTE:
 GALVANIZE ALL STEEL ITEMS EXCEPT RAIL, TOUCH UP FIELD WELDED AREAS WITH ZINC - RICH PAINT.

3 DETAIL
 SCALE: 1" = 1'-0"

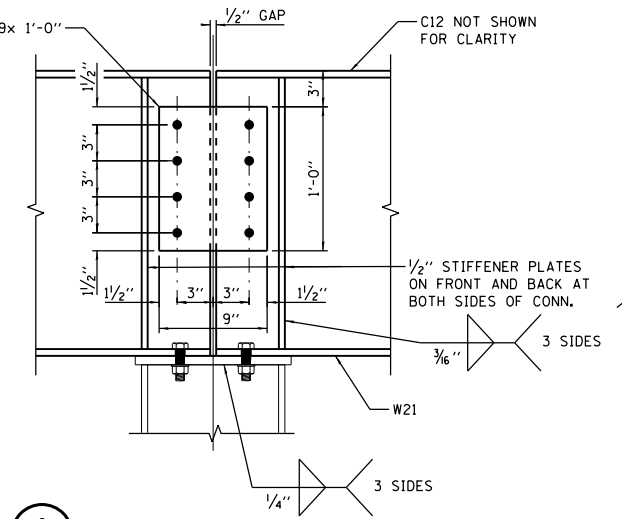


NOTES:
 1. VERIFY END STOP GEOMETRY IS APPROPRIATE FOR BRIDGE CRANE PROVIDED PRIOR TO FABRICATION. NOTIFY ENGINEER OF REQUIRED CHANGES. END STOP TO CONTACT BRIDGE CRANE WHEEL OR BUMPER AS REQ'D TO AVOID CONTACTING PERMANENT STRUCTURE.

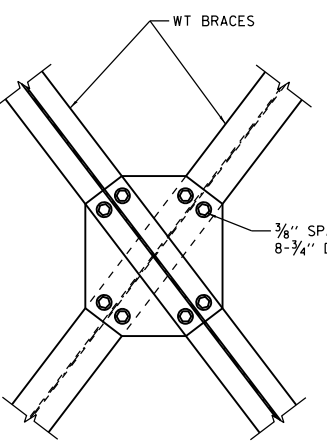
4 BRIDGE CRANE END STOP DETAIL
 SCALE: 1" = 1'-0"



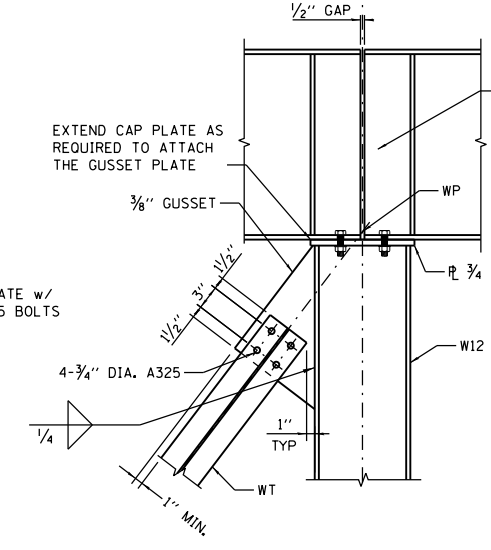
5 CONNECTION DETAIL
 SCALE: 1" = 1'-0"



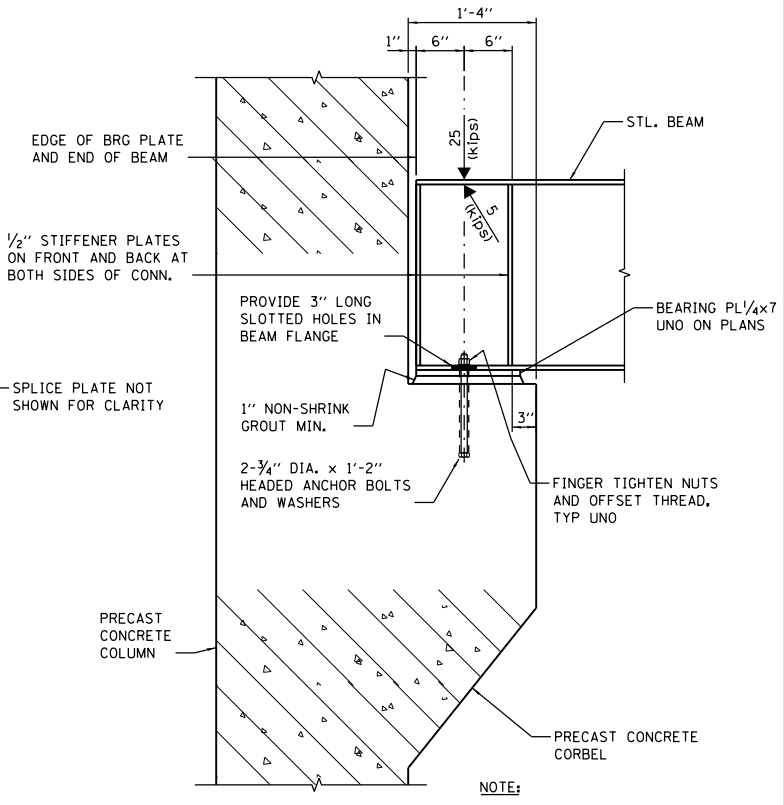
6 CONNECTION DETAIL
 SCALE: 1 1/2" = 1'-0"



7 CONNECTION DETAIL
 SCALE: 1" = 1'-0"



8 CONNECTION DETAIL
 SCALE: 1" = 1'-0"

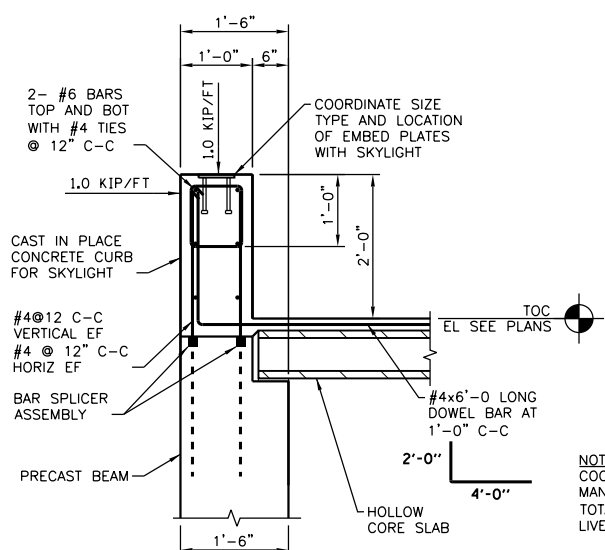


NOTE:
 GRAVITY AND LATERAL LOADS INDICATED ARE ALL UNFACTORED LOADS

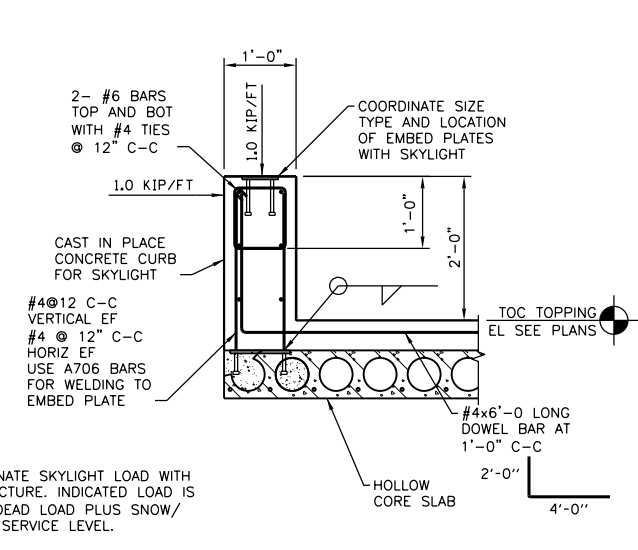
9 CONNECTION DETAIL
 SCALE: 1" = 1'-0"

P:\Projects\2019\19-0000000002721972\6.0_CAD_BIM\6.2_Work\In_Progress\6.2.2_CAD_Sheets\191454-S505

P:\15\15\15\CON\0078431\00000000271972\6.0_CAD_BIM\6.2_Work\In_Progress\6.2.2_CAD_Sheets\0191454-5506

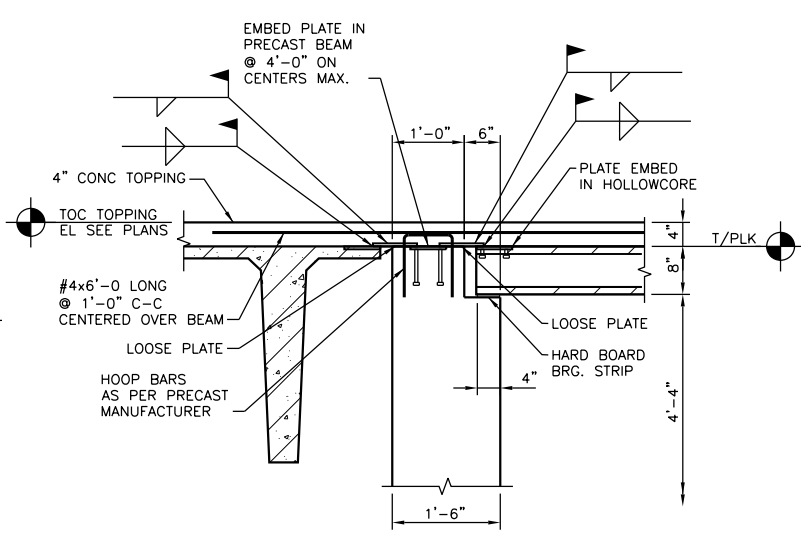


1 CURB AT SKYLIGHT
NOT TO SCALE

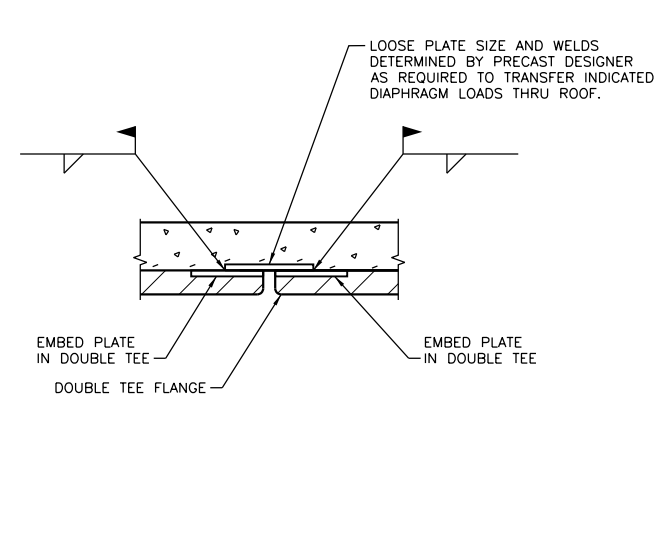


2 CURB AT SKYLIGHT
NOT TO SCALE

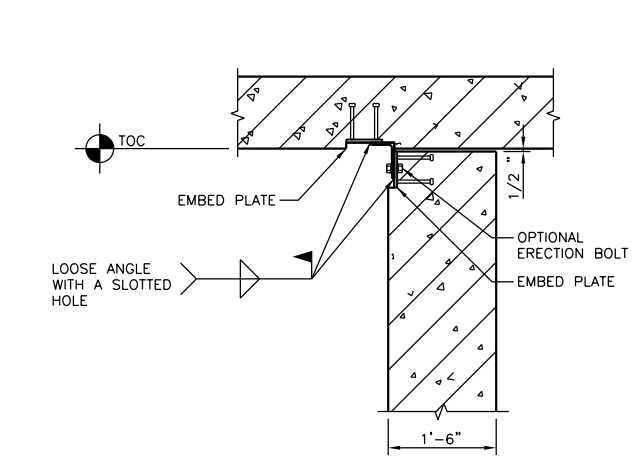
NOTE:
COORDINATE SKYLIGHT LOAD WITH MANUFACTURE. INDICATED LOAD IS TOTAL DEAD LOAD PLUS SNOW/LIVE - SERVICE LEVEL.



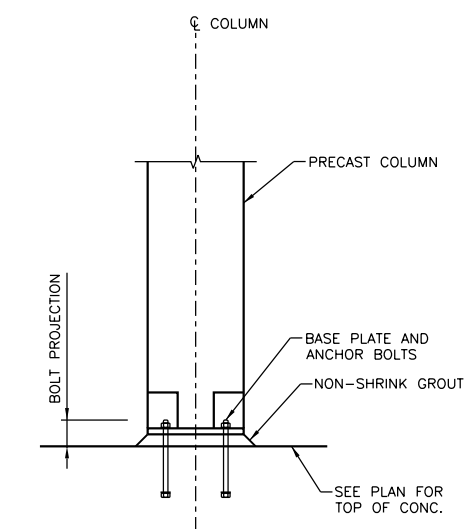
3 PRECAST CONNECTION
NOT TO SCALE



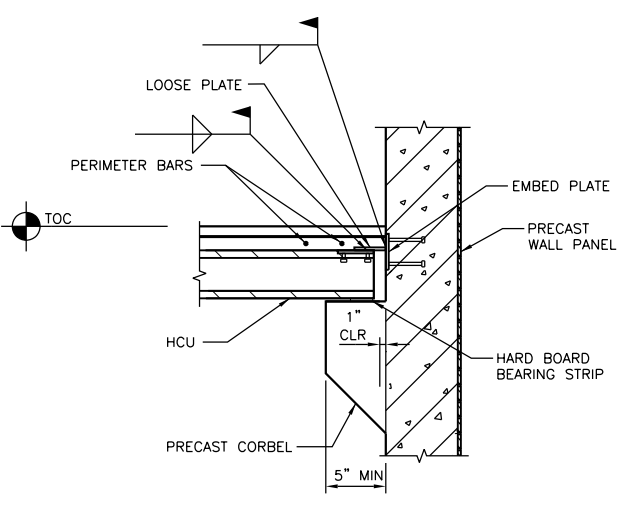
4 PRECAST CONNECTION
NOT TO SCALE



5 PRECAST CONNECTION
NOT TO SCALE

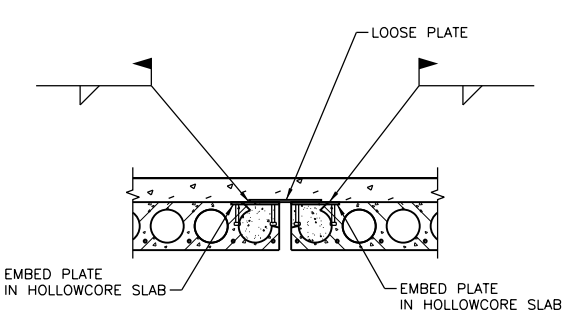


6 PRECAST COLUMN DETAIL
NOT TO SCALE

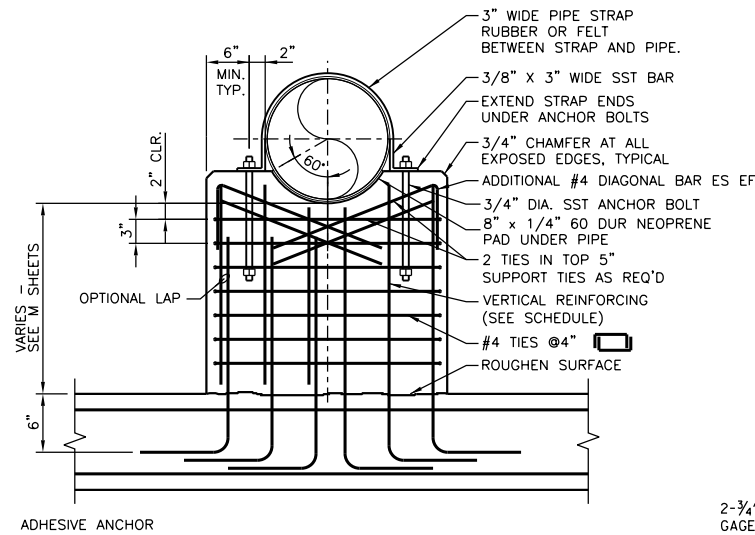


7 PRECAST CONNECTION
NOT TO SCALE

NOTE:
CONNECT HCU TO PRECAST WALL PANEL AS REQD TO TRANSFER LATERAL LOADS INDICATED ON DRAWINGS.



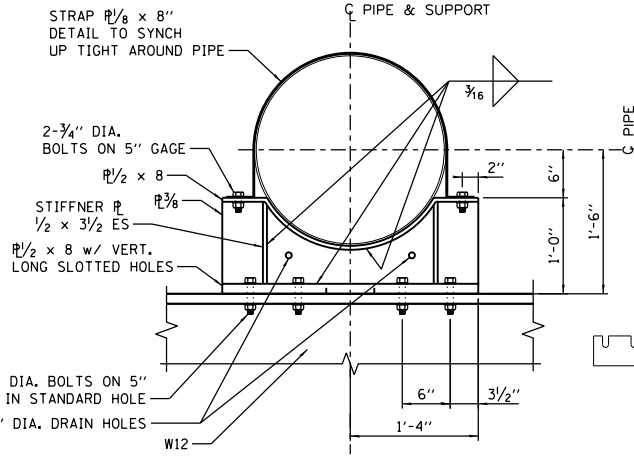
8 HOLLOW CORE CONNECTION
NOT TO SCALE



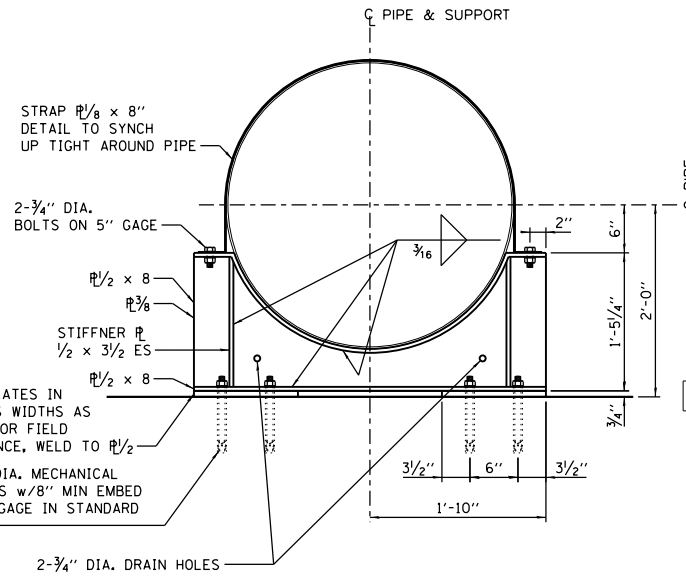
PIPE SIZE DIAMETER	PEDESTAL THICKNESS	VERTICAL REINFORCING @ EF	
		QUANTITY	BAR SIZE
PS1 14-24"	16"	4	#7
PS2 30-48"	16"	6	#7

NOTE:
 1. CONTRACTOR SHALL TEMPORARILY SUPPORT PIPE AT SPECIFIED ELEVATION AND POUR SUPPORT AROUND PIPE. DO NOT POUR PIPE SUPPORT TIES AS REQ'D SUPPORT TIES IN PLACE.

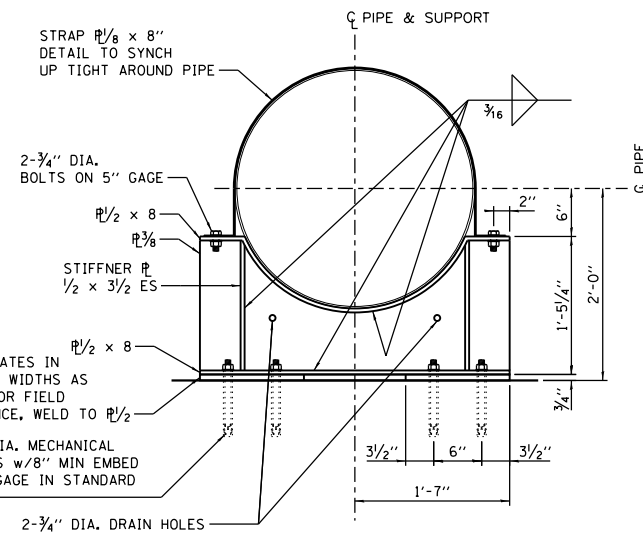
CONCRETE PEDESTAL (PS-1 & PS-2)
SECTION VIEW



(PG-1)
PLAN VIEW



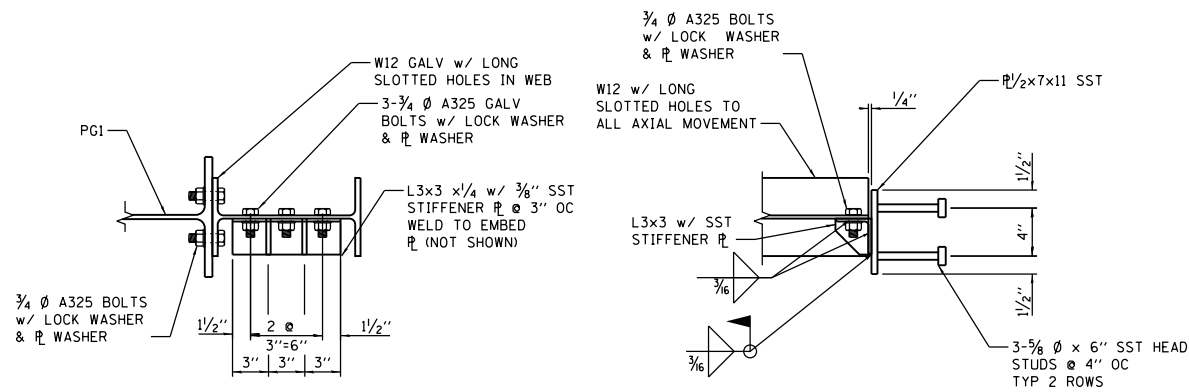
(PG-2)
PLAN VIEW



(PG-3)
PLAN VIEW

NOTE:
 ALL PIPE SUPPORT, SADDLES, PLATES SHIM PLATES, WELDS AND FASTENERS ARE STAINLESS STEEL. W12 IS GALVANIZED AND PAINTED PRIOR TO CONNECTING SST ITEMS

1 PIPE SUPPORT DETAIL
NOT TO SCALE



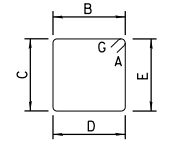
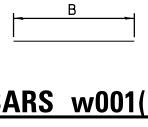
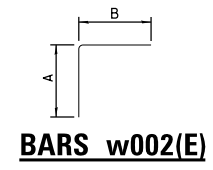
2 W12 CONNECTION DETAIL
1/2"=1'-0"

D:\Projects\191454-SS07\Drawings\191454-SS07\191454-SS07\191454-SS07.dgn

DUCT BANK BILL OF MATERIALS

BAR	QTY	SIZE	A	B	C	D	E	G	LENGTH	SHAPE
s001(E)	184	4	4 1/2"	2'-2"	1'-0"	2'-2"	1'-0"	4 1/2"	7'-1"	□
s002(E)	45	4	4 1/2"	2'-2"	1'-7"	2'-2"	1'-7"	4 1/2"	8'-3"	□
s003(E)	66	4	4 1/2"	1'-8"	1'-7"	1'-8"	1'-7"	4 1/2"	7'-3"	□
s004(E)	75	4	4 1/2"	4'-0"	1'-0"	4'-0"	1'-0"	4 1/2"	10'-9"	□
s005(E)	279	4	4 1/2"	2'-9"	1'-0"	2'-9"	1'-0"	4 1/2"	8'-3"	□
s006(E)	156	4	4 1/2"	1'-6"	1'-0"	1'-6"	1'-0"	4 1/2"	5'-9"	□
s007(E)	121	4	4 1/2"	2'-1"	1'-3"	2'-1"	1'-3"	4 1/2"	7'-5"	□
s008(E)	31	4	4 1/2"	2'-6"	0'-10"	2'-6"	0'-10"	4 1/2"	7'-5"	□
s009(E)	398	4	4 1/2"	1'-2"	0'-10"	1'-2"	0'-10"	4 1/2"	4'-7"	□
s010(E)	61	4	4 1/2"	1'-8"	1'-6"	1'-8"	1'-6"	4 1/2"	7'-1"	□
s011(E)	101	4	4 1/2"	0'-10"	0'-9"	0'-10"	0'-9"	4 1/2"	3'-2"	□
w001(E)	364	5			30'-0"				30'-0"	—
w002(E)	90	5	3'-2"	3'-2"					6'-4"	┐
REINFORCING BARS EPOXY COATED SEE NOTE A									POUND	19,144
CONCRETE STRUCTURES SEE NOTE A									CU YD	546

