

STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES

WILLIAM G. STRATTON LOCK & DAM
PLANS FOR LOCK & GATE STRUCTURE IMPROVEMENTS

Mc HENRY COUNTY

FR-435

2014



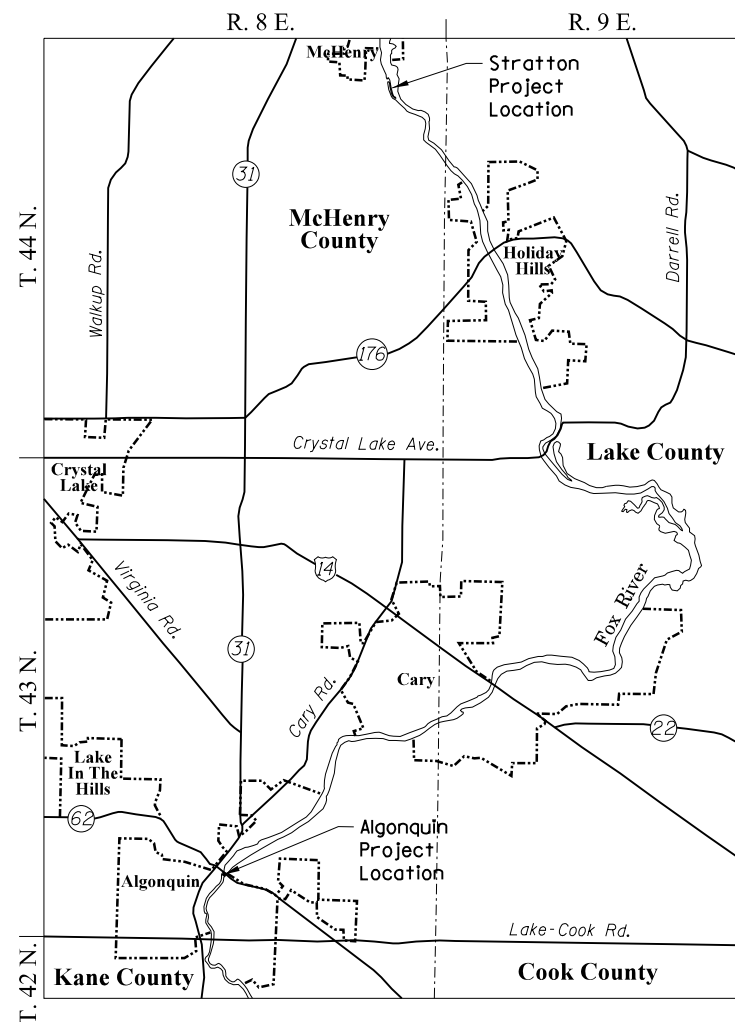
REGIONAL MAP

STANDARDS

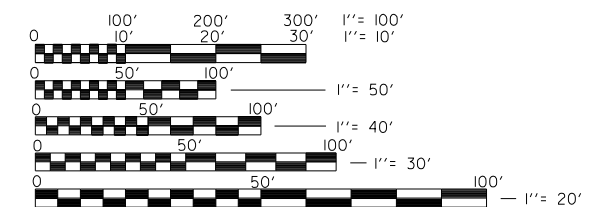
515001	NAME PLATE FOR BRIDGES
630001	STEEL PLATE BEAM GUARDRAIL
664001	CHAIN LINK FENCE
701011	OFF-ROAD MOVING OPERATIONS 2L, 2W, MORE THAN 15' (4.5m) AWAY
720001-01	SIGN PANEL MOUNTING DETAILS
720011-01	METAL POSTS FOR SIGNS, MARKERS & DELINEATIONS
729001-01	APPLICATIONS OF TYPES A & B METAL POSTS

VOLUMES

- 1 SITE IMPROVEMENT PLANS
- 2 PLANS FOR FLOOD CONTROL GATE STRUCTURE
- 3 PLANS FOR LOCK REHABILITATION & EXTENSION
- 4 PLANS FOR DAM GATE CONTROLS (STRATTON & ALGONQUIN)
- 5 REFERENCE DRAWINGS



LOCATION MAP



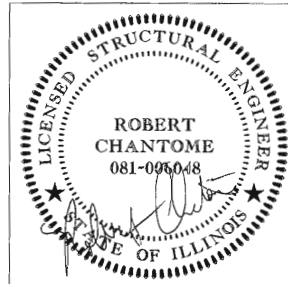
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.



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SUBMITTED BY <i>Ted Montan</i>	DATE <i>1/24/14</i>
CHIEF OF DESIGN, DIVISION OF PROJECT IMPLEMENTATION	
APPROVED BY <i>Richard J. ...</i>	DATE <i>1-24-14</i>
DIRECTOR	

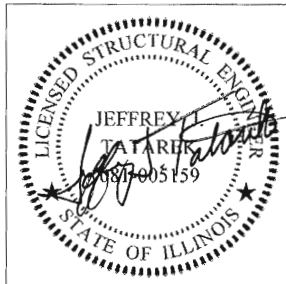


Date Signed : 9/19/2013

Lic. Exp. Date: 11/30/2014

Robert Chantome, S.E.

Gate Foundation & Wingwalls;
Lock Chamber, Wingwalls, &
Intake Structure
Sheets: 27-28, 99, 113-115,
150, 161-170, 172, 179, 184,
186-189, 192-193

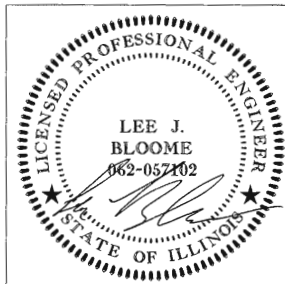


Date Signed : 9/19/13

Lic. Exp. Date: 11/30/14

Jeffrey J. Tatarek, S.E.

Gate Structure,
Architectural
Sheets: 4, 43-54, 81-83,
96-98, 100-112, 116-117,
119-130, 132-135, 171,
180-182

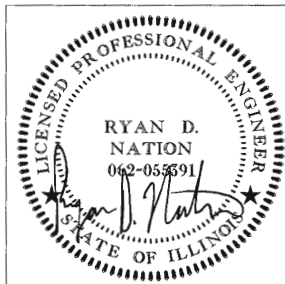


Date Signed : 9/19/13

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Lee J. Bloome, P.E.

Site, Lock, Berm, & Gate
Civil
Sheets: 5-13, 24-26,
29-42, 84A-95, 118,
156-160, 194-195



Date Signed : 9/19/13

Lic. Exp. Date: 11/30/13

Ryan D. Nation, P.E.

Lockhouse Electrical
Sheets: 62-67

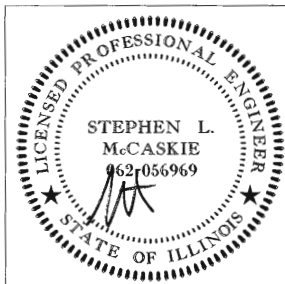


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Asif T. Kadiani, P.E.

Lockouse Mech. & Plumb.
Sheets: 55-61

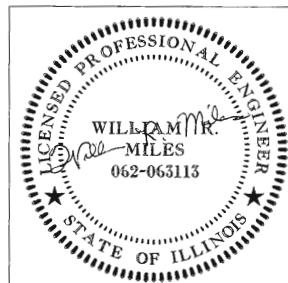


Date Signed : 9/19/2013

Lic. Exp. Date: 11/30/2013

Stephen L. McCaskie, P.E.

Geotechnical, Erosion
Control, Riprap
Sheets: 2-3, 22-23,
79-80, 131, 147-148,
196, 219-220, 238

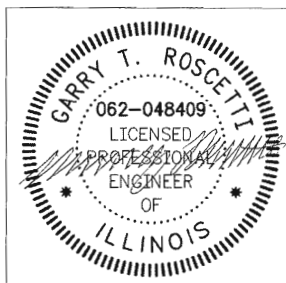


Date Signed : 9/19/2013

Lic. Exp. Date: 11/30/2013

William R. Miles, P.E.

Lock Extension
149-155, 161, 165-170,
173-179, 183-191

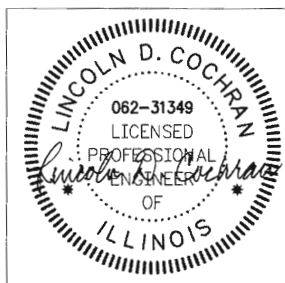


Date Signed : 9/19/13

Lic. Exp. Date: 11/30/13

Garry T. Roscetti, P.E.

Site, Gate, & Lock Electrical
and Dam Controls
Sheets: 18-21A, 69-78,
140-146, 204-218, 221-237



Date Signed : 9/19/2013

Lic. Exp. Date: 11/30/2013

Lincoln D. Cochran, P.E.

Gate & Lock Mechanical,
HVAC, & Plumbing
Sheets: 14-17, 68, 136-139,
197-203

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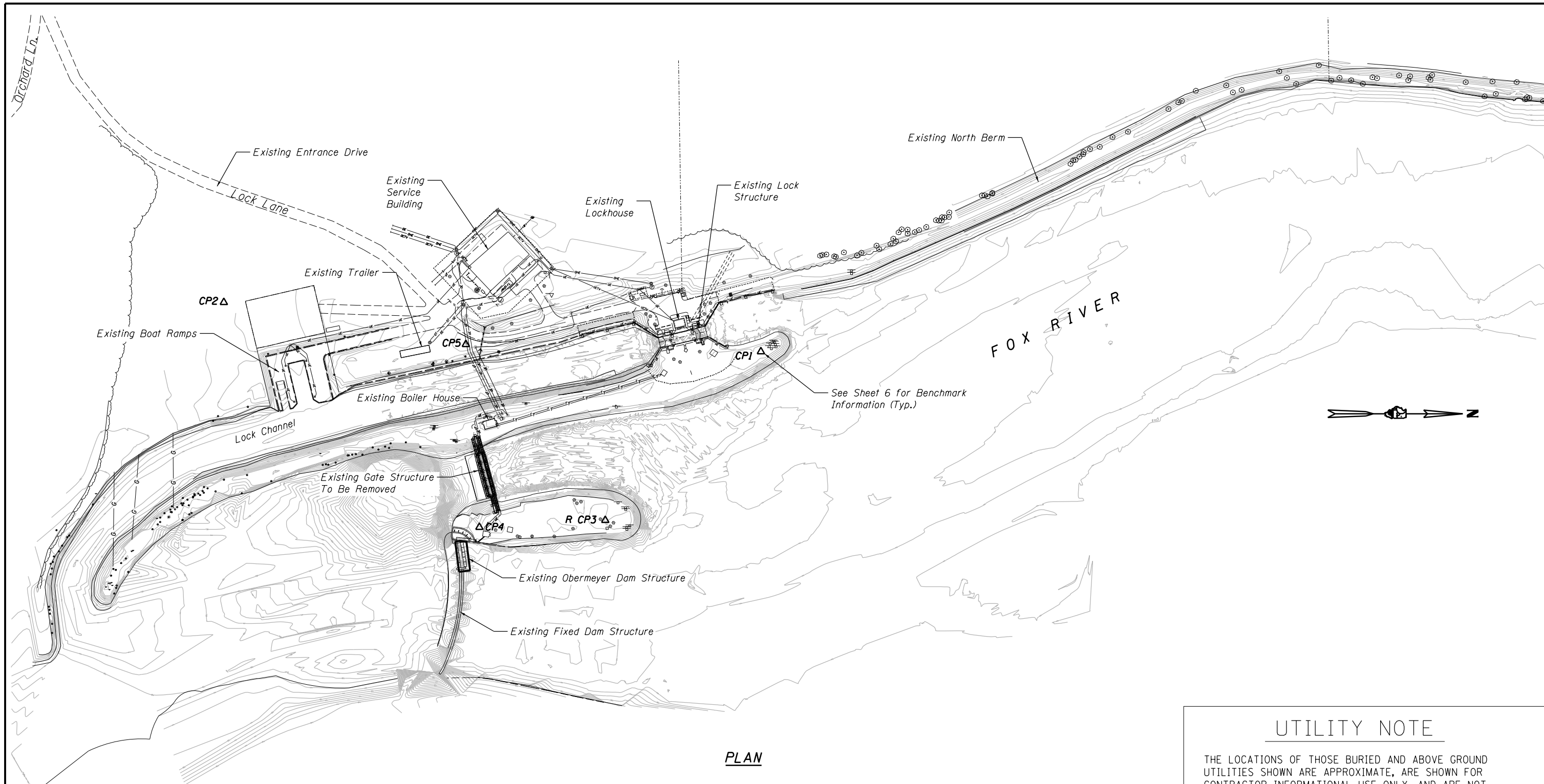
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FILE NAME = G-0002-GEN.dgn  © Copyright Hanson Professional Services Inc. 2013	USER NAME =	DESIGNED - EJM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF NATURAL RESOURCES	INDEX OF SHEETS STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS	ILLINOIS DEPARTMENT OF NATURAL RESOURCES OFFICE OF WATER RESOURCES	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	CHECKED - JJT	REVISED -				McHENRY	238	3
	PLOT DATE = SEPTEMBER 18, 2013	DRAWN - EJM	REVISED -				PROJECT FR-435		
		CHECKED - SLM	REVISED -						

SUMMARY OF QUANTITIES

CODE NO.	PAY ITEM	UNIT	QUANTITY	CODE NO.	PAY ITEM	UNIT	QUANTITY	CODE NO.	PAY ITEM	UNIT	QUANTITY
20100110	Tree Removal (6 to 15 Units Diameter)	Unit	30	*Z0065200	Shot Rock	Ton	1,625	*NR000840	Lock Steel Piping - Diffuser System	L Sum	1
20100210	Tree Removal (Over 15 Units Diameter)	Unit	186	*Z0075400	Tie Rods	Each	29	*NR000841	Lock Steel Piping - Existing Lock Monoliths	L Sum	1
20101100	Tree Trunk Protection	Each	7	*NR000900	Boiler Demolition	L Sum	1	*NR000842	Lock Steel Piping - Intake Structure	L Sum	1
20200100	Earth Excavation	Cu Yd	325	*NR506001	Cleaning and Painting Existing Miter Gate Steel	L Sum	1	*NR000843	Lock Steel Piping - New Lock Monoliths	L Sum	1
20201200	Removal and Disposal of Unsuitable Material	Cu Yd	8,615	*NR506002	Cleaning and Painting Existing Steel Sheet Piling	L Sum	1	*NR000844	Lockhouse - Brick Restoration and Cleaning	L Sum	1
20300100	Channel Excavation	Cu Yd	1,315	*NR502001	Cofferdam - Location 1	Each	1	*NR000845	Lockhouse - Doors	L Sum	1
20400800	Furnished Excavation	Cu Yd	1,180	*NR502002	Cofferdam - Location 2	Each	1	*NR000846	Lockhouse - Electrical Work	L Sum	1
20700220	Porous Granular Embankment	Cu Yd	8,748	*NR502003	Cofferdam - Location 3	Each	1	*NR000847	Lockhouse - Fire Extinguishers	L Sum	1
21101505	Topsoil Excavation and Placement	Cu Yd	381	*NR502004	Cofferdam - Location 4	Each	1	*NR000848	Lockhouse - Flooring	L Sum	1
21101615	Topsoil Furnish and Place, 4"	Sq Yd	3,025	*NR502005	Cofferdam - Location 5	Each	1	*NR000849	Lockhouse - Gypsum Board Assemblies	L Sum	1
25000100	Seeding, Class 1	Acre	8.00	*NR502011	Cofferdam Restoration - Location 1	Each	1	*NR000850	Lockhouse - Interior Spray Foam Insulation	L Sum	1
25000300	Seeding, Class 3	Acre	2.50	*NR502012	Cofferdam Restoration - Location 2	Each	1	*NR000851	Lockhouse - Mechanical Work (HVAC)	L Sum	1
25100115	Mulch, Method 2	Acre	8.00	*NR502013	Cofferdam Restoration - Location 3	Each	1	*NR000852	Lockhouse - Millwork	L Sum	1
28100201	Stone Riprap, Class A1	Ton	2,020	*NR502014	Cofferdam Restoration - Location 4	Each	1	*NR000853	Lockhouse - Painting	L Sum	1
28100207	Stone Riprap, Class A4	Ton	1,160	*NR502015	Cofferdam Restoration - Location 5	Each	1	*NR000854	Lockhouse - Plumbing Work	L Sum	1
28100209	Stone Riprap, Class A5	Ton	3,240	*NR201001	Construction Fence	L Sum	1	*NR000855	Lockhouse - Restroom Accessories	L Sum	1
28200200	Filter Fabric	Sq Yd	6,365	*NR105000	Construction Layout	L Sum	1	*NR000856	Lockhouse - Roof	L Sum	1
35100100	Aggregate Base Course, Type A	Ton	3,034	*NR000800	Dam Controls Process Air System Modifications	L Sum	1	*NR000857	Lockhouse - Rough Carpentry	L Sum	1
35101400	Aggregate Base Course, Type B	Ton	21	*NR000801	Dam Control System	L Sum	1	*NR000858	Lockhouse - Selective Demolition	L Sum	1
40600100	Bituminous Materials (Prime Coat)	Gallon	2,080	*NR280000	Erosion Control System	L Sum	1	*NR000859	Lockhouse - Windows	Each	6
40603080	Hot-Mix Asphalt Binder Course, IL-19.0, N50	Ton	470	*NR201003	Fence Removal	L Sum	1	*NR000860	Lower Quoin Post Bearings	Foot	36
40603310	Hot-Mix Asphalt Surface Course, Mix "C", N50	Ton	350	*NR000802	Fixed Access Ladder	Each	3	*NR000861	North Berm Embankment Tree and Vegetation Removal	Acre	2.1
42400100	Portland Cement Concrete Sidewalk 4 Inch	Sq Ft	641	*NR000803	Gate Structure - Doors	L Sum	1	*NR000862	Parking Block Removal and Replacement	L Sum	1
42400300	Portland Cement Concrete Sidewalk 6 Inch	Sq Ft	3,958	*NR000804	Gate Structure - Electrical Work	L Sum	1	*NR000863	Portable Davit Crane	L Sum	1
42400800	Detectable Warnings	Sq Ft	212	*NR000805	Gate Structure - Fire Extinguishers	L Sum	1	*NR000864	Railing Removal	Foot	310
44000159	Hot-Mix Asphalt Surface Removal, 2 1/2"	Sq Yd	4,116	*NR000806	Gate Structure - Floor Access Doors and Frames	Each	3	*NR000865	Replace Lock Gate Gudgeon Assembly	Each	4
44000600	Sidewalk Removal	Sq Ft	1,132	*NR000807	Gate Structure - Insulation	L Sum	1	*NR000866	Replace Lower Lock Gate Pintle Assembly	Each	2
*50100300	Removal of Existing Structures No. 1	Each	1	*NR000808	Gate Structure - Mechanical Work (HVAC)	L Sum	1	*NR000867	Replace Upper Lock Gate Pintle Assembly	Each	2
*50100400	Removal of Existing Structures No. 2	Each	1	*NR000809	Gate Structure - Painting	L Sum	1	*NR202001	Riprap Removal	Sq Yd	2,210
50200100	Structure Excavation	Cu Yd	11	*NR000810	Gate Structure - Plumbing Work	L Sum	1	*NR000868	Rustic Fence	L Sum	1
50200300	Cofferdam Excavation	Cu Yd	1,843	*NR000811	Gate Structure - Roof	L Sum	1	*NR664001	Security Fence Gate, 6'x10' Double Swing	Each	4
50300225	Concrete Structures	Cu Yd	2,430.9	*NR000812	Gate Structure - Rough Carpentry	L Sum	1	*NR664002	Security Fence Gate, 6'x4' Single	Each	2
50500405	Furnishing and Erecting Structural Steel	Pound	205,540	*NR000813	Gate Structure - Windows	Each	3	*NR664003	Security Fence, 6'	Foot	910
50500505	Stud Shear Connectors	Each	384	*NR000814	Hand Compacted Earth Fill	Cu Yd	1,140	*NR720000	Signs	L Sum	1
50700105	Treated Timber	F.B.M.	3,833	*NR000815	HDPE Pipe, SDR 17, 32"	Foot	100	*NR720010	Signs Removal and Replacement	L Sum	1
50800105	Reinforcement Bars	Pound	295,820	*NR000816	HDPE Pipe, SDR 17, 36"	Foot	90	*NR000910	Site Demolition	L Sum	1
50800515	Bar Splicers	Each	120	*NR000817	HDPE Pipe, SDR 32.5, 36"	Foot	133	*NR801000	Site Electrical System	L Sum	1
50900805	Pedestrian Railing	Foot	619	*NR000818	Hinged Crest Gates	L Sum	1	*NR607024	Sluice Gate, Heavy, 24" x 24"	Each	4
50901760	Pipe Handrail	Foot	356.0	*NR000819	Landscaping	L Sum	1	*NR607030	Sluice Gate, Heavy, 30" x 30"	Each	2
51200510	Furnishing Treated Piles 20.1 to 38 feet	Foot	231	*NR000820	Lock Control System	L Sum	1	*NR607036	Sluice Gate, Heavy, 36" x 36"	Each	3
51200957	Furnishing Metal Shell Piles 12" x 0.250"	Foot	9,336	*NR000821	Lock Gate Machinery	L Sum	1	*NR281100	Stone Riprap, Special	Ton	1,820
51202305	Driving Piles	Foot	9,567	*NR000822	Lock Gate Rehabilitation - Gate Anchorage Linkage Assemblies	Each	4	*NR000869	Stop Logs - Gate Structure	L Sum	1
51203200	Test Pile Metal Shells	Each	4	*NR000823	Lock Gate Rehabilitation - General Lower Gate	L Sum	1	*NR000870	Stop Logs - Intake Structure	L Sum	1
51204650	Pile Shoes	Each	246	*NR000824	Lock Gate Rehabilitation - General Upper Gate	L Sum	1	*NR000871	Stop Logs - Lock	L Sum	1
59300100	Controlled Low-Strength Material	Cu Yd	131	*NR000825	Lock Gate Rehabilitation - Lower Gate Anchorage Assemblies	Each	4	*NR000872	Temporary Boat Traffic Control and Channel Restoration	L Sum	1
60223800	Manholes, Type A, 6'-Diameter, Type 1 Frame, Closed Lid	Each	4	*NR000826	Lock Gate Rehabilitation - Lower Gate Quoin Post	Foot	36	*NR201002	Temporary Fence	L Sum	1
63000001	Steel Plate Beam Guardrail, Type A, 6 Foot Posts	Foot	175	*NR000827	Lock Gate Rehabilitation - Lower Gate Railing Modifications	L Sum	1	*NR701001	Temporary Signing	L Sum	1
66400105	Chain Link Fence, 4'	Foot	235	*NR000828	Lock Gate Rehabilitation - Miter Sill Seal	Foot	40	*NR000873	Trash Rack - Intake Structure	L Sum	1
66405600	Chain Link Gates, 4' x 8' Double	Each	1	*NR000829	Lock Gate Rehabilitation - Miter/Quoin/Bearing Retrofit	L Sum	1	*NR000874	Warning Cable and Mounting System	L Sum	1
*67000500	Engineer's Field Office, Type B	Cal Mo	30	*NR000830	Lock Gate Rehabilitation - Upper Gate Railing Modifications	L Sum	1				
67100100	Mobilization	L Sum	1	*NR000831	Lock Gate Unidentified Steel Repairs - 5/16" Fillet Weld	Inch	1,000				
78001100	Paint Pavement Marking - Letters and Symbols	Sq Ft	5	*NR000832	Lock Gate Unidentified Steel Repairs - Complete Joint Penetration Weld	Inch	50				
78001110	Paint Pavement Marking - Line 4"	Foot	290	*NR000833	Lock Gate Unidentified Steel Repairs - Field Drill and Install H.S. Bolt	Each	20				
*X5121800	Permanent Steel Sheet Piling	Sq Ft	27,621	*NR000834	Lock Gate Unidentified Steel Repairs - Plate or Rolled Shape Fabrications	Pound	400				
*Z0007101	Containment and Disposal of Lead Paint Cleaning Residues No. 1	L Sum	1	*NR000835	Lock Gate Unidentified Steel Repairs - Remove Rivet, Install H.S. Bolt	Each	20				
*Z0007102	Containment and Disposal of Lead Paint Cleaning Residues No. 2	L Sum	1	*NR000836	Lock Gate Unidentified Steel Repairs - Replace Pintle Lower Part	Each	2				
*Z0007124	Steel Railing (Special)	Foot	196.5	*NR000837	Lock Grating and Covers	L Sum	1				
*Z0012754	Structural Repair of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft	90	*NR000838	Lock Mooring Cables	L Sum	1				
*Z0012755	Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft	225	*NR000839	Lock Plumbing Work	L Sum	1				

* See Special Provisions



PLAN

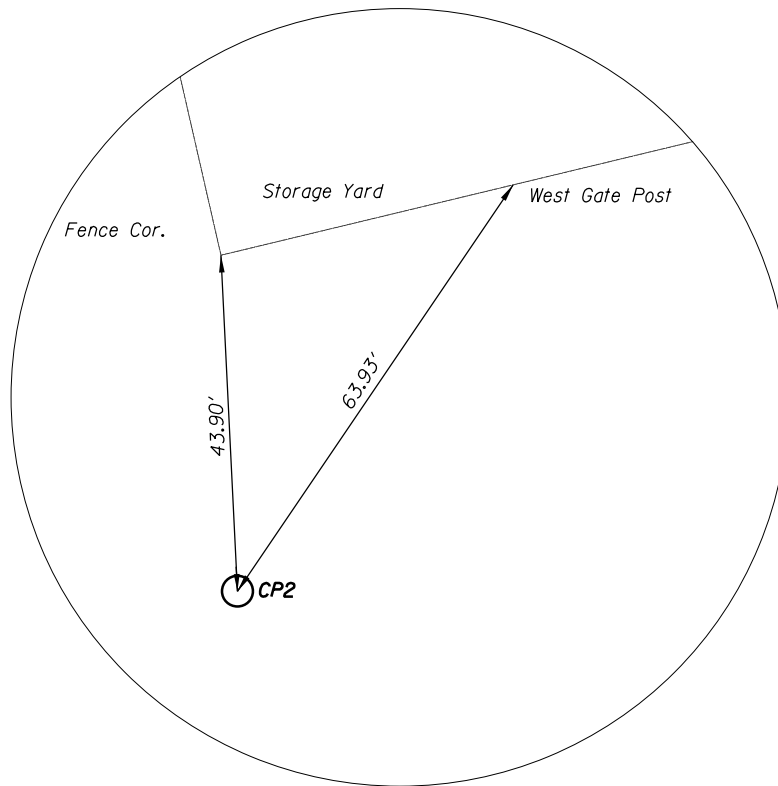
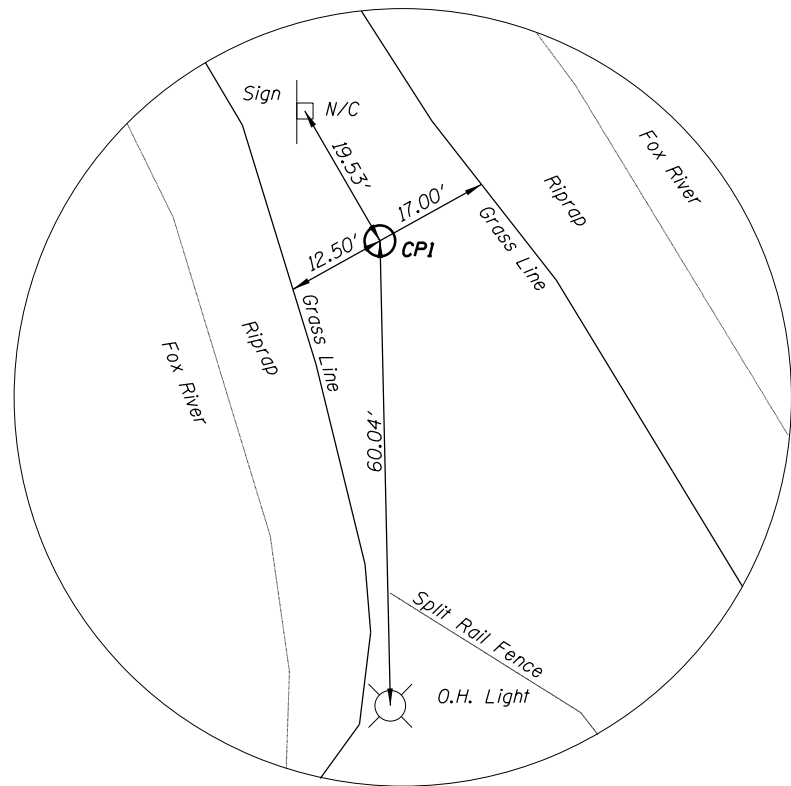
NOTES:

1. The Design Elements Included on these Plans are Based Upon an Existing Topographic Survey Performed by Illinois Department of Natural Resources, Office of Water Resources.
3. The Horizontal Datum is Based on Illinois State Plane East, Zone 1201, NAD 83.
The Vertical Datum is Based on NGVD 29.