NOTE A:
QUANTITIES INCLUDE CONCRETE
AND REINFORCING FROM E504 AND E507



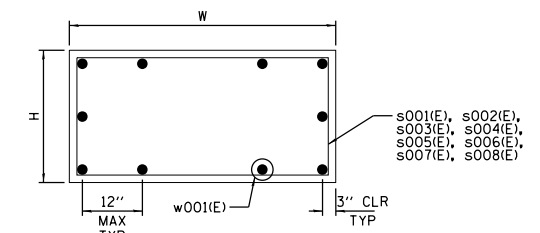
BARS w002(E) **BARS w001(E)**

**BARS s001(E),
s002(E), s003(E),
s004(E), s005(E),
s006(E), s007(E),
s008(E), s009(E),
s010(E), s011(E),**

DUCT BANK TABLE

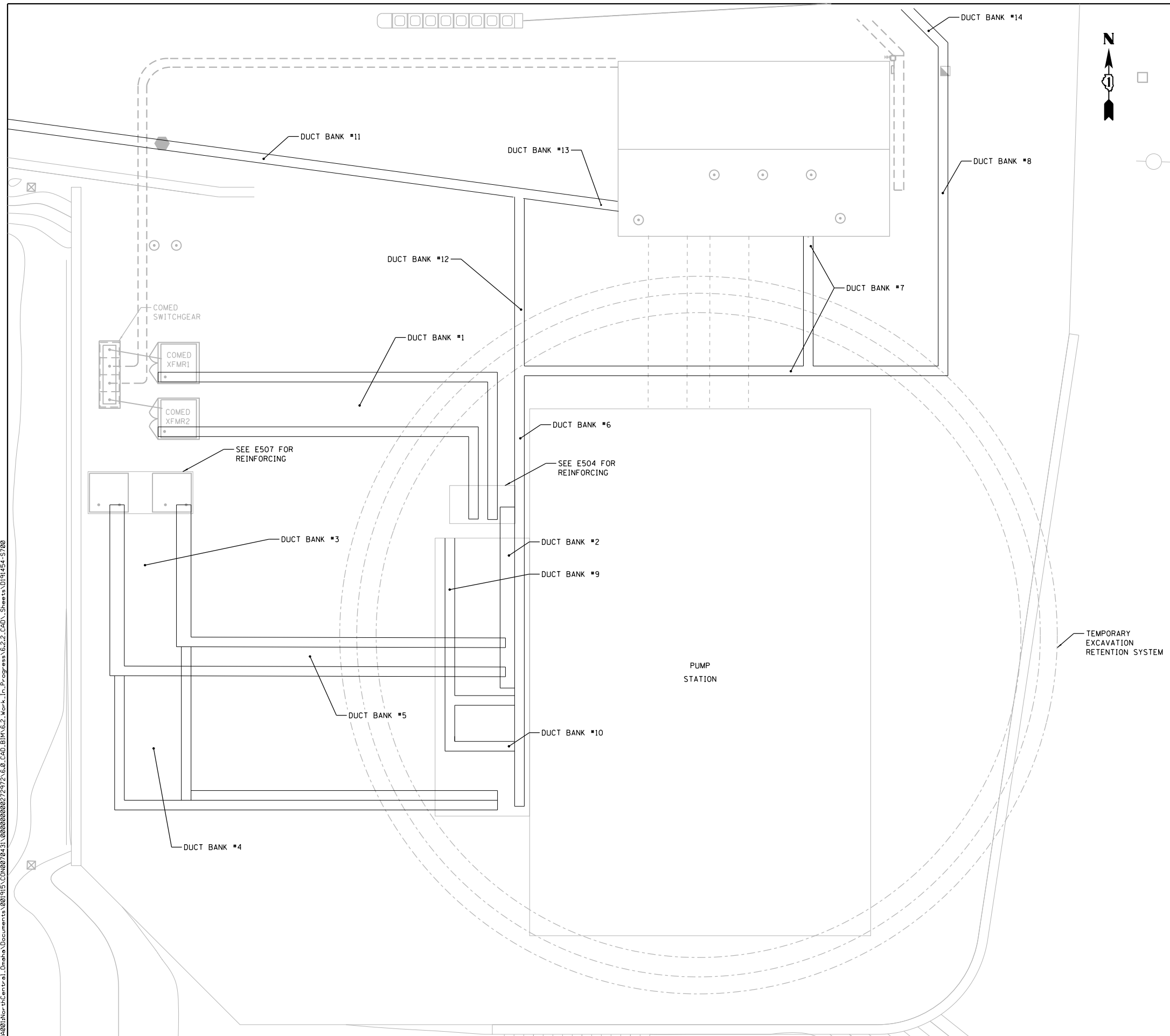
DUCT BANK	DUCT WIDTH (W) (ft)	DUCT HEIGHT (H) (ft)	LENGTH (ft)	LONGIT BAR (EA)	STIRRUP (EA)
1	32	18	99	8	s001(E)
	32	18	83	8	s001(E)
2	32	25	44	8	s002(E)
	26	22	65	6	s003(E)
3	54	18	40	10	s004(E)
	54	18	33	10	s004(E)
4	39	18	144	8	s005(E)
	39	18	133	8	s005(E)
5	24	18	84	6	s006(E)
	24	18	70	6	s006(E)
6	31	22	120	8	s007(E)
7	36	16	30	8	s008(E)
8	20	16	95	4	s009(E)
9	24	26	60	8	s010(E)
10	15	16	18	4	s011(E)
11	20	16	280	4	s009(E)
12	15	16	40	4	s011(E)
13	15	16	40	4	s011(E)
14	20	16	20	4	s009(E)

DUCT BANKS WITH 2 LINES REPRESENTS X2 BANKS RUNNING PARALLEL.
CONTRACTOR SHALL COORDINATE FINAL DUCT BANK RUN DETAILS WITH FINAL ROUTING



NOTE: FIELD CUT LONGITUDINAL REINFORCING AS REQUIRED. REPAIR EPOXY COATING.

SHEET 700



FILE NAME = D191454-S700.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 PLOT SCALE = 1/8" = 1'-0"
 PLOT DATE = 5/29/2019
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
DUCT BANK SITE PLAN AND DETAILS**

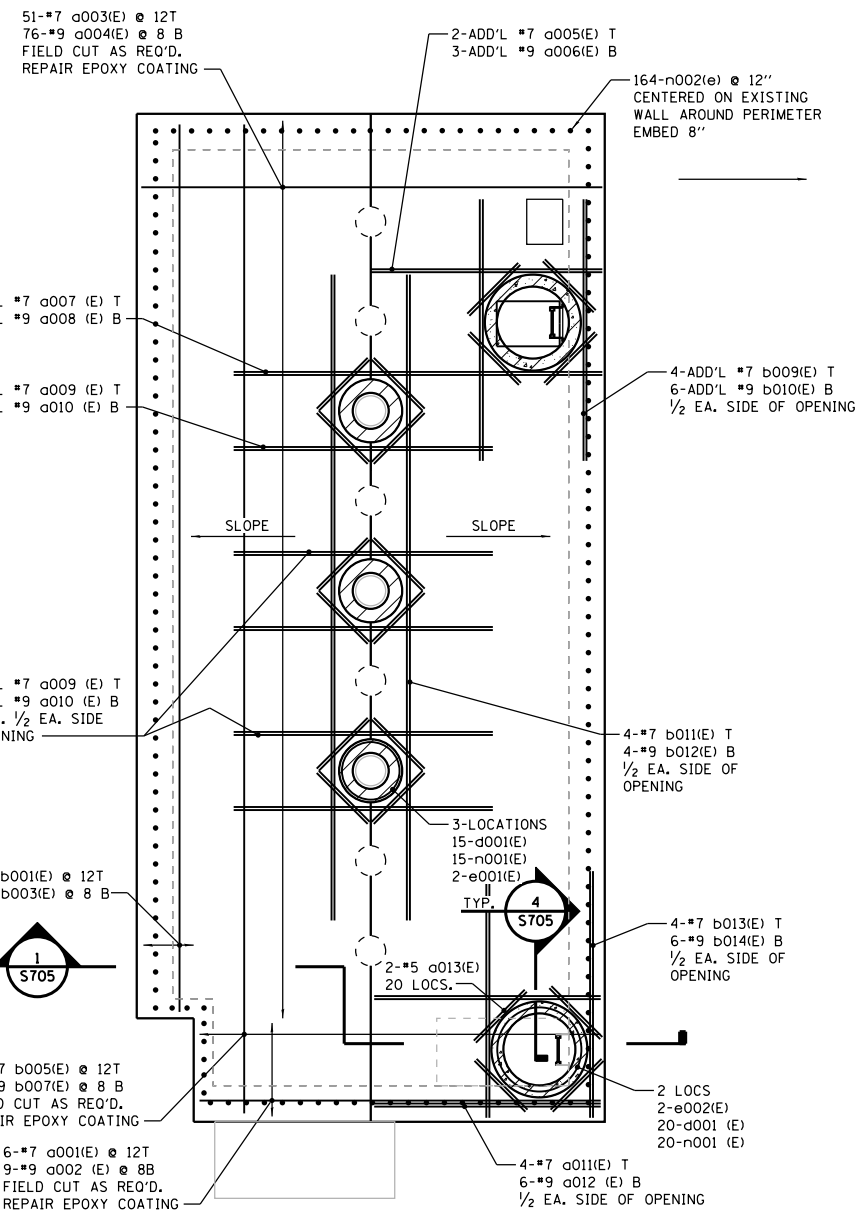
SCALE: 3/16" = 1'-0" SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	76
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

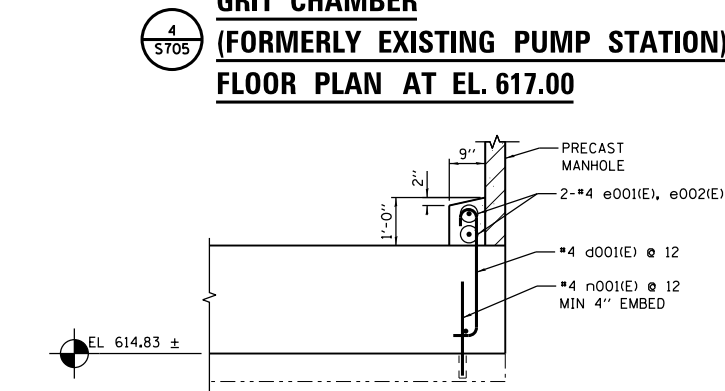
GRIT CHAMBER FLOOR BILL OF MATERIALS

BAR	QTY	SIZE	LENGTH	SHAPE
a001(E)	6	7	24'-10"	□
a002(E)	9	9	25'-8"	□
a003(E)	51	7	28'-0"	□
a004(E)	76	9	28'-10"	□
a005(E)	2	7	15'-2"	□
a006(E)	3	9	17'-10"	□
a007(E)	2	7	22'-8"	□
a008(E)	3	9	25'-4"	□
a009(E)	10	7	19'-6"	□
a010(E)	10	9	24'-0"	□
a011(E)	4	7	15'-2"	□
a012(E)	6	9	17'-10"	□
a013(E)	40	5	4'-0"	□
b001(E)	4	7	52'-3"	□
b003(E)	6	9	53'-1"	□
b005(E)	23	7	58'-0"	□
b007(E)	34	9	58'-10"	□
b009(E)	4	7	20'-0"	□
b010(E)	6	9	24'-6"	□
b011(E)	4	7	39'-6"	□
b012(E)	4	9	44'-0"	□
b013(E)	4	7	15'-2"	□
b014(E)	6	9	17'-10"	□
d001(E)	85	4	3'-11"	□
d002(E)	104	5	4'-2"	□
d003(E)	40	4	1'-11"	□
e001(E)	6	4	13'-2"	□
e002(E)	4	4	19'-6"	□
e003(E)	10	5	33'-5"	□
h001(E)	30	10	31'-2"	□
h002(E)	5	10	5'-4"	□
h003(E)	2	10	5'-6"	□
h004(E)	6	10	5'-10"	□
h005(E)	6	10	6'-4"	□
h006(E)	2	10	7'-1"	□
h007(E)	2	10	8'-4"	□
h008(E)	3	10	4'-10"	□
h009(E)	2	10	5'-1"	□
h012(E)	2	10	6'-6"	□
h013(E)	2	10	7'-10"	□
h014(E)	3	10	4'-4"	□
h015(E)	2	10	4'-5"	□
h016(E)	2	10	4'-9"	□
h017(E)	2	10	5'-5"	□
h019(E)	2	10	7'-8"	□
h020(E)	1	5	5'-4"	□
h021(E)	2	5	5'-5"	□
h022(E)	2	5	5'-10"	□
h023(E)	2	5	6'-7"	□
h024(E)	2	5	8'-4"	□
h025(E)	1	5	4'-10"	□
h026(E)	2	5	4'-11"	□
h027(E)	2	5	5'-4"	□
h028(E)	2	5	6'-2"	□
h029(E)	2	5	7'-10"	□
h030(E)	1	5	4'-4"	□
h031(E)	2	5	4'-7"	□
h032(E)	2	5	5'-5"	□
h033(E)	2	5	6'-10"	□
h034(E)	2	5	10'-4"	□
h035(E)	13	5	31'-2"	□
h036(E)	16	5	4'-0"	□
n001(E)	85	4	2'-6"	□
n002(E)	164	6	2'-9"	□
n003(E)	51	7	7'-0"	□
n004(E)	35	5	3'-9"	□
v001(E)	6	10	6'-5"	□
v002(E)	4	10	6'-7"	□
v003(E)	4	10	6'-11"	□
v004(E)	4	10	7'-5"	□
v005(E)	4	10	8'-1"	□
v006(E)	4	10	9'-5"	□
v007(E)	6	10	5'-0"	□
v008(E)	4	10	5'-2"	□
v009(E)	4	10	5'-6"	□
v010(E)	4	10	5'-10"	□
v011(E)	4	10	6'-7"	□
v012(E)	2	5	6'-5"	□
v013(E)	4	5	6'-6"	□
v014(E)	4	5	6'-11"	□
v015(E)	4	5	7'-9"	□
v016(E)	4	5	9'-5"	□
v017(E)	2	5	4'-11"	□
v018(E)	4	5	5'-0"	□
v019(E)	4	5	5'-6"	□
v020(E)	4	5	6'-3"	□
v021(E)	4	5	7'-11"	□
v022(E)	50	10	19'-8"	□
v023(E)	17	5	19'-8"	□
v024(E)	4	10	7'-11"	□
REINFORCING BARS EPOXY COATED		POUND	41,997	
CONCRETE STRUCTURES		CU YD	185	

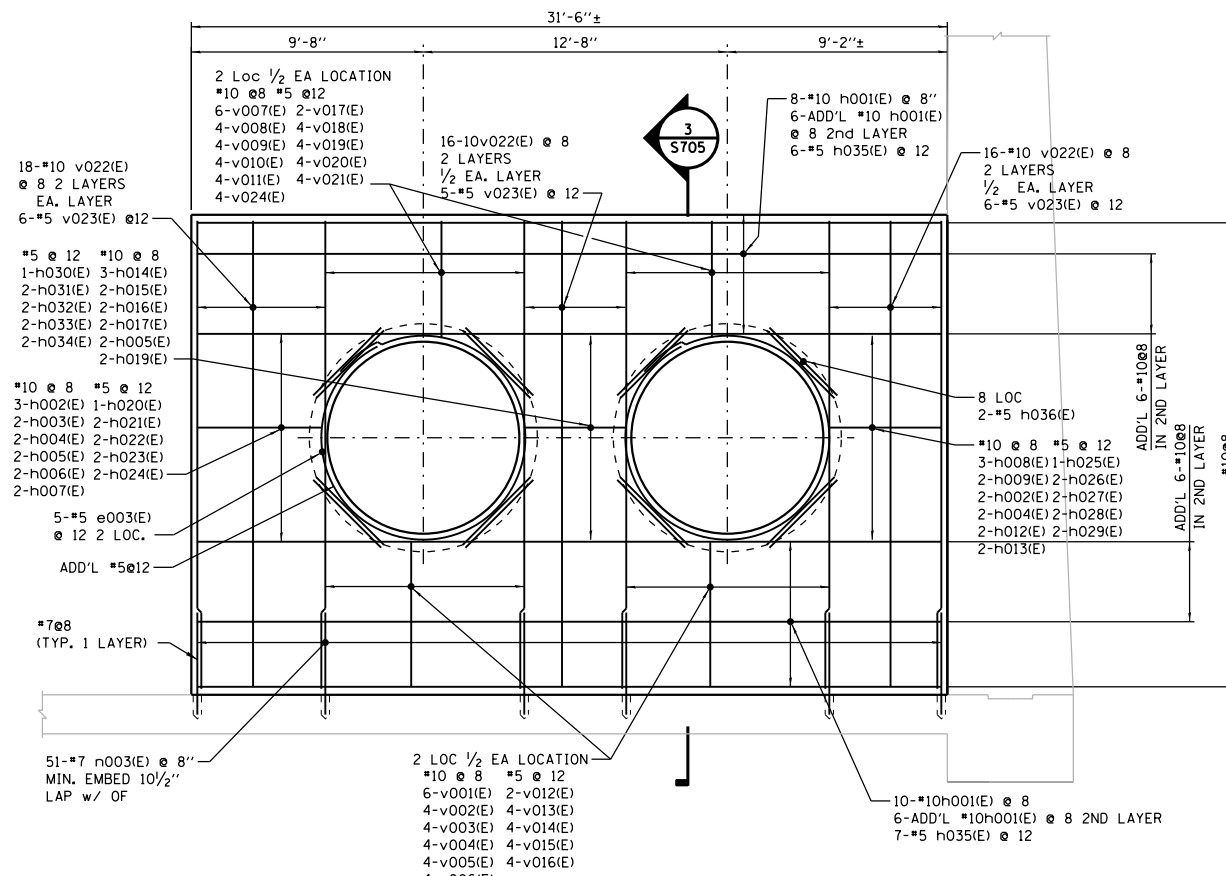
NOTES:
 1. ALL REINFORCING BARS SHALL BE PRE-CUT IN THE SHOP AT OPENING LOCATIONS EXCEPT WHERE OTHERWISE NOTED.
 2. COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.



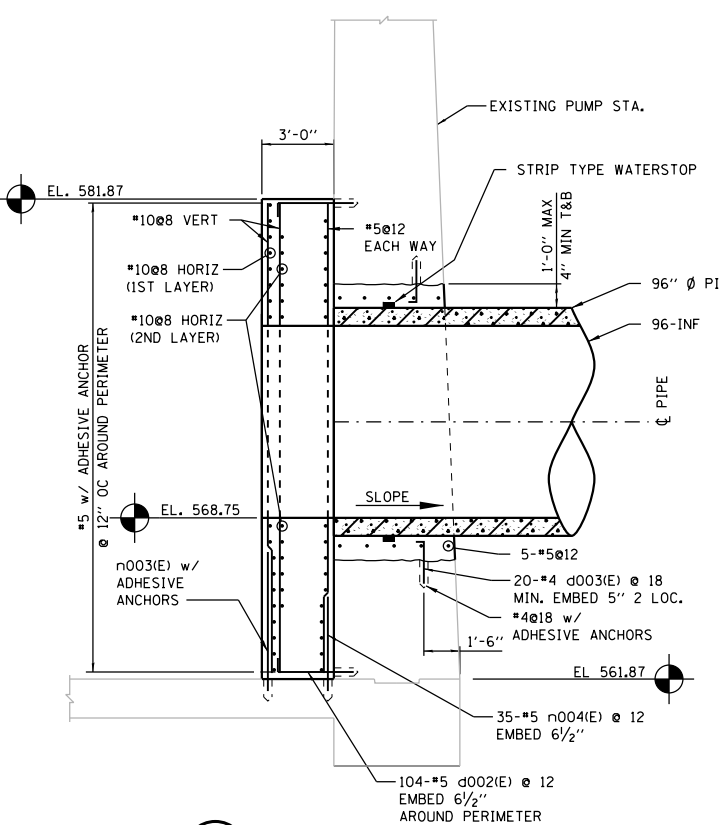
**GRIT CHAMBER
(FORMERLY EXISTING PUMP STATION)
FLOOR PLAN AT EL. 617.00**



MANHOLE CONNECTION
NOT TO SCALE



DETAIL
SCALE: 1/4" = 1'-0"



DETAIL
SCALE: 1/4" = 1'-0"

BAR	A	B	C
a001(E)	1'-2"	22'-6"	1'-2"
a002(E)	1'-7"	22'-6"	1'-7"
a003(E)	1'-2"	25'-8"	1'-2"
a004(E)	1'-7"	25'-8"	1'-7"
b001(E)	1'-2"	49'-11"	1'-2"
b003(E)	1'-7"	49'-11"	1'-7"
b005(E)	1'-2"	55'-8"	1'-2"
b007(E)	1'-7"	55'-8"	1'-7"

**BARS a001(E), a002(E), a003(E)
a004(E), b001(E), b003(E), b005(E), b007(E)**

BAR	A	B	C	D
d001(E)	0'-8"	2'-9"	0'-3"	0'-6"

BARS d001(E)

BAR	A	B	O
e001(E)	11'-3"	1'-11"	3'-7"
e002(E)	17'-7"	1'-11"	5'-7"
e003(E)	30'-10"	2'-7"	9'-10"

BARS e001, e002(E), e003(E)

BAR	A	B
a005(E)	1'-2"	14'-0"
a006(E)	1'-7"	16'-3"
a007(E)	1'-2"	21'-6"
a008(E)	1'-7"	23'-9"
a011(E)	1'-2"	14'-0"
a012(E)	1'-7"	16'-3"
b013(E)	1'-2"	14'-0"
b014(E)	1'-7"	16'-3"
d002(E)	10"	3'-4"
d003(E)	8"	1'-3"

**BARS a005(E), a006(E),
a007(E), a008(E), a011(E),
a012(E), b013(E), b014(E),
d002(E), d003(E)**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

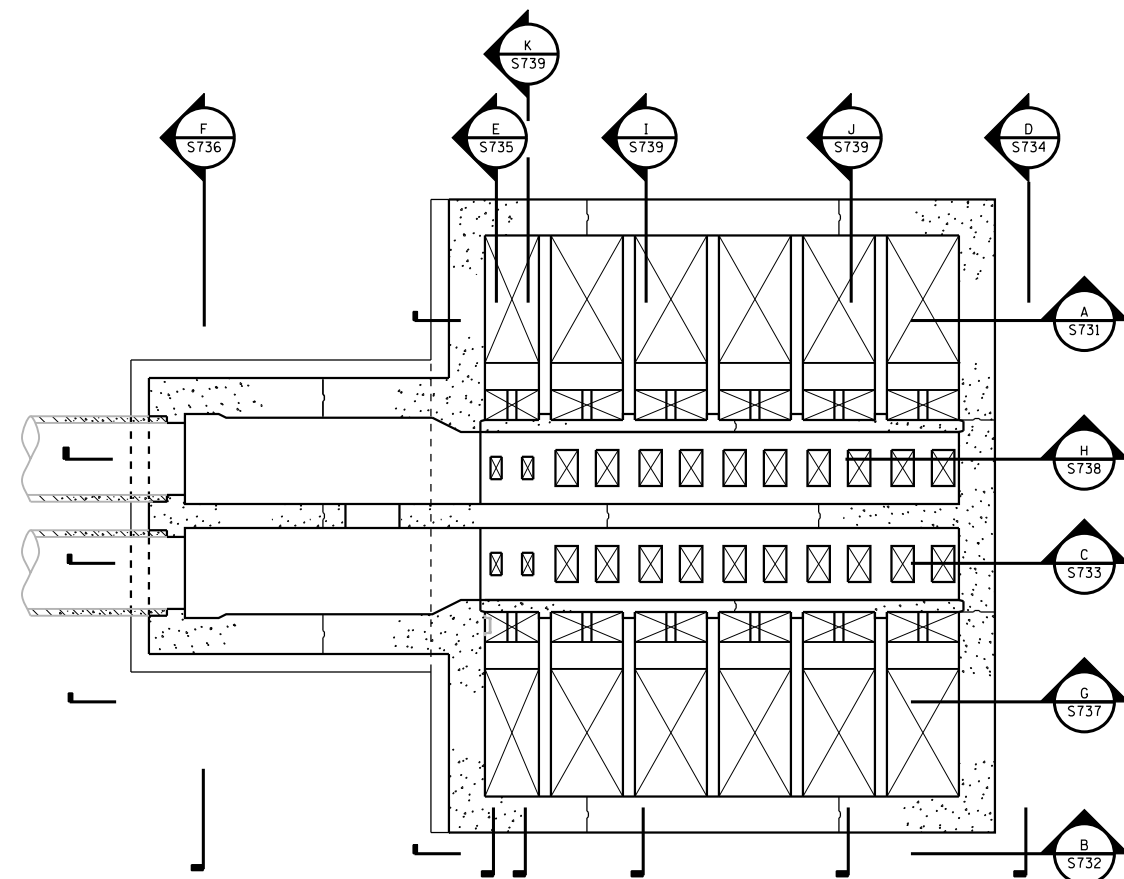
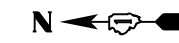
I-290 PUMP STATION NO. 4 RECONSTRUCTION
EXISTING PUMP STATION MODIFICATION DETAILS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	77
CONTRACT NO. 62B78				

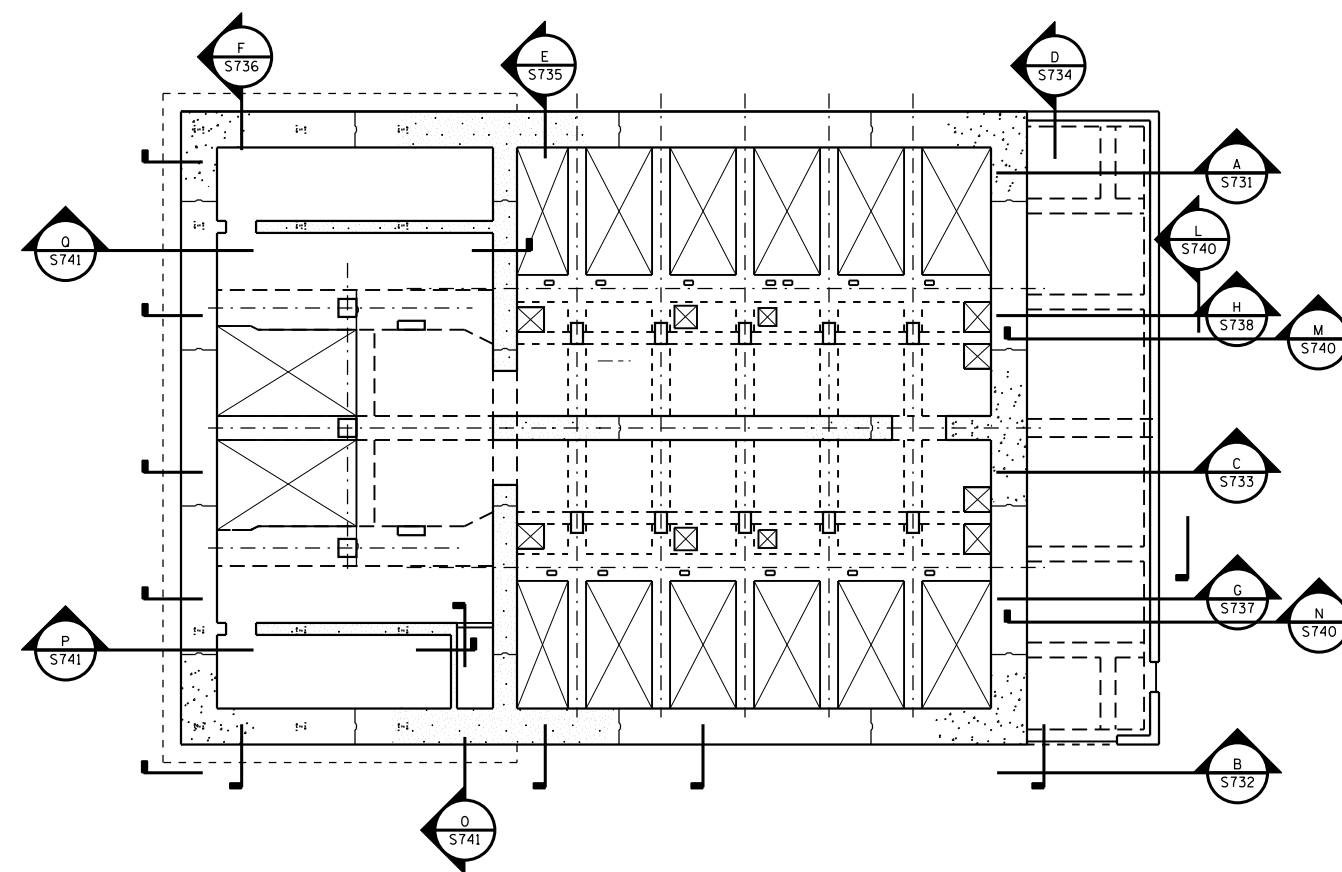
SCALE: AS SHOWN SHEET XX OF X SHEETS STA. TO STA.

ILLINOIS FED. AID PROJECT

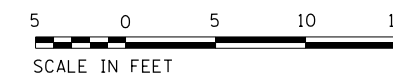
FILE NAME = D191454-S705.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 PLOT SCALE = 0=1/4" = 1'-0"
 PLOT DATE = 5/29/2019
 CHECKED - HDR - B. BRADLEY
 DATE - 05/30/2019
 REVISIONS -
 STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
 I-290 PUMP STATION NO. 4 RECONSTRUCTION
 EXISTING PUMP STATION MODIFICATION DETAILS
 SCALE: AS SHOWN SHEET XX OF X SHEETS STA. TO STA.
 CONCRETE STRUCTURES CU YD 185
 SHEET S705
 F.A.I. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.
 290 3434-2321-R COOK 232 77
 CONTRACT NO. 62B78
 ILLINOIS FED. AID PROJECT



LOWER LEVELS



UPPER LEVELS



FILE NAME = D191454-S710.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 CHECKED - HDR - B. BRADLEY
 DATE - 05/30/2019
 PLOT SCALE = 1/8" = 1'-0"
 PLOT DATE = 5/29/2019
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

FILE NAME = D191454-S710.DGN
 USER NAME = bgreen
 PLOT SCALE = 1/8" = 1'-0"
 PLOT DATE = 5/29/2019

DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 CHECKED - HDR - B. BRADLEY
 DATE - 05/30/2019

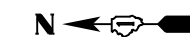
REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
REINFORCING KEY PLAN

SCALE: 3/16" = 1'-0" SHEET OF SHEETS STA. TO STA.

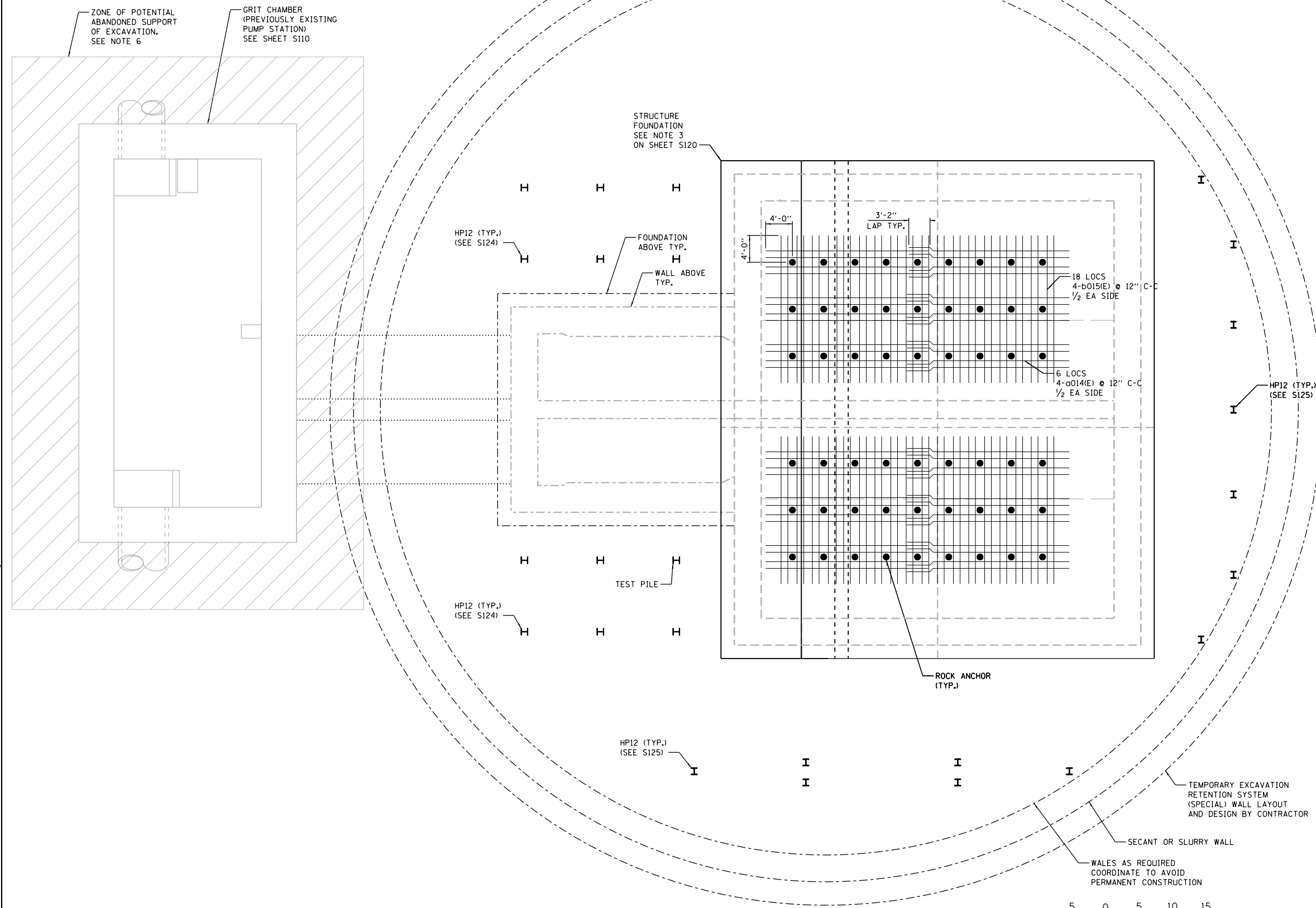
SHEET		S710	
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS
290	3434-2321-R	COOK	232
			SHEET NO.
			78
CONTRACT NO. 62B78			
ILLINOIS FED. AID PROJECT			



**ROCK ANCHOR SLAB
BILL OF MATERIALS**

BAR	NO.	SIZE	LENGTH	SHAPE
a014(E)	48	5	23'-9"	—
b015(E)	72	5	22'-0"	—
REINFORCING BARS EPOXY COATED			POUND	2,841

(SEE SHEET S120 FOR ADDITIONAL INFO)



EXCAVATION AND ROCK ANCHOR REINFORCING PLAN



FILE NAME = D:\191454-S711.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - J. SCHIEVELBEIN
 CHECKED - HDR - B. BRADLEY
 DATE - 05/30/2019
 PLOT SCALE = 1/8" = 1'-0"
 PLOT DATE = 5/29/2019



DESIGNED - HDR - K. KIRCHNER	REVISED -
DRAWN - HDR - J. SCHIEVELBEIN	REVISED -
CHECKED - HDR - B. BRADLEY	REVISED -
DATE - 05/30/2019	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
EXCAVATION AND ROCK ANCHOR REINFORCING PLAN**

SCALE: 1/8"=1'-0" SHEET OF SHEETS STA. TO STA.

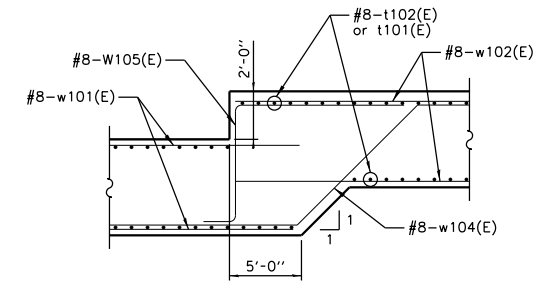
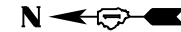
SHEET S711		TOTAL SHEETS 232		SHEET NO. 79	
F.A.I. RTE.	SECTION	COUNTY	CONTRACT NO. 62B78		
290	3434-2321-R	COOK	ILLINOIS FED. AID PROJECT		

NOTES:

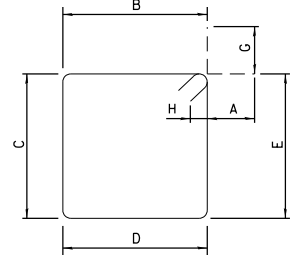
- ALL REINFORCING BARS SHALL BE PRE-CUT AT SHOP OPENING LOCATIONS.
- COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.

BASE SLAB BILL OF MATERIALS

BAR	NO.	SIZE	LENGTH	SHAPE
d101(E)	266	5	5'-3"	
d102(E)	50	5	4'-11"	
d103(E)	160	5	7'-2"	
d104(E)	24	5	6'-2"	
d105(E)	8	5	4'-3"	
d106(E)	8	5	4'-5"	
d107(E)	208	4	3'-7"	
d108(E)	140	4	2'-11"	
d109(E)	44	4	3'-7"	
d110(E)	20	4	9'-3"	
d111(E)	20	4	10'-9"	
d112(E)	20	4	12'-5"	
d113(E)	24	4	5'-5"	
d114(E)	4	4	7'-1"	
d115(E)	4	4	8'-7"	
d116(E)	4	4	10'-4"	
d117(E)	92	4	2'-5"	
d118(E)	92	4	2'-7"	
d119(E)	240	4	3'-2"	
d120(E)	48	4	2'-2"	
d121(E)	92	4	12'-7"	
n101(E)	300	7	10'-2"	
n102(E)	162	7	14'-2"	
n103(E)	44	7	12'-2"	
n104(E)	22	7	16'-2"	
n105(E)	160	8	11'-9"	
n106(E)	160	8	17'-0"	
n107(E)	24	8	23'-3"	
n108(E)	24	8	28'-6"	
n109(E)	28	8	21'-10"	
n110(E)	28	8	27'-1"	
n111(E)	32	5	12'-11"	
n112(E)	56	5	14'-11"	
n113(E)	620	5	7'-2"	
n114(E)	560	5	14'-0"	
n115(E)	160	5	10'-11"	
s101(E)	486	4	6'-9"	
s102(E)	40	5	14'-11"	
s103(E)	4	5	11'-11"	
t101(E)	196	8	42'-5"	
t102(E)	196	8	40'-11"	
w101(E)	224	8	17'-10"	
w102(E)	224	8	26'-11"	
w103(E)	224	8	33'-5"	
w104(E)	112	8	20'-7"	
w105(E)	112	8	12'-11"	
REINFORCING BARS		POUND	157,401	
EPOXY COATED CONCRETE STRUCTURES		CU YD	829	



CONCRETE DETAIL
SCALE: 1/4" = 1'-0"



BAR	A	B	C	D	E	G	H
s101(E)	4 1/2"	1'-6"	1'-6"	1'-6"	1'-6"	4 1/2"	3"
s102(E)	5 1/2"	3'-4"	3'-8"	3'-4"	3'-8"	5 1/2"	4"
s103(E)	5 1/2"	2'-10"	2'-8"	2'-10"	2'-8"	5 1/2"	4"

BARS s101(E), s102(E), s103(E)

BAR	A	B	G
d101(E)	10"	3'-7"	10"
d102(E)	10"	3'-3"	10"
d105(E)	10"	2'-7"	10"
d106(E)	10"	2'-9"	10"
n109(E)	1'-4"	13'-11"	6'-7"
n114(E)	10"	12'-4"	10"

BARS d101(E), d102(E), d105(E),
d106(E), n109(E), n114(E)

BAR	A	B	G
d103(E)	10"	5'-6"	10"
d104(E)	10"	4'-6"	10"
n110(E)	6'-7"	13'-11"	6'-7"
w105(E)	1'-4"	5'-0"	6'-7"

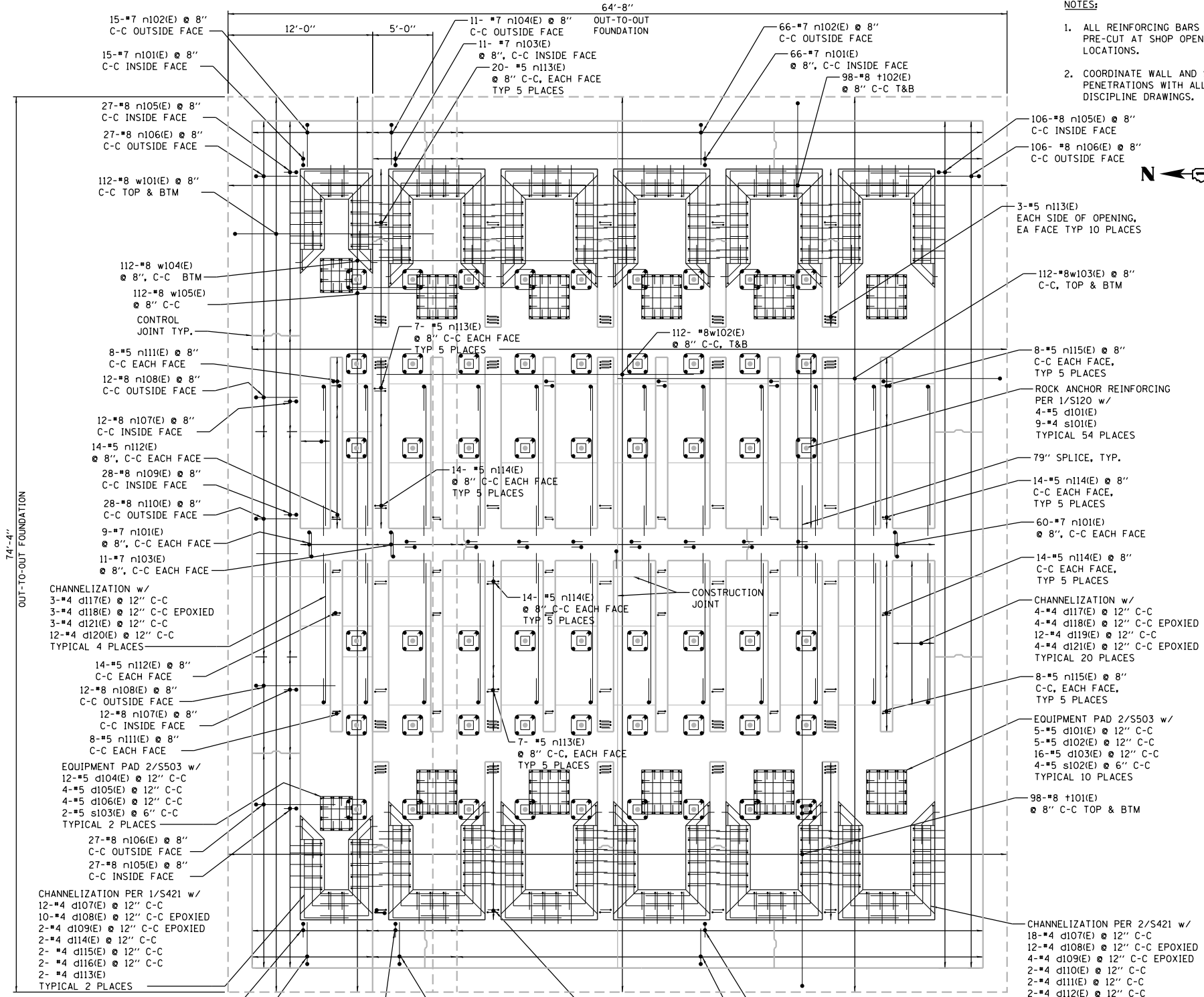
BARS d103(E), d104(E),
n110(E), w105(E)

BAR	A	B	C
d113(E)	8"	2'-10"	1'-11"

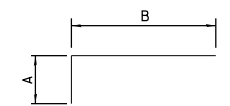
BAR d113(E)

BAR	D	E	F	H
d107(E)	1'-2"	2'-5"	-	1'-8 1/2"
d108(E)	6"	2'-5"	-	1'-8 1/2"
d109(E)	6"	3'-1"	-	2'-1 1/2"
d117(E)	6"	1'-11"	-	1'-9"
d118(E)	1'-11"	8"	-	3"
w104(E)	6'-9"	7'-1"	6'-9"	5'-0"

BARS d107(E), d108(E), d109(E),
d117(E), d118(E), w104(E)



REINFORCING PLAN - EL 558.00



BAR	A	B
d110(E)	3'-5"	5'-10"
d111(E)	3'-11"	6'-10"
d112(E)	4'-7"	7'-10"
d114(E)	2'-5"	4'-8"
d115(E)	2'-11"	5'-8"
d116(E)	3'-8"	6'-8"
n101(E)	1'-2"	9'-0"
n102(E)	5'-2"	9'-0"
n103(E)	1'-2"	11'-0"
n104(E)	5'-2"	11'-0"
n105(E)	1'-4"	10'-5"
n106(E)	6'-7"	10'-5"
n107(E)	1'-4"	21'-11"
n108(E)	6'-7"	21'-11"
n111(E)	10"	12'-1"
n112(E)	10"	14'-1"
n113(E)	10"	6'-4"
n115(E)	10"	10'-1"
t101(E)	1'-4"	41'-1"
t102(E)	1'-4"	39'-7"
w101(E)	1'-4"	16'-6"
w103(E)	1'-4"	32'-1"

BARS d110(E), d111(E), d112(E), d114(E),
d115(E), d116(E), n101(E), n102(E), n103(E),
n104(E), n105(E), n106(E), n107(E), n108(E),
n111(E), n112(E), n113(E), n115(E),
t101(E), t102(E), w101(E), w103(E)



FILE NAME = D191454-5712.DGN
USER NAME = bgreen
DESIGNED - HDR - K. KIRCHNER
DRAWN - HDR - B. GREEN
CHECKED - HDR - B. BRADLEY
DATE - 05/30/2019
PLOT SCALE = 3/16" = 1'-0"
PLOT DATE = 5/29/2019



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

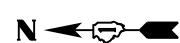
I-290 PUMP STATION NO. 4 RECONSTRUCTION
PIT LEVEL REINFORCING PLAN AT ELEVATION 558.00

SCALE: 3/16" = 1'-0" SHEET OF SHEETS STA. TO STA.

F.A.I R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	80

CONTRACT NO. 62B78
ILLINOIS FED. AID PROJECT

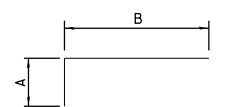
SHEET
S712



BILL OF MATERIALS

BAR	NO.	SIZE	LENGTH	SHAPE
a201(E)	84	6	23'-0"	
a202(E)	16	6	5'-9"	
a203(E)	8	6	9'-10"	
a204(E)	160	6	5'-0"	
a205(E)	80	6	8'-4"	
a206(E)	384	5	4'-0"	
b201(E)	84	6	28'-4"	
b202(E)	8	6	8'-9 1/2"	
b203(E)	120	6	3'-8"	
b204(E)	96	6	4'-0"	
b205(E)	12	6	3'-7"	
b206(E)	8	6	3'-10"	
b207(E)	16	6	3'-11"	
b208(E)	16	6	4'-1 1/2"	
b209(E)	8	6	3'-6"	
d201(E)	320	8	9'-9"	
n201(E)	102	9	13'-9"	
n202(E)	18	9	6'-7"	
n203(E)	159	8	11'-9"	
n204(E)	159	8	17'-0"	
n205(E)	4	8	13'-8"	
n206(E)	4	8	19'-2"	
n207(E)	4	8	12'-8"	
n208(E)	4	8	17'-4"	
n209(E)	4	8	12'-1"	
n210(E)	4	8	16'-2"	
n211(E)	4	8	11'-8"	
n212(E)	4	8	15'-6"	
n213(E)	4	8	11'-4"	
n214(E)	4	8	15'-0"	
n215(E)	4	8	11'-2"	
n216(E)	4	8	14'-10"	
n217(E)	4	8	11'-1"	
t201(E)	120	7	36'-8"	
w201(E)	106	7	41'-4"	
REINFORCING BARS			POUND	57,824
EPOXY COATED				
CONCRETE STRUCTURES			CU YD	323

- NOTES:
- ALL REINFORCING BARS SHALL BE PRE-CUT AT SHOP OPENING LOCATIONS.
 - COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.

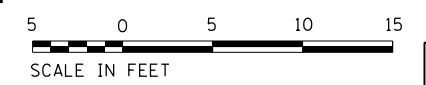


BAR	A	B
b202(E)	1'-0"	7'-9 1/2"
d201(E)	1'-4"	8'-5"
n201(E)	1'-7"	12'-2"
n202(E)	1'-7"	5'-0"
n203(E)	1'-4"	10'-5"
n204(E)	6'-7"	10'-5"
n205(E)	6'-7"	7'-1"
n207(E)	6'-7"	6'-1"
n209(E)	6'-7"	5'-6"
n211(E)	6'-7"	5'-1"
n213(E)	6'-7"	4'-9"
n215(E)	6'-7"	4'-7"
n217(E)	6'-7"	4'-6"

BAR	A	B	G
a201(E)	1'-0"	21'-0"	1'-0"
a202(E)	1'-0"	3'-9"	1'-0"
a203(E)	1'-0"	7'-10"	1'-0"
a204(E)	1'-0"	3'-0"	1'-0"
a205(E)	1'-0"	6'-4"	1'-0"
b203(E)	1'-0"	1'-8"	1'-0"
b204(E)	1'-0"	2'-0"	1'-0"
b207(E)	1'-0"	1'-11"	1'-0"
b208(E)	1'-0"	2'-1 1/2"	1'-0"
t201(E)	1'-2"	34'-4"	1'-2"
w201(E)	1'-2"	39'-0"	1'-2"

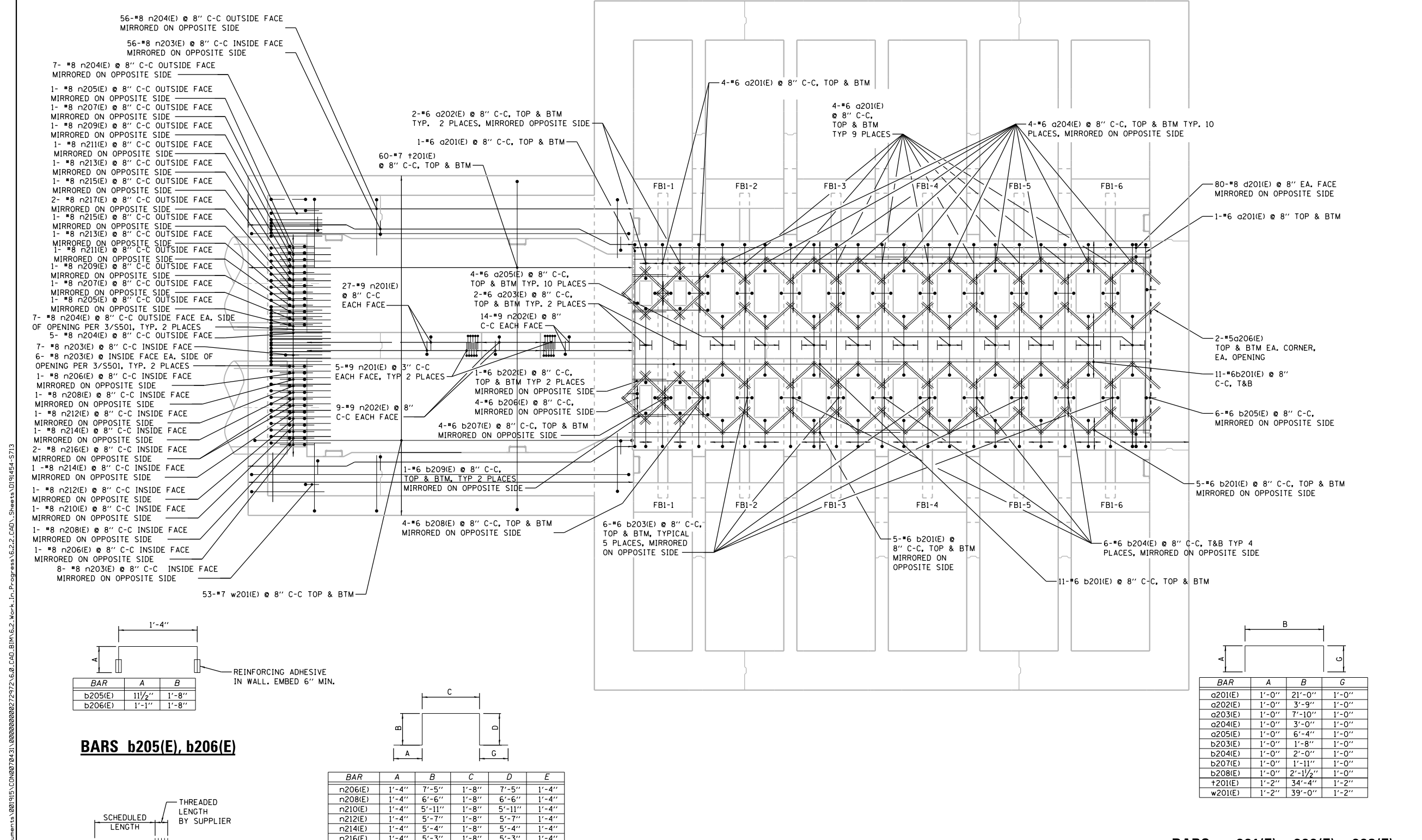
BARS b202(E), d201(E), n201(E), n202(E), n203(E), n204(E), n205(E), n207(E), n209(E), n211(E), n213(E), n215(E), n217(E)

BARS a201(E), a202(E), a203(E), a204(E), a205(E), b203(E), b204(E), b207(E), b208(E), t201(E), w201(E)



SHEET	S713		
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS
290	3434-2321-R	COOK	232 81
CONTRACT NO.			62B78
ILLINOIS FED. AID PROJECT			

REINFORCING PLAN - EL 566.75



1'-4"

REINFORCING ADHESIVE IN WALL, EMBED 6" MIN.