UTILITY NOTE

THE LOCATIONS OF THOSE BURIED AND ABOVE GROUND UTILITIES SHOWN ARE APPROXIMATE, ARE SHOWN FOR CONTRACTOR INFORMATIONAL USE ONLY, AND ARE NOT TO BE REFERENCED FOR CONSTRUCTION PURPOSES. THE IMPLIED PRESENCE OR ABSENCE OF UTILITIES IS NOT TO BE CONSTRUED BY THE DEPARTMENT, ENGINEER, CONTRACTOR, OR SUBCONTRACTORS TO BE AN ACCURATE AND COMPLETE REPRESENTATION OF UTILITIES THAT MAY OR MAY NOT EXIST ON THE CONSTRUCTION SITE. BURIED AND ABOVE GROUND UTILITY LOCATION, IDENTIFICATION, AND MARKING ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. REROUTING, DISCONNECTION, PROTECTION, ETC. OF ANY UTILITIES MUST BE COORDINATED BETWEEN THE CONTRACTOR, UTILITY COMPANY, AND ENGINEER. SITE SAFETY, INCLUDING THE AVOIDANCE OF HAZARDS ASSOCIATED WITH BURIED AND ABOVE GROUND UTILITIES, REMAIN THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

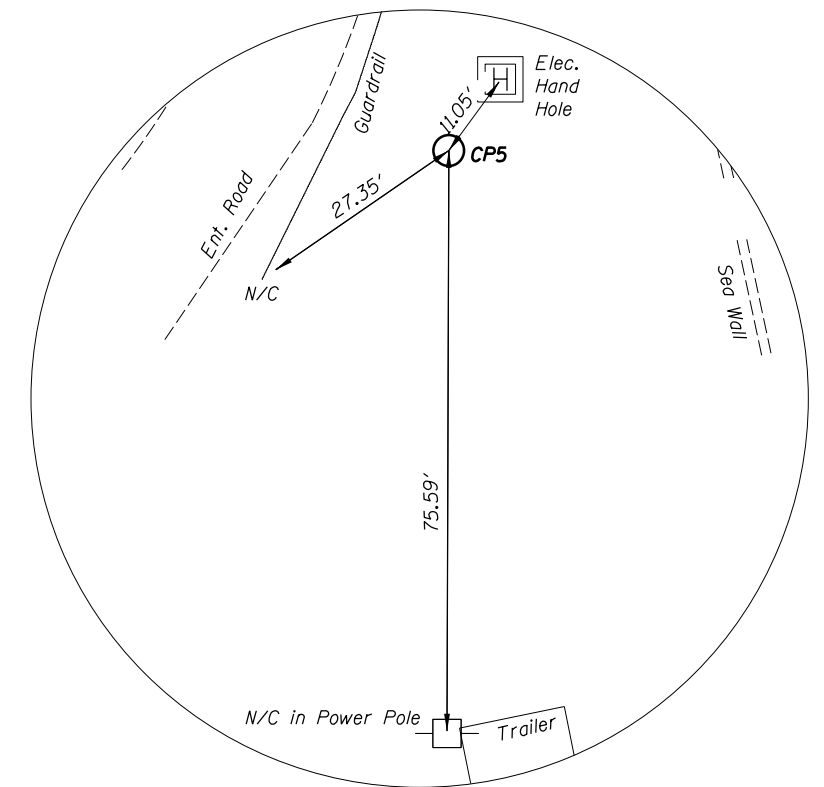
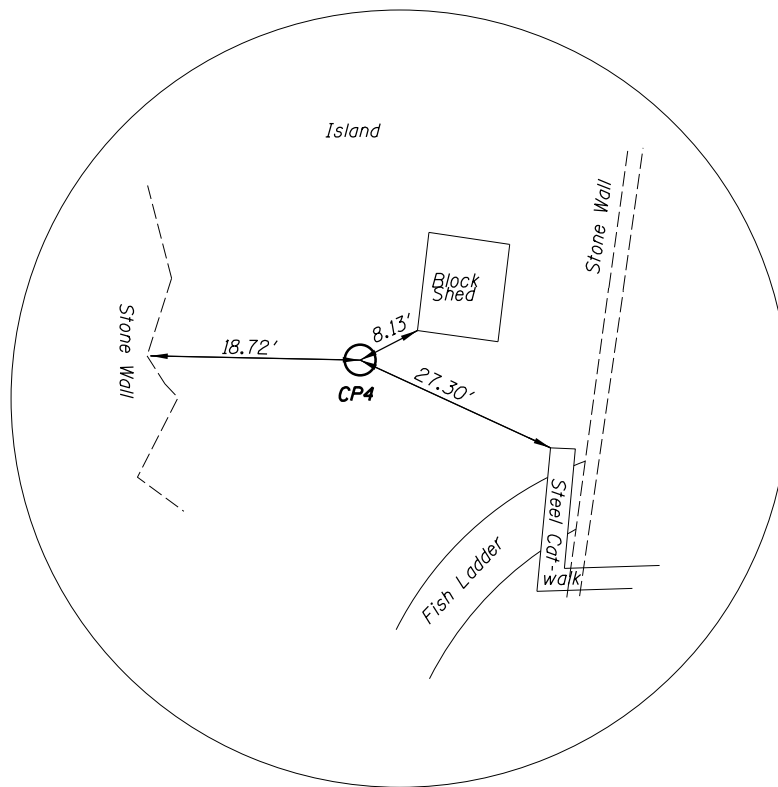
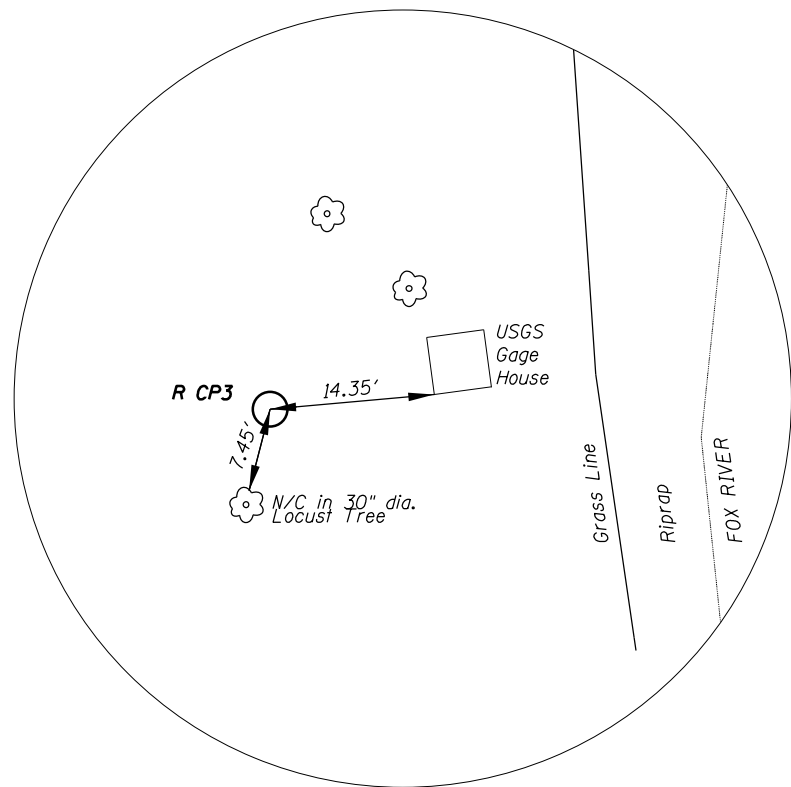
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	PLOT SCALE =	CHECKED - JJT	REVISED -				McHENRY	238	5
PLOT DATE = SEPTEMBER 18, 2013	DRAWN - SKB	REVISED -	PROJECT FR-435						
	CHECKED - LJB	REVISED -							



HORIZONTAL AND VERTICAL CONTROL				
Point	Northing	Easting	Elevation	Description
CP1	2055885.04	1006037.24	742.65	Stratton 2002 (Brass Disk)
CP2	2054792.41	1005936.98	736.33	Stratton B (Az. Mark) (Brass Disk)
CP3	2055568.27	1006380.60	742.89	USGS Disk - P.I. 12
CP4	2055312.18	1006394.82	742.57	OWR (Disk in Concrete)
CP5	2055284.85	1006022.70	739.31	OWR (Disk in Concrete)

LOCK BASELINE CONTROL		
Station	Northing	Easting
100+00	2056030.943	1005936.127
110+00	2055057.814	1006166.388

GATE BASELINE CONTROL		
Station	Northing	Easting
50+00	2055763.540	1006175.743
60+00	2054799.116	1006440.087



FILE NAME = G-0006-GEN.dgn	USER NAME =	DESIGNED - LJB	REVISED -
		CHECKED - JJT	REVISED -
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	PLOT DATE = SEPTEMBER 18, 2013	CHECKED - LJB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

TIES, BENCHMARKS, AND BASELINES
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS

ILLINOIS DEPARTMENT
OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES

COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	6
PROJECT FR-435		

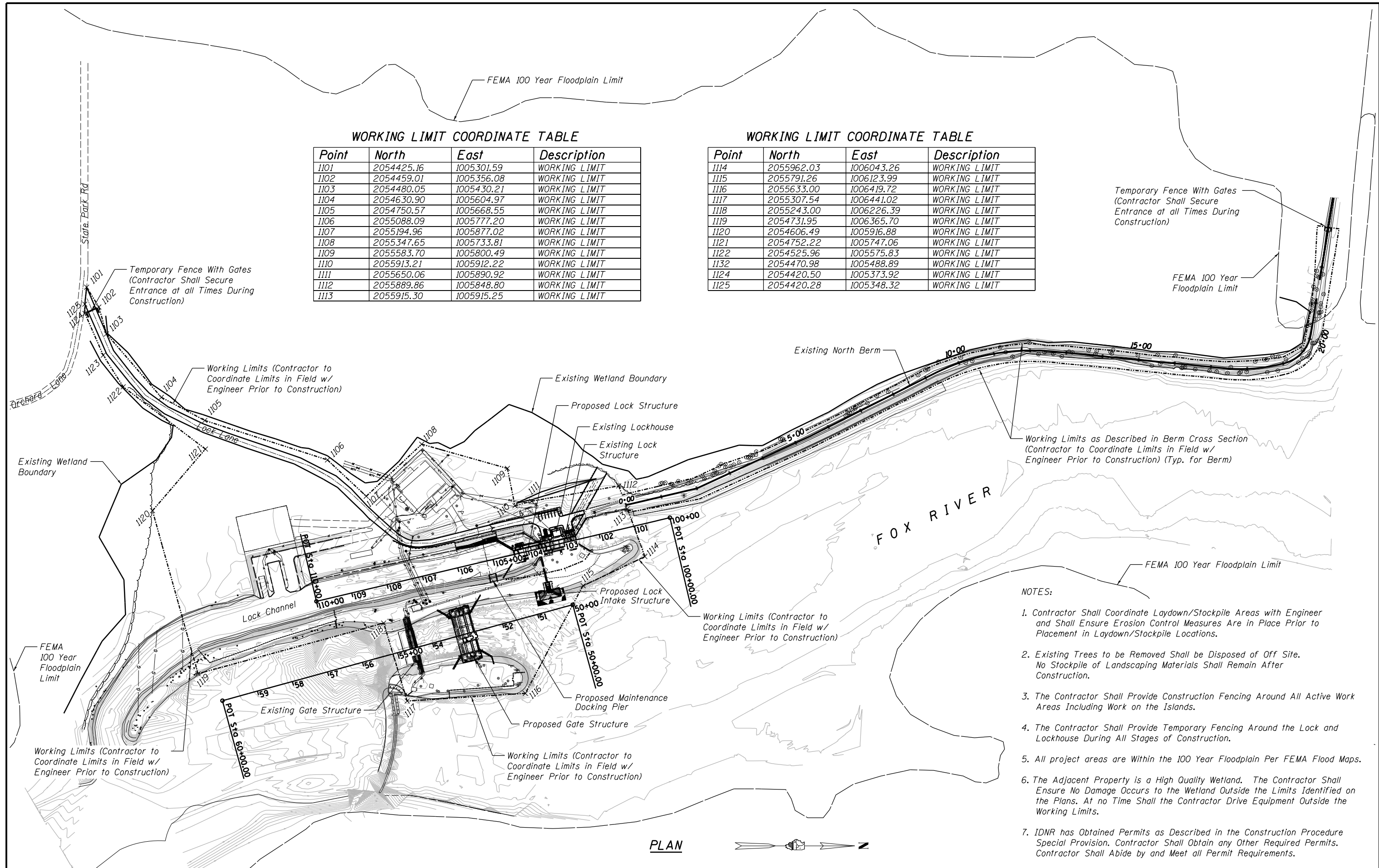
FEMA 100 Year Floodplain Limit

WORKING LIMIT COORDINATE TABLE

Point	North	East	Description
1101	2054425.16	1005301.59	WORKING LIMIT
1102	2054459.01	1005356.08	WORKING LIMIT
1103	2054480.05	1005430.21	WORKING LIMIT
1104	2054630.90	1005604.97	WORKING LIMIT
1105	2054750.57	1005668.55	WORKING LIMIT
1106	2055088.09	1005777.20	WORKING LIMIT
1107	2055194.96	1005877.02	WORKING LIMIT
1108	2055347.65	1005733.81	WORKING LIMIT
1109	2055583.70	1005800.49	WORKING LIMIT
1110	2055913.21	1005912.22	WORKING LIMIT
1111	2055650.06	1005890.92	WORKING LIMIT
1112	2055889.86	1005848.80	WORKING LIMIT
1113	2055915.30	1005915.25	WORKING LIMIT

WORKING LIMIT COORDINATE TABLE

Point	North	East	Description
1114	2055962.03	1006043.26	WORKING LIMIT
1115	2055791.26	1006123.99	WORKING LIMIT
1116	2055633.00	1006419.72	WORKING LIMIT
1117	2055307.54	1006441.02	WORKING LIMIT
1118	2055243.00	1006226.39	WORKING LIMIT
1119	2054731.95	1006365.70	WORKING LIMIT
1120	2054606.49	1005916.88	WORKING LIMIT
1121	2054752.22	1005747.06	WORKING LIMIT
1122	2054525.96	1005575.83	WORKING LIMIT
1132	2054470.98	1005488.89	WORKING LIMIT
1124	2054420.50	1005373.92	WORKING LIMIT
1125	2054420.28	1005348.32	WORKING LIMIT



Temporary Fence With Gates (Contractor Shall Secure Entrance at all Times During Construction)

Temporary Fence With Gates (Contractor Shall Secure Entrance at all Times During Construction)

Working Limits (Contractor to Coordinate Limits in Field w/ Engineer Prior to Construction)

Existing Wetland Boundary

Proposed Lock Structure

Existing Lockhouse

Existing Lock Structure

Existing North Berm

Working Limits as Described in Berm Cross Section (Contractor to Coordinate Limits in Field w/ Engineer Prior to Construction) (Typ. for Berm)

FEMA 100 Year Floodplain Limit

FEMA 100 Year Floodplain Limit

NOTES:

1. Contractor Shall Coordinate Laydown/Stockpile Areas with Engineer and Shall Ensure Erosion Control Measures Are in Place Prior to Placement in Laydown/Stockpile Locations.
2. Existing Trees to be Removed Shall be Disposed of Off Site. No Stockpile of Landscaping Materials Shall Remain After Construction.
3. The Contractor Shall Provide Construction Fencing Around All Active Work Areas Including Work on the Islands.
4. The Contractor Shall Provide Temporary Fencing Around the Lock and Lockhouse During All Stages of Construction.
5. All project areas are Within the 100 Year Floodplain Per FEMA Flood Maps.
6. The Adjacent Property is a High Quality Wetland. The Contractor Shall Ensure No Damage Occurs to the Wetland Outside the Limits Identified on the Plans. At no Time Shall the Contractor Drive Equipment Outside the Working Limits.
7. IDNR has Obtained Permits as Described in the Construction Procedure Special Provision. Contractor Shall Obtain any Other Required Permits. Contractor Shall Abide by and Meet all Permit Requirements.

PLAN

FILE NAME = G-0007-GEN.dgn

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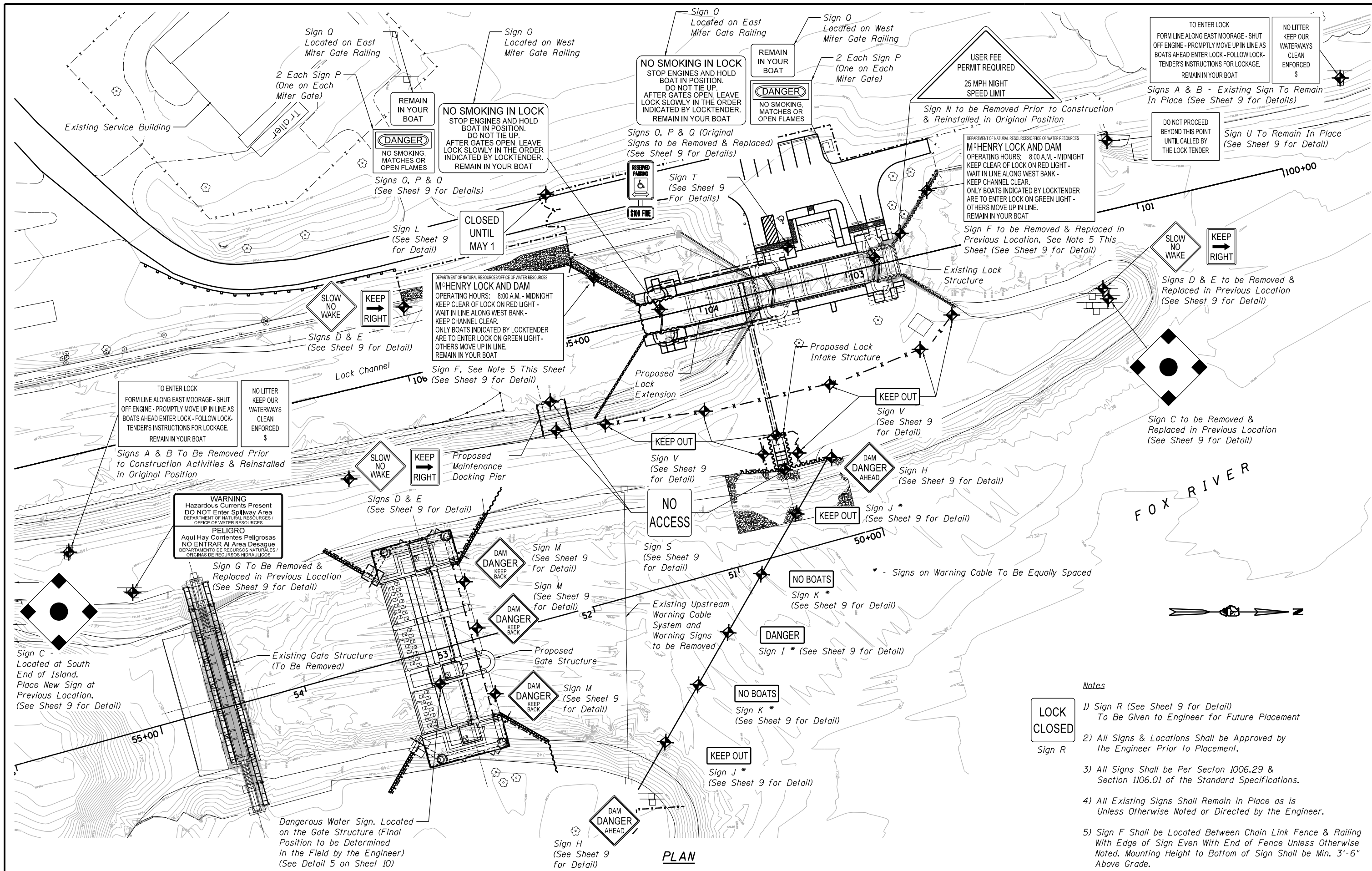
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PLOT DATE = SEPTEMBER 18, 2013	DRAWN - SKB	REVISED -
	CHECKED - LJB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

CONTRACT WORKING LIMITS AND BASELINES
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS

ILLINOIS DEPARTMENT OF NATURAL RESOURCES OFFICE OF WATER RESOURCES	COUNTY	TOTAL SHEETS	SHEET NO.
	McHENRY	238	7

PROJECT FR-435



- Notes**
- 1) Sign R (See Sheet 9 for Detail) To Be Given to Engineer for Future Placement
 - 2) All Signs & Locations Shall be Approved by the Engineer Prior to Placement.
 - 3) All Signs Shall be Per Section 1006.29 & Section 1106.01 of the Standard Specifications.
 - 4) All Existing Signs Shall Remain in Place as is Unless Otherwise Noted or Directed by the Engineer.
 - 5) Sign F Shall be Located Between Chain Link Fence & Railing With Edge of Sign Even With End of Fence Unless Otherwise Noted. Mounting Height to Bottom of Sign Shall be Min. 3'-6" Above Grade.