BAR	A	B
b205(E)	11 1/2"	1'-8"
b206(E)	1'-1"	1'-8"

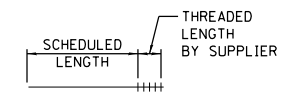
BARS b205(E), b206(E)

C

A B C D E

BAR	A	B	C	D	E
n206(E)	1'-4"	7'-5"	1'-8"	7'-5"	1'-4"
n208(E)	1'-4"	6'-6"	1'-8"	6'-6"	1'-4"
n210(E)	1'-4"	5'-11"	1'-8"	5'-11"	1'-4"
n212(E)	1'-4"	5'-7"	1'-8"	5'-7"	1'-4"
n214(E)	1'-4"	5'-4"	1'-8"	5'-4"	1'-4"
n216(E)	1'-4"	5'-3"	1'-8"	5'-3"	1'-4"

BARS n206(E), n208(E), n210(E), n212(E), n214(E), n216(E)

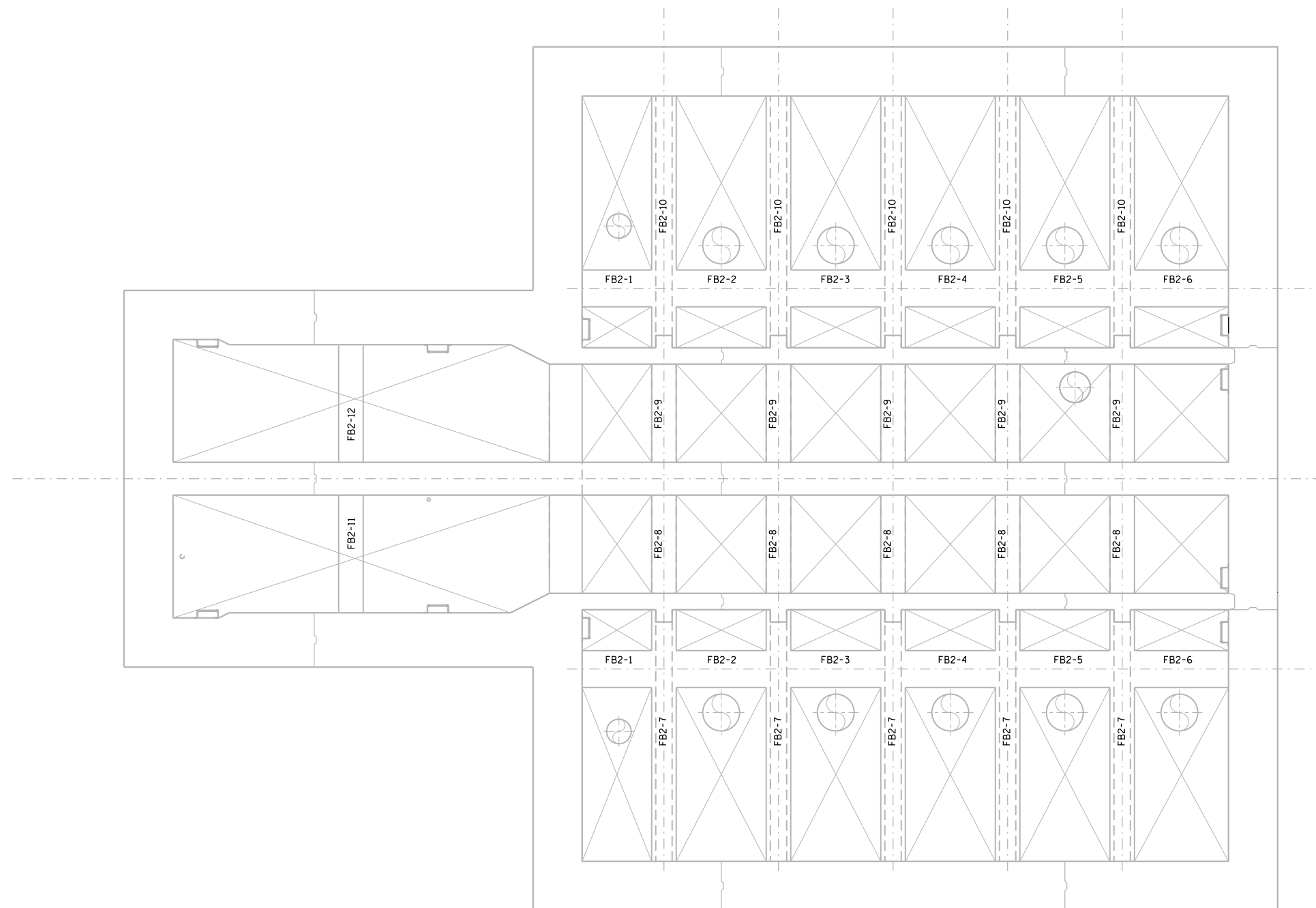


BARS b201(E), b209(E)

p:\1_P\ADP\AK0811\NorthCentr-01_Omaha\Documents\001915\CON\080704\31\080608080272972\CAD\BIM\6.2_CAD\BIM\6.2_CAD\Sheets\0191454-5713



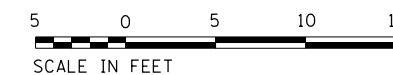
CONCRETE STRUCTURES	CU YD	80
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NOTES:

1. ALL SPLICES SHALL BE STAGGERED.
2. ALL REINFORCING BARS SHALL BE PRE-CUT AT SHOP OPENING LOCATIONS.
3. COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.
4. SEE BEAM REINFORCING DETAILS FOR BILL OF MATERIALS AND ADDITIONAL INFORMATION.

REINFORCING PLAN – EL 585.00



P:\1\1448P\04881\NorthCentral\Omaha\Documents\001915\CON0078431\00000000271972\6.0_CAD_BIM\6.2_Work\In_Progress\6.2.2_CAD_Sheets\0191454-S714

FILE NAME = D191454-S714.DGN
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 PLOT SCALE = 3/16" = 1' / in.
 CHECKED - HDR - B. BRADLEY
 PLOT DATE = 5/29/2019

REVISED -
 REVISED -
 REVISED -
 REVISED -
 DATE - 05/30/2019

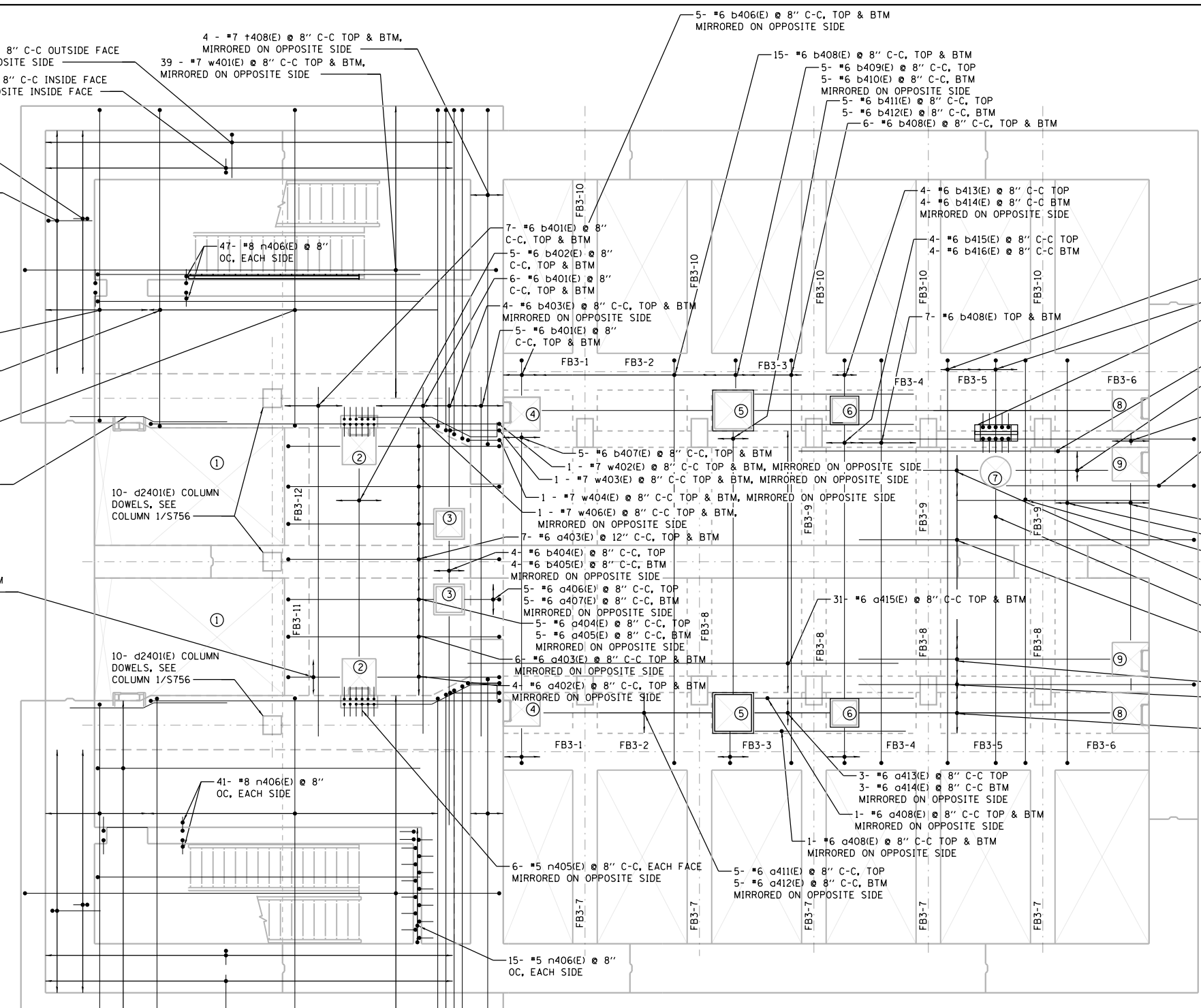
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
FRAMING LEVEL REINFORCING PLAN AT ELEVATION 585.00
 SCALE: 3/16"=1'-0" SHEET OF SHEETS STA. TO STA.

SHEET S714		TOTAL SHEETS 232		SHEET NO. 82	
F.A.I. RTE.	SECTION	COUNTY	CONTRACT NO.	ILLINOIS FED. AID PROJECT	
290	3434-2321-R	COOK	62B78		

BILL OF MATERIALS

BAR	NO.	SIZE	LENGTH	SHAPE
a401(E)	16	6	5'-4"	U
a402(E)	16	6	11'-0"	U
a403(E)	38	6	19'-6"	U
a404(E)	10	6	12'-10"	U
a405(E)	10	6	13'-1"	U
a406(E)	10	6	3'-10"	U
a407(E)	10	6	4'-1"	U
a408(E)	8	6	12'-0"	U
a409(E)	20	6	20'-3"	U
a410(E)	10	6	20'-6"	U
a411(E)	10	6	13'-8"	U
a412(E)	10	6	13'-11"	U
a413(E)	6	6	5'-9"	U
a414(E)	6	6	6'-3"	U
a415(E)	62	6	35'-9"	U
a416(E)	46	6	28'-3"	U
a417(E)	8	6	9'-5"	U
a418(E)	2	6	15'-10"	U
a419(E)	6	6	7'-10"	U
a420(E)	208	5	4'-0"	U
a421(E)	8	6	13'-0"	U
a422(E)	16	6	11'-4"	U
a423(E)	8	6	11'-8"	U
a424(E)	8	6	12'-4"	U
b401(E)	36	6	28'-6"	U
b402(E)	10	6	15'-6"	U
b403(E)	16	6	10'-0"	U
b404(E)	4	6	3'-4"	U
b405(E)	4	6	3'-10"	U
b406(E)	20	6	4'-3"	U
b407(E)	10	6	21'-0"	U
b408(E)	84	6	35'-8"	U
b409(E)	10	6	3'-7"	U
b410(E)	10	6	3'-10"	U
b411(E)	5	6	20'-10"	U
b412(E)	5	6	21'-4"	U
b413(E)	8	6	4'-1"	U
b414(E)	8	6	4'-4"	U
b415(E)	4	6	21'-10"	U
b416(E)	4	6	22'-4"	U
b417(E)	8	6	9'-0"	U
b418(E)	8	6	23'-9"	U
b419(E)	20	6	1'-0"	U
b420(E)	10	6	12'-10"	U
b421(E)	24	6	12'-1"	U
b422(E)	8	6	17'-6"	U
b423(E)	12	6	11'-10"	U
b424(E)	12	6	12'-2"	U
b425(E)	8	6	11'-2"	U
b426(E)	8	6	11'-8"	U
b427(E)	8	6	15'-11"	U
d401(E)	4	7	7'-0"	U
d402(E)	4	7	6'-10"	U
d403(E)	4	7	6'-4"	U
n401(E)	102	6	7'-9"	U
n402(E)	102	6	10'-1"	U
n403(E)	60	8	11'-8"	U
n404(E)	60	8	16'-11"	U
n405(E)	24	5	9'-6"	U
n406(E)	206	5	7'-2"	U
t401(E)	60	7	27'-10"	U
t402(E)	4	7	28'-0"	U
t403(E)	140	7	28'-3"	U
t404(E)	4	7	28'-7"	U
t405(E)	4	7	28'-11"	U
t406(E)	4	7	29'-3"	U
t407(E)	4	7	29'-7"	U
t408(E)	16	7	29'-10"	U
w401(E)	156	7	41'-4"	U
w402(E)	4	7	39'-4"	U
w403(E)	4	7	6'-10"	U
w404(E)	4	7	5'-8"	U
w405(E)	4	7	11'-3"	U
w406(E)	4	7	12'-0"	U
REINFORCING BARS EPOXY COATED				POUND 57,336
CONCRETE STRUCTURES				CU YD 439



51 - #6 n402(E) @ 8" C-C OUTSIDE FACE
MIRRORED ON OPPOSITE SIDE
51 - #6 n401(E) @ 8" C-C INSIDE FACE
MIRRORED ON OPPOSITE INSIDE FACE

30 - #8 n403(E) @ 8" C-C INSIDE FACE,
MIRRORED ON OPPOSITE SIDE
30 - #8 n404(E) @ 8" C-C EACH FACE,
MIRRORED ON OPPOSITE SIDE

15 - #7 t401(E) @ 8" C-C TOP & BTM,
MIRRORED ON OPPOSITE SIDE

1 - #7 t402(E) @ 8" C-C TOP & BTM,
MIRRORED ON OPPOSITE SIDE

35 - #7 t403(E) @ 8" C-C TOP & BTM,
MIRRORED ON OPPOSITE SIDE

1 - #7 w405(E) @ 8" C-C TOP & BTM,
MIRRORED ON OPPOSITE SIDE

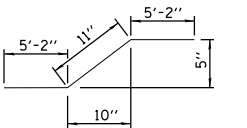
4 - #6 a401(E) @ 8" C-C TOP & BTM
MIRRORED ON OPPOSITE SIDE

10- d2401(E) COLUMN
DOWELS, SEE
COLUMN 1/S756

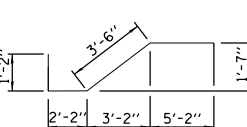
41 - #8 n406(E) @ 8"
OC, EACH SIDE

4 - #7 t407(E) @ 8" C-C TOP & BTM,
MIRRORED ON OPPOSITE SIDE
4 - #7 t406(E) @ 8" C-C TOP & BTM,
MIRRORED ON OPPOSITE SIDE
4 - #7 t405(E) @ 8" C-C TOP & BTM,
MIRRORED ON OPPOSITE SIDE
4 - #7 t404(E) @ 8" C-C TOP & BTM,
MIRRORED ON OPPOSITE SIDE

BAR	A	B
a401(E)	1'-0"	4'-4"
a402(E)	1'-0"	10'-0"
a404(E)	1'-0"	11'-10"
a405(E)	1'-0"	12'-1"
a406(E)	1'-0"	2'-10"
a407(E)	1'-0"	3'-1"
a416(E)	1'-0"	27'-3"
a418(E)	1'-0"	14'-10"
a421(E)	1'-0"	12'-0"
a423(E)	1'-0"	11'-5"
a424(E)	1'-0"	11'-4"
b406(E)	1'-0"	3'-3"
b409(E)	1'-0"	2'-7"
b410(E)	1'-0"	2'-10"
b413(E)	1'-0"	3'-1"
b414(E)	1'-0"	3'-4"
b417(E)	1'-0"	8'-0"
b418(E)	1'-0"	22'-9"
b423(E)	1'-0"	10'-10"
b424(E)	1'-0"	11'-2"
b425(E)	1'-0"	10'-2"
d427(E)	1'-0"	14'-11"
d401(E)	1'-2"	5'-10"
d402(E)	1'-2"	5'-8"
d403(E)	1'-2"	5'-2"
n401(E)	1'-0"	6'-11"
n402(E)	3'-2"	6'-11"
n403(E)	1'-4"	10'-4"
n404(E)	6'-7"	10'-4"
n405(E)	10"	8'-8"
n406(E)	10"	6'-4"



BAR w405E

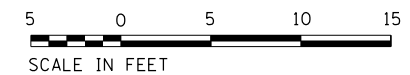


BAR w406E

BAR	A	B	G
a403(E)	1'-0"	17'-6"	1'-0"
b408(E)	1'-0"	33'-8"	1'-0"
t401(E)	1'-2"	25'-6"	1'-2"
t402(E)	1'-2"	25'-8"	1'-2"
t403(E)	1'-2"	25'-11"	1'-2"
t404(E)	1'-2"	26'-3"	1'-2"
t405(E)	1'-2"	26'-7"	1'-2"
t406(E)	1'-2"	26'-11"	1'-2"
t407(E)	1'-2"	27'-3"	1'-2"
t408(E)	1'-2"	27'-6"	1'-2"
w401(E)	1'-2"	39'-0"	1'-2"
w402(E)	1'-2"	28'-9"	1'-2"
w403(E)	1'-2"	4'-6"	1'-2"
w404(E)	1'-2"	3'-2"	1'-2"

**BARS a403(E), b408(E), t401(E),
t402(E), t403(E), t404(E), t405(E),
t406(E), t407(E), t408(E), w401(E),
w402(E), w403(E), w404(E).**

- NOTES:**
- ALL REINFORCING BARS SHALL BE PRE-CUT AT SHOP OPENING LOCATIONS.
 - COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.



SCALE IN FEET SHEET S715

D:\P\4493\08\15\CONTR\271972\6.6.CAD_BIM\6.2.Work_In_Progress\6.2.2.CAD_Sheets\0191454-5715

**BARS a401(E), a402(E), a404(E),
a405(E), a406(E), a407(E), a416(E),
a418(E), a422(E), a424(E), b406(E),
b409(E), b410(E), b413(E), b414(E),
b417(E), b418(E), b423(E), b424(E),
b425(E), b427(E), d401(E), d402(E),
d403(E), n401(E), n402(E), n403(E),
n404(E), n405(E), n406(E)**



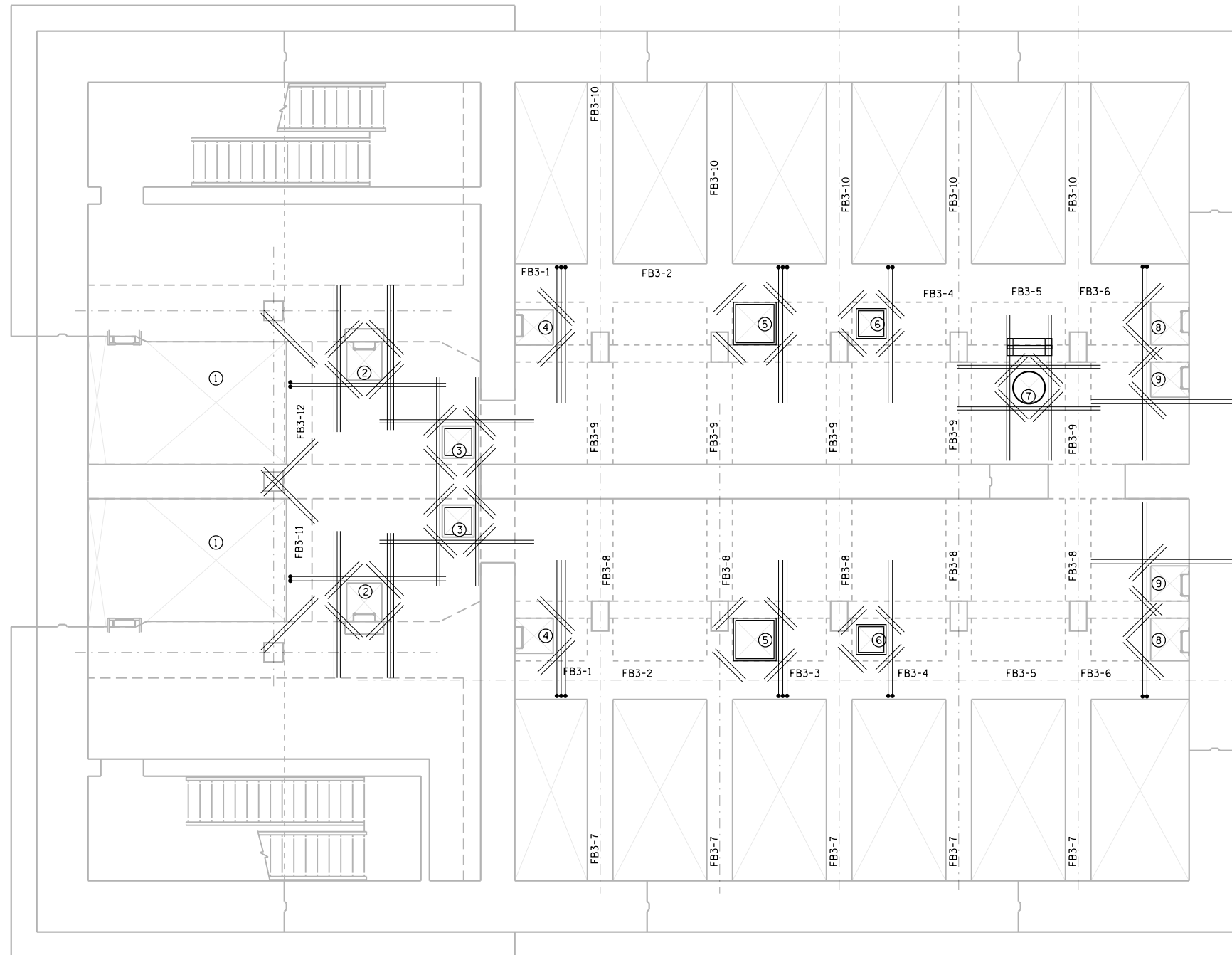
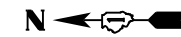
FILE NAME = 0191454-5715.DGN	USER NAME = bgreen	DESIGNED - HDR - K. KIRCHNER	REVISED -
		DRAWN - HDR - B. GREEN	REVISED -
		CHECKED - HDR - B. BRADLEY	REVISED -
		DATE - 05/30/2019	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

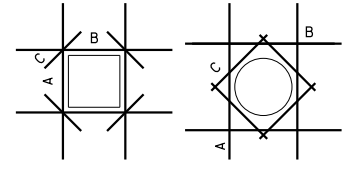
**I-290 PUMP STATION NO. 4 RECONSTRUCTION
INTERMEDIATE LEVEL
REINFORCING PLAN AT ELEVATION 603.75**

SCALE: 3/8"=1'-0" SHEET OF SHEETS STA. TO STA.