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		CHECKED - LJB	REVISED -
	PLOT SCALE =	DRAWN - EJM	REVISED -
	PLOT DATE = SEPTEMBER 18, 2013	CHECKED - LJB	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES**

**PROJECT SIGNAGE PLAN
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS**

ILLINOIS DEPARTMENT OF NATURAL RESOURCES OFFICE OF WATER RESOURCES	COUNTY	TOTAL SHEETS	SHEET NO.
	McHENRY	238	8
PROJECT FR-435			

TO ENTER LOCK
FORM LINE ALONG EAST MOORAGE - SHUT
OFF ENGINE - PROMPTLY MOVE UP IN LINE AS
BOATS AHEAD ENTER LOCK - FOLLOW LOCK-
TENDER'S INSTRUCTIONS FOR LOCKAGE.
REMAIN IN YOUR BOAT

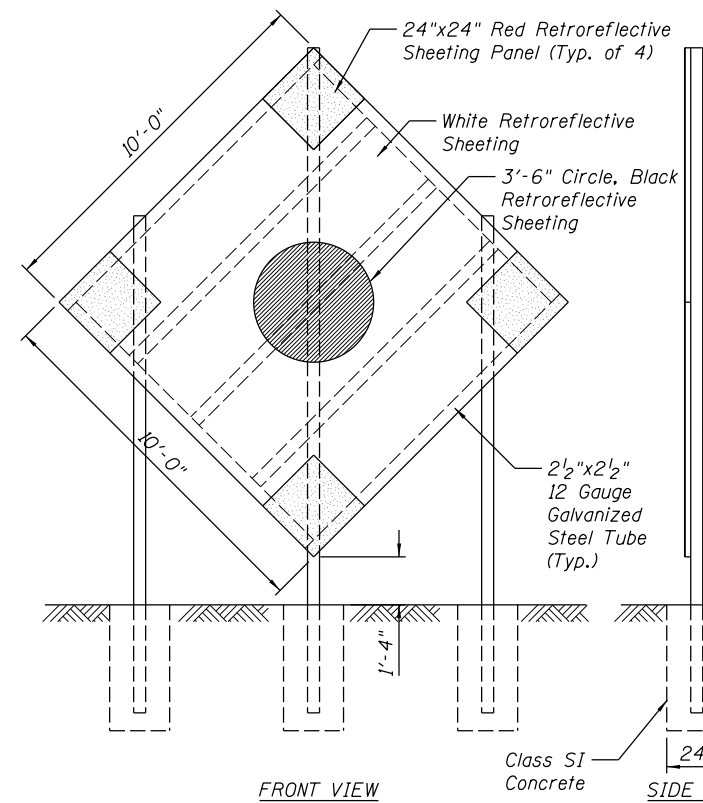
Existing Signs at North & South Ends of Lock. Remove
at South End Prior to Construction and Replace Following.

SIGN A

NO LITTER
KEEP OUR
WATERWAYS
CLEAN
ENFORCED
\$

Existing Signs at North
& South Ends of Lock.
Remove at South End
Prior to Construction
and Replace Following.

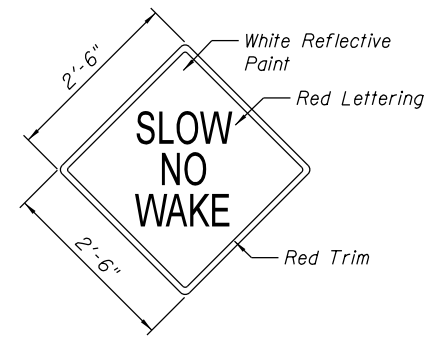
SIGN B



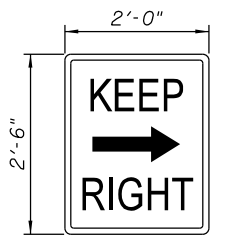
FRONT VIEW

SIDE VIEW

SIGN C



SIGN D



Standard Highway Sign
(R4-7A) with Black
Lettering & Symbol
on White Reflective
Backing

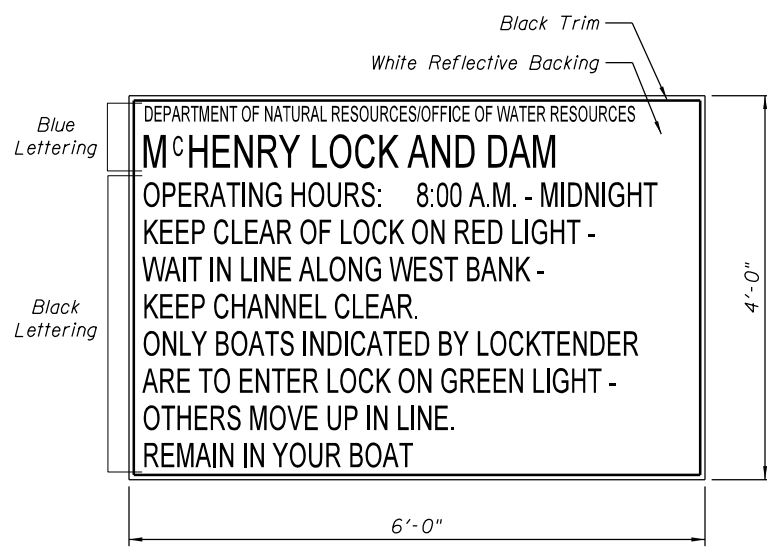
SIGN E



\$250 FINE

Sign Shall be Per MUTCD,
IL Supplement to MUTCD,
and IL Vehicle Code

SIGN T

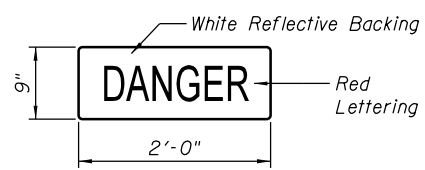


SIGN F

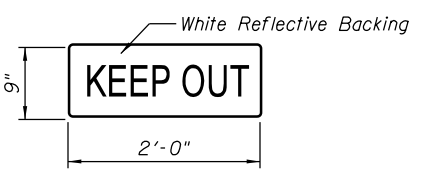
DO NOT PROCEED
BEYOND THIS POINT
UNTIL CALLED BY
THE LOCK TENDER

Existing Signs at
End of Lock To
Remain in Place

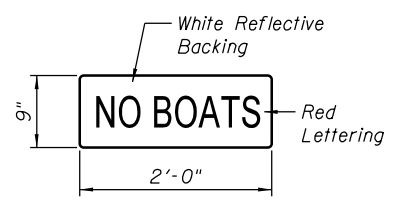
SIGN U



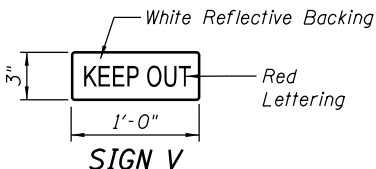
SIGN I



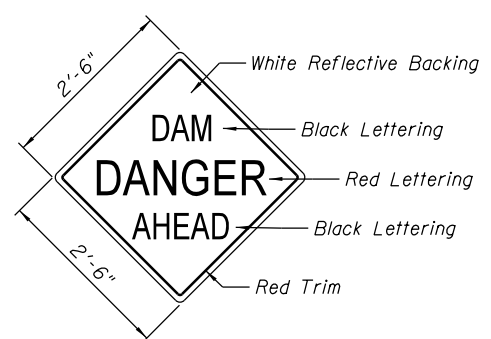
SIGN J



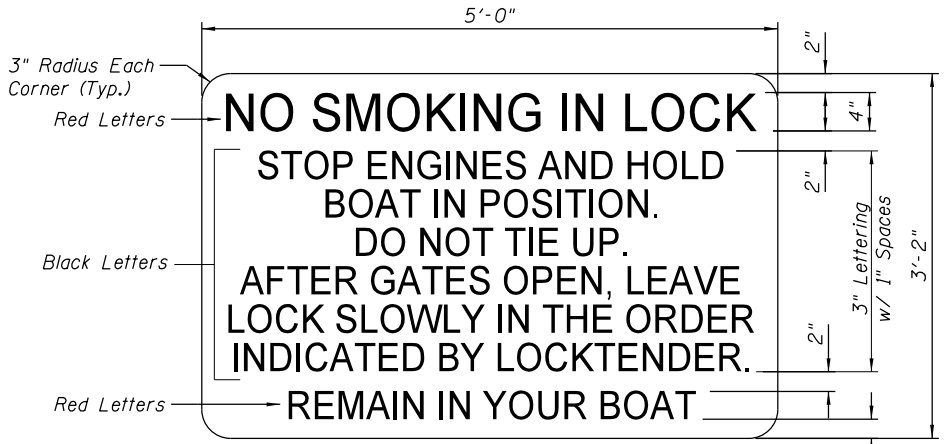
SIGN K



SIGN V

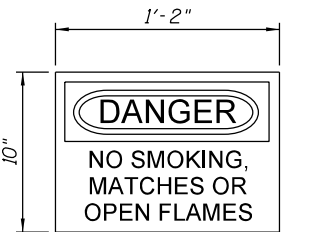


SIGN H

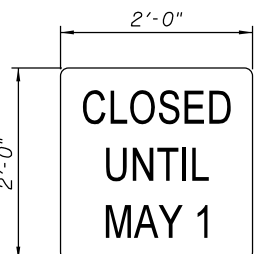


SIGN O

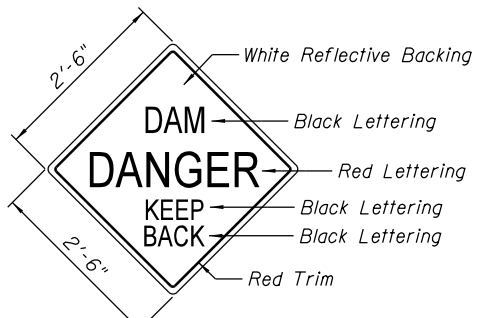
Note: All Text Shall Be Centered on White Reflectorized Backing.
Sign Material: Aluminum, Type 5052 H-38, Thickness .080.



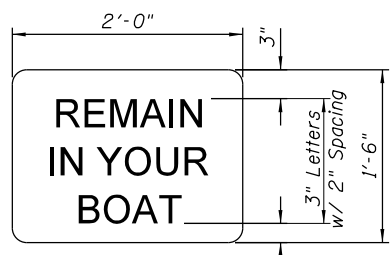
SIGN P



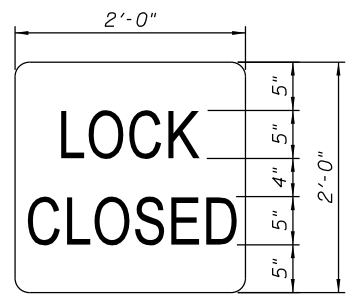
SIGN L



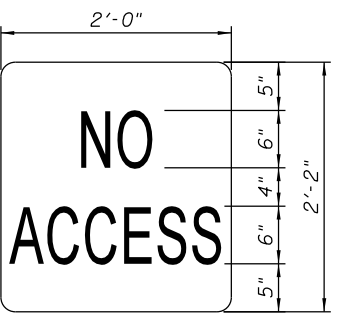
SIGN M



SIGN Q



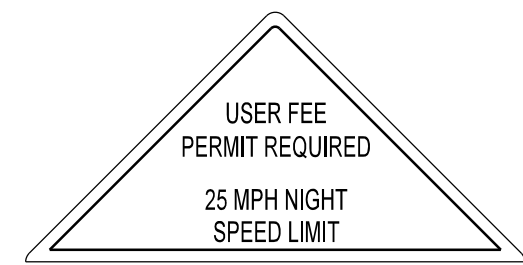
SIGN R



SIGN S

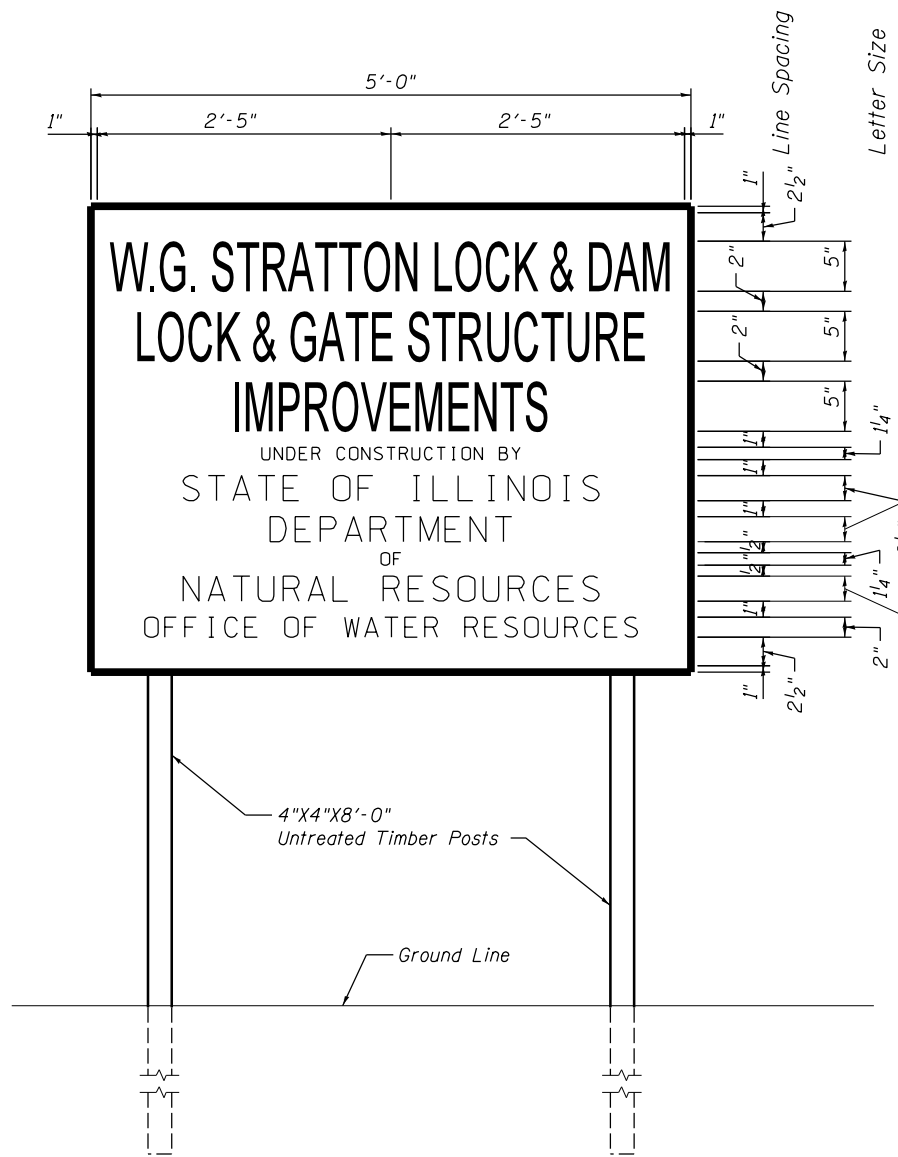
Existing Sign at North End of Lock To Remain In Place.
Protect During Construction Activities.

SIGN N

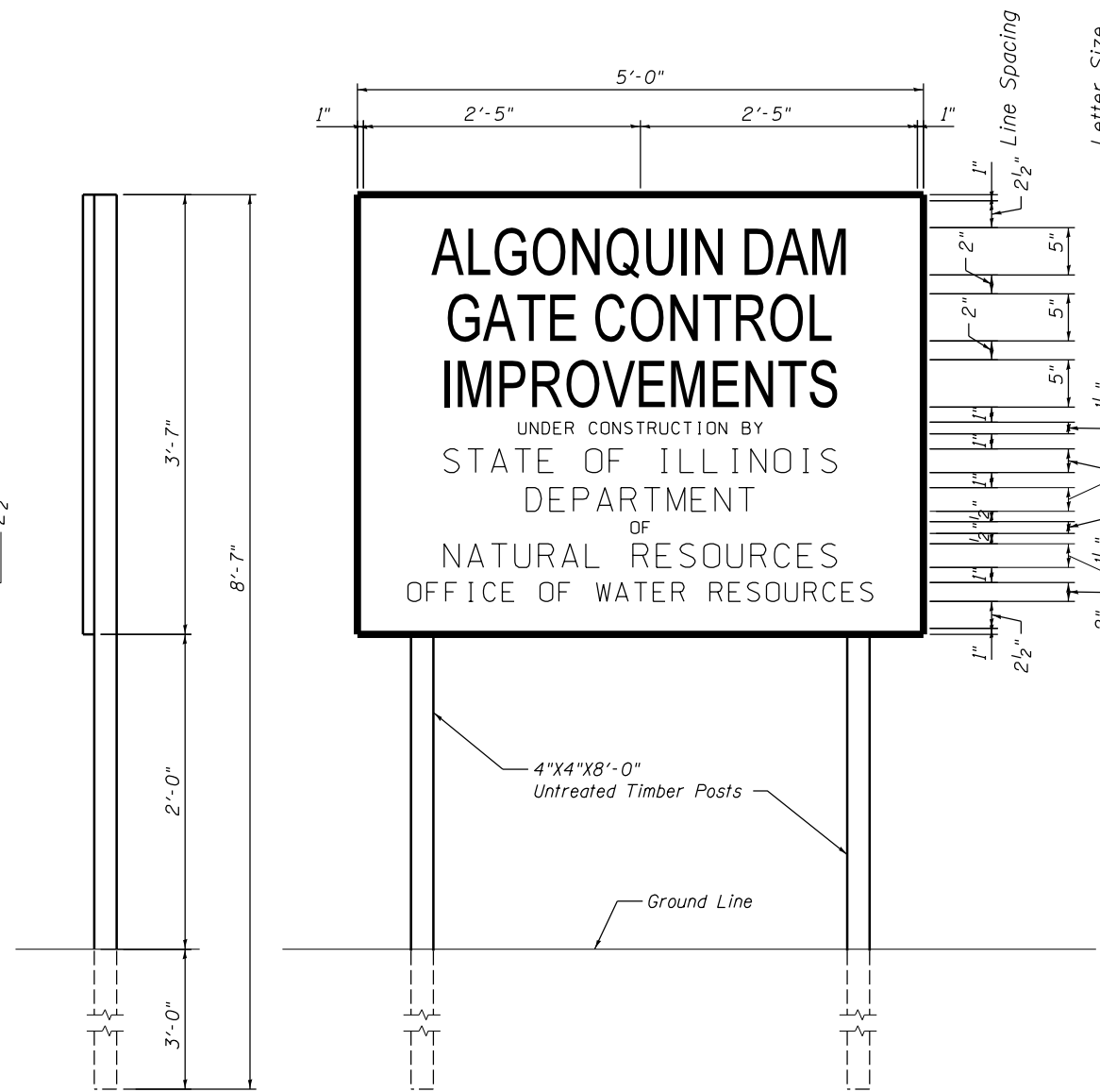


TEMPORARY PROJECT SIGN NOTES

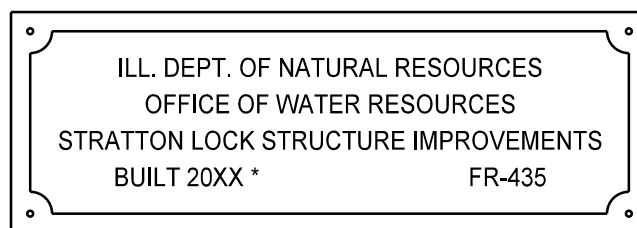
- 1) Signs shall be made of 3/4" plywood or oxboard, or of metal (18 ga.). The Contractor shall furnish all material and labor for constructing and erecting the signs. The signs shall be placed prior to the starting of actual construction operations. One sign shall be provided and placed as directed by the Engineer at the Algonquin Site. Four Signs shall be provided & placed as directed by Engineer at entrance to Lock Lane, on Western Island at North tip facing Upstream, Western Island at South tip facing downstream and at Moraine Hills State Park. Before any sign is erected, it shall be approved by the Engineer as to its appearance and quality of construction. The signs shall remain in place and shall be maintained in satisfactory condition until the project is accepted by the department. The Contractor shall then remove the signs and the material will become his property.
- 2) The letters on the sign shall be black mechanical style on a white background and appropriate border lines.
- 3) Paid for as Special Provision Temporary Signing.



1 STRATTON TEMPORARY CONSTRUCTION SIGN
 Located as indicated in Note 1.

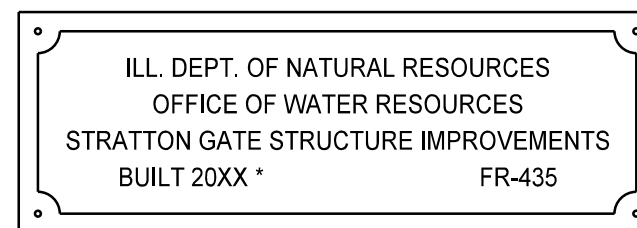


2 ALGONQUIN TEMPORARY CONSTRUCTION SIGN
 Located as indicated in Note 1.



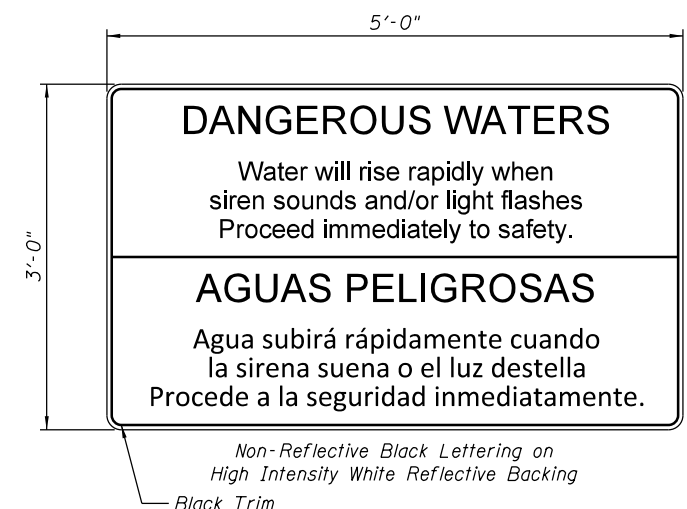
3 STRATTON LOCK STRUCTURE NAME PLATE

- Notes:
- 1) See Standard 515001-03.
 - 2) Name Plate to be Mounted on the Top of Concrete Slab of the West Proposed Downstream Lock Monolith or as Directed by Engineer.
 - 3) * Year to be Determined as Approved.



4 STRATTON GATE STRUCTURE NAME PLATE

- Notes:
- 1) See Standard 515001-03.
 - 2) Name Plate to be Mounted on West Side of Proposed Gate Structure or as Directed by Engineer.
 - 3) * Year to be Determined as Approved.









5 DANGEROUS WATER SIGN

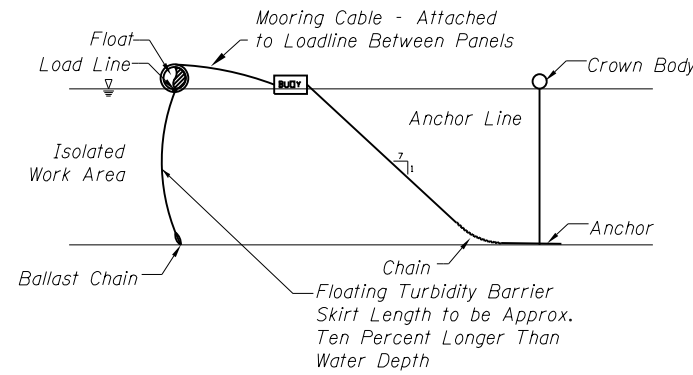
- Notes:
- 1) A Total of Six Signs Shall be Provided. Three Signs Shall be Given to the Engineer for Future Placement. Three Signs Shall be Placed on Site, on the Stratton New Gate Structure, on the Railing at the Stratton Obermeyer Dam and on the Railing at the Algonquin Dam.
 - 2) Paid for as Special Provision Signs.

GENERAL NOTES

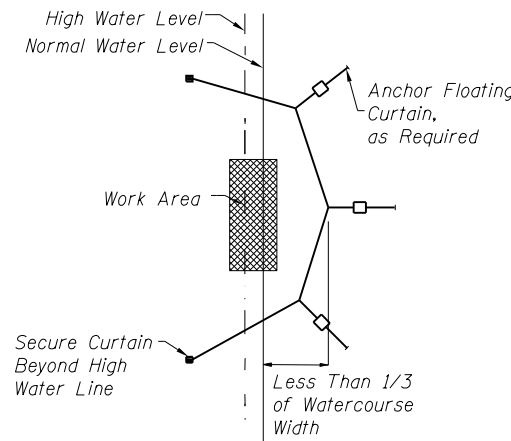
- All erosion control items to be furnished and maintained by the Contractor for the entire duration of the project, or as directed by the Engineer.
- Unless otherwise indicated, all vegetative and structural erosion and sediment control practices shall be constructed according to minimum standards and specifications in the current Illinois Urban Manual, the January 2012 IDOT Standard Specifications, the IDOT Supplemental Specifications and Recurring Special Provisions in Effect at the Time of Construction, and the Special Provisions for this Contract.
- The McHenry-Lake County Soil and Water Conservation District must be notified one week prior to the pre-construction conference, one week prior to the commencement of land disturbance activities and one week prior to the final inspection.
- A copy of the Erosion and Sediment Control Plan shall be maintained at the site at all times.
- Prior to commencing land disturbing activities in areas other than indicated on these plans (including but not limited to, additional phases of development and off site borrow or waste areas) a Supplemental Erosion Control Plan shall be submitted to the Engineer for review.
- The Contractor is responsible for installation of any additional erosion control measures necessary to prevent erosion and sedimentation as determined by the McHenry-Lake County Soil and Water Conservation District.
- During any dewatering operations, water will be pumped into filter bags. Dewatering directly into field tiles, storm water structures, or the river is prohibited.
- All adjacent streets must be kept clear of debris, inspected daily and cleaned when necessary.
- All erosion control measures must be inspected weekly and after each 1/2" rain event.
- The priority shall be given to the completion and stabilization of the disturbed areas. Work in these areas shall not be prolonged in attempt that all final grading and stabilization can take place at one time.
- Stockpiles of soil and other materials to remain in place for more than three (3) days shall be furnished with erosion and sediment control measures (i.e. perimeter erosion barrier). Stockpiles to remain in place for 21 days or more, temporary stabilization shall occur by the 14th day after work has ceased.
- Except as noted in (a) and (b), stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has temporarily or permanently ceased and on all disturbed portions of the site where construction activity will not occur for a period of 14 or more calendar days.
 - Where the initiation of stabilization measures by the seventh day after construction activity temporarily or permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable thereafter.
 - On areas where construction activity has temporarily ceased and will resume after fourteen (14) days, a temporary stabilization method can be used.
- Completed slopes shall be seeded and mulched as the excavation proceeds to the extent considered desirable and practical. Permanent seeding shall be used whenever possible. Under no circumstances shall the Contractor prolong final grading and shaping so that the entire project can be permanently seeded at one time.
- The condition of the construction site for winter shutdown shall be addressed early in the fall growing season so that slopes and other bare earth areas may be stabilized with temporary and/or permanent vegetative cover for proper erosion and sediment control. All open areas that are to remain idle throughout the winter shall receive temporary erosion control measures including temporary seeding, mulching, and/or erosion control blanket prior to the end of the fall growing season. The cost shall be included in the cost of erosion control system. The areas to be worked beyond the end of the growing season must incorporate soil stabilization measures that do not rely on vegetative cover such as erosion control blanket and heavy mulching. The cost shall be included in the cost of erosion control system.
- No work shall be performed in flowing water. Work in and near the critical areas should be isolated from concentrated flows or stream flow. The stream banks should be stabilized at the end of each day. Once work in this area begins, priority shall be given to the completion of the work and final stabilization of all disturbed areas.
- The cost for Temporary Seeding and Mulching, Perimeter Erosion Barriers, Floating Turbidity Curtains, Filter Bags, Sump Pits, Temporary Erosion Control Systems, and Stabilized Construction Entrances shall be included in the Cost of Erosion Control System.
- All project areas are within the 100 year floodplain, Per FEMA Flood Maps.

LEGEND

-  Seeding and Mulching
-  Perimeter Erosion Barrier
-  Floating Turbidity Curtain
-  Filter Bag
-  Sump Pit
-  Stabilized Construction Entrance



TYPICAL COMPONENTS / ANCHORAGE SYSTEM



TYPICAL PLAN VIEW

Maximum flow for waterbody shall be less than 5fps.
Isolated work area shall not exceed more than 1/3 stream width.
Turbidity curtain shall be placed parallel to stream flow.

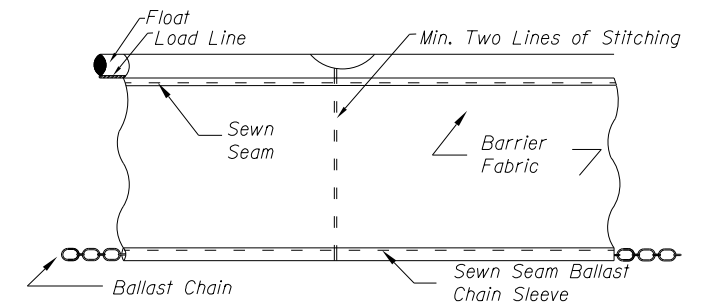
1 FLOATING TURBIDITY CURTAIN - TYPICAL LAYOUT

NOTES:

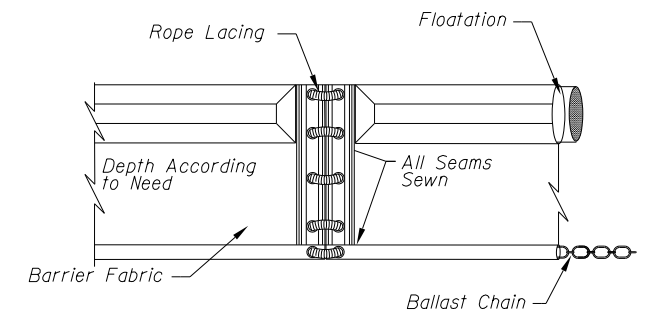
- The Curtain Shall be Supplied, Installed and Maintained in Accordance With Code 917 of the Illinois Urban Manual.
- The Curtain Shall be Placed Parallel to or at an Angle to the Direction of Flow, not Perpendicular to the Flow and Shall not Extend Across an Entire Waterway With Moving Water.
- The Curtain Depth Shall be 10% Longer than the Water Depth (at the Anticipated High Water Level) to Ensure the Curtain Rests on the Bottom.
- Both the Top and the Bottom of the Curtain Shall Continue Up Onto the Shore Beyond the Anticipated High Water Level. The Bottom of the Curtain Shall be Tapered to the Shape of the Shore.
- The Type of Curtain Used Shall be a Type II Rated for Moderate Current and Moderate Wind and Wave Action.

INSPECTION AND MAINTENANCE SCHEDULE

ACTIVITY	RESPONSIBLE PARTY	DURATION
Stabilization During Construction Maintenance	Contractor	Weekly and After Every 1/2" of Rainfall
Stabilization During Construction Observation	Engineer	Weekly and After Every 1/2" of Rainfall
Vegetation Maintenance	Contractor	Completion of Contract
Vegetation and Stabilization Maintenance	IDNR	Ongoing after Construction Completion



SEWN SEAM



GROMMETED HOLES WITH ROPE LACING

2 FLOATING TURBIDITY CURTAIN - 11 PANEL CONNECTORS

CONTRACTOR CERTIFICATION

"I certify under penalty of law that I understand the terms and conditions of the General National Pollutant Discharge Elimination System (NPDES) Permit (ILR10) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this Certification."

GENERAL CONTRACTOR


Signature _____ Title _____
Company _____ Date _____

SUB-CONTRACTOR

Signature _____ Title _____
Company _____ Date _____

WITNESSED BY DEPARTMENT

Signature _____ Title _____
Company _____ Date _____

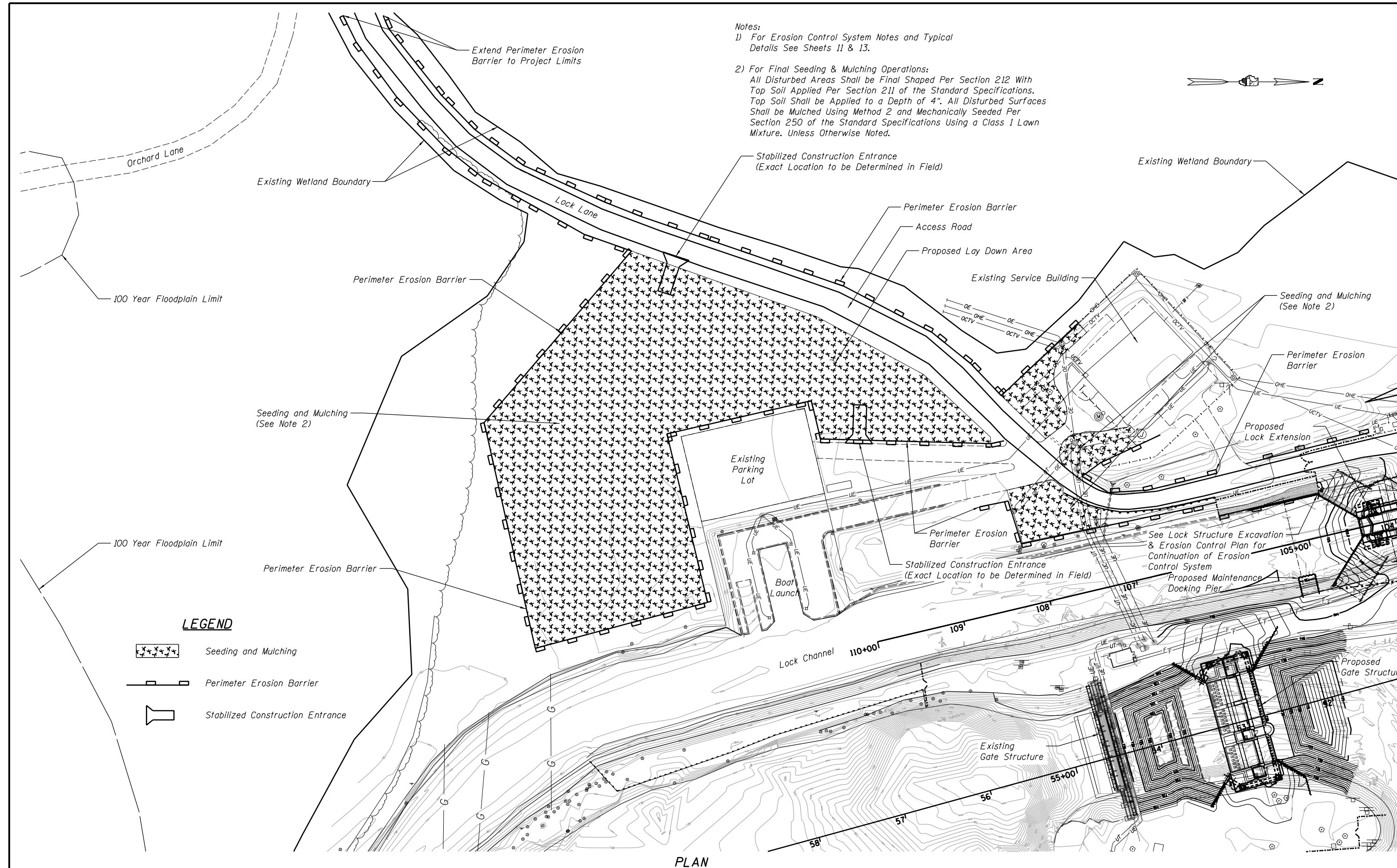
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	CHECKED - LJB	DRAWN - EJM	REVISED -
PLOT SCALE =	DRAWN - EJM	REVISOR -	REVISED -
PLOT DATE = JANUARY 30, 2014	CHECKED - LJB	REVISOR -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

EROSION CONTROL PLAN - GENERAL NOTES
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS

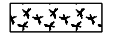


ILLINOIS DEPARTMENT
OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES

COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	11
PROJECT FR-435		



Notes:
 1) For Erosion Control System Notes and Typical Details See Sheets 11 & 13.
 2) For Final Seeding & Mulching Operations:
 All Disturbed Areas Shall be Final Shaped Per Section 212 With Top Soil Applied Per Section 211 of the Standard Specifications. Top Soil Shall be Applied to a Depth of 4". All Disturbed Surfaces Shall be Mulched Using Method 2 and Mechanically Seeded Per Section 250 of the Standard Specifications Using a Class 1 Lawn Mixture. Unless Otherwise Noted.

LEGEND

-  Seeding and Mulching
-  Perimeter Erosion Barrier
-  Stabilized Construction Entrance

PLAN

FILE NAME = G-0013-GEN.dgn

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USER NAME =
 PLOT SCALE =
 PLOT DATE = SEPTEMBER 18, 2013

DESIGNED - EJM
 CHECKED - LJB
 DRAWN - EJM
 CHECKED - LJB

REVISED -
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 REVISED -
 REVISED -

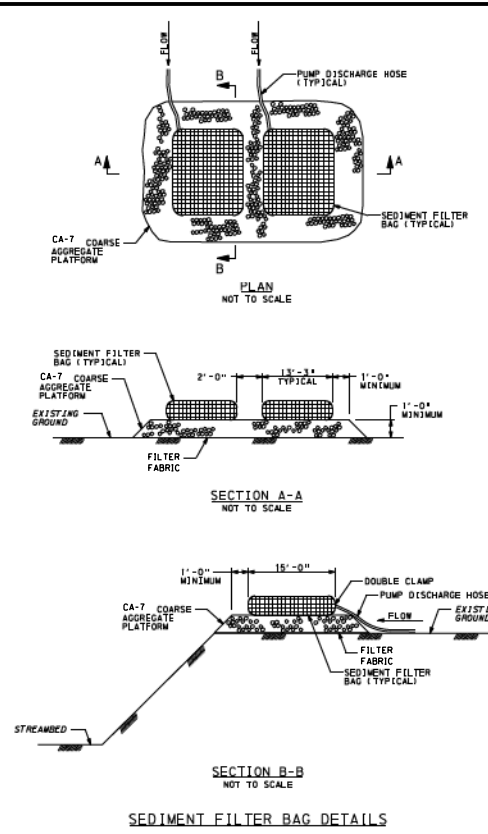
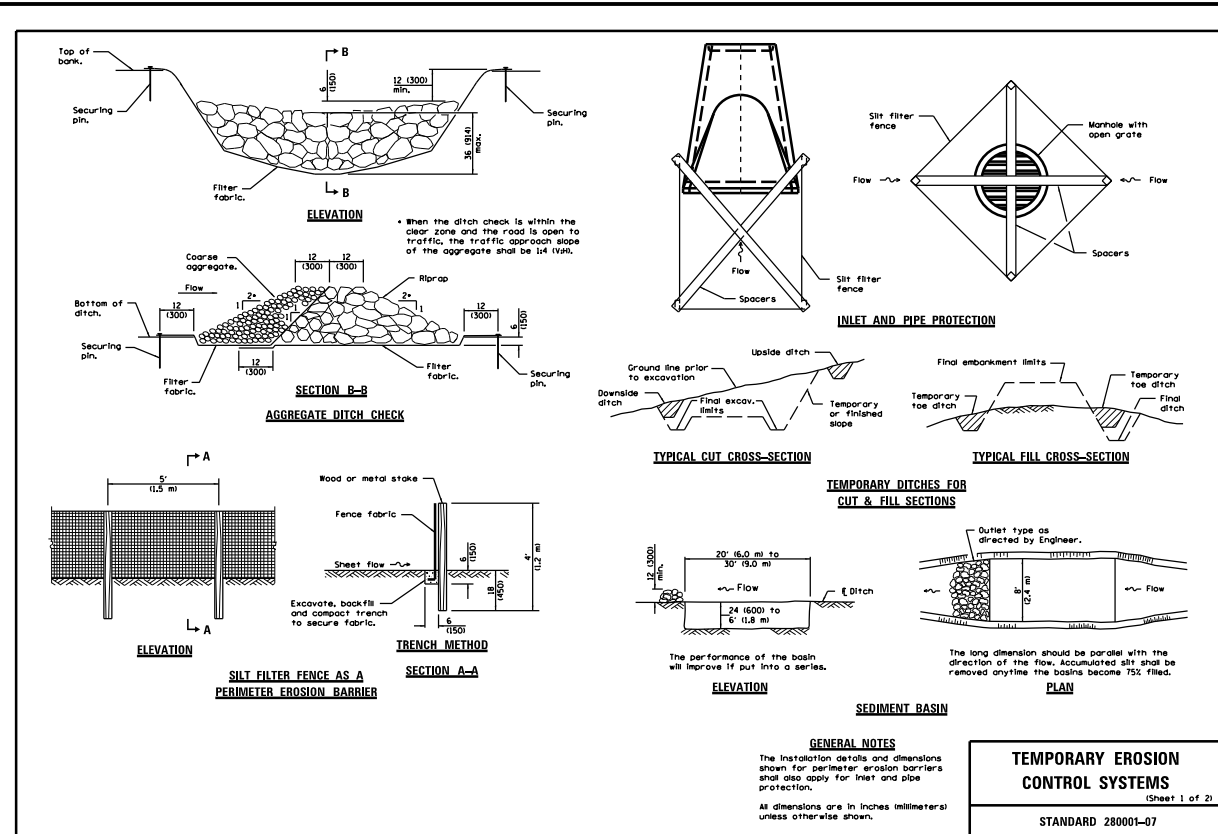
**STATE OF ILLINOIS
 DEPARTMENT OF NATURAL RESOURCES**

**EROSION CONTROL PLAN - LAY DOWN AREA
 STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS**

**ILLINOIS DEPARTMENT
 OF NATURAL RESOURCES
 OFFICE OF WATER RESOURCES**

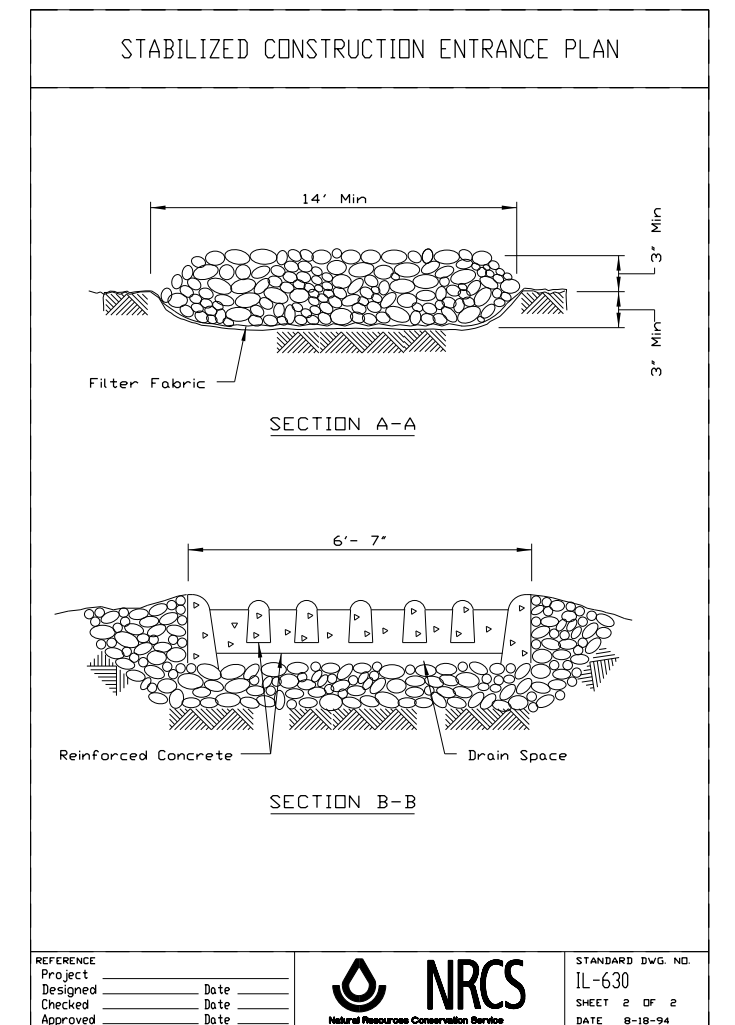
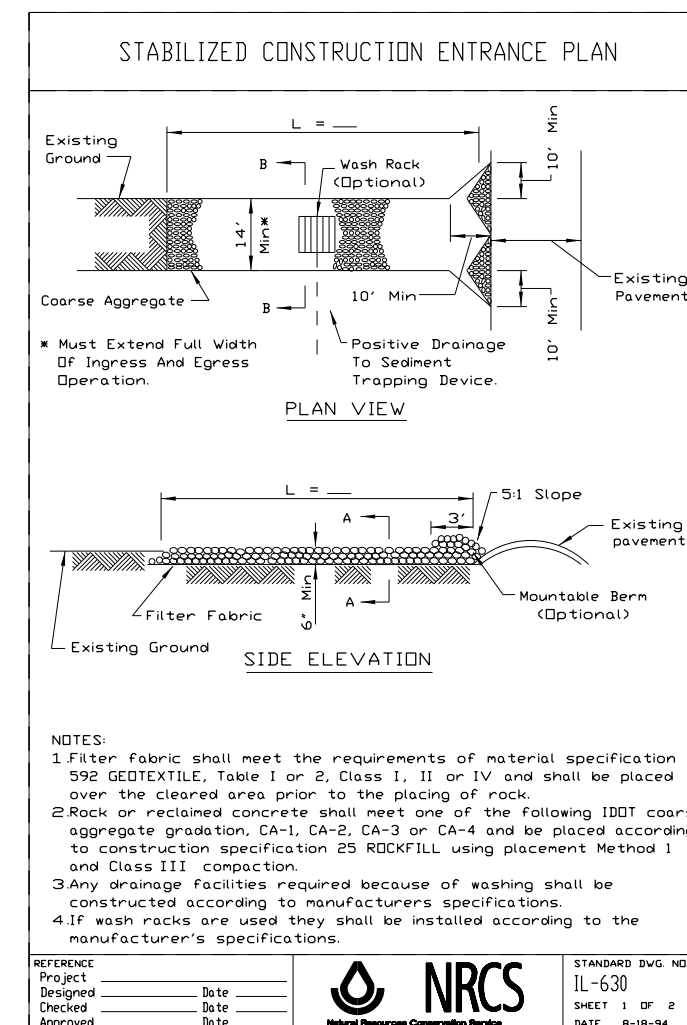
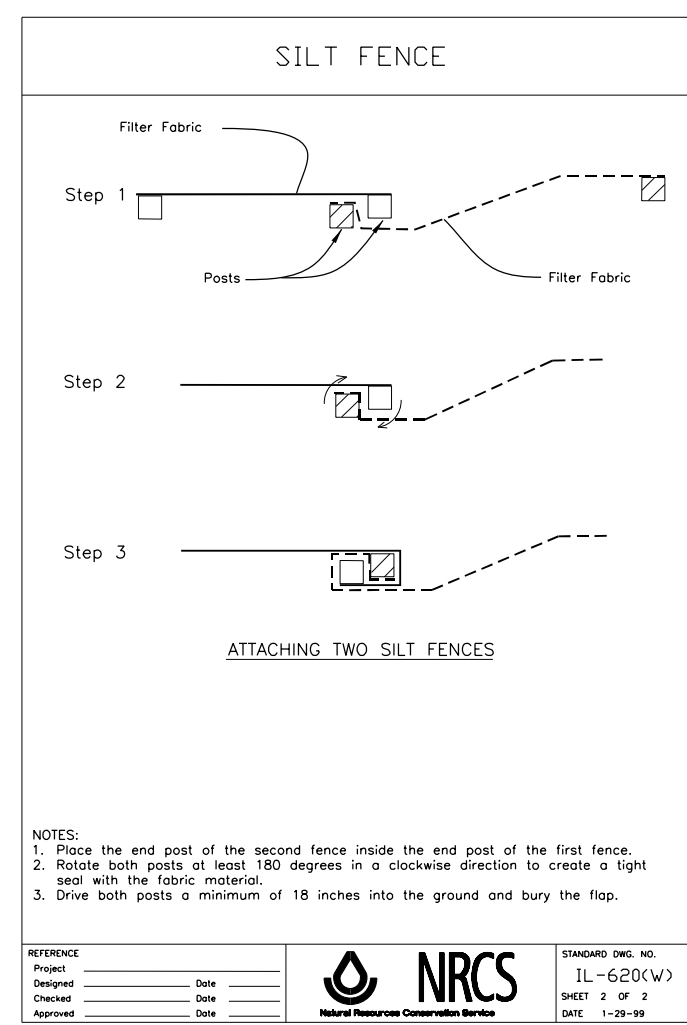
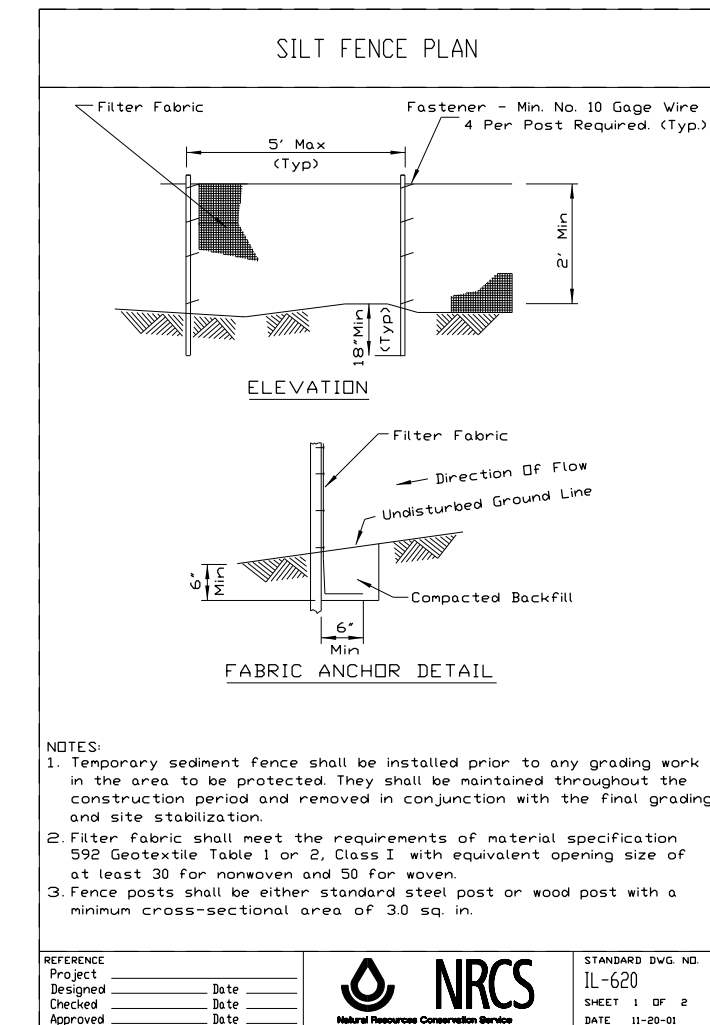
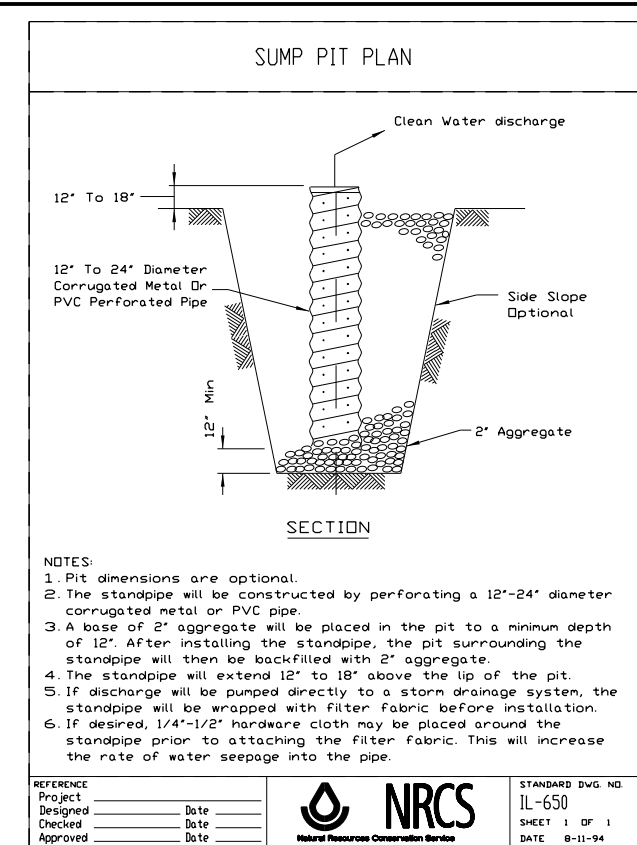
COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	12

PROJECT FR-435



SEDIMENT FILTER BAG NOTES

1. FILTER BAGS MAY BE USED ON LOW VOLUME DEWATERING OPERATIONS NOT TO EXCEED 1000 GALLONS PER MINUTE.
2. CLEAR SITE BUT DO NOT GRUB.
3. INSPECT AREA TO DETERMINE PATH DISCHARGE WATER WILL TAKE. STABILIZE ANY POTENTIALLY ERODIBLE AREAS (STEEP SLOPES).
4. CONSTRUCT COURSE AGGREGATE PLATFORM SURFACE LEVEL. PLACE SEDIMENT FILTER BAG ON STABILIZED AREA.
5. IF THE EXISTING AREA IS STABILIZED, STRAW MAY BE USED INSTEAD OF CA-7 COURSE AGGREGATE. PLACE BAG OVER STRAW DISTRIBUTED AT THE RATE OF 1 BALE PER 30 SQ. FT.
6. USE PUMP WITH A RATING IN GALLONS PER MINUTE NOT TO EXCEED 50% OF THE MAXIMUM FLOW RATE LISTED ON THE BAG LABEL. DOUBLE CLAMP THE PUMP DISCHARGE HOSE FIRMLY TO THE BAG.
7. MONITOR AND EVALUATE THE ENTIRE PUMPING OPERATION TO ASSURE THAT THE BAG CONTINUES TO FUNCTION PROPERLY. REPLACE THE BAG WHEN THE CONTAINED SILT REDUCES THE BAG'S FLOW TO APPROXIMATELY 50% OF THE RATE OF INITIAL DISCHARGE, OR WHEN DIRECTED BY INSPECTOR-IN-CHARGE. DISPOSE OF SEDIMENT IN A MANNER SATISFACTORY TO THE ENGINEER. RESTORE THE AREA AS SPECIFIED BY SWPPP.
8. ALL DIMENSIONS ARE IN FEET & INCHES UNLESS OTHERWISE NOTED.