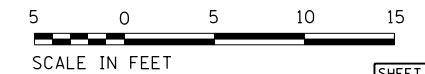
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	83
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62B78	



FLOOR OPENINGS			
NO.	A	B	C
①	-	-	ø420(E)
②	b421(E)	ø421(E)	ø420(E)
③	b422(E)	ø422(E)	ø420(E)
④	b423(E)	-	ø420(E)
⑤	b424(E)	-	ø420(E)
⑥	b425(E)	-	ø420(E)
⑦	b426(E)	ø423(E)	ø420(E)
⑧	b427(E)	-	ø420(E)
⑨	b427(E)	ø424(E)	ø420(E)



REINFORCING PLAN - EL 603.75



FILE NAME = D191454-S716.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 PLOT SCALE = 0:1' = 1/8" / 1/4"
 PLOT DATE = 5/29/2019
 CHECKED - HDR - B. BRADLEY
 DATE - 05/30/2019
 REVISED -
 REVISED -
 REVISED -
 REVISED -
 REVISED -
 REVISED -
 STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 I-290 PUMP STATION NO. 4 RECONSTRUCTION
 INTERMEDIATE LEVEL
 REINFORCING PLAN AT ELEVATION 603.75
 SCALE: 3/8" = 1'-0"
 SHEET OF SHEETS STA. TO STA.
 SHEET 716
 TOTAL SHEETS 232 SHEET NO. 84
 CONTRACT NO. 62B78
 ILLINOIS FED. AID PROJECT



FILE NAME = D191454-S716.DGN	USER NAME = bgreen	DESIGNED - HDR - K. KIRCHNER	REVISED -
		DRAWN - HDR - B. GREEN	REVISED -
		CHECKED - HDR - B. BRADLEY	REVISED -
		DATE - 05/30/2019	REVISED -

STATE OF ILLINOIS	I-290 PUMP STATION NO. 4 RECONSTRUCTION
DEPARTMENT OF TRANSPORTATION	INTERMEDIATE LEVEL
	REINFORCING PLAN AT ELEVATION 603.75
SCALE: 3/8" = 1'-0"	SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	84
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

SHEET 716				
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	84
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

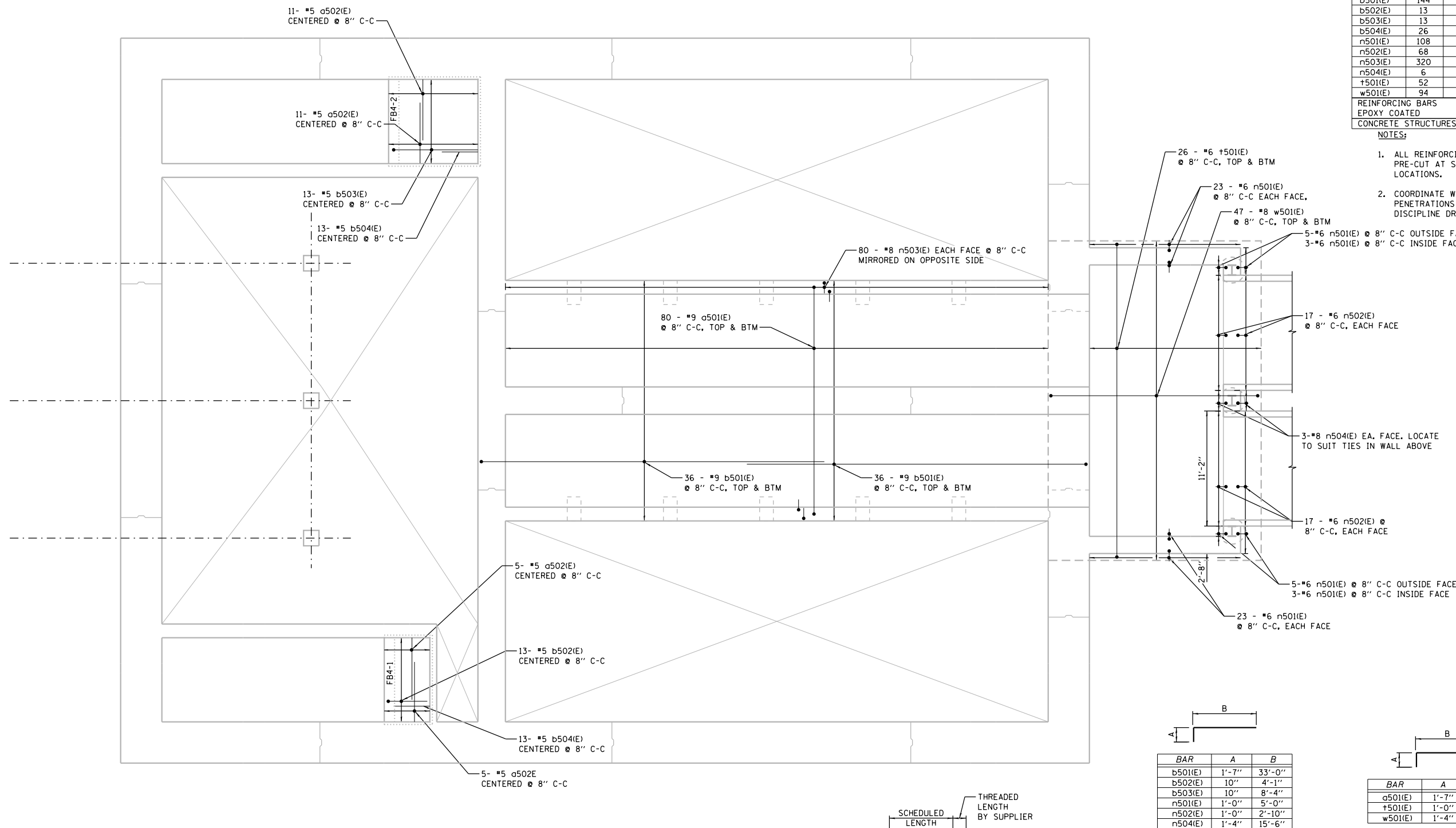


BILL OF MATERIALS

BAR	QTY	SIZE	LENGTH	SHAPE
a501(E)	160	9	26'-2"	□
a502(E)	32	5	5'-10"	≡≡≡
b501(E)	144	9	34'-7"	□
b502(E)	13	5	4'-11"	□
b503(E)	13	5	9'-2"	≡≡≡
b504(E)	26	5	3'-6"	≡≡≡
n501(E)	108	6	6'-0"	□
n502(E)	68	6	3'-10"	□
n503(E)	320	8	9'-9"	□
n504(E)	6	8	16'-10"	□
t501(E)	52	6	32'-8"	□
w501(E)	94	8	23'-0"	□
REINFORCING BARS EPOXY COATED			POUND	46,349
CONCRETE STRUCTURES			CU YD	85

NOTES:

- ALL REINFORCING BARS SHALL BE PRE-CUT AT SHOP OPENING LOCATIONS.
- COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.



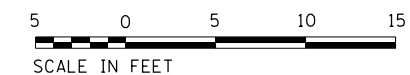
BARS a502(E), b504(E)

BARS b501(E), b502(E), b503(E), n501(E), n502(E), n503(E), n504(E)

BARS a501(E), t501(E), w501(E)

BAR	A	B
b501(E)	1'-7"	33'-0"
b502(E)	10"	4'-1"
b503(E)	10"	8'-4"
n501(E)	1'-0"	5'-0"
n502(E)	1'-0"	2'-10"
n504(E)	1'-4"	15'-6"

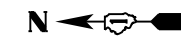
BAR	A	B	G
a501(E)	1'-7"	23'-0"	1'-7"
t501(E)	1'-0"	30'-8"	1'-0"
w501(E)	1'-4"	20'-4"	1'-4"



REINFORCING PLAN – EL 614.83

FILE NAME = D191454-S717.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 PLOT SCALE = 3/16" = 1'-0"
 PLOT DATE = 5/29/2019
 CHECKED - HDR - B. BRADLEY
 DATE = 05/30/2019
 REVISIONS
 STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 I-290 PUMP STATION NO. 4 RECONSTRUCTION
 DISCHARGE LEVEL REINFORCING
 PLAN AT ELEVATION 614.83
 SCALE: 3/16"=1'-0" SHEET OF SHEETS STA. TO STA.
 F.A.I. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.
 290 3434-2321-R COOK 232 85
 CONTRACT NO. 62B78
 ILLINOIS FED. AID PROJECT
 SHEET S717

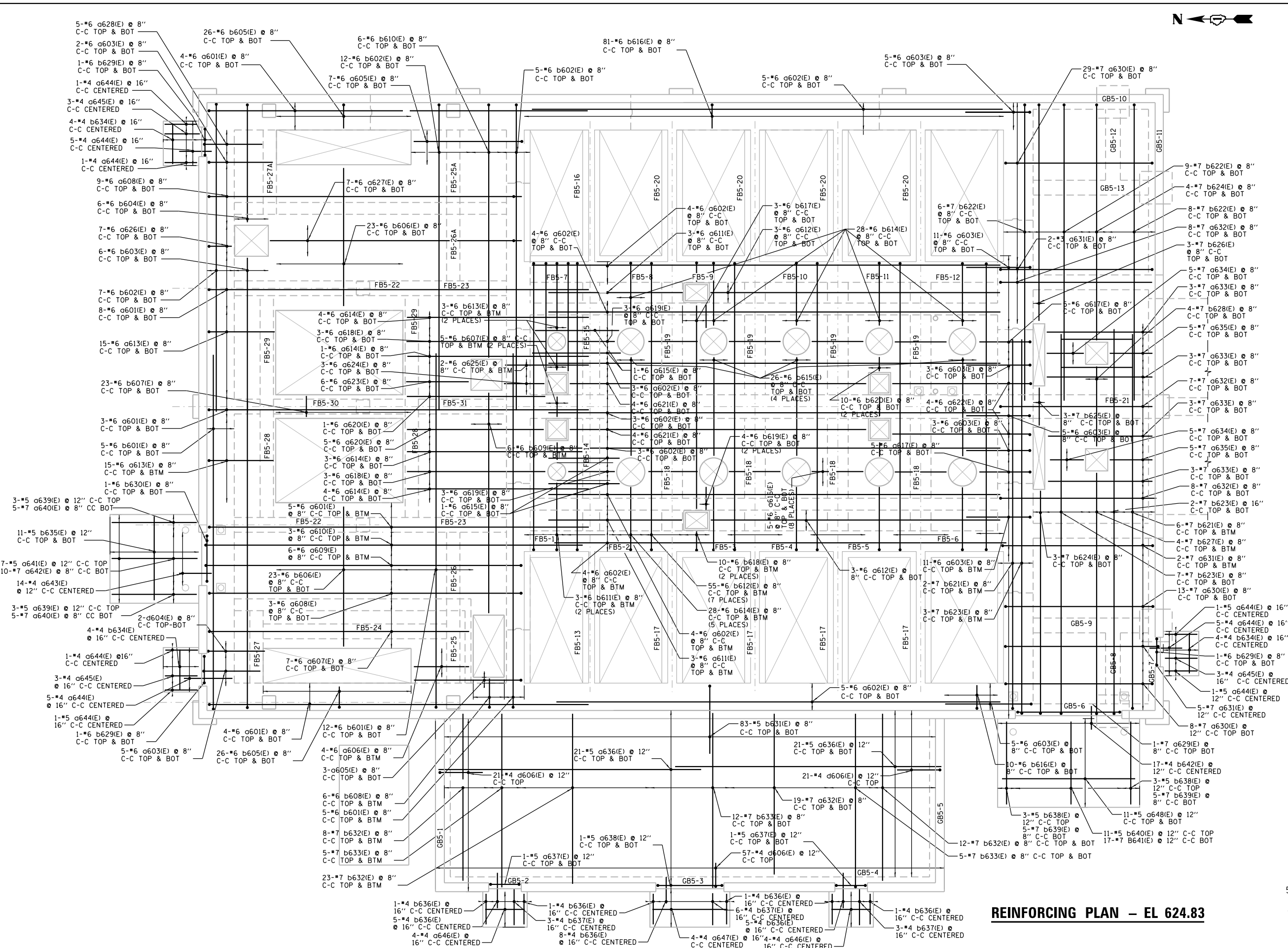




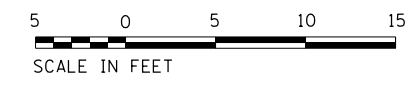
NOTES:

1. ALL REINFORCING BARS SHALL BE PRE-CUT AT SHOP OPENING LOCATIONS.
2. COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.
3. SEE SHEET S719 FOR ADDITIONAL REINFORCING AND BILL OF MATERIAL.
4. FOR LOCATION OF GB5-14 THRU GB5-17 AT STOOPS SEE S126.
5. FOR PILE CAP REINFORCING SEE S502

FILE NAME = D191454-S718.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 CHECKED - HDR - B. BRADLEY
 DATE - 05/30/2019
 PLOT SCALE = 3/16" = 1'-0"
 PLOT DATE = 5/29/2019



REINFORCING PLAN - EL 624.83



**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
GROUND LEVEL REINFORCING PLAN AT ELEVATION 624.83**

SCALE: 3/16"=1'-0" SHEET OF SHEETS STA. TO STA.

SHEET		S718	
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS
290	3434-2321-R	COOK	232
			86
CONTRACT NO. 62B78			
ILLINOIS FED. AID PROJECT			

BILL OF MATERIALS

Table with columns: BAR, QTY, SIZE, LENGTH, SHAPE. Lists various reinforcement bars with quantities and dimensions.

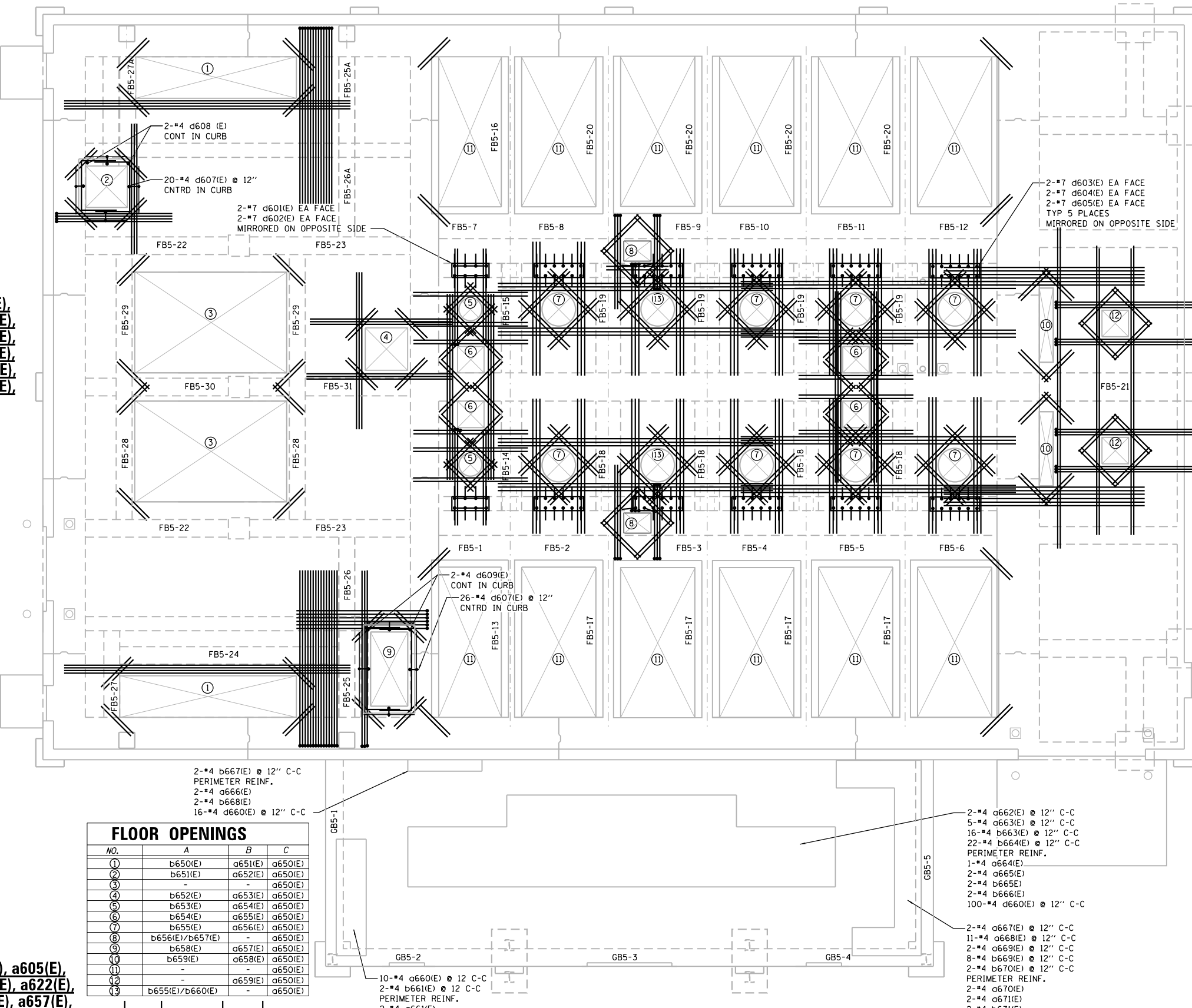
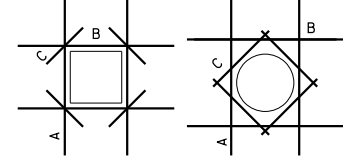
Table with columns: BAR, A, B, G. Lists reinforcement bars with dimensions A, B, and G.

BARS a608(E), a609(E), a629(E), a630(E), a631(E), a637(E), a638(E), a661(E), a664(E), a665(E), a667(E), a670(E), a671(E), b612(E), b629(E), b630(E), b656(E), b662(E), b665(E), b666(E), b668(E), b671(E), b672(E), d608(E), d609(E)

Table with columns: BAR, A, B. Lists reinforcement bars with dimensions A and B.

BARS a601(E), a603(E), a604(E), a605(E), a607(E), a6010(E), a613(E), a617(E), a622(E), a626(E), a627(E), a628(E), a652(E), a657(E), a659(E), b601(E), b602(E), b603(E), b604(E), b605(E), b608(E), b610(E), b611(E), b614(E), b616(E), b618(E), b621(E), b622(E), b623(E), b624(E), b626(E), b627(E), b631(E), b650(E), b653(E), b657(E), b658(E), b660(E), d601(E), d602(E), d603(E), d604(E), d605(E), d606(E), d626(E), d660(E)

FLOOR OPENINGS table with columns: NO., A, B, C. Lists floor opening details.



REINFORCING PLAN - EL 624.83

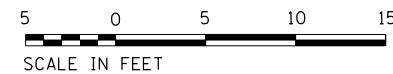


Table with columns: BAR, QTY, SIZE, LENGTH, SHAPE. Lists reinforcement bars with quantities and dimensions.

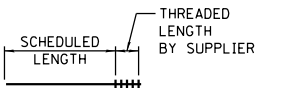
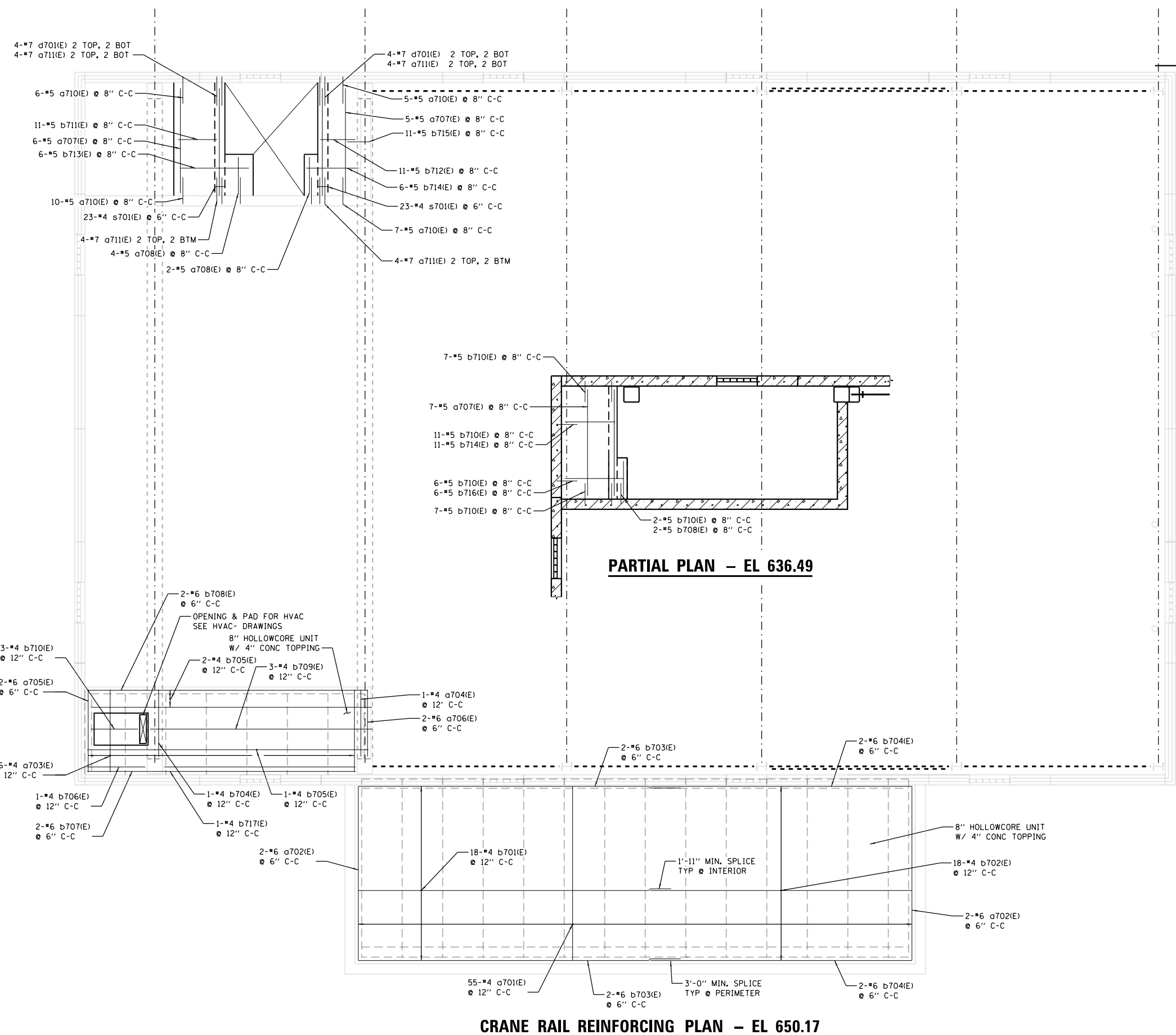


BILL OF MATERIALS

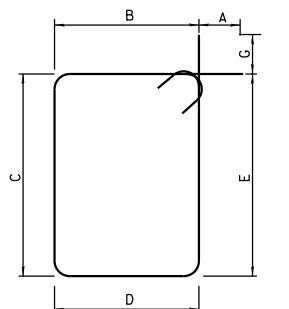
BAR	NO.	SIZE	LENGTH	SHAPE
a701(E)	55	4	18'-3"	————
a702(E)	4	6	18'-3"	————
a703(E)	26	4	8'-0"	————
a704(E)	2	4	6'-5"	————
a705(E)	2	6	8'-4"	————
a706(E)	2	6	6'-5"	————
a707(E)	18	5	11'-1"	————
a708(E)	8	5	3'-11"	————
a710(E)	61	5	2'-9"	————
a711(E)	16	7	5'-4"	————
b701(E)	18	4	30'-0"	————
b702(E)	18	4	27'-0"	————
b703(E)	4	6	30'-0"	————
b704(E)	4	6	28'-3"	————
b705(E)	3	4	26'-11"	————
b706(E)	1	4	5'-10"	————
b707(E)	2	6	26'-6"	————
b708(E)	2	6	27'-11"	————
b709(E)	3	4	20'-10"	————
b710(E)	3	4	5'-1"	————
b711(E)	11	5	4'-8"	————
b712(E)	11	5	3'-11"	————
b713(E)	6	5	7'-6"	————
b714(E)	17	5	5'-3"	————
b715(E)	11	5	2'-9"	————
b716(E)	6	5	6'-3"	————
b717(E)	1	4	18'-11"	————
d701(E)	8	7	11'-1"	————
s701(E)	46	4	4'-1"	□
REINFORCING BARS EPOXY COATED			POUND	3,499
CONCRETE STRUCTURES			CU YD	20

NOTES:

- ALL REINFORCING BARS SHALL BE PRE-CUT IN THE SHOP AT OPENING LOCATIONS.
- COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.

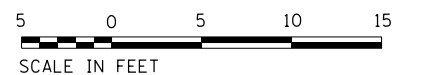


BARS a710(E), a711(E), b715(E)



BAR	A	B	C	D	E	G
s701(E)	4 1/2"	8"	1'-0"	8"	1'-0"	4 1/2"

BARS s701(E)



CRANE RAIL REINFORCING PLAN - EL 650.17

FILE NAME = D191454-S720.DGN
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

USER NAME = bgreen
 PLOT SCALE = 0:1' = 1/4" = 1/8"
 PLOT DATE = 5/29/2019

DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 CHECKED - HDR - B. BRADLEY
 DATE - 05/30/2019

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
 LOWER ROOF & CRANE LEVEL
 REINFORCING PLAN AT ELEVATION 650.17

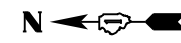
SCALE: 3/16" = 1'-0" SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	88

CONTRACT NO. 62B78

ILLINOIS FED. AID PROJECT

SHEET
S720

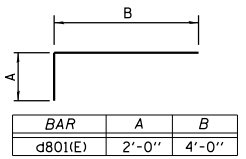


BILL OF MATERIALS

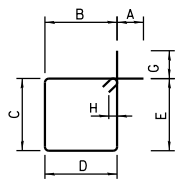
BAR	NO.	SIZE	LENGTH	SHAPE
a801(E)	154	4	21'-6"	—
a802(E)	83	4	29'-0"	—
a803(E)	4	4	6'-10"	—
a804(E)	4	4	11'-8"	—
a805(E)	4	4	13'-6"	—
a806(E)	4	4	6'-0"	—
a807(E)	4	4	3'-4"	—
a808(E)	4	4	28'-11"	—
a809(E)	12	6	30'-0"	—
a810(E)	51	4	22'-10"	—
a811(E)	6	6	14'-4"	—
a812(E)	4	4	4'-10"	—
a813(E)	4	4	8'-0"	—
a814(E)	4	4	7'-4"	—
a815(E)	4	4	7'-2"	—
a816(E)	4	4	11'-0"	—
a817(E)	8	6	23'-8"	—
a818(E)	4	4	23'-8"	—
b802(E)	173	4	30'-0"	—
b803(E)	11	4	16'-9"	—
b804(E)	7	4	29'-6"	—
b805(E)	4	4	14'-0"	—
b806(E)	4	4	12'-3"	—
b807(E)	4	4	25'-4"	—
b809(E)	24	4	7'-0"	—
b810(E)	18	6	36'-0"	—
b811(E)	6	6	7'-10"	—
b812(E)	60	4	23'-4"	—
b813(E)	4	4	8'-0"	—
b814(E)	4	4	8'-2"	—
b815(E)	4	4	7'-2"	—
b816(E)	8	4	7'-6"	—
b817(E)	39	4	6'-0"	—
b818(E)	8	6	20'-11"	—
b819(E)	4	4	20'-11"	—
d801(E)	94	4	6'-0"	—
d802(E)	188	4	1'-10"	—
h801(E)	40	5	4'-0"	—
s801(E)	94	4	4'-1"	—
REINFORCING BARS				
EPOXY COATED		POUND	13,456	
CONCRETE STRUCTURES		CU YD	100	

NOTES:

1. ALL REINFORCING BARS SHALL BE PRE-CUT IN THE SHOP AT OPENING LOCATIONS.
2. COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.

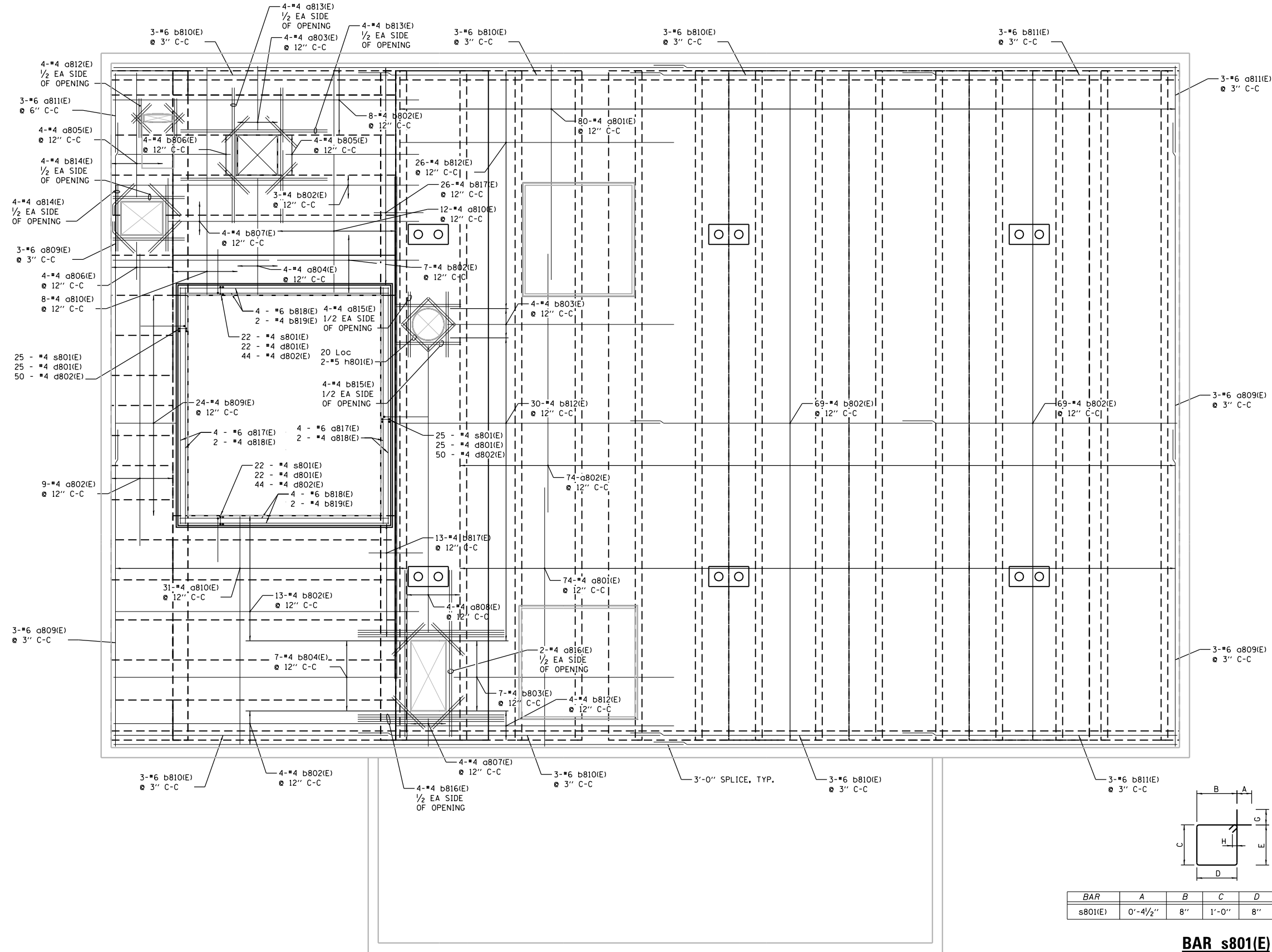
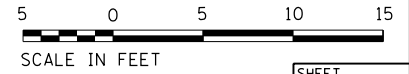


BAR d801(E)



BAR s801(E)

BAR	A	B	C	D	E	G	H
s801(E)	0'-4 1/2"	8"	1'-0"	8"	1'-0"	0'-4 1/2"	3"



ROOF REINFORCING PLAN - EL 662.17

FILE NAME = D191454-S721.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 PLOT SCALE = 0.1" = 1'-0"
 PLOT DATE = 5/29/2019
 HDR, Inc.
 8550 W. Bryn Mawr Ave.
 Suite 900
 Chicago, IL 60631

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
ROOF REINFORCING PLAN AT ELEVATION 662.17**
 SCALE: 3/8" = 1'-0" SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	89

CONTRACT NO. 62B78
ILLINOIS FED. AID PROJECT

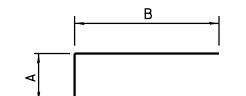
SHEET
S721

BILL OF MATERIALS

BAR	NO.	SIZE	LENGTH	SHAPE	
d901(E)	174	8	4'-10"	▬	
d902(E)	4	7	4'-8"	▬	
d903(E)	11	5	4'-4"	▬	
d904(E)	123	4	6'-1"	▬	
d905(E)	17	5	6'-0"	▬	
d906(E)	17	5	1'-9"	▬	
d907(E)	24	5	4'-4"	▬	
d909(E)	1	5	3'-3"	▬	
d910(E)	54	9	3'-11"	▬	
d911(E)	18	5	2'-8"	▬	
d912(E)	4	5	5'-8"	▬	
d913(E)	3	5	8'-10"	▬	
d914(E)	3	10	4'-2"	▬	
h901(E)	3	9	19'-10"	▬	
h902(E)	3	9	27'-0"	▬	
h903(E)	138	9	35'-11"	▬	
h904(E)	138	9	43'-1"	▬	
h905(E)	32	7	24'-1"	▬	
h906(E)	31	7	29'-0"	▬	
h907(E)	63	7	34'-4"	▬	
h908(E)	32	7	48'-8"	▬	
h909(E)	31	7	53'-2"	▬	
v901(E)	30	7	38'-2"	▬	
v902(E)	154	7	36'-2"	▬	
v903(E)	92	7	36'-10"	▬	
v904(E)	92	7	35'-10"	▬	
v905(E)	50	7	22'-1"	▬	
v906(E)	50	7	21'-1"	▬	
REINFORCING BARS EPOXY COATED				POUND	87,688
CONCRETE STRUCTURES				CU YD	682

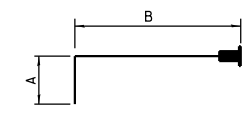
NOTES:

- ALL REINFORCING BARS SHALL BE PRE-CUT IN THE SHOP AT OPENING LOCATIONS.
- COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.



BAR	A	B
d907(E)	1'-8"	2'-8"
h901(E)	1'-7"	18'-3"
h902(E)	8'-9"	18'-3"
h903(E)	1'-7"	34'-4"
h904(E)	8'-9"	34'-4"
h905(E)	1'-7"	22'-6"
h906(E)	6'-6"	22'-6"
h908(E)	1'-2"	47'-6"
h909(E)	5'-8"	47'-6"
v903(E)	1'-2"	35'-8"
v904(E)	1'-2"	34'-8"
v905(E)	1'-2"	20'-11"
v906(E)	1'-2"	19'-11"

BARS d907(E), h901(E), h902(E), h903(E), h904(E), h905(E), h906(E), h908(E), h909(E), v903(E), v904(E), v905(E), v906(E))

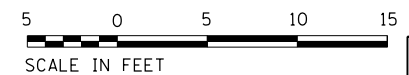


BAR	A	B	G
d901(E)	1'-4"	3'-2"	
d902(E)	1'-2"	3'-6"	
d903(E)	10"	3'-6"	
d910(E)	1'-7"	2'-4"	
d914(E)	1'-10"	2'-4"	

DOWEL BARS d901(E), d902(E), d903(E), d910(E) d914(E)

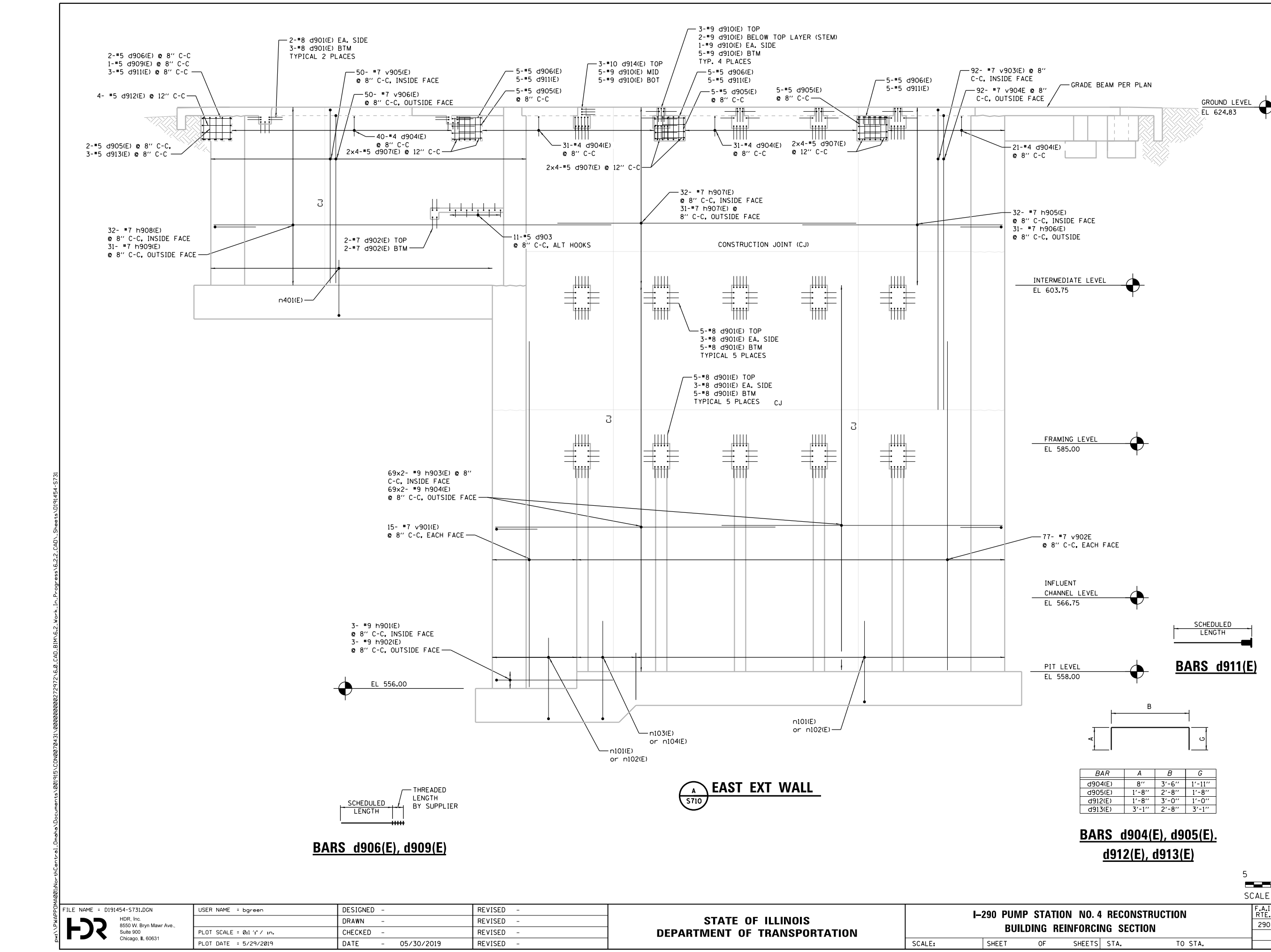
BARS d904(E), d905(E), d912(E), d913(E)

BAR	A	B	G
d904(E)	8"	3'-6"	1'-11"
d905(E)	1'-8"	2'-8"	1'-8"
d912(E)	1'-8"	3'-0"	1'-0"
d913(E)	3'-1"	2'-8"	3'-1"



SCALE IN FEET		SHEET S731	
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS
290	3434-2321-R	COOK	232 90
CONTRACT NO. 62B78			
ILLINOIS FED. AID PROJECT			

FILE NAME = D191454-S731.DGN
 USER NAME = bgreen
 DESIGNED -
 DRAWN -
 PLOT SCALE = 0.1" = 1'-0"
 PLOT DATE = 5/29/2019
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631
 STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 I-290 PUMP STATION NO. 4 RECONSTRUCTION
 BUILDING REINFORCING SECTION
 SCALE: SHEET OF SHEETS STA. TO STA.



EAST EXT WALL

BARS d906(E), d909(E)

BARS d911(E)

BILL OF MATERIALS

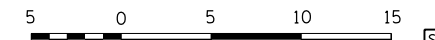
BAR	NO.	SIZE	LENGTH	SHAPE	
d1001(E)	140	8	4'-7"	▬	
d1002(E)	4	7	4'-8"	▬	
d1003(E)	36	5	4'-5"	▬	
d1004(E)	49	4	6'-1"	▬	
d1005(E)	2	5	6'-0"	▬	
d1006(E)	2	5	1'-9"	▬	
d1009(E)	1	5	3'-3"	▬	
d1010(E)	174	5	6'-5"	▬	
d1011(E)	86	9	4'-10"	▬	
d1012(E)	3	5	2'-8"	▬	
d1013(E)	3	5	8'-10"	▬	
d1014(E)	4	5	5'-8"	▬	
d1016(E)	12	5	4'-1"	▬	
d1017(E)	3	10	5'-4"	▬	
h1001(E)	3	9	19'-10"	▬	
h1002(E)	3	9	27'-0"	▬	
h1003(E)	138	9	35'-11"	▬	
h1004(E)	138	9	43'-1"	▬	
h1005(E)	32	7	24'-1"	▬	
h1006(E)	31	7	29'-0"	▬	
h1007(E)	63	7	34'-4"	▬	
h1008(E)	32	7	48'-8"	▬	
h1009(E)	31	7	53'-2"	▬	
v1001(E)	30	7	38'-2"	▬	
v1002(E)	154	7	36'-2"	▬	
v1003(E)	92	7	36'-10"	▬	
v1004(E)	92	7	35'-10"	▬	
v1005(E)	50	7	22'-1"	▬	
v1006(E)	50	7	21'-1"	▬	
REINFORCING BARS EPOXY COATED				POUND	89,155
CONCRETE STRUCTURES				CU YD	682

NOTES:

- 1. ALL REINFORCING BARS SHALL BE PRE-CUT IN THE SHOP AT OPENING LOCATIONS.
- 2. COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.

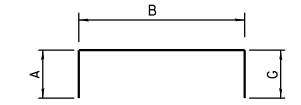
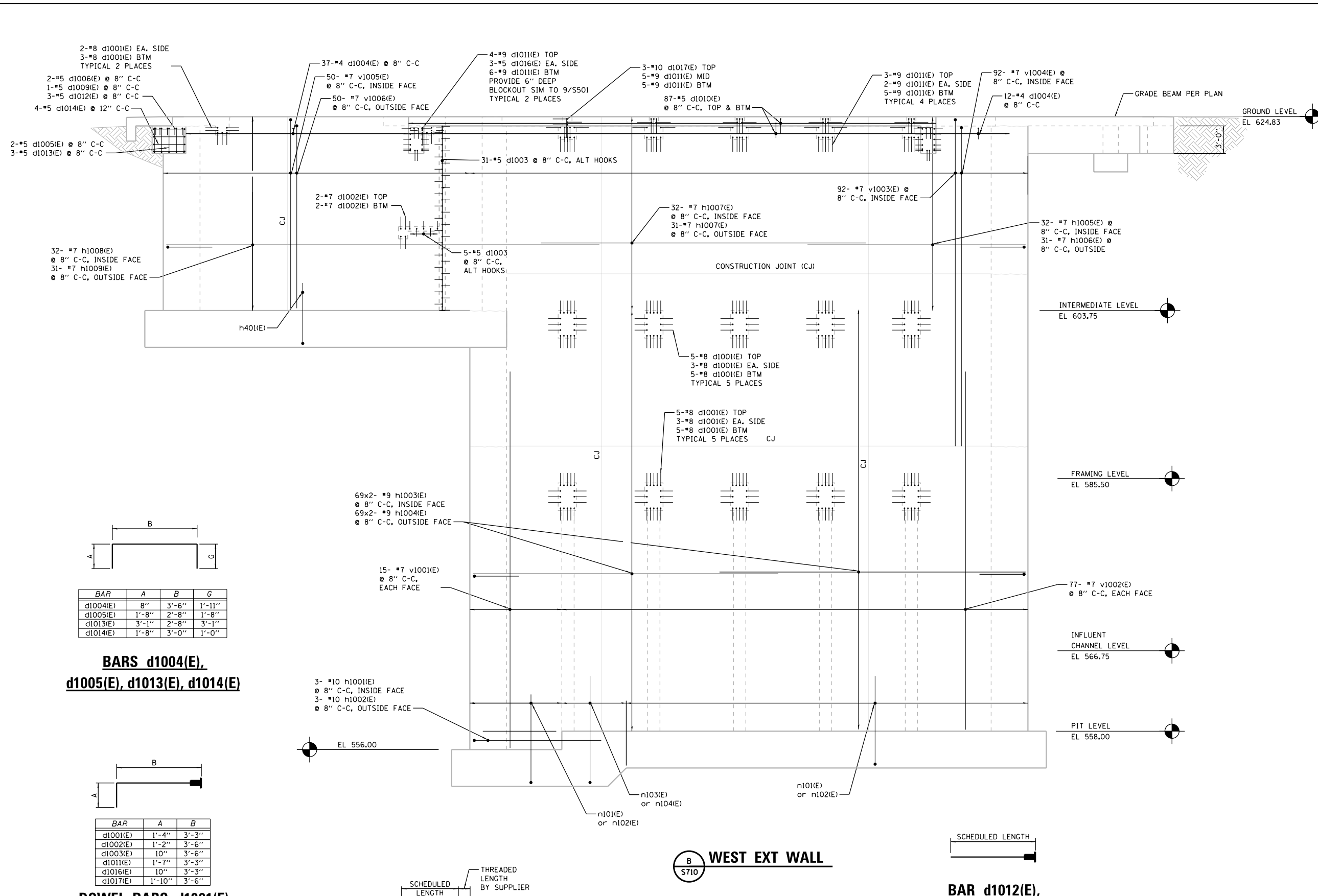
BAR	A	B
d1010(E)	10"	5'-7"
h1001(E)	1'-7"	18'-3"
h1002(E)	8'-9"	18'-3"
h1003(E)	1'-7"	34'-4"
h1004(E)	8'-9"	34'-4"
h1005(E)	1'-7"	22'-6"
h1006(E)	6'-6"	22'-6"
h1008(E)	1'-2"	47'-6"
h1009(E)	5'-8"	47'-6"
v1003(E)	1'-2"	35'-8"
v1004(E)	1'-2"	34'-8"
v1005(E)	1'-2"	20'-11"
v1006(E)	1'-2"	19'-11"

BARS d1010(E), h1001(E), h1002(E), h1003(E), h1004(E), h1005(E), h1006(E), h1008(E), h1009(E), v1003(E), v1004(E), v1005(E), v1006(E)



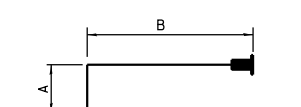
SHEET S732

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	91
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				



BAR	A	B	G
d1004(E)	8"	3'-6"	1'-11"
d1005(E)	1'-8"	2'-8"	1'-8"
d1013(E)	3'-1"	2'-8"	3'-1"
d1014(E)	1'-8"	3'-0"	1'-0"

BARS d1004(E), d1005(E), d1013(E), d1014(E)



BAR	A	B
d1001(E)	1'-4"	3'-3"
d1002(E)	1'-2"	3'-6"
d1003(E)	10"	3'-6"
d1011(E)	1'-7"	3'-3"
d1016(E)	10"	3'-3"
d1017(E)	1'-10"	3'-6"

DOWEL BARS d1001(E), d1003(E), d1011(E), d1016(E), d1017(E)

BARS d1006(E), d1009(E)

FILE NAME = D191454-S732.DGN
USER NAME = bgreen
DESIGNED - HDR - K. KIRCHNER
DRAWN - HDR - B. GREEN
CHECKED - HDR - B. BRADLEY
DATE - 05/30/2019
REVISED -
REVISED -
REVISED -
REVISED -



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
BUILDING REINFORCING SECTION
SCALE: SHEET OF SHEETS STA. TO STA.

BILL OF MATERIALS

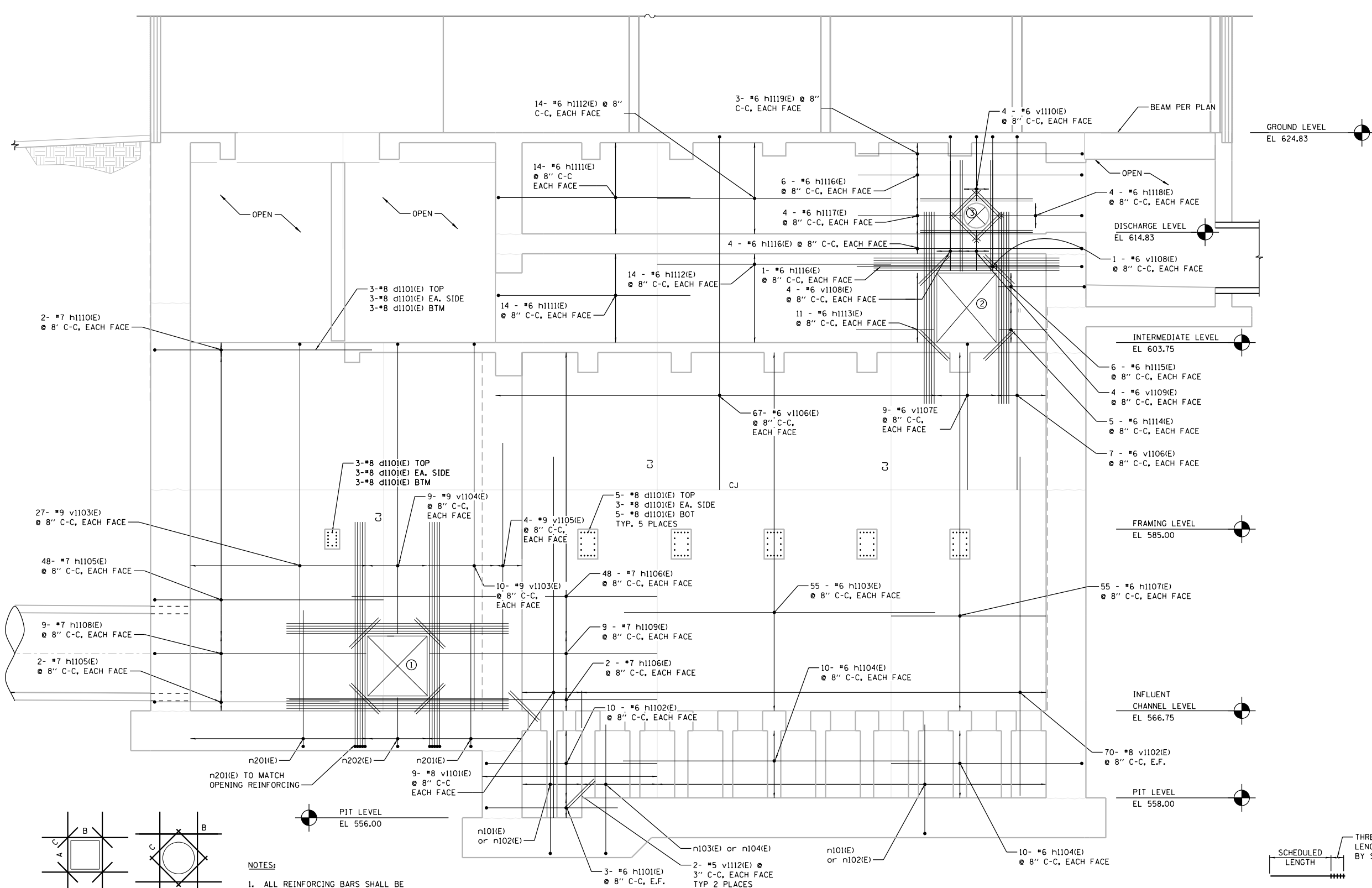
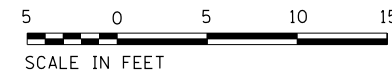
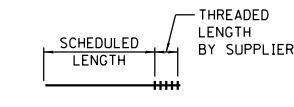
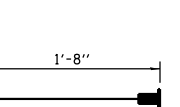
BAR	NO.	SIZE	LENGTH	SHAPE
d1101(E)	184	8	1'-8"	▬
h1101(E)	6	6	14'-0"	▬
h1102(E)	20	6	18'-5"	▬
h1103(E)	130	6	30'-2"	▬
h1104(E)	20	6	20'-5"	▬
h1105(E)	100	7	24'-6"	▬
h1106(E)	100	7	30'-9"	▬
h1107(E)	110	6	15'-9"	▬
h1108(E)	18	7	22'-8"	▬
h1109(E)	4	7	23'-11"	▬
h1110(E)	4	7	17'-3"	▬
h1111(E)	62	6	20'-3"	▬
h1112(E)	62	6	23'-6"	▬
h1113(E)	22	6	7'-7"	▬
h1114(E)	10	6	5'-0"	▬
h1115(E)	12	6	9'-8"	▬
h1116(E)	22	6	23'-7"	▬
h1117(E)	8	6	10'-5"	▬
h1118(E)	8	7	10'-4"	▬
h1119(E)	6	6	23'-1"	▬
h1120(E)	20	7	22'-4"	▬
h1121(E)	12	6	19'-4"	▬
h1122(E)	8	6	11'-6"	▬
v1101(E)	18	8	39'-7"	▬
v1102(E)	140	8	37'-7"	▬
v1103(E)	74	9	38'-5"	▬
v1104(E)	18	9	30'-9"	▬
v1105(E)	8	9	28'-10"	▬
v1106(E)	150	6	36'-8"	▬
v1107(E)	18	6	15'-6"	▬
v1108(E)	8	6	14'-9"	▬
v1109(E)	8	6	4'-2"	▬
v1110(E)	10	6	7'-8"	▬
v1111(E)	20	9	18'-10"	▬
v1112(E)	48	5	4'-0"	▬
v1113(E)	20	6	19'-4"	▬
v1114(E)	12	6	11'-8"	▬
REINFORCING BARS EPOXY COATED POUND 69,900				
CONCRETE STRUCTURES CU YD 369				

BAR	A	B
h1101(E)	1'-0"	13'-0"
h1102(E)	1'-0"	17'-5"
h1104(E)	1'-2"	19'-5"
h1105(E)	1'-2"	23'-4"
h1108(E)	1'-2"	21'-6"
h1109(E)	1'-2"	22'-9"
h1110(E)	1'-2"	16'-1"
h1111(E)	1'-2"	19'-3"
h1115(E)	1'-0"	8'-8"
h1116(E)	1'-0"	22'-7"
h1118(E)	1'-0"	9'-4"
v1103(E)	1'-7"	36'-10"
v1104(E)	1'-7"	29'-2"
v1106(E)	1'-0"	35'-8"
v1108(E)	1'-0"	13'-9"
v1110(E)	1'-0"	6'-8"

BARS h1101(E), h1102(E), h1104(E), h1105(E), h1108(E), h1110(E), h1111(E), h1115(E), h1116(E), h1118(E), v1103(E), v1104(E), v1106(E), v1108(E), v1110(E)

BARS h1107(E), h1114(E)

BAR d1101(E)



C CENTER MAIN WALL
S710

- NOTES:**
- ALL REINFORCING BARS SHALL BE PRE-CUT IN THE SHOP AT OPENING LOCATIONS.
 - COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.
 - COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.