PLUMBING SYMBOLOLOGY

PLUMBING ABBREVIATIONS

PIPE MATERIAL SCHEDULE

VALVES

PIPING

- Ball Valve
- Gate Valve
- Globe/Plug Valve
- Globe Valve
- Balancing Valve
- Pressure Reducing Valve
- Check Valve
- Backflow Preventer
- Butterfly Valve
- Ball Valve
- Globe Valve
- Pressure Relief Valve
- 2-Way Control Valve
- 3-Way Control Valve
- Wall Faucet
- Freeze Proof Wall Hydrant
- Sluice Gate

- Pipe Joint (See Specs)
- Pipe Wyed Up (Teed On Supplies)
- Piping Turned Up
- Piping Turned Down
- Piping Teed Down
- 45° Bend (Vertical)
- Union
- Concentric Reducer
- Eccentric Reducer
- Trap
- Vented P-Trap
- Cap or Plug
- Blind Flange
- Pipe Break
- Flexible Hose or Tubing
- Flexible Piping Connection
- Braided Flexible Coupling
- Flexible Coupling
- Flared End Section

MISCELLANEOUS

PROCESS PIPING SYSTEMS

- Pressure Regulator
- Pipe in Section
- Gas Meter
- Water Meter
- Sleeve Thru Floor/Wall
- Floor Drain
- Floor Clean Out
- Strainer
- Connect to Existing
- 3/4" Hose Thread (Male)
- Pressure Switch w/ Isolation Cock
- Pressure Gauge w/ Isolation Cock
- Thermometer

- Exposed Process Piping
- Concealed Process Piping
- XXX - See Legend Below

LEGEND

- A Acid Waste
- ALR Air Lift Recycle
- AV Acid Vent
- AW Aerated Water
- AWS Aerated Water Supply
- BRD Backwash/Rinse Drain
- BRS Backwash/Rise Supply
- CA Compressed Air
- DRN Process Drain
- DW Disinfection Waste
- FW Filtered Water
- HYS Hydraulic Supply
- HYR Hydraulic Return
- LPA Low Pressure Air
- OW Overflow Water
- OXY Oxygen
- PAW Pumped Aerated Water
- PA Process Air
- RAW Raw Water (Untreated)
- RES Reservoir Supply
- RIV River Water
- RWD Recirculated Water Drain
- RWR Recirculated Water Pumped Return
- RWS Recirculated Water Supply
- RUS Reuse Water Supply
- SPW Spring Water
- SW Service Water
- WW Well Water

DOMESTIC PIPING SYSTEMS

- or Sanitary Waste
- or Vent
- or Cold Water
- or Hot Water, 140°F
- or Hot Water, Recirculated
- Tempered Water, 110°F
- Storm Water
- Roof Drain Leader
- Emergency Shower/Eyewash Supply
- Flow Direction

A-C	Asbestos Concrete	MB	Mop Basin
ADJ	Adjustable	MFGR	Manufacturer
ALT	Alternate	MH	Manhole
ALUM	Aluminum	MIN	Minimum
AFF	Above Finished Floor	MJ	Mechanical Joint
AP	Access Panel	MS	Mop Sink
BFF	Below Finished Floor	MV	Mud Valve
BFV	Butterfly Valve	NOM	Nominal
BLDG	Building	NRS	Non-Rising Stem
C.I.	Cast Iron	NS	Non-Slam Check
CO	Cleanout (Floor Or Yard)	NT	Neutralization Tank
CONC	Concrete	O.C.	On Center
COORD	Coordinate	O.D.	Outside Diameter
CPVC	Chlorinated PVC	PSI	Pounds Per Square Inch
CU	Copper	PVC	Polyvinyl Chloride
DCP	Domestic Circ. Pump	RAD	Radius
DD	Double Door Check	RAS	Recirculated Aquaculture System
DR	Drinking Fountain	REQ'D	Required
D.I.	Ductile Iron	RHB	Roof Hose Bibb
DISCH	Discharge	RPM	Revolutions Per Minute
DOM	Domestic Well Water	RPZ	Reduced Pressure Backflow Preventer
(E)	Existing	SAN	Sanitary Waste
ESEW	Emergency Shower/Eye Wash	SCH	Schedule
ET	Expansion Tank	SHT	Sheet
EWC	Electric Water Cooler	SK	Sink
FAB'D	Fabricated	SF	Square Feet
FCO	Floor Clean Out	SH	Shower
FD	Floor Drain	SQ	Square
FOT	Flat-On-Top	SS	Stainless Steel
FREQ	Frequency	ST	Storage Tank
FRP	Fiberglass Reinforced Polyester	TD	Trench Drain
FS	Floor Sink	TDH	Total Dynamic Head
FTG	Fitting	TEMP	Temperature
FWH	Freeze Proof Wall Hydrant	THK	Thick Or Thickness
GALV	Galvanized	THRU	Through
GJ	Gas Jet	TILE	Field Tile
GPH	Gallons Per Hour	TSS	Total Suspended Solids
H	Height	TYP	Typical
HB	Hose Bibb	UNO	Unless Noted Otherwise
HD	Head	UR	Urinal
HDPE	High Density Polyethylene	USGS	United States Geological Survey
HORIZ	Horizontal	V	Vent Or Volts
HP	Horsepower	VB	Vacuum Breaker
HWH	Hot Water Heater	VERT	Vertical
ID	Inside Diameter	VTR	Vent Thru Roof
IMP	Impeller	W/	With
IPS	Iron Pipe Size	WC	Water Closet
IW	Inside Width	WCO	Wall Cleanout
LAV	Lavatory	WF	Wash Fountain
LB	Laundry Box for Washing Machine	WH	Water Heater
LF	Lawn Faucet	WHA	Water Hammer Arrestor
LPA	Low Pressure Air	Y	Y-Pattern Swing Check
LT	Laundry Tub	YCO	Yard Cleanout

- A. PVC Pressure Pipe:
 - 1. Sump Pump Discharge Piping
- B. Copper Pipe:
 - 1. Buried Low Pressure Air (LPA) Piping
- C. Sch 40 Galvanized Steel Pipe:
 - 1. Exposed Low Pressure Air (LPA) Piping
 - 2. Process (Pneumatic) Air Piping

FILE NAME = P-0601-GEN.dgn

USER NAME =

DESIGNED - D. MIRABLE

REVISED -

CHECKED - R. ADRIAN

REVISED -

PLOT SCALE =

DRAWN - L. TRAVIS

REVISED -

PLOT DATE = SEPTEMBER 18, 2013

CHECKED - L. COCHRAN

REVISED -



**STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES**

**PLUMBING SYMBOLS AND GENERAL NOTES
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS**

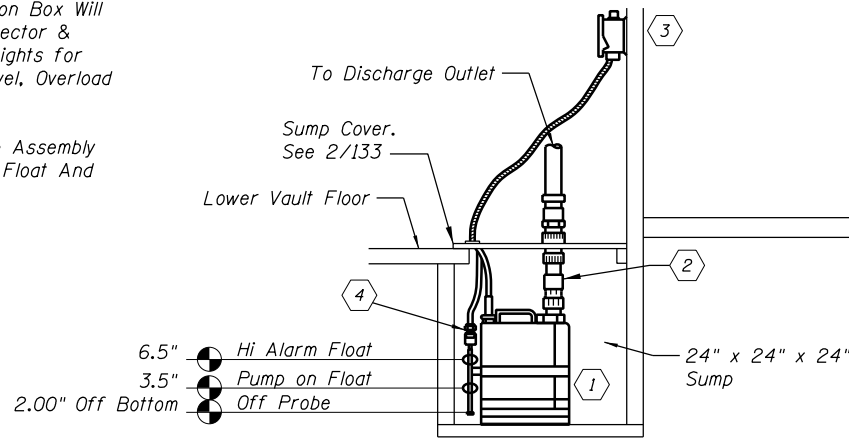
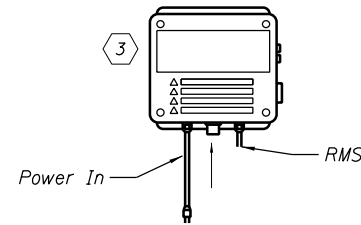
**ILLINOIS DEPARTMENT
OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES**

COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	14
PROJECT FR-435		

KEYED NOTES

- 1 Submersible Effluent Pump, 1/6 HP, 115 Volt, 3600 RPM, 1" Discharge Connection
- 2 1" Check Valve
- 3 Oil Minder 115V, 1Ø Control System With Optional Built in Audible and Visual Alarm When Pump Does Not Run Due to Oil in Pit or High Liquid Alarm. Provide Silencing Button for Audible Alarm Built into Panel. Panel Shall Have Additional Contact for Remote Alarm Indication. Junction Box Will be Provided With Multi-Pin Connector & Cord in Lengths as Required. Lights for Oil Spill, Power, High Liquid Level, Overload & Pump Run.
- 4 Stainless Steel Float And Probe Assembly Includes Oil Sensing Probe, On Float And High Alarm Float.

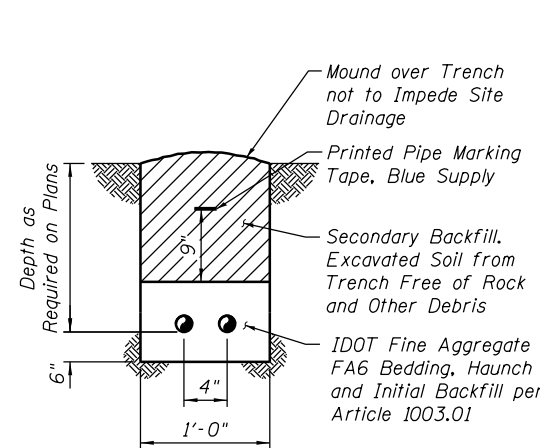
OIL-MINDER MULTI-OPTION



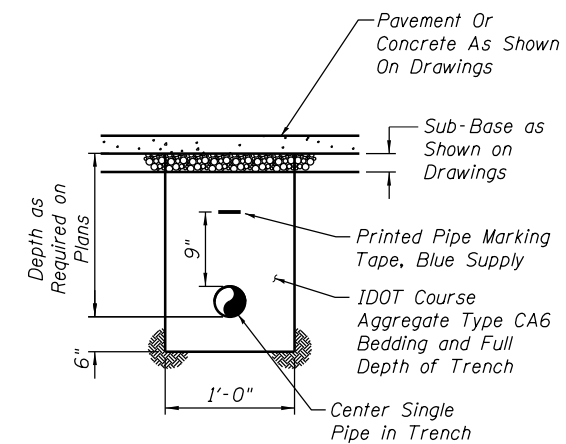
1/15 **SUMP PUMP WITH OIL MINDER CONTROL SYSTEM**
Not to Scale

SUMP PUMP (SP-)										
TAG	LOCATION	DISCHARGE SIZE (IN)	HEAD PRESS. MAX (FT)	GPM	MOTOR		SUMP PIT DIMENSIONS	MODEL	MANUFACTURER BASIS OF DESIGN	NOTES PROVIDE ITEMS AS NUMBERED
					SIZE (HP)	ELECTRICAL (V/PH/Hz)				
SP-1	LOWER WEST VAULT	1	25	20	1/6	115/1/60	24"x24"x24"	SB-12 O/M ELV.	STANCOR	1, 2, 3
SP-2	LOWER CENT. VAULT	1	25	20	1/6	115/1/60	24"x24"x24"	SB-12 O/M ELV.	STANCOR	1, 2, 3
SP-3	LOWER EAST VAULT	1	25	20	1/6	115/1/60	24"x24"x24"	SB-12 O/M ELV.	STANCOR	1, 2, 3

- NOTES:
 1. PROVIDE OIL-IN-SUMP CONTROL SYSTEM PACKAGE
 2. FULL FLOW CHECK VALVE
 3. COORDINATE OPENINGS IN COVER TO ACCOMMODATE ELECTRICAL CONNECTIONS AND DISCHARGE PIPE.



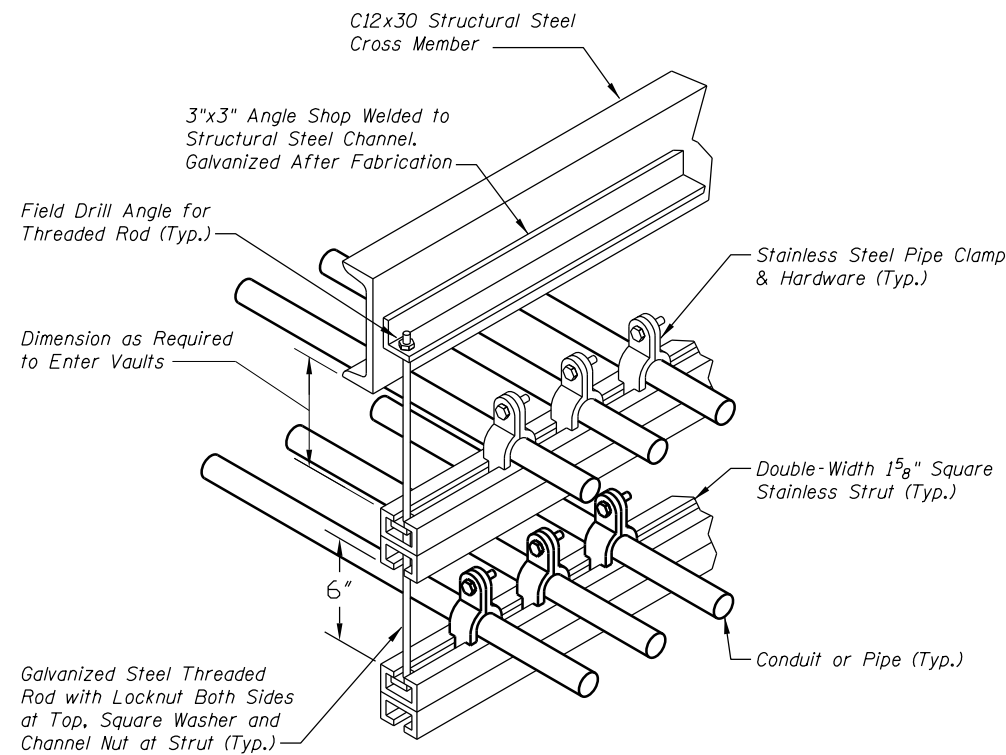
4/15 **TRENCH DETAIL FOR PRESSURE PIPE NON-ROADWAY AREAS**
Not to Scale



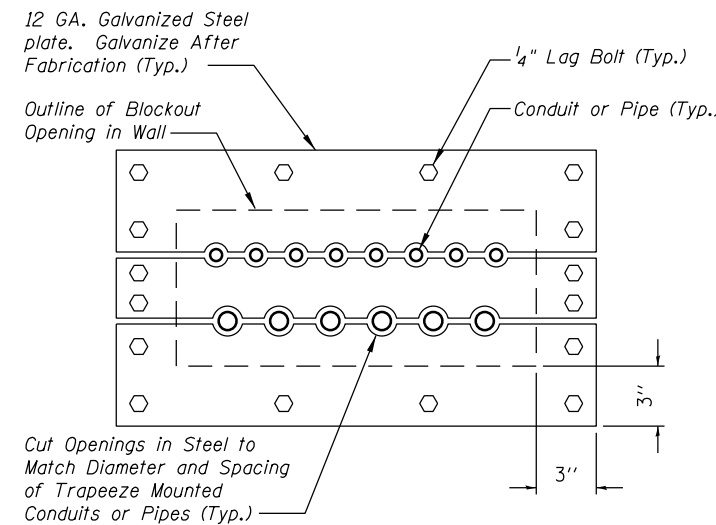
5/15 **TRENCH DETAIL FOR ALL PIPE UNDER CONCRETE OR PAVEMENT**
Not to Scale

GENERAL NOTES

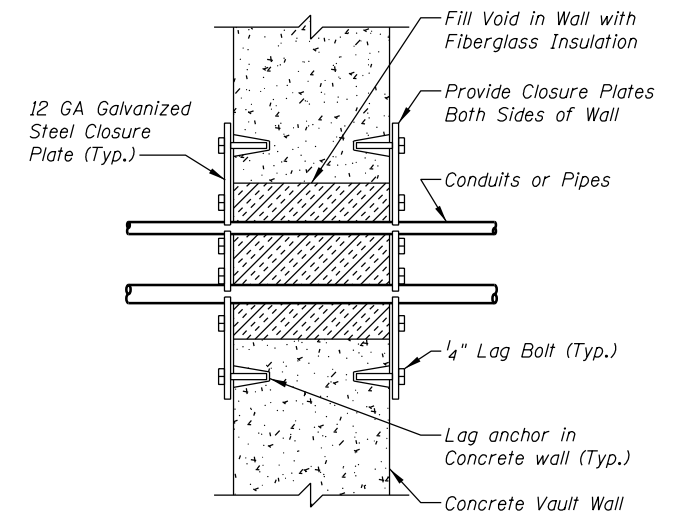
- 1. Type FA6 Bedding and Course Aggregate Type CA6 Bedding and Backfill for Hydraulic Piping Trench Shall Be Included Under Gate Structure - Mechanical Work Pay Item.
- 2. Type FA6 Bedding and Course Aggregate Type CA6 Bedding and Backfill for LPA Piping Shall Be Included Under Lock Plumbing Work Pay Item.
- 3. Type FA6 Bedding and Course Aggregate Type CA6 Bedding and Backfill for Gate Level Transducer Piping Shall Be Included Under Dam Control System Pay Item.



2/15 **TYPICAL BRIDGE PIPE SUPPORT**
Not to Scale



FRONT VIEW



SIDE VIEW

3/15 **PIPING BLOCKOUT CLOSURE DETAIL**
Not to Scale

PIPING SYMBOLLOGY		HVAC SYMBOLLOGY		HVAC CONTROL SYMBOLLOGY		PIPE MATERIAL SCHEDULE																																							
<p>VALVES</p>		<p>MISCELLANEOUS</p>		<p>HVAC SYMBOLLOGY</p>		<p>HVAC CONTROL SYMBOLLOGY</p>		<p>PIPE MATERIAL SCHEDULE</p> <ol style="list-style-type: none"> Hydraulic piping Shall Be 316 Stainless Steel Seamless Tubing ASTM A269 or A213 With A Working Pressure Rating of 3750 PSIG or Higher. Fittings and Valves Shall be 316 Stainless Steel Compression Type for 3750 PSIG Working Pressure or higher. 																																					
<p>PIPING SYSTEMS</p>																																													
<p>ABBREVIATIONS</p> <table border="0"> <tr><td>EF</td><td>Exhaust Fan</td></tr> <tr><td>HP</td><td>Heat Pump</td></tr> <tr><td>PRE</td><td>Power Roof Exhaust Fan</td></tr> <tr><td>IH</td><td>Intake Hood</td></tr> <tr><td>RH</td><td>Relief Hood</td></tr> <tr><td>CEF</td><td>Ceiling Exhaust Fan</td></tr> <tr><td>AHU</td><td>Air Handling Unit</td></tr> <tr><td>ERW</td><td>Energy Recovery Wheel</td></tr> <tr><td>FMB</td><td>Filter/Mixing Box</td></tr> <tr><td>P.C.</td><td>Plumbing Contractor</td></tr> <tr><td>M.C.</td><td>Mechanical Contractor</td></tr> <tr><td>S.C.</td><td>Sprinkler Contractor</td></tr> <tr><td>E.C.</td><td>Electrical Contractor</td></tr> <tr><td>W.D.C.</td><td>Well Driller Contractor</td></tr> <tr><td>T.C.</td><td>Temperature Control Contractor</td></tr> <tr><td>FMB</td><td>Filter Mixing Box</td></tr> <tr><td>RTU</td><td>Roof top Unit</td></tr> <tr><td>HPCP</td><td>Heat Pump Circulation Pump</td></tr> <tr><td>PRE</td><td>Powerd Roof Exhaust Fan</td></tr> </table>		EF	Exhaust Fan	HP	Heat Pump	PRE	Power Roof Exhaust Fan	IH	Intake Hood	RH	Relief Hood	CEF	Ceiling Exhaust Fan	AHU	Air Handling Unit	ERW	Energy Recovery Wheel	FMB	Filter/Mixing Box	P.C.	Plumbing Contractor	M.C.	Mechanical Contractor	S.C.	Sprinkler Contractor	E.C.	Electrical Contractor	W.D.C.	Well Driller Contractor	T.C.	Temperature Control Contractor	FMB	Filter Mixing Box	RTU	Roof top Unit	HPCP	Heat Pump Circulation Pump	PRE	Powerd Roof Exhaust Fan						
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<p>GENERAL NOTES:</p> <ol style="list-style-type: none"> This is a standard process, mechanical and plumbing symbology sheet. 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. See instrumentation legend sheet for project-specific equipment symbols, equipment abbreviations, and piping system abbreviations. 																																													

MOTOR OPERATED DAMPERS (MOD-)

TAG	LOCATION	SIZE		AIRFLOW (CFM)	BLADE ORIENT. (SQ.FT.)	DAMPER TYPE	AIR PRESS. DROP (IN.W.G.)	FRAME	MANUFACTURER BASIS OF DESIGN	NOTES PROVIDE ITEMS AS NUMBERED
		WIDTH (IN.)	HEIGHT (IN.)							
MOD-1	EF-1	12	12	400	HORIZ.	CONTROL	0.05	INTEGRAL FLANGE	RUSKIN	1, 2, 3, 4
MOD-2	EF-2	12	12	450	HORIZ.	CONTROL	0.05	INTEGRAL FLANGE	RUSKIN	1, 2, 3, 4
MOD-3	L-1	18	18	400	HORIZ.	CONTROL	0.05	INTEGRAL FLANGE	RUSKIN	1, 2, 3, 4
MOD-4	L-2	18	18	450	HORIZ.	CONTROL	0.05	INTEGRAL FLANGE	RUSKIN	1, 2, 3, 4
MOD-5	EF-3	12	12	450	HORIZ.	CONTROL	0.05	INTEGRAL FLANGE	RUSKIN	1, 2, 3, 4
MOD-6	EF-4	10	10	250	HORIZ.	CONTROL	0.05	INTEGRAL FLANGE	RUSKIN	1, 2, 3, 4
MOD-7	L-3	18	18	450	HORIZ.	CONTROL	0.05	INTEGRAL FLANGE	RUSKIN	1, 2, 3, 4
MOD-8	L-4	16	16	250	HORIZ.	CONTROL	0.05	INTEGRAL FLANGE	RUSKIN	1, 2, 3, 4
MOD-9	EF-5	12	12	450	HORIZ.	CONTROL	0.05	INTEGRAL FLANGE	RUSKIN	1, 2, 3, 4
MOD-10	EF-6	10	10	250	HORIZ.	CONTROL	0.05	INTEGRAL FLANGE	RUSKIN	1, 2, 3, 4
MOD-11	L-5	18	18	450	HORIZ.	CONTROL	0.05	INTEGRAL FLANGE	RUSKIN	1, 2, 3, 4
MOD-12	L-6	16	16	250	HORIZ.	CONTROL	0.05	INTEGRAL FLANGE	RUSKIN	1, 2, 3, 4