WALL OPENINGS

NO.	A	B	C
①	v1111(E)	h1120(E)	v1112(E)
②	v1113(E)	h1121(E)	v1112(E)
③	v1114(E)	h1122(E)	v1112(E)

FILE NAME = D191454-S733.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 PLOT SCALE = 0.1" = 1'-0"
 PLOT DATE = 5/29/2019

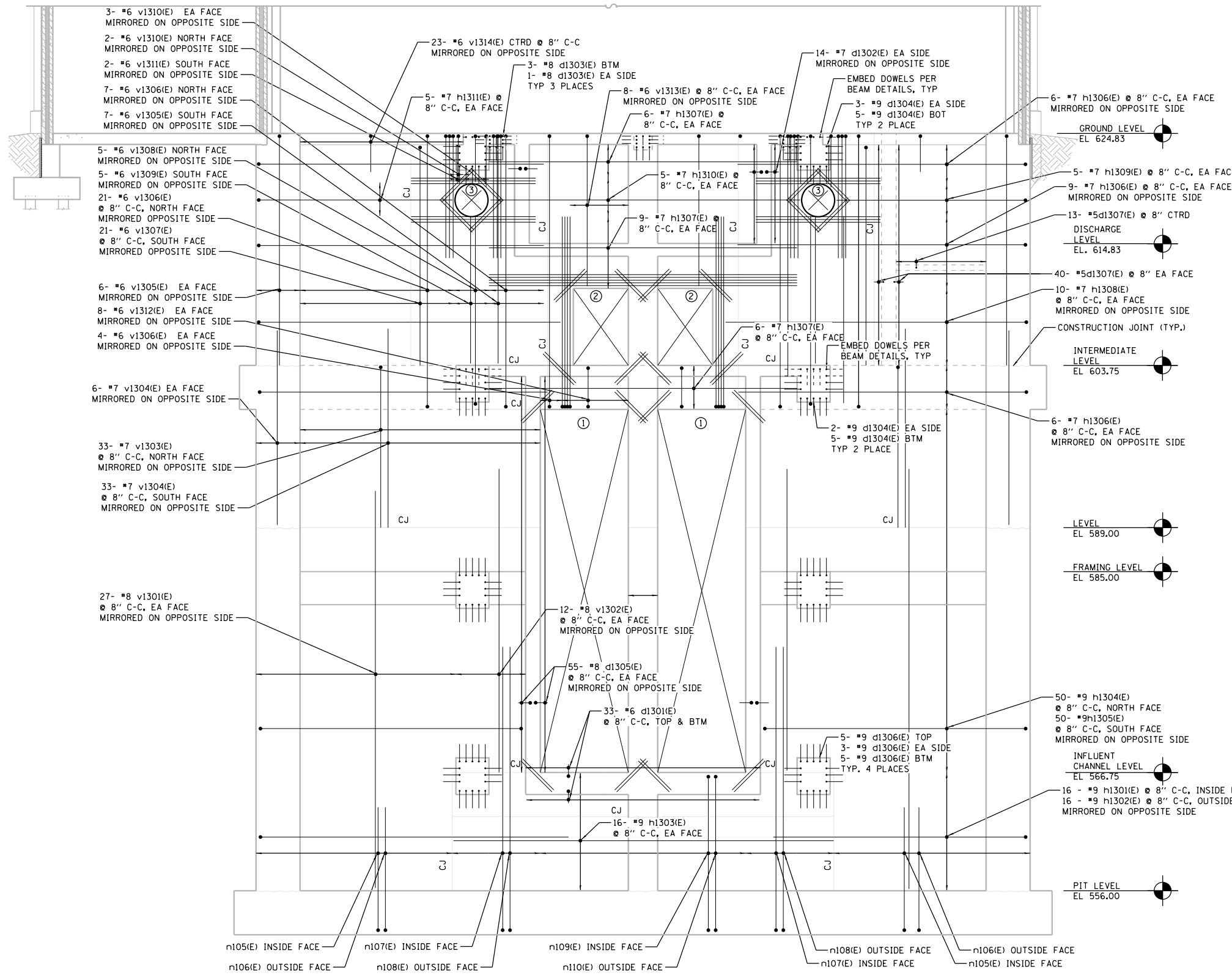
REVISIO -
 REVISIO -
 REVISIO -
 REVISIO -
 DATE - 05/30/2019

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
BUILDING REINFORCING SECTION**

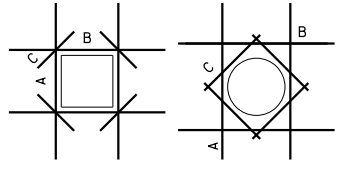
SCALE: 3/8" = 1'-0" SHEET OF SHEETS STA. TO STA.

SHEET 733
 TOTAL SHEETS 92
 CONTRACT NO. 62B78
 ILLINOIS FED. AID PROJECT

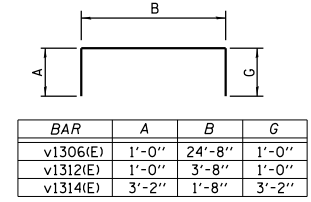


WALL OPENINGS

NO.	A	B	C
1			v1315(E)
2	v1316(E)	h1312(E)	v1315(E)
3	v1317(E)	h1313(E)	v1315(E)

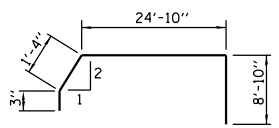


- NOTES:
- ALL REINFORCING BARS SHALL BE PRE-CUT IN THE SHOP OPENING LOCATIONS.
 - COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.

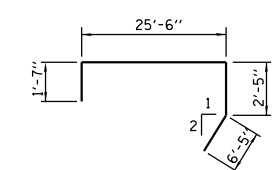


BARS v1306(E), v1312(E), v1314(E)

BAR	A	B	G
v1306(E)	1'-0"	24'-8"	1'-0"
v1312(E)	1'-0"	3'-8"	1'-0"
v1314(E)	3'-2"	1'-8"	3'-2"



BAR h1304(E)



BAR h1305(E)

BILL OF MATERIALS

BAR	NO.	SIZE	LENGTH	SHAPE
d1301(E)	66	6	4'-8"	
d1302(E)	68	7	4'-8"	
d1303(E)	15	8	3'-4"	
d1304(E)	40	9	3'-7"	
d1305(E)	220	8	5'-0"	
d1306(E)	64	9	4'-11"	
d1307(E)	93	5	3'-2"	
h1301(E)	32	9	27'-7"	
h1302(E)	32	9	34'-4"	
h1303(E)	32	9	34'-8"	
h1304(E)	100	7	35'-3"	
h1305(E)	100	9	35'-11"	
h1306(E)	84	7	27'-6"	
h1307(E)	42	7	27'-8"	
h1308(E)	40	7	29'-8"	
h1309(E)	10	7	18'-7"	
h1310(E)	10	7	28'-2"	
h1311(E)	10	7	18'-11"	
h1312(E)	10	7	30'-0"	
h1313(E)	24	7	16'-4"	
v1301(E)	108	8	38'-2"	
v1302(E)	48	8	27'-5"	
v1303(E)	66	7	15'-9"	
v1304(E)	90	7	19'-11"	
v1305(E)	38	6	21'-11"	
v1306(E)	74	6	26'-8"	
v1307(E)	42	6	20'-10 1/2"	
v1308(E)	10	6	18'-1"	
v1309(E)	10	6	13'-4"	
v1310(E)	16	6	4'-2 1/2"	
v1311(E)	4	6	5'-3"	
v1312(E)	32	6	5'-8"	
v1313(E)	32	6	14'-11"	
v1314(E)	46	6	8'-0"	
v1315(E)	96	5	4'-0"	
v1316(E)	16	6	17'-10"	
v1317(E)	24	6	13'-1"	
REINFORCING BARS EPOXY COATED		POUND	77,224	
CONCRETE STRUCTURES		CU YD	498	

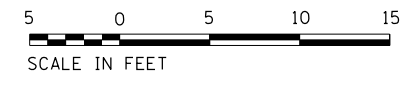
BARS h1301(E), h1302(E), h1306(E), h1308(E), h1309(E), h1311(E), v1303(E), v1305(E), v1307(E), v1308(E), v1310(E), v1311(E), v1313(E), v1316(E), v1317(E)

BAR	A	B
h1301(E)	1'-7"	26'-0"
h1302(E)	8'-4"	26'-0"
h1306(E)	1'-2"	26'-4"
h1308(E)	1'-2"	28'-6"
h1309(E)	1'-2"	17'-5"
h1311(E)	1'-2"	17'-9"
v1303(E)	1'-2"	14'-7"
v1305(E)	1'-0"	20'-11"
v1307(E)	1'-0"	19'-10 1/2"
v1308(E)	1'-0"	17'-1"
v1310(E)	1'-0"	3'-2 1/2"
v1311(E)	1'-0"	4'-3"
v1313(E)	1'-0"	13'-11"
v1316(E)	1'-0"	13'-9"

BARS d1301(E) d1302(E), d1303(E), d1304(E), d1305(E) d1306(E), d1307(E)

BAR	A	B
d1301(E)	1'-0"	3'-8"
d1302(E)	1'-2"	2'-4"
d1303(E)	1'-4"	2'-0"
d1304(E)	1'-7"	2'-0"
d1305(E)	1'-4"	3'-8"
d1306(E)	1'-7"	3'-4"
d1307(E)	0'-10"	2'-4"

NORTH PUMP WELL



FILE NAME = D191454-S735.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 CHECKED - HDR - B. BRADLEY
 DATE - 05/30/2019
 PLOT SCALE = 0.1" = 1'-0"
 PLOT DATE = 5/29/2019



HDR, Inc.
 8550 W. Bryn Mawr Ave.
 Suite 900
 Chicago, IL 60631

DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 CHECKED - HDR - B. BRADLEY
 DATE - 05/30/2019

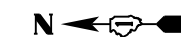
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
BUILDING REINFORCING SECTION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	94

CONTRACT NO. 62B78
 ILLINOIS FED. AID PROJECT

SHEET 735

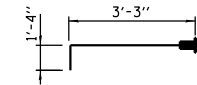


BILL OF MATERIALS

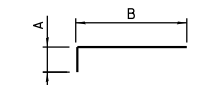
BAR	QTY	SIZE	LENGTH	SHAPE
d1501(E)	12	8	4'-7"	
v1501(E)	112	7	38'-0"	
v1502(E)	158	8	38'-2"	
v1503(E)	158	7	11'-0"	
h1501(E)	33	9	47'-5"	
h1502(E)	33	9	23'-4"	
h1503(E)	33	9	32'-9"	
h1504(E)	17	7	43'-10"	
h1505(E)	23	7	25'-7"	
h1506(E)	23	7	23'-9"	
h1507(E)	216	8	29'-10"	
h1508(E)	56	7	29'-1"	
h1509(E)	18	5	4'-4"	
h1510(E)	18	4	4'-6"	
h1511(E)	70	4	5'-6"	
h1512(E)	8	4	2'-0"	
s1510(E)	24	4	2'-7"	
REINFORCING BARS EPOXY COATED		POUND		64,907
CONCRETE STRUCTURES		CU YD		197

NOTES:

1. ALL REINFORCING BARS SHALL BE PRE-CUT IN THE SHOP AT OPENING LOCATIONS.
2. COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.

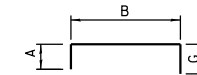


BAR d1501(E)



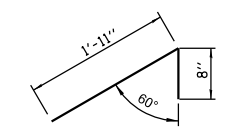
BAR	A	B
v1501(E)	1'-2"	36'-10"
v1502(E)	1'-4"	36'-10"
v1503(E)	1'-2"	9'-10"

BARS v1501(E), v1502(E), v1503(E)

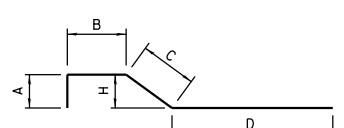


BAR	A	B	G
h1509(E)	10"	2'-8"	10"
h1510(E)	8"	3'-2"	8"
h1511(E)	8"	4'-2"	8"

BARS h1509(E), h1510(E), h1511(E)

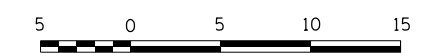


BAR s1510(E)

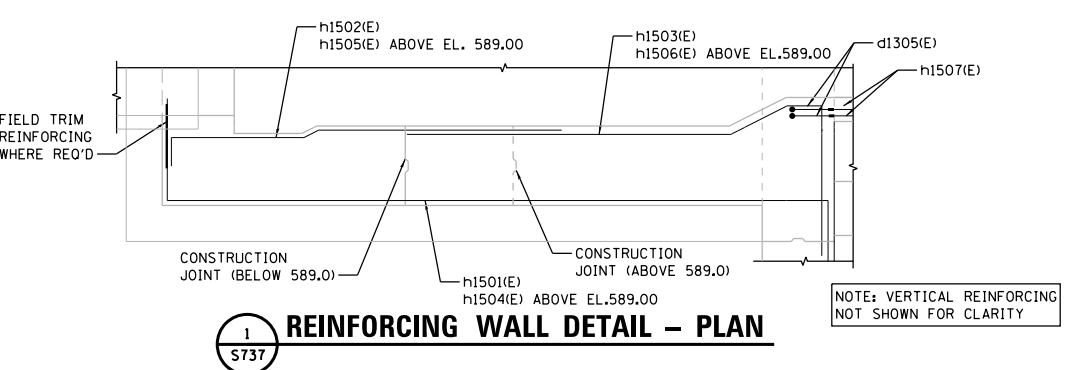
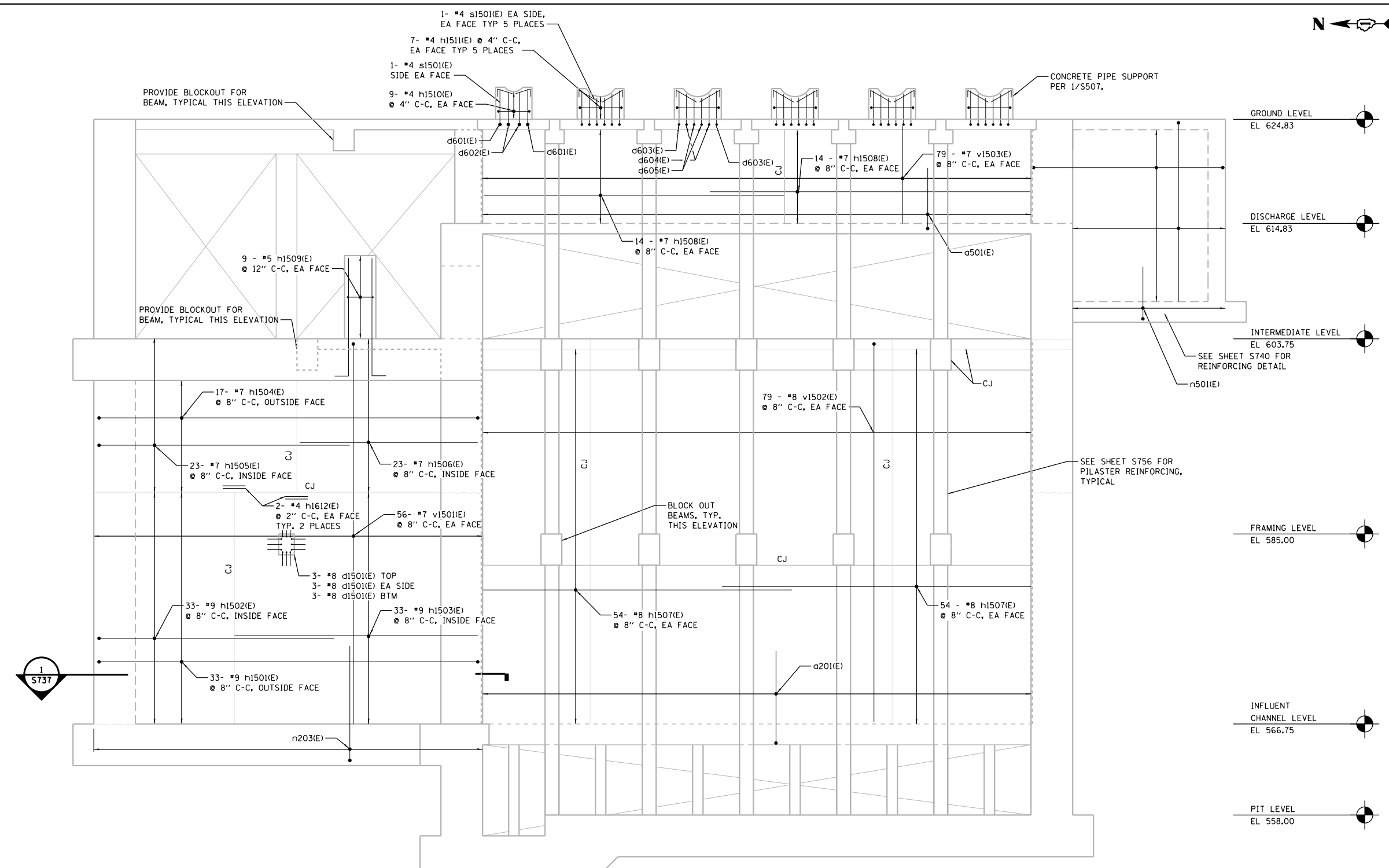


BAR	A	B	C	D	H
h1503(E)	8'-10"	2'-4"	3'-7"	18'-0"	1'-7"
h1506(E)	5'-8"	2'-4"	3'-7"	12'-2"	1'-7"

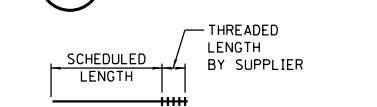
BARS h1503(E), h1506(E)



SHEET S737



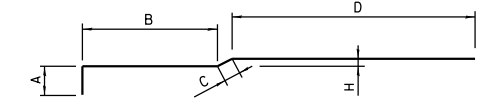
WEST INFLUENT / DISCHARGE CHANNEL WALL



BARS h1507(E), h1508(E)

BAR	A	B	G
h1507(E)	1'-7"	37'-0"	8'-10"
h1508(E)	1'-2"	37'-0"	5'-8"

BARS h1501(E), h1504(E)



BAR	A	B	C	D	H
h1502(E)	1'-7"	7'-7"	11"	13'-3"	5"
h1505(E)	1'-2"	7'-7"	11"	15'-11"	5"

BARS h1502(E), h1505(E)

SCALE IN FEET

D:\Projects\2018\12\1515\CD\080724\31\08080802727972\6.0_CAD_BIM\6.2_Work_Inv_Progress\6.2.2_CAD_Sheets\0191454-S737

FILE NAME = D191454-S737.DGN
HDR, Inc.
8550 W. Bryn Mawr Ave.,
Suite 900
Chicago, IL 60631

USER NAME = bgreen
PLOT SCALE = 0=1' / 1"=
PLOT DATE = 5/29/2019

DESIGNED - HDR - K. KIRCHNER
DRAWN - HDR - B. GREEN
CHECKED - HDR - B. BRADLEY
DATE - 05/30/2019

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
REINFORCING ELEVATION

SCALE: 3/8"=1'-0" SHEET OF SHEETS STA. TO STA.

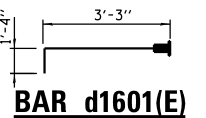
F.A.I. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.
290 3434-2321-R COOK 232 96
CONTRACT NO. 62B78
ILLINOIS FED. AID PROJECT

BILL OF MATERIALS

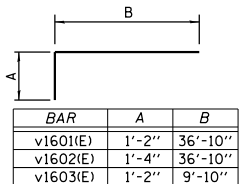
BAR	QTY	SIZE	LENGTH	SHAPE
d1601(E)	13	8	4'-7"	
h1601(E)	33	9	47'-5"	
h1602(E)	33	9	23'-4"	
h1603(E)	33	9	32'-9"	
h1604(E)	17	7	43'-10"	
h1605(E)	23	7	25'-7"	
h1606(E)	23	7	23'-9"	
h1607(E)	216	8	29'-10"	
h1608(E)	46	7	29'-1"	
h1609(E)	18	5	4'-4"	
h1610(E)	18	4	4'-6"	
h1611(E)	70	4	5'-6"	
h1612(E)	8	4	2'-0"	
h1613(E)	28	4	5'-0"	
h1614(E)	10	7	20'-5"	
h1615(E)	10	7	5'-2"	
h1616(E)	8	7	14'-6"	
s1610(E)	24	4	2'-7"	
v1601(E)	112	7	38'-0"	
v1602(E)	158	8	38'-2"	
v1603(E)	150	7	11'-0"	
v1604(E)	8	7	7'-10"	
v1605(E)	8	7	9'-7"	
v1606(E)	16	5	4'-0"	
REINFORCING BARS EPOXY COATED		POUND	65,601	
CONCRETE STRUCTURES		CU YD	145	

NOTES:

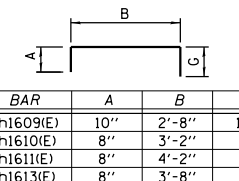
- ALL REINFORCING BARS SHALL BE PRE-CUT IN THE SHOP AT OPENING LOCATIONS.
- COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.



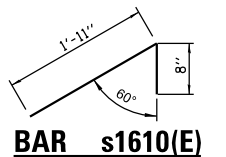
BAR d1601(E)



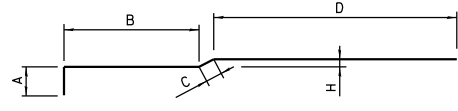
BARS v1601(E), v1602(E)



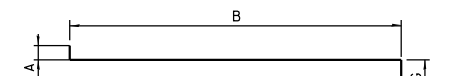
BARS h1609(E), h1610(E), h1611(E), h1613(E)



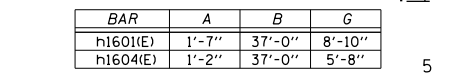
BAR s1610(E)



BARS h1602(E), h1605(E)



BARS h1607(E), h1608(E), h1615(E), h1616



BARS h1601(E), h1604(E)



BARS h1603(E), h1606(E)

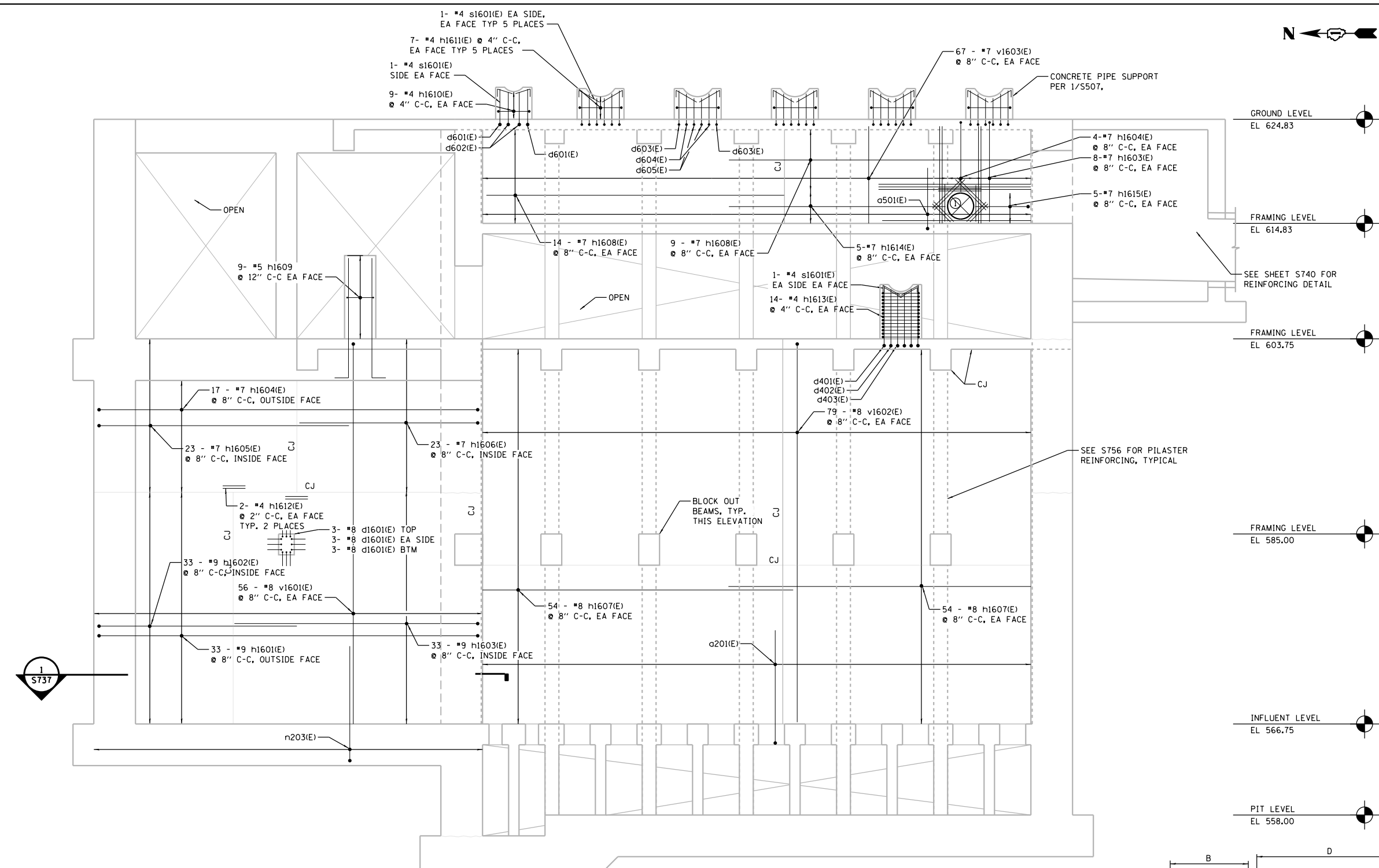
SCALE IN FEET

SHEET S738

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	97

CONTRACT NO. 62B78

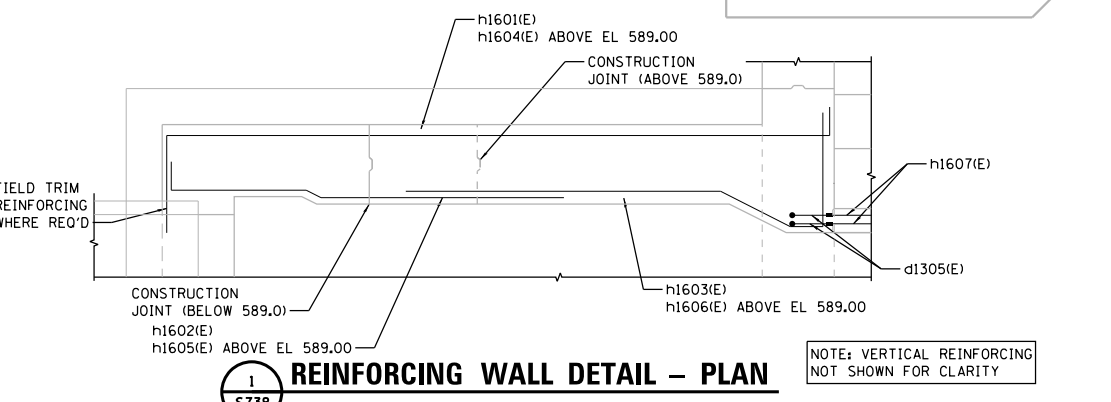
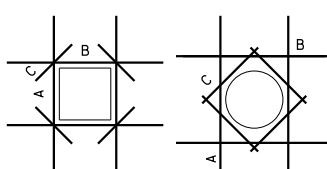
ILLINOIS FED. AID PROJECT



EAST INFLUENT / DISCHARGE CHANNEL WALL

WALL OPENINGS

NO.	A	B	C
1	v1605(E)	h1616(E)	v1606(E)



REINFORCING WALL DETAIL - PLAN

NOTE: VERTICAL REINFORCING NOT SHOWN FOR CLARITY

FILE NAME = D191454-S738.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 PLOT SCALE = 0.1" = 1'-0"
 PLOT DATE = 5/29/2019
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-290 PUMP STATION NO. 4 RECONSTRUCTION
REINFORCING ELEVATION
SCALE: 3/16"=1'-0" SHEET OF SHEETS STA. TO STA.

BILL OF MATERIALS

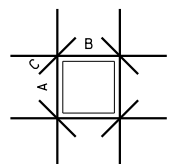
BAR	NO.	SIZE	LENGTH	SHAPE
v1701(E)	540	5	28'-2"	┌
v1702(E)	80	5	20'-9"	┌
v1703(E)	80	5	10'-7"	┌
v1704(E)	160	5	4'-0"	┌
h1701(E)	200	5	17'-8"	┌
h1702(E)	232	5	30'-9"	┌
h1703(E)	520	5	13'-3"	┌
h1704(E)	520	5	16'-4"	┌
h1705(E)	100	5	14'-5"	┌
REINFORCING BARS EPOXY COATED			POUND	44,504
CONCRETE STRUCTURES			CU YD	395

NOTES:

- ALL REINFORCING BARS SHALL BE PRE-CUT IN THE SHOP AT OPENING LOCATIONS.
- COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.

WALL OPENINGS

NO.	A	B	C
1	v1703(E)	h1705(E)	v1704(E)
2	-	-	v1704(E)



BAR	B
v1701(E)	27'-4"
v1702(E)	19'-11"
h1701(E)	16'-10"
h1703(E)	12'-5"
h1704(E)	15'-8"

BARS v1701(E), v1702(E), h1701(E), h1703(E), h1704(E)

7- #5 v1701(E) @ 8" C-C EA FACE MIRRORED ON OPPOSITE SIDE
 4- #5 v1702(E) @ 8" C-C EA FACE MIRRORED ON OPPOSITE SIDE
 20- #5 v1701(E) @ 8" C-C EA FACE MIRRORED ON OPPOSITE SIDE

FRAMING LEVEL
 EL 585.50

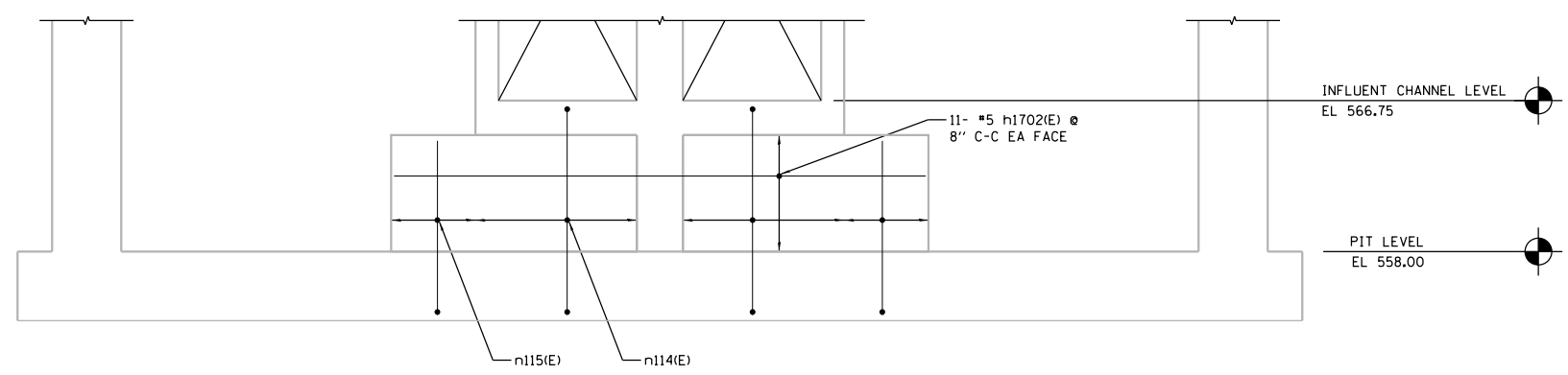
26- #5 h1704(E) @ 8" C-C EA FACE MIRRORED ON OPPOSITE SIDE
 26- #5 h1703(E) @ 8" C-C EA FACE MIRRORED ON OPPOSITE SIDE

INFLUENT CHANNEL LEVEL
 EL 566.75

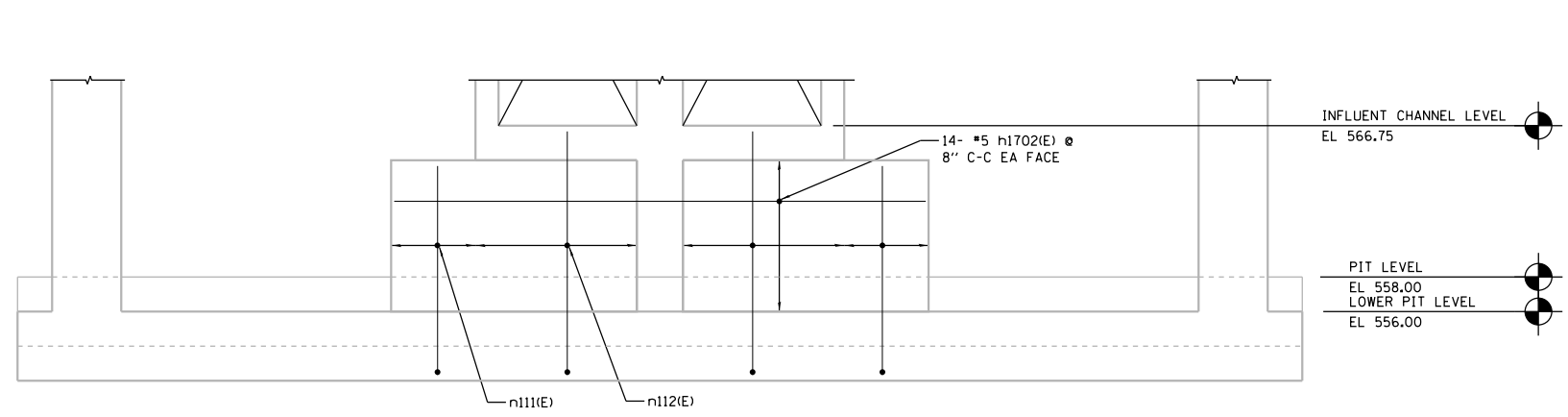
10- #5 h1701(E) @ 8" C-C EA FACE MIRRORED ON OPPOSITE SIDE

PIT LEVEL
 EL 558.00

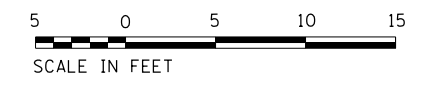
I SECTION
 S710 (TYPICAL AT 5 LOCATIONS)



J SECTION
 S710 (TYPICAL AT 5 LOCATIONS)



K SECTION
 S710



P:_P\APP\04081\NorthCentral\Omaha\Documents\001915\CON\078431\00000000271972\6.0_CAD_BIM\6.2_Work\In_Progress\6.2.2_CAD_Sheets\0191454-S739

FILE NAME = D191454-S739.DGN
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

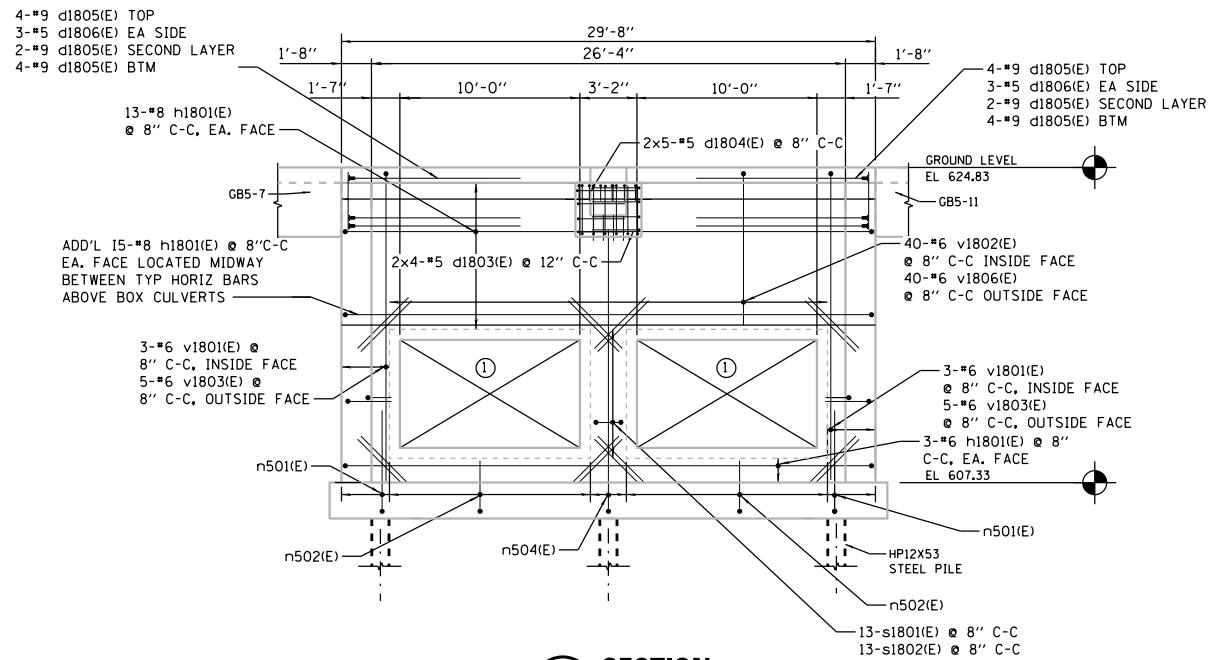
USER NAME = bgreen	DESIGNED - HDR - K. KIRCHNER	REVISED -
PLOT SCALE = 0.1' / 1"	DRAWN - HDR - B. GREEN	REVISED -
PLOT DATE = 5/29/2019	CHECKED - HDR - B. BRADLEY	REVISED -
	DATE - 05/30/2019	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

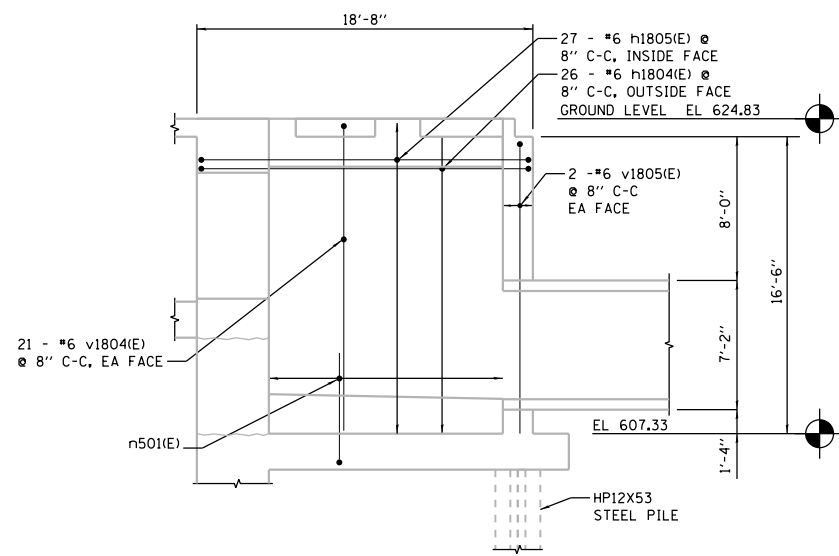
**I-290 PUMP STATION NO. 4 RECONSTRUCTION
 BUILDING REINFORCING SECTIONS**
 SCALE: 3/8"=1'-0" SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	98
CONTRACT NO. 62B78				
ILLINOIS FED. AID PROJECT				

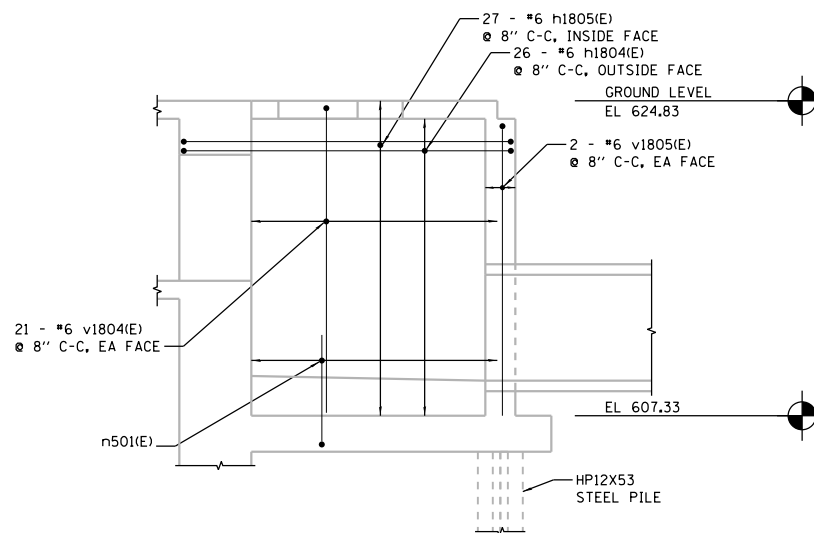
SHEET
 S739



SECTION S710



SECTION M S710



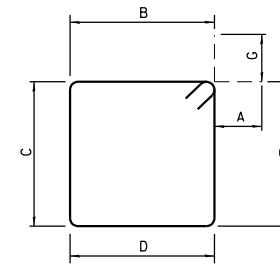
SECTION N S710

NOTES:

- ALL REINFORCING BARS SHALL BE PRE-CUT AT SHOP OPENING LOCATIONS.
- COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.
- CONTRACTOR VERIFY FINAL OUTSIDE DIMENSIONS OF PRECAST BOX CULVERT AND REVISE REINFORCING AS REQUIRED. SUBMIT REQUIRED REINFORCING CHANGE PRIOR TO REBAR FABRICATION.

BILL OF MATERIALS

BAR	NO.	SIZE	LENGTH	SHAPE
d1802(E)	6	#8	8'-0"	┌───┐
d1803(E)	8	#5	5'-10"	┌───┐
d1804(E)	10	#5	5'-8"	┌───┐
d1805(E)	20	#9	8'-4"	┌───┐
d1806(E)	12	#5	2'-7"	┌───┐
v1801(E)	6	#6	20'-7"	┌───┐
v1802(E)	40	#6	12'-1"	┌───┐
v1803(E)	10	#6	17'-3"	┌───┐
v1804(E)	84	#6	20'-7"	┌───┐
v1805(E)	8	#6	17'-3"	┌───┐
v1806(E)	40	#6	8'-9"	┌───┐
h1801(E)	36	#8	31'-10"	┌───┐
h1803(E)	22	#6	1'-8"	┌───┐
h1804(E)	52	#6	21'-5"	┌───┐
h1805(E)	54	#6	20'-5"	┌───┐
v1807(E)	32	#5	4'-0"	┌───┐
s1801(E)	13	#4	6'-5"	┌───┐
s1802(E)	13	#4	1'-11"	┌───┐
REINFORCING BARS EPOXY COATED		POUND	11,985	
CONCRETE STRUCTURES		CU YD	54	

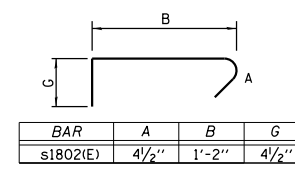


BAR	A	B	C	D	E	G
s1801(E)	4 1/2"	1'-8"	1'-2"	1'-8"	1'-2"	4 1/2"

BARS s1801(E)

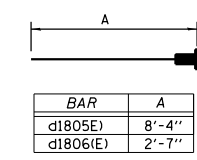
WALL OPENINGS

NO.	A	B	C
1			v1807(E)



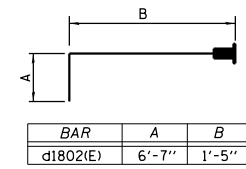
BAR	A	B	G
s1802(E)	4 1/2"	1'-2"	4 1/2"

BARS s1802(E)



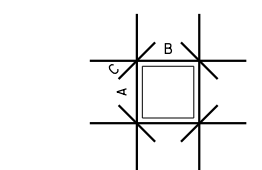
BAR	A
d1805(E)	8'-4"
d1806(E)	2'-7"

DOWEL BARS d1805(E), d1806(E)



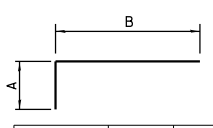
BAR	A	B
d1802(E)	6'-7"	1'-5"

DOWEL BARS d1802(E)



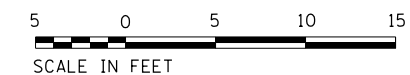
BAR	A	B	G
d1803(E)	10"	2'-3"	2'-9"
d1804(E)	10"	2'-3"	2'-7"
h1801(E)	1'-4"	29'-2"	1'-4"
h1804(E)	1'-0"	18'-2"	2'-3"
h1805(E)	1'-0"	18'-2"	1'-3"

BARS d1803(E), d1804(E), h1801(E), h1804(E), h1805(E),



BAR	A	B
v1801(E)	3'-4"	17'-3"
v1802(E)	3'-4"	8'-9"
v1803(E)	1'-0"	16'-3"
v1804(E)	3'-4"	17'-3"
v1805(E)	1'-0"	16'-3"
v1806(E)	1'-0"	7'-9"

BARS v1801(E), v1802(E), v1803(E), v1804(E), v1805(E), v1806(E)



FILE NAME = D191454-S740.DGN
 USER NAME = bgreen
 DESIGNED - HDR - K. KIRCHNER
 DRAWN - HDR - B. GREEN
 PLOT SCALE = 3/16"=1'-0"
 PLOT DATE = 5/29/2019
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**I-290 PUMP STATION NO. 4 RECONSTRUCTION
BUILDING REINFORCING SECTIONS**

SCALE: 3/16"=1'-0" SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	3434-2321-R	COOK	232	99

CONTRACT NO. 62B78
ILLINOIS FED. AID PROJECT

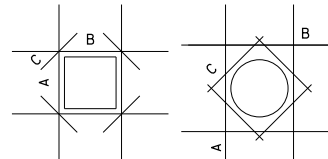
SHEET S740

BILL OF MATERIALS

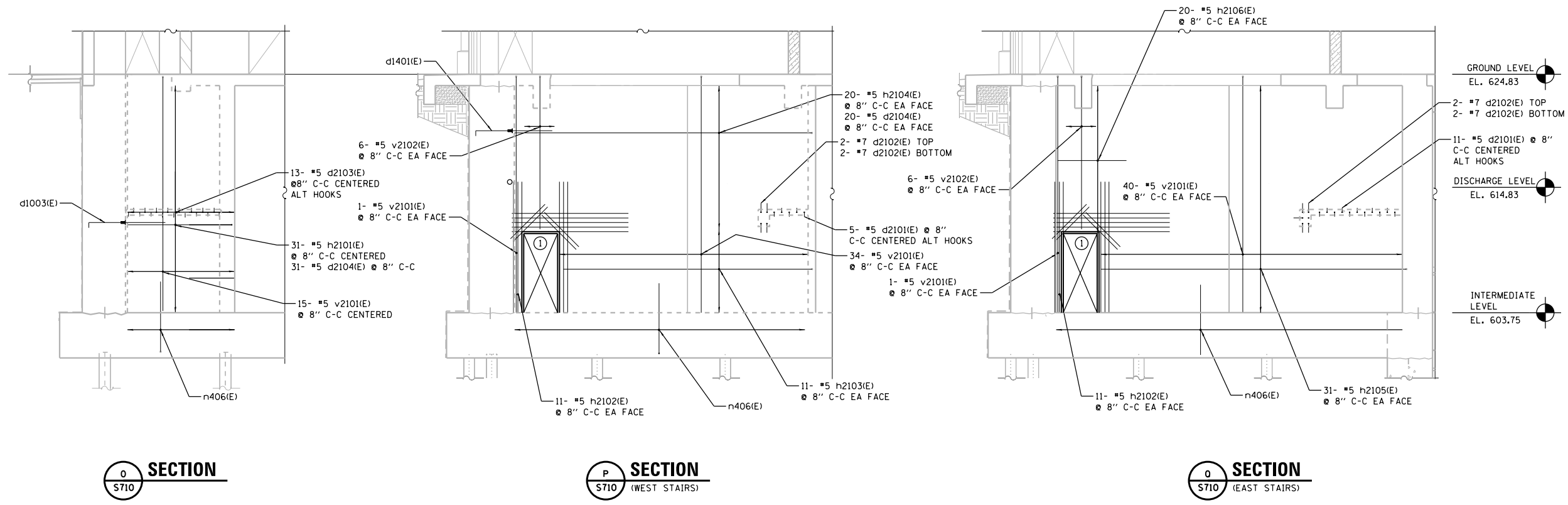
BAR	NO.	SIZE	LENGTH	SHAPE
d2101(E)	27	#5	1'-10"	□
d2102(E)	8	#7	2'-2"	□
d2103(E)	13	#5	1'-3"	□
d2104(E)	31	#5	2'-7"	□
h2101(E)	32	#5	10'-2"	□
h2102(E)	44	#5	11"	□
h2103(E)	22	#5	22'-10"	□
h2104(E)	40	#5	27'-4"	□
h2105(E)	62	#5	26'-3/2"	□
h2106(E)	40	#5	6'-11"	□
h2107(E)	20	#5	10'-9"	□
v2101(E)	167	#5	21'-8"	□
v2102(E)	24	#5	14'-2"	□
v2103(E)	24	#5	11'-4"	□
v2104(E)	20	#5	4'-0"	□
REINFORCING BARS EPOXY COATED		POUND	8,942	
CONCRETE STRUCTURES		CU YD	43	

FLOOR OPENINGS

NO.	A	B	C
1	v2103(E)	h2107(E)	v2104(E)



- NOTES:
- ALL REINFORCING BARS SHALL BE PRE-CUT AT SHOP OPENING LOCATIONS.
 - COORDINATE WALL AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINE DRAWINGS.

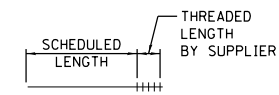


DOWEL BARS d2101(E), d2102(E), d2103(E)

BAR	A	B
d2101(E)	10"	1'-0"
d2102(E)	1'-2"	1'-0"
d2103(E)	10"	5"

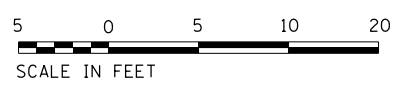
BARS h2101(E), h2103(E), h2104(E), v2101(E), v2102(E)

BAR	A	B
h2101(E)	10"	9'-4"
h2103(E)	10"	22'-0"
h2104(E)	10"	26'-6"
v2101(E)	10"	20'-10"
v2102(E)	10"	13'-4"



**BARS d2104(E), d2102(E)
h2107(E), h2106(E)**

- NOTES:
- SEE S700 SERIES SHEETS FOR REINFORCING DETAILS.
 - BEAM REINFORCING NOT SHOWN FOR CLARITY.



FILE NAME = D191454-S741.DGN
 USER NAME = bgreen
 DESIGNED - HDR - M. KASPER
 DRAWN - HDR - B. GREEN
 PLOT SCALE = 1/8" = 1'-0"
 PLOT DATE = 5/29/2019
 HDR, Inc.
 8550 W. Bryn Mawr Ave.,
 Suite 900
 Chicago, IL 60631