- NOTES:
1. PROVIDE BELIMO MOTOR ACTUATOR AND ASSOCIATED DAMPER LINKAGE
 2. PROVIDE FRAME-MOUNTING BRACKET AS REQUIRED BY MOTOR ACTUATOR
 3. DAMPER SHALL BE 0.125-INCH EXTRUDED ALUMINUM FRAME & BLADE
 4. DAMPER MOTOR SHALL BE 120V, POWERED OPEN/SPRING RETURN

EXHAUST FANS (EF-)

TAG	LOCATION	SERVICE	AIRFLOW		TYPE	SPEED (RPM)	DRIVE	MOTOR		MANUFACTURER BASIS OF DESIGN	NOTES: PROVIDE ITEMS AS NUMBERED	
			(CFM)	STATIC PRESS. (IN.W.G.)				TYPE	ELECTRICAL (V/PH/Hz)			
EF-1	EXTERIOR WALL	UPPER VAULT 1	400	0.200	CENTRIFUGAL WALL-SPUN ALUM.	1,075	DIRECT	1/8	ODP	120/1/60	GREENHECK	1,2,3,4,5,6,7,8,9,11
EF-2	EXTERIOR WALL	SUMP VAULT 1	450	0.300	CENTRIFUGAL WALL-SPUN ALUM.	1,089	DIRECT	1/8	ODP	120/1/60	GREENHECK	1,2,3,4,5,6,7,8,9,10
EF-3	EXTERIOR WALL	UPPER VAULT 2	450	0.300	CENTRIFUGAL WALL-SPUN ALUM.	1,089	DIRECT	1/8	ODP	120/1/60	GREENHECK	1,2,3,4,5,6,7,8,9,11
EF-4	EXTERIOR WALL	SUMP VAULT 2	250	0.200	CENTRIFUGAL WALL-SPUN ALUM.	987	DIRECT	1/20	ODP	120/1/60	GREENHECK	1,2,3,4,5,6,7,8,9,10
EF-5	EXTERIOR WALL	UPPER VAULT 3	450	0.300	CENTRIFUGAL WALL-SPUN ALUM.	1,089	DIRECT	1/8	ODP	120/1/60	GREENHECK	1,2,3,4,5,6,7,8,9,11
EF-6	EXTERIOR WALL	SUMP VAULT 3	250	0.200	CENTRIFUGAL WALL-SPUN ALUM.	987	DIRECT	1/20	ODP	120/1/60	GREENHECK	1,2,3,4,5,6,7,8,9,10

- NOTES:
1. PROVIDE WIRING PIGTAIL, INTERNAL, 9 FEET FROM UNIT OF FLEXIBLE METAL CONDUIT
 2. BEARINGS SHALL HAVE GREASE FITTINGS
 3. PROVIDE MANUFACTURER'S MATCHING DAMPER COMPLETE WITH MOTOR ACTUATOR
 4. PROVIDE DISCONNECT SWITCH, NEMA 1 TOGGLE TYPE MANUAL MOTOR STARTER WITH THERMAL OVERLOADS SIZED FOR MOTOR, SHIPPED LOOSE
 5. PROVIDE MANUFACTURER'S MATCHING ASSEMBLED WALL COLLAR
 6. PROVIDE MANUFACTURER'S MATCHING OSHA APPROVED MOTOR SIDE GUARD
 7. PROVIDE STAINLESS STEEL FASTENERS
 8. PROVIDE SOLID STATE SPEED CONTROLLER
 9. PROVIDE MANUFACTURER'S MATCHING ALUMINUM BRDSCREEN
 10. FAN ON/OFF CONTROL THROUGH LIGHT SWITCH
 11. PROVIDE LINE VOLTAGE, REVERSE ACTING THERMOSTAT

LOUVERS (L-)

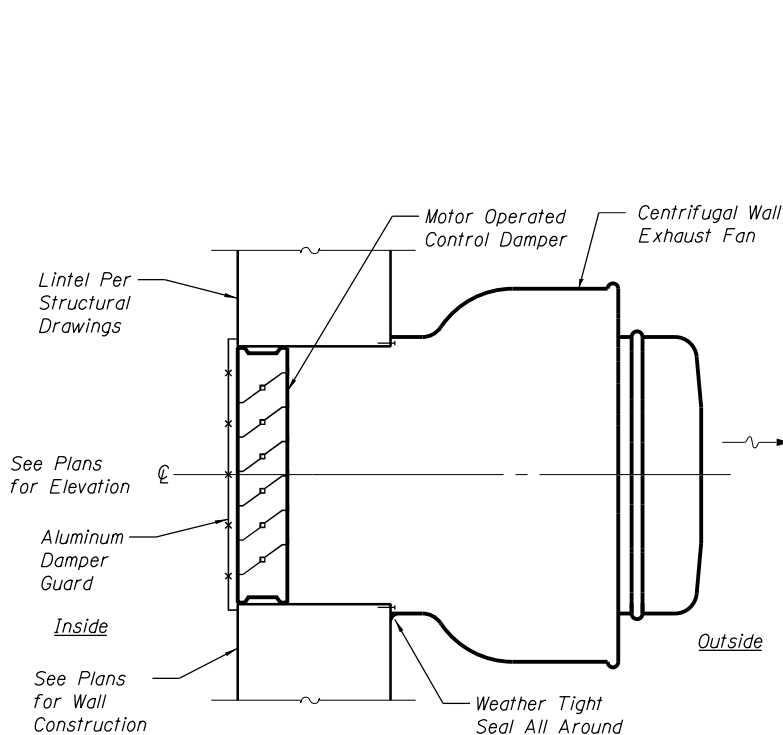
TAG	LOCATION	SIZE		AIRFLOW (CFM)	FREE AREA (SQ.FT.)	FREE AREA VELOCITY (FPM)	AIR PRESS. DROP (IN.W.G.)	FRAME	MANUFACTURER BASIS OF DESIGN	NOTES PROVIDE ITEMS AS NUMBERED
		WIDTH (IN.)	HEIGHT (IN.)							
L-1	EXTERIOR WALL	18	18	400	0.92	435	0.031	INTEGRAL FLANGE	RUSKIN	1, 2, 3, 4
L-2	EXTERIOR WALL	18	18	450	0.92	489	0.040	INTEGRAL FLANGE	RUSKIN	1, 2, 3, 4
L-3	EXTERIOR WALL	18	18	450	0.92	489	0.040	INTEGRAL FLANGE	RUSKIN	1, 2, 3, 4
L-4	EXTERIOR WALL	16	16	250	0.63	400	0.270	INTEGRAL FLANGE	RUSKIN	1, 2, 3, 4
L-5	EXTERIOR WALL	18	18	450	0.92	489	0.400	INTEGRAL FLANGE	RUSKIN	1, 2, 3, 4
L-6	EXTERIOR WALL	16	16	250	0.63	400	0.027	INTEGRAL FLANGE	RUSKIN	1, 2, 3, 4

- NOTES:
1. PROVIDE EXPANDED, FLATTENED ALUMINUM BIRD SCREEN & INSECT SCREEN
 2. PROVIDE BAKED ENAMEL FINISH WITH CLEAR ANNOXIDIZED ALUMINUM FINISH
 3. 6" DEEP, STATIONERY TYPE LOUVER SHALL BE 0.125-INCH EXTRUDED ALUMINUM FRAME AND BLADES, BLADES SHALL BE DRAINABLE DESIGN
 4. J-BLADE, WEATHER RESISTANT

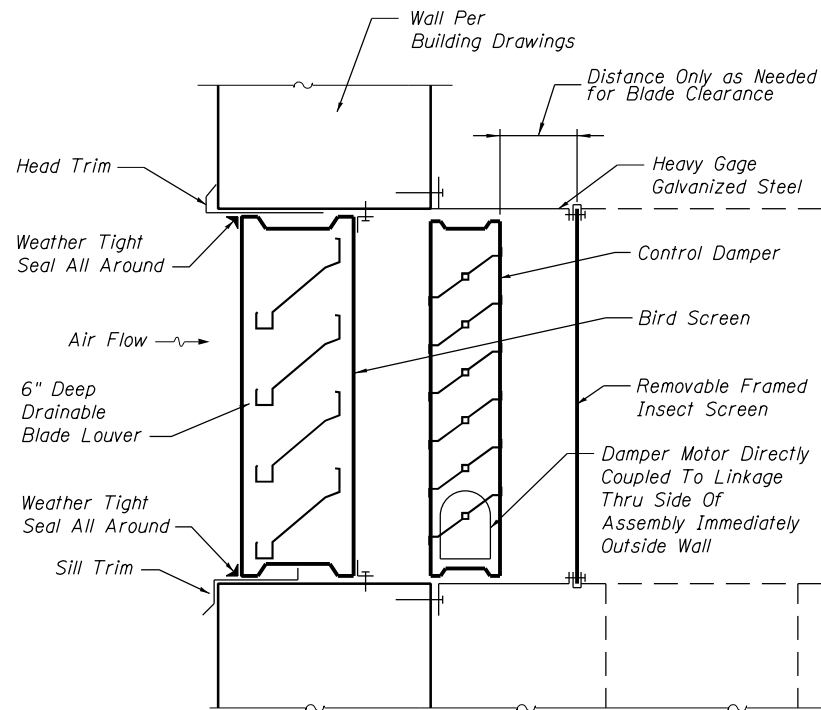
ELECTRIC UNIT HEATERS (EUH-)

UNIT TAG	LOCATION	TYPE	MOUNTING	ELECTRICAL				TEMP. RISE (DEG. F)	CAPACITY (CFM)	AIR THROW (FT)	MOUNTING HEIGHT MINIMUM (FT)	UNIT WEIGHT APPROX. (LB)	MANUFACTURER BASIS OF DESIGN	NOTES PROVIDE ITEMS AS NUMBERED	
				kW	VOLTS	PHASE	AMPS								
EUH-1	UPPER VAULT 1	HORIZONTAL	WALL BRKT.	3	240	1	12.5	10.2	27	360	12	7	27	Q-MARK	1, 2, 3, 4, 5
EUH-2	UPPER VAULT 2	HORIZONTAL	WALL BRKT.	3	240	1	12.5	10.2	27	360	12	7	27	Q-MARK	1, 2, 3, 4, 5
EUH-3	UPPER VAULT 3	HORIZONTAL	WALL BRKT.	3	240	1	12.5	10.2	27	360	12	7	27	Q-MARK	1, 2, 3, 4, 5

- NOTES:
1. PROVIDE SINGLE POLE INTERNAL THERMOSTAT
 2. PROVIDE DISCONNECT SWITCH
 3. PROVIDE ALUMINUM BIRD SCREEN
 4. PROVIDE MANUFACTURER WALL BRACKET FOR HORIZONTAL MOUNTING
 5. PROVIDE INTERNAL SUMMER SWITCH



1 FAN DETAIL
17 Not to Scale



2 LOUVER & DAMPER
17 Not to Scale

FILE NAME = M-5682-GEN.dgn



USER NAME =	DESIGNED - D. MIRABILE	REVISED -
PLOT SCALE =	CHECKED - R. ADRIAN	REVISED -
PLOT DATE = SEPTEMBER 18, 2013	DRAWN - L. TRAVIS	REVISED -
	CHECKED - L. COCHRAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

MECHANICAL SCHEDULES & DETAILS
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS

ILLINOIS DEPARTMENT
OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES

COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	17
PROJECT FR-435		

Low - Voltage Circuit Breaker (CB). Ratings and no. of poles as shown. When specific type is required, X indicates type.

Types:
 MCCB - Molded Case
 LCCB - Insulated Case
 LVP - Low - Voltage Power
 MCP - Motor Circuit Protector (Rating Per Connected Load)

Separately mounted circuit breaker; see electrical one - line diagram or schedule for description

Ground Fault Protection

Medium - Voltage Circuit Breaker

Fuse, Size, and Number of Fuses as Noted

Fused Cutout, Current Rating, Fuse Size, and Number of Poles as Noted

Fusible Switch, Current Rating, Fuse Size, and Quantity as Noted

Non-fused Switch, Current Rating, and Number of Poles as Noted

Disconnect or Drawout Connection

Magnetic Motor Starter or Separately Mounted Combination Magnetic Motor Starter

Motor Controller or Separately Mounted Motor Controller with Short Circuit Protection and Disconnect

Motor Starter and Controller Subscripts:
 A - Control Diagram Number
 B - Controller Type
 VFD - Variable Frequency Drive
 DPC - Definite Purpose Contactor

Thermal Overload Element

Thermal Overload Relay Contact

Motor with Design Horsepower (when Indicated)

Generator

Transfer Switch, Current Rating, and Number of Poles as Noted
 ATS - Automatic
 MTS - Manual

Transformer
 Δ 3-phase, 3-wire Delta Connection
 Y 3-phase, 4-wire Grounded Wye Connection

Panelboard

Non-motor Load with Design KVA, KW, or Amp

Control Power Transformer (CPT)
 X - Primary Voltage
 Y - Secondary Voltage
 Z - Size (VA or KVA)

Voltage Transformer (VT or PT)

Current Transformer (CT)

Utility Watt-hour Meter Per Utility Requirements

Digital Metering Package

Run Time Meter

Ground

Lightning Arrester

Low Voltage Surge Protective Device

Electrical Connection

No Electrical Connection

Solenoid Valve

Control/relay Coil; X Indicates Type

Types:
 CR - Control Relay
 DP - Definite Purpose Relay
 LC - Lighting Contactor
 M - Motor Starter
 PC - Photo Cell
 TC - Time Clock
 TR - Timing Relay

Normally Open Contact (N.O.)

Normally Closed Contact (N.C.)

Normally Open Time Delay Relay Contact with Time Delay on Closing After Coil Is Energized

Normally Closed Time Delay Relay Contact with Time Delay on Opening After Coil Is Energized

Normally Open Time Delay Relay Contact with Time Delay on Opening After Coil Is De-energized

Normally Closed Time Delay Relay Contact with Time Delay on Closing After Coil Is De-energized

Normally Open Temperature Switch; Close on Rising Temperature

Normally Closed Temperature Switch; Open on Rising Temperature

Normally Open Flow Switch; Close on Increasing Flow

Normally Closed Flow Switch; Open on Increasing Flow

Normally Open Level Switch; Close on Rising Level

Normally Closed Level Switch; Open on Rising Level

Normally Open Pressure Switch; Close on Increasing Pressure

Normally Closed Pressure Switch; Open on Increasing Pressure

Normally Open Limit Switch; Close on Reaching Limit

Normally Closed Limit Switch; Open on Reaching Limit

Field Wiring External to Control Panel

Interlock; X Indicates Type

Types: E - Electrical
 M - Mechanical
 K - Key

3 Position Selector Switch, Maintained Contacts; Unless Otherwise Noted, 2-position Similar

Normally Open Pushbutton, Momentary Contact Unless Otherwise Noted

Normally Closed Pushbutton, Momentary Contact Unless Otherwise Noted

Indicating Light, X Indicates Lens Color

Push to Test Indicating Light, X Indicates Lens Color

Lens Colors:
 R - Red W - White
 G - Green A - Amber
 B - Blue

Separately mounted combination motor starter or controller; see electrical one - line diagram or schedule for description

Disconnect or Safety Switch, 30A, 3A, Non-Fused Unless Otherwise Noted

Transformer

Control Panel Integral or Provided with associated Equipment

Control Panel with Disconnect Switch Integral or Provided with associated Equipment

Junction or Pull Box

Handhole

Panelboard (250V to 600V)

Panelboard (Less Than 250V)

Electrical Equipment Enclosure: Switchboard, Motor Control Center, Control Panel, or Other Equipment as Indicated

Photocell

Ceiling/pendant-mounted Luminaire

Wall-mounted Luminaire

Ceiling/pendant-mounted Fluorescent or LED Luminaire

Wall-mounted Fluorescent or LED Luminaire

Ceiling/pendant-mounted Fluorescent or LED Luminaire W/Emergency Ballast or Driver

Wall-mounted Fluorescent or LED Luminaire W/Emergency Ballast or Driver

Emergency Light Fixture, 2 Attached Heads as Shown

Emergency Light, Remote Mounted Head

Double-faced Ceiling or Wall-mounted Exit Light

Single-faced Ceiling or Wall-mounted Exit Light

Area or Roadway Light - Pole-mounted Lighting Fixture Subscripts:
 X - Indicates fixture type per lighting fixture schedule
 Y - Indicates circuit number from panelboard
 Z - Indicates controlling switch leg (if required)
 WP- Weatherproof
 → or ← Exit Sign Directional Chevrons

Toggle Switch

Subscripts:
 X - Indicates Type
 None - Single Pole
 3W - Three-way
 4W - Four-way
 HP - Toggle Switch, Horsepower Rated
 K - Key Switch
 M - Manual Motor Starter
 P - Pilot Light
 L - Lighted Handle
 Y - Indicates Controlling Switch Leg (if Required)

Special-purpose Receptacle as Defined on Plans

Plug-in Receptacle Strip, Quantity and Spacing of Receptacles as Noted or Specified

Telecommunications Outlet Junction Box

Quad-duplex Receptacle, Two Nema 5-20R Under Common Cover Plate

Duplex Receptacle, Nema 5-20R

Simplex Receptacle, Nema 5-20R

Subscripts:
 36" - Mounting Height AFF to Center
 AC - Above Counter
 Blank - 18" AFF
 X - Indicates Type
 GFCI - Ground Fault Circuit Interrupter
 GFP - Ground Fault Protected
 WP - Weatherproof
 WPI - Weatherproof In-Use
 Y - Indicates Circuit Number From Panelboard

Occupancy Detector

Lighting Control Station

Conduit Turning Up

Conduit Turning Down

Home Run to Panel, 2 #12, 1 #12G In 3/4" Conduit Unless Otherwise Noted

Exposed Conduit

Conduit Concealed Below Floor or Grade

Conduit Concealed in Wall or Above Ceiling

Circuit Hash Marks (when Indicated); Long, Short, Single Dot, and Double Dot Represent Phase, Neutral, Equipment Ground, and Isolated Equipment Ground, respectively. #12 in 3/4" Conduit Unless Otherwise Indicated.

Conduit Continuation

Conduit Termination

Ground Cable

Cord & Plug Connection

Ground Rod

Exothermic Weld, Cable to Cable

Exothermic Weld, Cable to Structural Steel or Ground Rod

Exothermic Weld, Cable to Rebar

Overhead Electric Power Pole

Motor Operated Damper

Motorized Valve Operator

Pressure Transducer

Pressure Switch

Level Transducer

Level Switch (Float Switch)

Limit Switch

Oil Sensor

Gate position Transducer

Torque Switch

Thermostat (Temperature Switch)

Temperature Transducer

Door position Switch

Lock Navigation Control Signal

Alarm Horn

Alarm Strobe

Alarm Horn and Strobe

Subscripts:
 P - Process Alarm Device
 D - Dam Movement Alarm

PLC Discrete Input

PLC Discrete (relay) Output

Annunciator

Security System Camera

Subscripts:
 F - Fixed
 PTZ - Pan/Tilt/Zoom

Camera Power Supply

Camera Control Station

Public Address Speaker

Selector Switch

Pushbutton

Pilot Lamp

Overhead Electric Line, < 600V

Overhead Electric Line, > 600V

Underground Electric Line, < 600V

Underground Electric Line, > 600V

Underground Fiber Optic Line

Underground Telephone Line

Underground Conduit, Empty (Spare)

Overhead Cable TV Line

Underground Cable TV Line

Underground I&C LINE

GENERAL NOTES:

- This is a Standard Electrical Symbolology Sheet. Not All Symbols May Be 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.
- See Sheets 62 - 66 for Symbols Lists Used for Lockhouse Improvements.

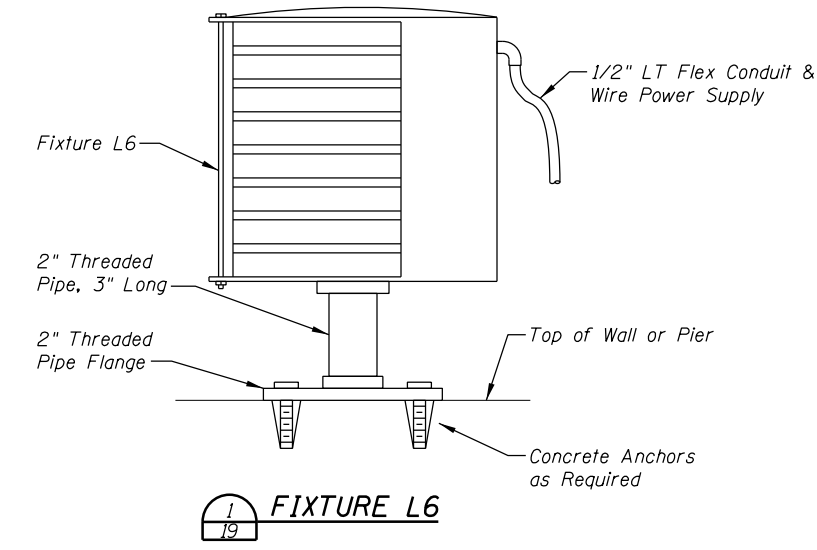
LUMINAIRE SCHEDULE

MARK	FIXTURE			DESCRIPTION	MANUF.	CATALOG NUMBER	LAMP		BALLAST / DRIVER		MOUNTING		NOTES
	TYPE	VOLTS	VA				TYPE	QTY	WATTS	TYPE	QTY	TYPE	
L1	FL	120	54	4 ENCLOSED & GASKETED STRIP FIXTURE, 2 LAMP CROSS SECTION, NON-METALLIC BODY, 1/8" DR ACRYLIC LENS, STAINLESS STEEL HARDWARE & LATCHES	COLUMBIA DAY-BRITE	LUN4-228-EPU-SSL DWAE 228-UNV-EB10R	F28T5	2	28	E-PS	1	SURFACE (CEILING OR WALL)	
L1E	FL	120	54	4 ENCLOSED & GASKETED STRIP FIXTURE, 2 LAMP CROSS SECTION, NON-METALLIC BODY, 1/8" DR ACRYLIC LENS, SS HARDWARE & LATCHES, EMERGENCY BALLAST	COLUMBIA DAY-BRITE	LUN4-228-EPU EL-SSL DWAE 228-UNV-EB10R E5	F28T5	2	28	E-PS, EM (500 LUM)	1	SURFACE (CEILING OR WALL)	
L2	FL	120	108	8 ENCLOSED & GASKETED STRIP FIXTURE, 2 LAMP CROSS SECTION, 4 LAMPS, NON-METALLIC BODY, 1/8" DR ACRYLIC LENS, STAINLESS STEEL HARDWARE & LATCHES	COLUMBIA DAY-BRITE	LUN8-228-4EPU-SSL TDWAE 228-UNV-EB10R	F28T5	4	28	E-PS	1	SURFACE (CEILING OR WALL)	1
L2E	FL	120	108	8 ENCLOSED & GASKETED STRIP FIXTURE, 2 LAMP CROSS SECTION, 4 LAMPS, NON-METALLIC BODY, 1/8" DR ACRYLIC LENS, SS HARDWARE & LATCHES, EMERGENCY BALLAST	COLUMBIA DAY-BRITE	LUN8-228-4EPU EL-SSL TDWAE 228-UNV-EB10R E5	F28T5	4	28	E-PS, EM (500 LUM)	1	SURFACE (CEILING OR WALL)	1
L3	FL	120	28	4 FLUORESCENT STRIP FIXTURE, COLD ROLLED STEEL HOUSING, WHITE ENAMEL FINISH, NO REFLECTOR	COLUMBIA DAY-BRITE	CS4-128-EPU HDS128-UNV-EB10R	F28T5	1	28	E-PS	1	SURFACE	
L3E	FL	120	28	4 FLUORESCENT STRIP FIXTURE, COLD ROLLED STEEL HOUSING, WHITE ENAMEL FINISH, NO REFLECTOR, EMERGENCY BALLAST	COLUMBIA DAY-BRITE	CS4-128-EL HDS128-UNV-E5	F28T5	1	28	EM (500 LUM)	1	SURFACE	
L4	LED	120	68	LED WALLPACK, 4000K, TYPE III MEDIUM DISTRIBUTION, ALUMINUM HOUSING WITH INTEGRAL HEAT SINK, DARK BRONZE FINISH, WITH WALL MOUNT BRACKET, 700mA DRIVE CURRENT	BETA / CREE LITHONIA	ARE-EDR DSX1 LED 30C 700 40K T3M 120 WBA DDBXD	LED	30	NA	E	1	WALL 9' AFF	
L4A	LED	120	68	LED AREA LIGHT, 4000K, TYPE III MEDIUM DISTRIBUTION, ALUMINUM HOUSING WITH INTEGRAL HEAT SINK, DARK BRONZE FINISH, WITH SQUARE POLE BRACKET, 700mA DRIVE CURRENT	BETA / CREE LITHONIA	ARE-EDR DSX1 LED 30C 700 40K T3M 120 SPA DDBXD	LED	30	NA	E	1	10' POLE	2
L4B	LED	240	89	LED AREA LIGHT, 4000K, TYPE I SHORT DISTRIBUTION, ALUMINUM HOUSING WITH INTEGRAL HEAT SINK, DARK BRONZE FINISH, WITH SQUARE POLE BRACKET, 700mA DRIVE CURRENT	BETA / CREE LITHONIA	ARE-EDR DSX1 LED 40C 700 40K T1S 240 SPA DDBXD	LED	40	NA	E	1	20' POLE	5 / 19
L5	LED	240	188	LED AREA LIGHT, 4000K, TYPE IV MEDIUM DISTRIBUTION, ALUMINUM HOUSING WITH INTEGRAL HEAT SINK, DARK BRONZE FINISH, WITH SQUARE POLE BRACKET, 700mA DRIVE CURRENT	BETA / CREE LITHONIA	ARE-EDR DSX2 LED 80C 700 40K T4M 240 SPA DDBXD	LED	80	NA	E	1	30' POLE	5 / 19
L6	LED	120	10	PIER LIGHT, CAST BRONZE BASE AND BODY, RED GLASS 180 DEGREE FRESNEL LENS, MEDIUM BASE SOCKET, 2 INCH VERTICAL PIPE HUB MOUNTING, THREADED CONDUIT HUB	EDKO B&B ROADWAY	TYPE 1 TYPE PL WITH JUNCTION BOX OPTION	LED	1	10			PEDESTAL	1 / 19
L6A	LED	120	10	PIER LIGHT, CAST BRONZE BASE AND BODY, RED GLASS 180 DEGREE FRESNEL LENS, MEDIUM BASE SOCKET, 2 INCH HORIZONTAL PIPE HUB MOUNTING, THREADED CONDUIT HUB	EDKO B&B ROADWAY	TYPE 1-A TYPE PL-BM WITH JUNCTION BOX OPTION	LED	1	10			WALL	2 / 19
L7	LED	120	10	NAVIGATION CONTROL LIGHT, CAST BRONZE BASE AND BODY, RED & GREEN GLASS 180 DEG. FRESNEL LENSES, MEDIUM BASE SOCKETS	EDKO B&B ROADWAY	TYPE 1-P BS BASCULE SPAN	LED	2	10			WALL	3 / 210
X1	LED	120	5	HARSH ENVIRONMENT EXT SIGN, NEMA 4X, GASKETED CAST ALUMINUM BODY, STAINLESS STEEL HARDWARE, SINGLE FACE	DUAL-LITE LITHONIA	SCWLSRBW LVS1R120ELNWL	LED					WALL	5

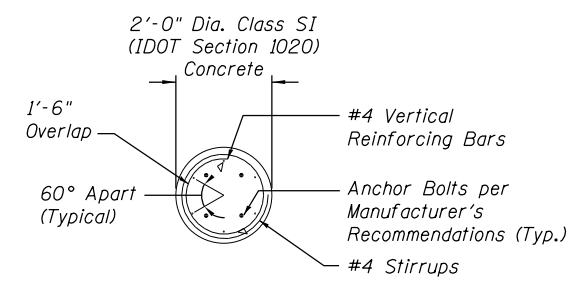
CFL COMPACT FLUORESCENT HAL HALOGEN BX BIAx D ELECTRONIC DIMMING M HPF MAGNETIC
EM EMERGENCY HPS HIGH PRESSURE SODIUM DQT DOUBLE QUAD TUBE E LOW THD ELECTRONIC NA NOT APPLICABLE
FL FLUORESCENT MH METAL HALIDE LED LIGHT EMITTING DIODE EM EMERGENCY BATTERY PACK PS PROGRAM START
HID HIGH INTENSITY DISCHARGE MV MERCURY VAPOR QT QUAD TUBE IS INSTANT START RS RAPID START
INC INCANDESCENT TTT TRIPLE TWIN TUBE

- NOTES:**
1. PROVIDE ONE (1) THREE LAMP BALLAST AND ONE (1) SINGLE LAMP EMERGENCY BALLAST.
 2. PROVIDE TWO LUMINAIRES ON SINGLE POLE.
 3. PROVIDE ONE OR TWO LUMINAIRES ON SINGLE POLE AS SHOWN ON PLANS.
 4. PROVIDED WITH 120 VOLT, MEDIUM BASE, 100,000 HOUR, RED LED SIGNAL LAMP.
 5. PROVIDED WITH BATTERY BACKUP AND AUTOMATIC DUAL-RATE CHARGER.

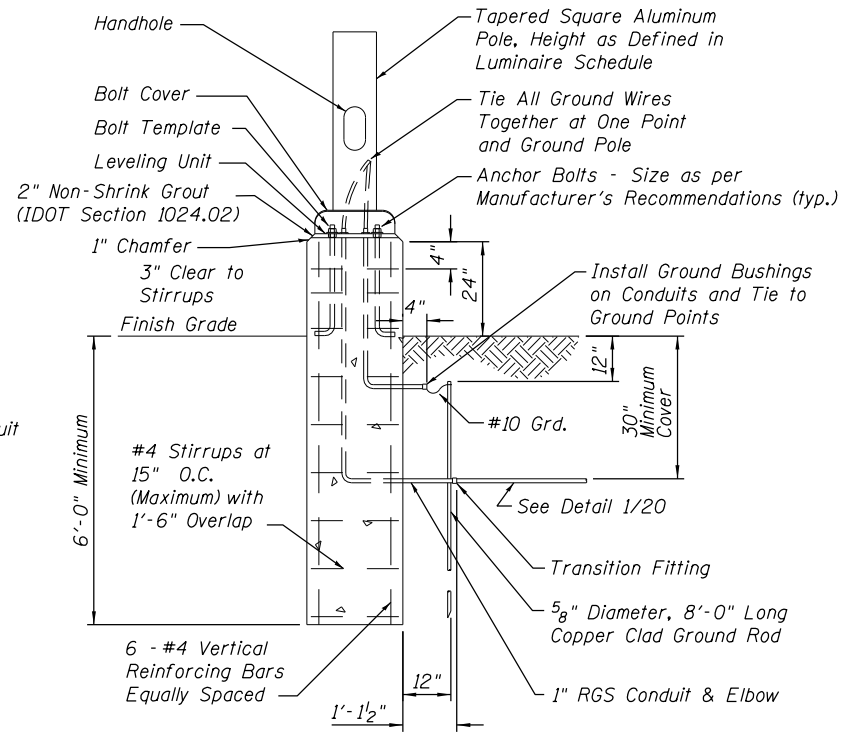
GENERAL NOTE:
SEE SHEET 64 FOR LOCKHOUSE FIXTURE SCHEDULE.



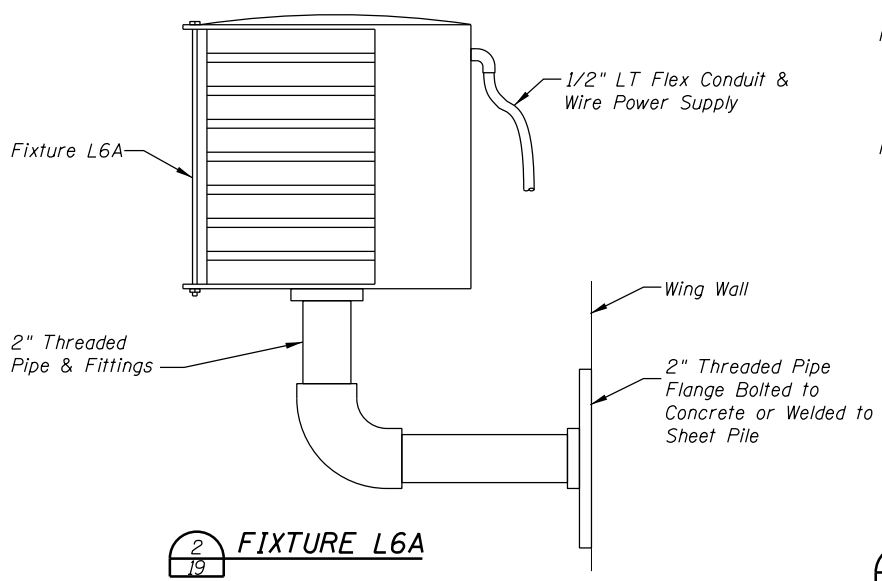
1
19
FIXTURE L6



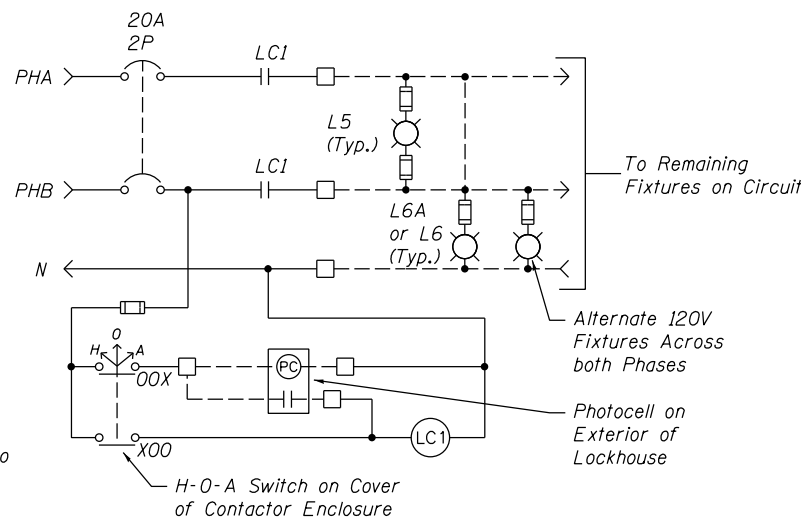
4
19
BASE PLAN



5
19
BASE ELEVATION



2
19
FIXTURE L6A

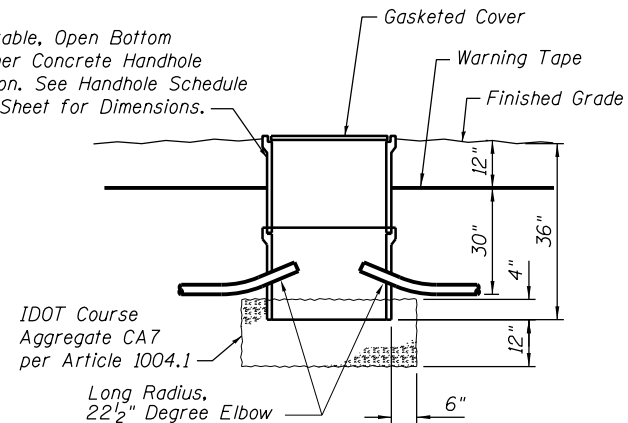


3
19
LOCK SITE LIGHTING CONTROL DIAGRAM

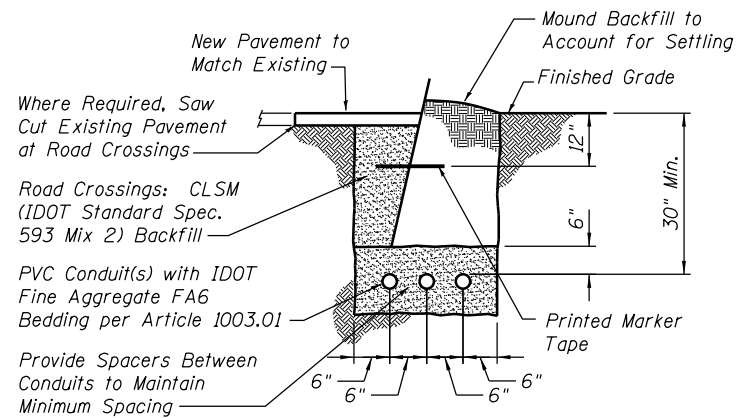
NOTES - DETAILS 4 & 5

1. Concrete for Pole Bases at New Electrical Service Location and Along Lock Approach Channels Shown in Volume 1 of 4 shall Be Included in Site Electrical System Pay Item.
2. Concrete for Pole Bases at Lock for Lighting Standards, Cameras, and Lock Approach Navigation Control Signal Shown in Volume 3 of 4 shall Be Included in Lock Control System Pay Item.
3. Concrete for Pole Bases for Cameras Shown in Volume 4 of 4 shall Be Paid for under Dam Control System Pay Item.
4. When Pouring Concrete Do not Drop Concrete Through Water if Water is Present in Hole.

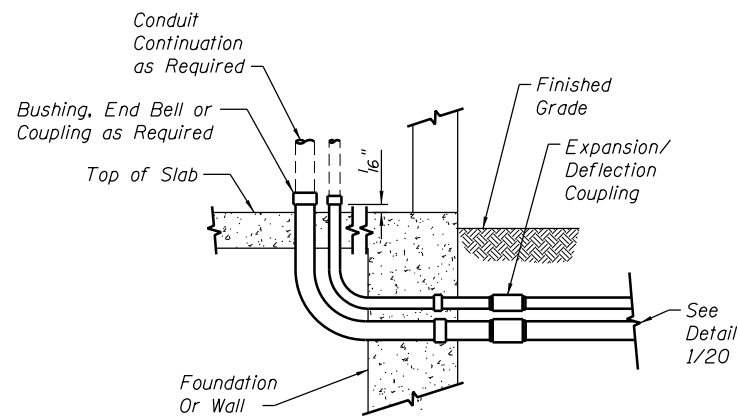
Stackable, Open Bottom
Polymer Concrete Handhole
Section. See Handhole Schedule
This Sheet for Dimensions.



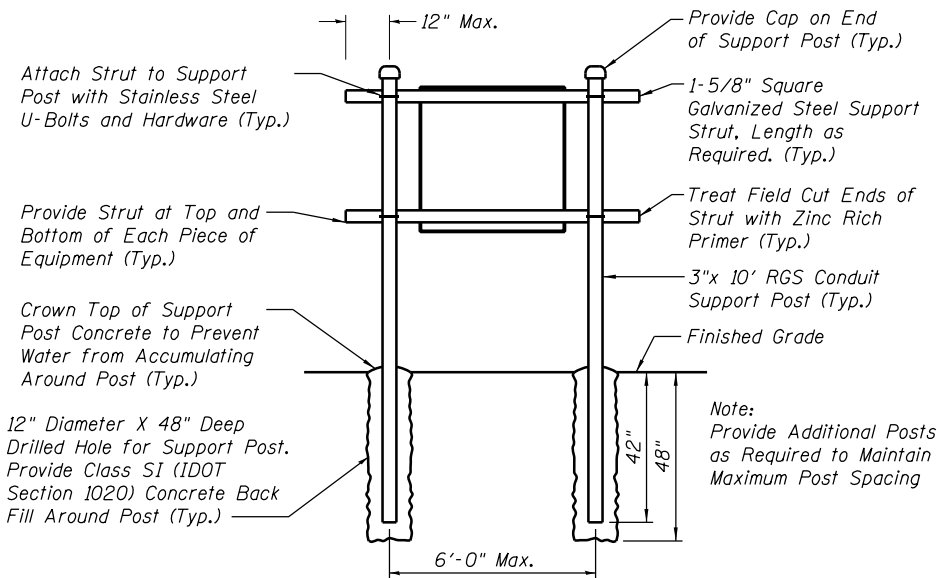
2
20 **HAND HOLE DETAIL**



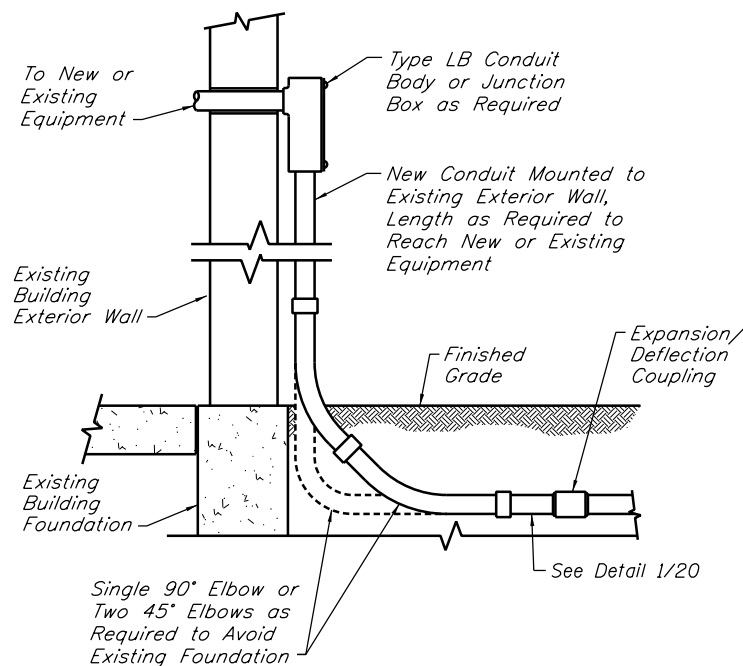
1
20 **DIRECT BURY CONDUITS DETAIL**



5
20 **CONDUIT TRANSITION TO ABOVE GRADE - NEW STRUCTURE**



3
20 **TYPICAL OUTDOOR ELECTRICAL EQUIPMENT SUPPORT STRUCTURE**



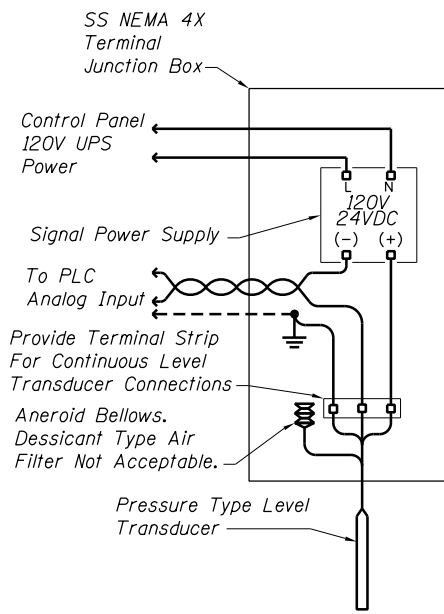
4
20 **CONDUIT TRANSITION TO ABOVE GRADE - EXISTING STRUCTURE**

HANDHOLE SCHEDULE

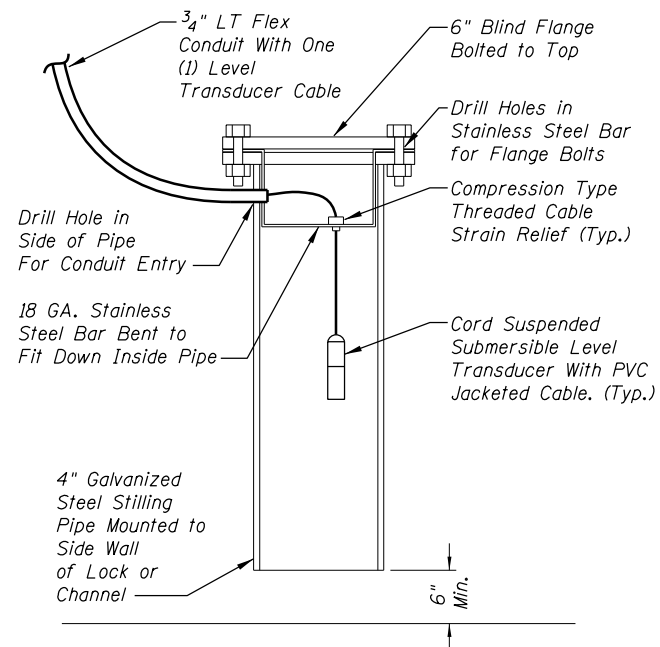
TAG	COVER LABEL	TIER	DIMENSIONS	ORIENTATION AND CONDUIT ENTRY							
				NORTH SIDE		EAST SIDE		SOUTH SIDE		WEST SIDE	
				DIM.	DUCT	DIM.	DUCT	DIM.	DUCT	DIM.	DUCT
HH-P1	POWER	TIER 22	36" X 36"	36"	NONE	36"	1 - 3"	36"	1 - 1 1/2"	36"	NONE
HH-P2	POWER										
HH-P3	POWER										
HH-P4	POWER	TIER 22	36" X 36"	36"	NONE	36"	1 - 3"	36"	1 - 2"	36"	NONE
HH-P5	POWER										
HH-P6	POWER										
HH-P7	POWER	TIER 22	36" X 36"	36"	NONE	36"	1 - 2 1/2"	36"	1 - 2 1/2"	36"	NONE
HH-P8	POWER	TIER 22	36" X 36"	36"	NONE	36"	NONE	36"	1 - 2 1/2"	36"	1 - 2 1/2"
HH-L1	LIGHTING	TIER 8	12" X 12"	12"	NONE	12"	1 - 1"	12"	1 - 1"	12"	2 - 3/4"
HH-L2	LIGHTING	TIER 8	12" X 12"	12"	NONE	12"	2 - 3/4"	12"	1 - 1"	12"	1 - 1"
HH-L3	LIGHTING	TIER 8	12" X 12"	12"	1 - 1"	12"	1 - 1"	12"	1 - 1"	12"	2 - 1"
HH-L4	LIGHTING	TIER 8	12" X 12"	12"	1 - 1"	12"	2 - 1"	12"	1 - 1"	12"	1 - 1"
HH-T1	TELEPHONE										
HH-T2	TELEPHONE										
HH-T3	TELEPHONE	TIER 22	24" X 24"	24"	NONE	24"	1 - 2"	24"	1 - 2"	24"	NONE
HH-T4	TELEPHONE	TIER 22	24" X 24"	24"	NONE	24"	NONE	24"	1 - 2"	24"	1 - 2"
HH-F1	FIBER OPTIC	TIER 22	24" X 24"	24"	1 - 1 1/4"	24"	NONE	24"	1 - 2"	24"	NONE
HH-F2	FIBER OPTIC										
HH-F3	FIBER OPTIC	TIER 22	24" X 24"	24"	1 - 3"	24"	NONE	24"	1 - 3"	24"	NONE
HH-F4	FIBER OPTIC										
HH-F5	FIBER OPTIC										
HH-F6	FIBER OPTIC	TIER 22	24" X 24"	24"	1 - 1 1/4"	24"	1 - 1 1/2"	24"	1 - 1 1/4"	24"	NONE
HH-F7	FIBER OPTIC	TIER 22	24" X 24"	24"	NONE	24"	NONE	24"	1 - 1 1/4"	24"	1 - 1 1/4"
HH-S1	SPARE										
HH-S2	SPARE										
HH-S3	SPARE										

GENERAL NOTES - BASIS OF PAYMENT:

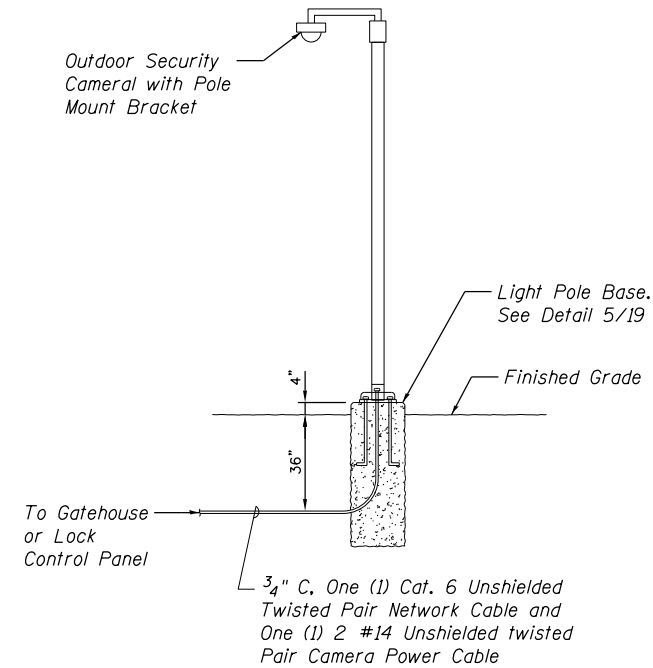
1. Type FA6 Bedding Material and CLSM Backfill Material Noted in Detail 1/20 for Site Electrical Distribution Trenches Shown On Site Improvements Plans Volume Electrical Drawings Shall Be Included Under the Site Electrical System Pay Item.
2. Type FA6 Bedding Material and CLSM Backfill Material Noted in Detail 1/20 for Dam Control Network Fiber Optic Cabling and Controls Wiring Shown On Algonquin Gate Control Plans Volume Electrical Drawings Shall Be Included Under the Dam Control System Pay Item.
3. Type FA6 Bedding Material and CLSM Backfill Material Noted in Detail 1/20 for Lock Power and Controls Conduit Trenches Shown On Lock Plans Volume Electrical Drawings Shall Be Included Under the Lock Control System Pay Item.
4. Course Aggregate Type CA7 Noted in Detail 2/20 for Power and Telephone Handholes Shall Be Included Under Site Electrical System Pay Item.
5. Course Aggregate Type CA7 Noted in Detail 2/20 for Fiber Optic Handholes Shall Be Included Under Dam Control System Pay Item.
6. Course Aggregate Type CA7 Noted in Detail 2/20 for Lighting Handholes Shall Be Included Under Lock Control System Pay Item.
7. All Class SI Concrete Shown in Detail 3/20 Required for New Electrical Service and Distribution Equipment Support Structure Shall Be Included Under Site Electrical System Pay Item.



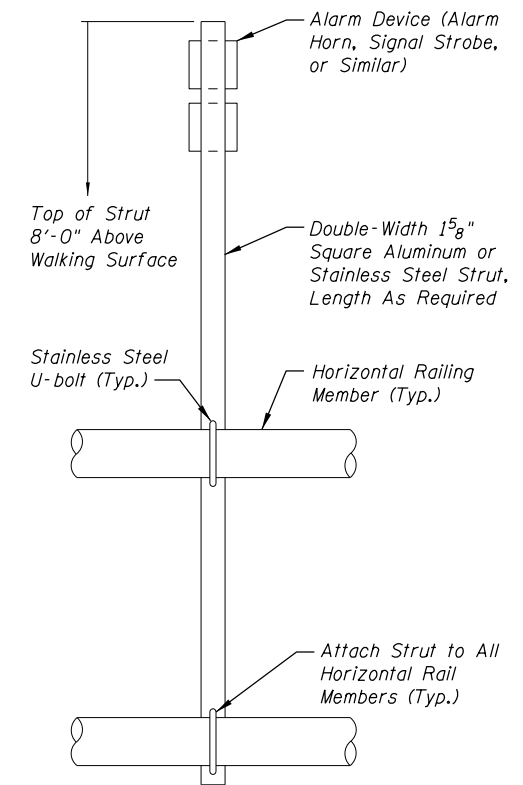
1 CONTINUOUS LEVEL TRANSDUCER
21 WIRING DIAGRAM
 Not to Scale



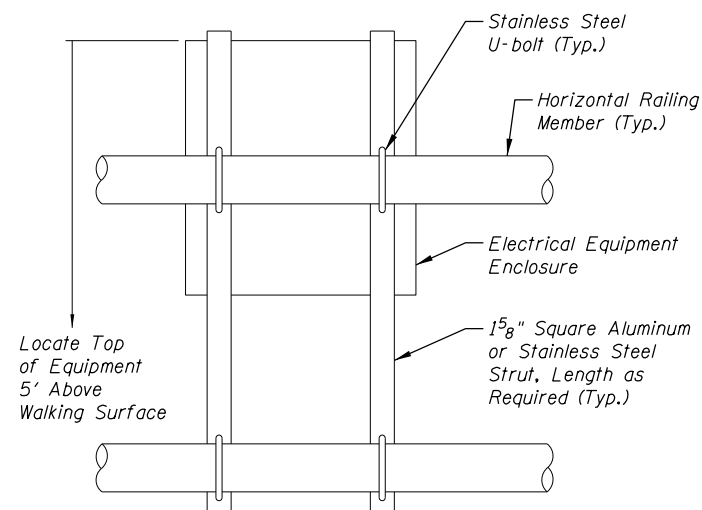
2 LEVEL TRANSDUCER MOUNTING
21 Not to Scale



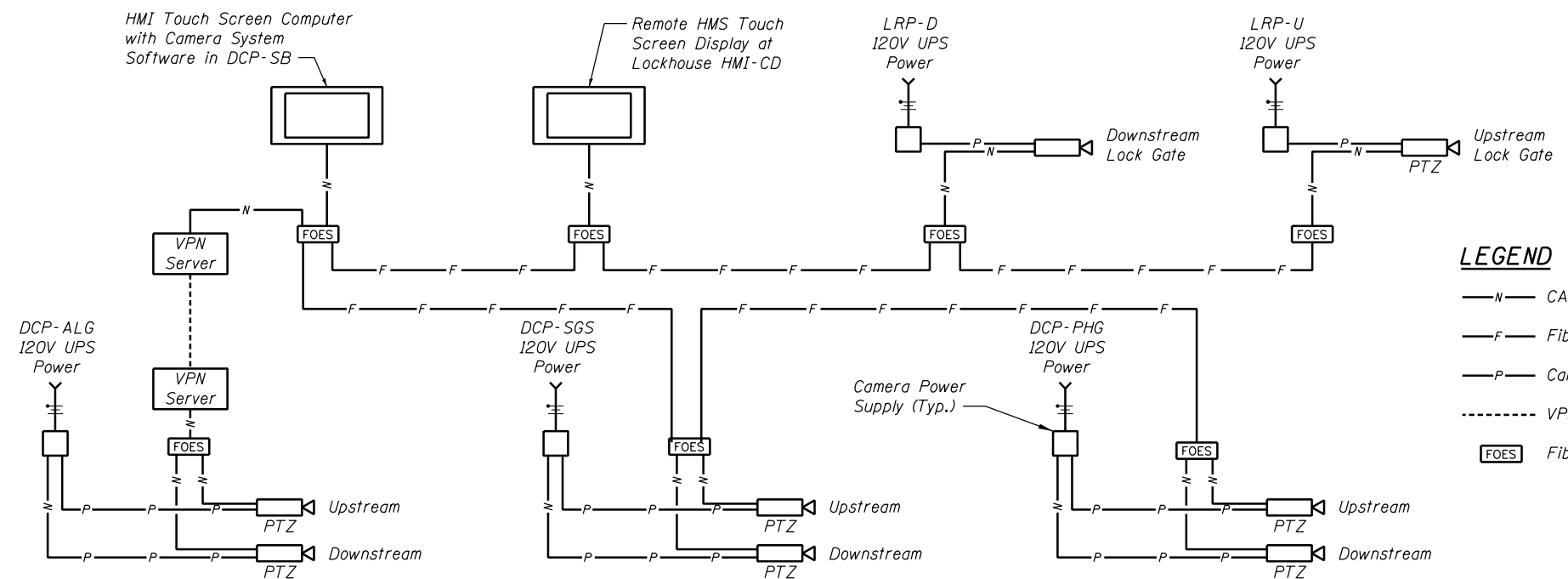
3 SECURITY CAMERA MOUNTING DETAIL
21 Not to Scale



4 ALARM DEVICE MOUNTING AT RAILING
21 Not to Scale



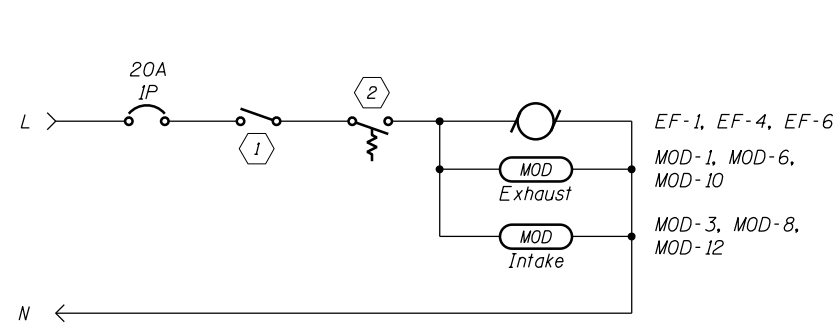
5 EQUIPMENT MOUNTING AT RAILING
21 Not to Scale



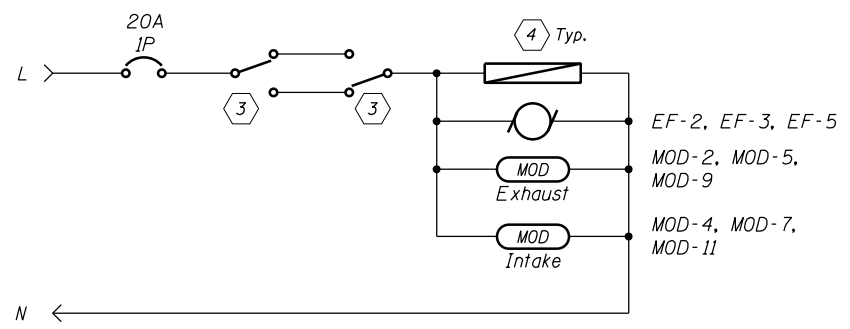
LEGEND

- N— CAT 6 Network Cable
- F— Fiber Optic Cable
- P— Camera Power Cable
- VPN Link
- FOES Fiber Optic Ethernet Switch

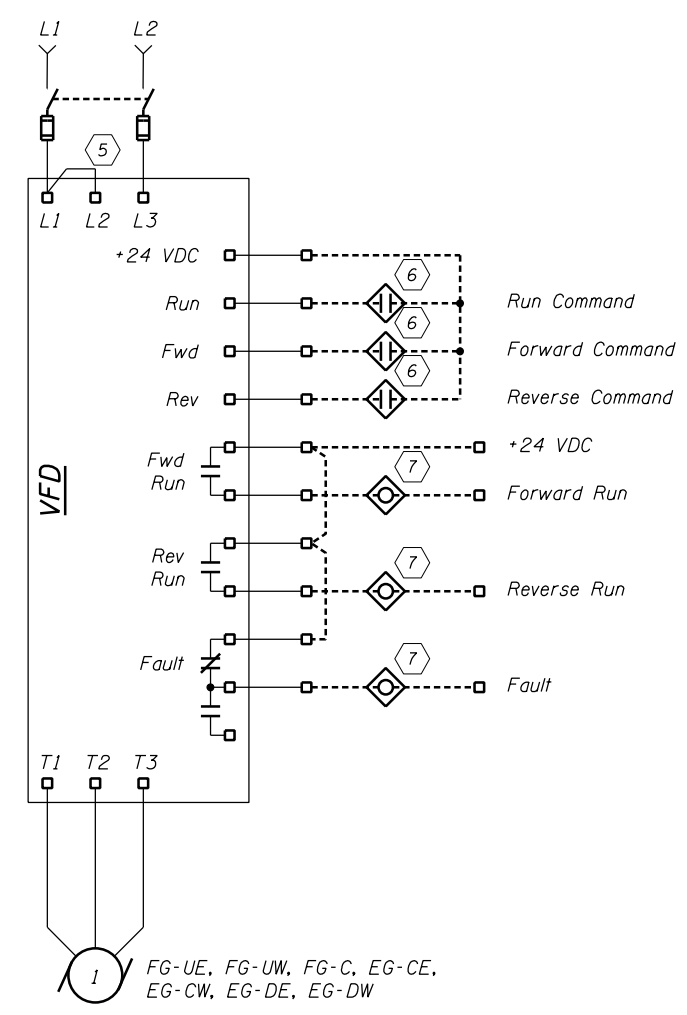
6 SECURITY CAMERA SYSTEM BLOCK RISER DIAGRAM
21 Not to Scale



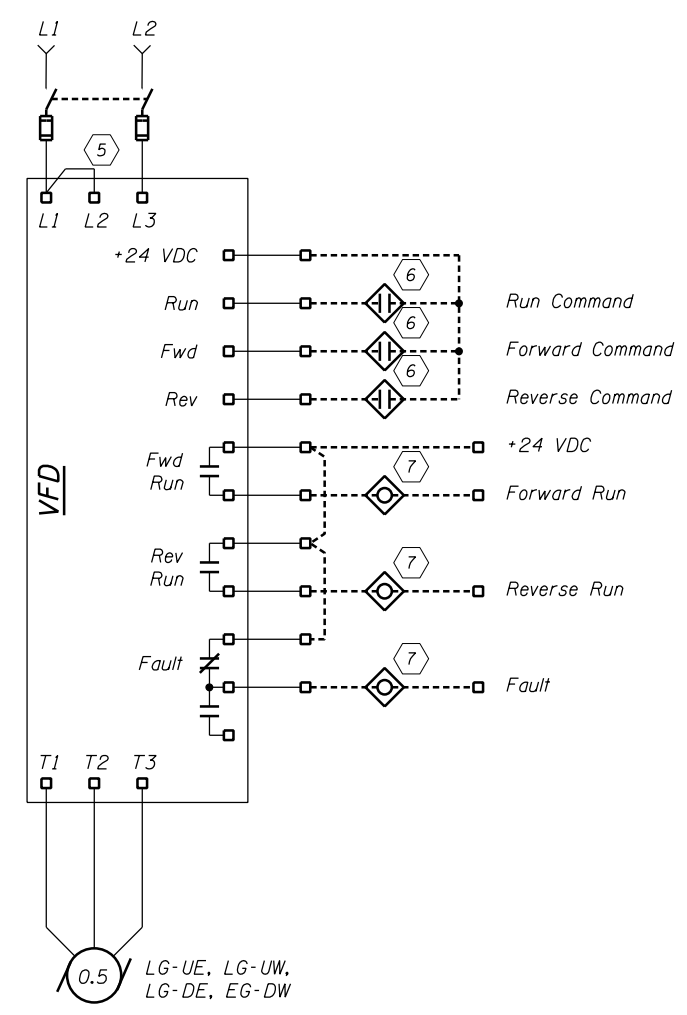
1
21A CONTROL DIAGRAM CD1



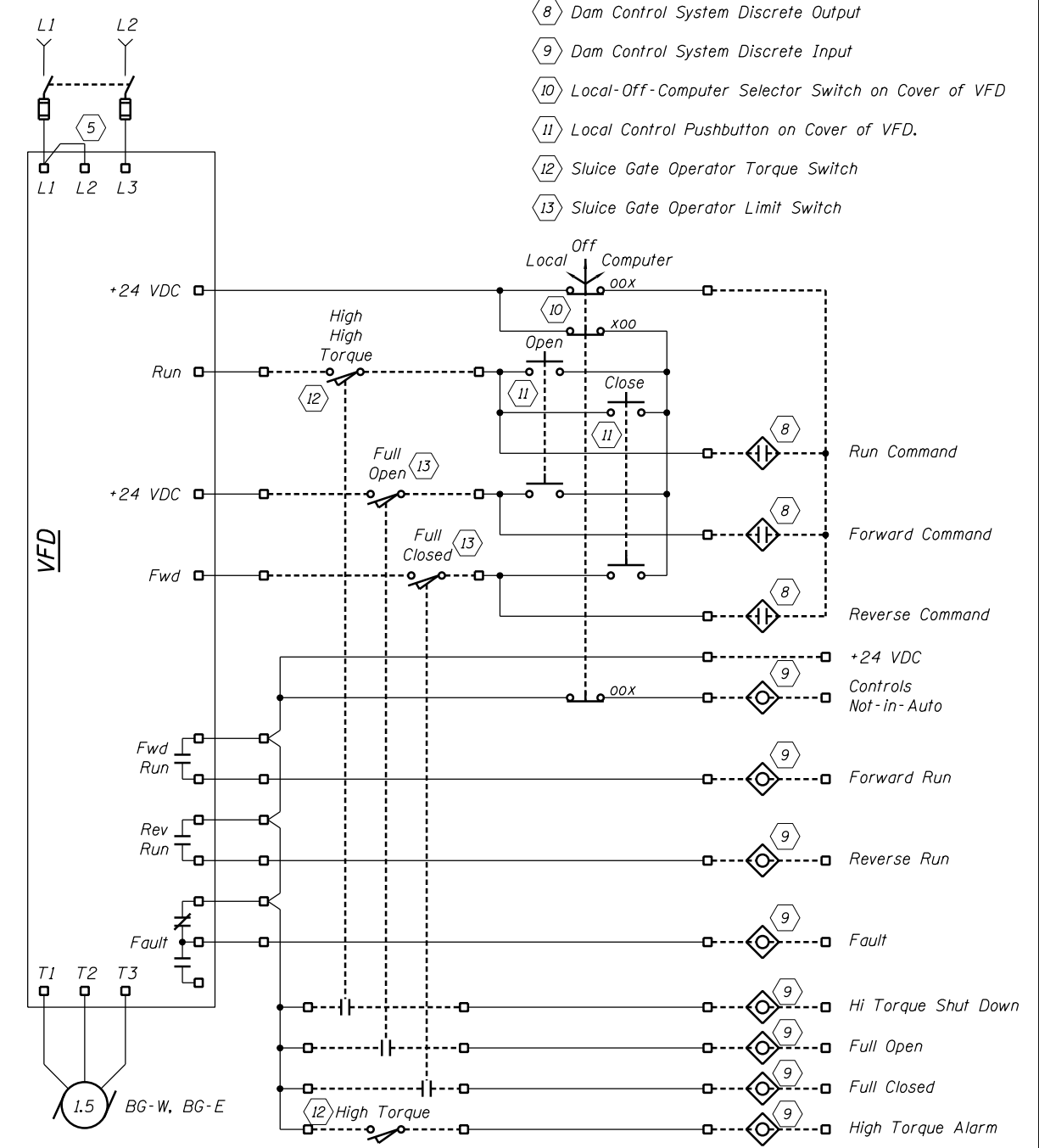
2
21A CONTROL DIAGRAM CD2



3
21A CONTROL DIAGRAM CD3



4
21A CONTROL DIAGRAM CD4



5
21A CONTROL DIAGRAM CD5

KEYED NOTES

- 1 Manual Motor Starter in Upper Vault
- 2 120V Reverse Acting Thermostat in Upper Vault
- 3 3-Way Switch for Lower Vault Lights. Exhaust Fan with Lights.
- 4 Lower Vault Fixture
- 5 Connect VFD for Single Phase Input per Manufacturer's Recommendations.
- 6 Lock Control System Discrete Output
- 7 Lock Control System Discrete Input
- 8 Dam Control System Discrete Output
- 9 Dam Control System Discrete Input
- 10 Local-Off-Computer Selector Switch on Cover of VFD
- 11 Local Control Pushbutton on Cover of VFD.
- 12 Sluice Gate Operator Torque Switch
- 13 Sluice Gate Operator Limit Switch

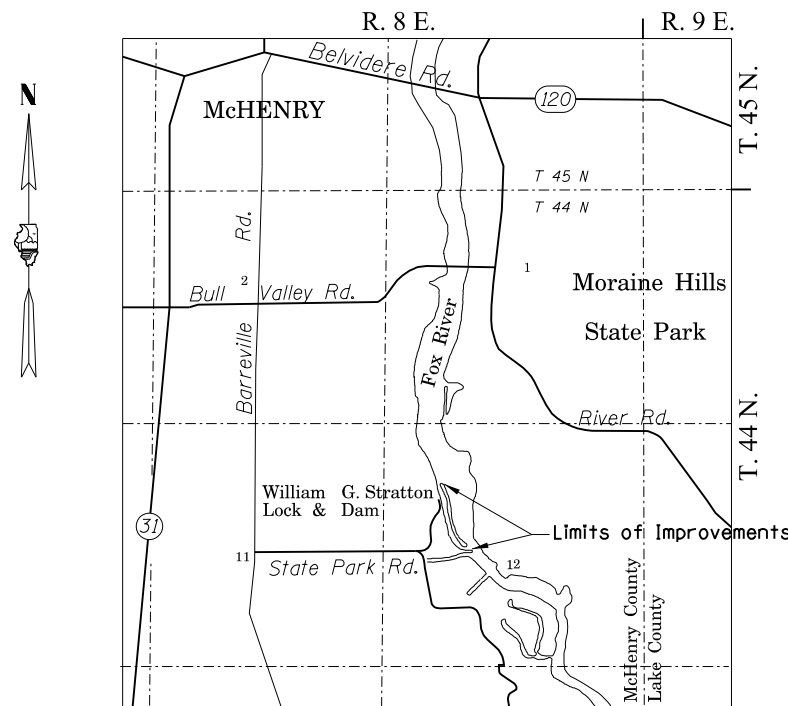
STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES

WILLIAM G. STRATTON LOCK & DAM
PLANS FOR SITE IMPROVEMENTS
VOLUME 1 OF 5

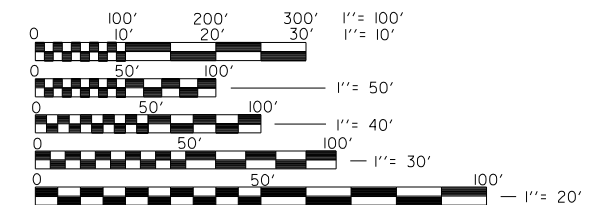
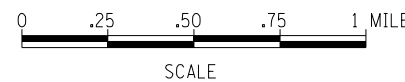
Mc HENRY COUNTY
FR-435
2014



REGIONAL MAP



LOCATION MAP



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.

STANDARDS

- 280001 TEMPORARY EROSION CONTROL SYSTEMS
- 630001 STEEL PLATE BEAM GUARDRAIL TYPE A, 6 FT. POSTS
- 664001 CHAIN LINK FENCE

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 7 CONTRACT WORKING LIMITS AND BASELINES
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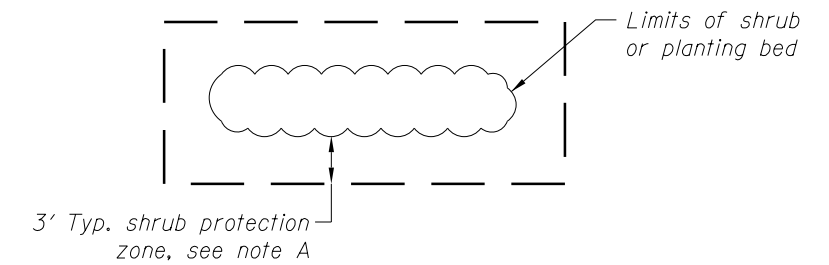
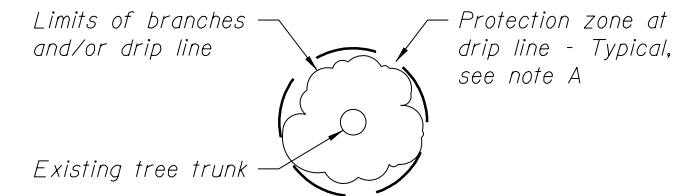
FILE NAME = G-0002A-SITE.dgn  © Copyright Hanson Professional Services Inc. 2013	USER NAME =	DESIGNED - EJM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF NATURAL RESOURCES	INDEX OF SHEETS STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS	ILLINOIS DEPARTMENT OF NATURAL RESOURCES OFFICE OF WATER RESOURCES	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	CHECKED - JJT	REVISED -				McHENRY	238	23
	PLOT DATE = SEPTEMBER 18, 2013	DRAWN - EJM	REVISED -				PROJECT FR-435		
		CHECKED - SLM	REVISED -						

GENERAL NOTES

- All elevations refer to NGVD (National Geodetic Vertical Datum) 1929 Adj.
- The Contractor shall call J.U.L.I.E. (800)-892-0123 for the location of existing utilities 48 hours prior to beginning construction.
- Plan dimensions and details relative to existing structures have been taken from existing plans and/or past surveys and reports, and are subject to normal construction variances. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or order of material. Such variations shall not be cause for additional compensation for a change in the scope of the work.
- Where Standard Specifications are referenced, they shall refer to the Illinois Department of Transportation's Standard Specifications for Road and Bridge Construction, Adopted January 1, 2012 and Supplemental Specifications and Recurring Special Provisions Adopted January 1, 2014.
- All construction operations shall be contained within the work limits as indicated on the plans. The Adjacent Property is a High Quality Wetland. The Contractor Shall Ensure No Damage Occurs to the Wetland Outside the Limits Identified on the Plans. At no Time Shall the Contractor Drive Equipment Outside the Working Limits.
- Normal low water occurs generally during the winter months of November through February. During these months, the normal water surface elevation upstream of the dam is 735.50 and the median water surface elevation downstream of the dam is 731.00. These levels vary due to rainfall.
- All work within the navigation channel shall follow Title 33 C.F.R. Navigation and Navigable waters. It shall include but is not limited to barge equipment lighting, mooring requirements, navigation and construction in a navigation channel.
- The Contractor shall provide construction fencing around all active work areas including all around the islands.
- The Contractor shall provide temporary fencing around the lock and lockhouse during all stages of construction.
- All erosion control measures shall be in place per the Stormwater Pollution Prevention Plan (SWPPP) prior to start of construction in areas being disturbed.
- The Contractor shall take due care while excavating near existing structures. Any damage caused by the construction activity shall be corrected at the expense of the Contractor.
- The Contractor is reminded to protect and restore at their expense, in accordance with Article 107.20 of the Standard Specifications, any private or public property, including access roads, which may be damaged or destroyed due to construction operations.
- The Contractor shall furnish, erect, and when directed by the Engineer, completely remove a total of five construction signs at both Stratton & Algonquin sites. The exact location of the signs shall be determined by the Engineer in the field.
- All unsuitable material shall be disposed of at locations provided by the Contractor. The disposal sites shall be inspected and approved by the Engineer. The cost shall be included in the Removal & Disposal of Unsuitable Material.
- The Contractor shall use designated stockpile locations on site. Any site varying from the locations identified will require prior Engineer approval. No stockpiles shall remain on site after construction.
- The Contractor shall provide protection to trees and shrubs identified on the plans. Unless otherwise specified all existing trees and shrubs shall remain in place and not be disturbed. Any damage caused by construction activity shall be corrected at the expense of the contractor.
- Excavations in the barrier island between the lock channel and the river upstream of the existing gate shall be coordinated through the Engineer. Any seeps or the appearance of water flowing through the island shall be reported to the Engineer immediately.
- Unless otherwise specified, all utilities, plants, and shrubs shall be protected and not disturbed. All costs of protection shall be considered included in the contract, and no additional compensation will be allowed.
- Where ADA Standards are referenced, they shall refer to the State of Illinois Accessibility Code.
- All material excavated, except rock, from the existing channel & River must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to public waters unless a permit has been issued by the Illinois Environmental Protection Agency.
- All lateral surface drainage that existed prior to construction shall be restored as shown on the plans and/or as directed by the Engineer. Unless otherwise specified, all costs of restoration shall be considered included in the contract.
- All de-watering costs shall be included in the Cost of the Item Being Worked on. No Additional Compensation Will Be Allowed.
- Damage to Roads in excess of plan replacement quantities shall be considered included in the contract, and no additional compensation will be allowed.
- Contractor shall use CA-6 where Aggregate Base Course, Type A is referenced.
- Contractor shall use CA-6 where Aggregate Base Course, Type B is referenced.

UTILITY REFERENCE TABLE

J.U.L.I.E.	Call 48 hours prior to construction	(800) 892-0123
Electricity	Commonwealth Edison	(847) 816-5252
Telephone	AT&T	(630) 573-5450
Gas	Natural Gas Pipeline Co.	(303) 914-7848
Gas	NICOR	(815) 455-0271
Cable Television	Comcast Cable	(847) 489-7320
Lock Master	John "J.P." Palmieri	(815) 385-2848



NOTE:

A. Tree or shrub protection zone shall be constructed of a min. 4 ft high snow fence with stakes placed at a maximum of 15 ft apart.

1 TYPICAL TREE OR SHRUB PROTECTION ZONE
24

LEGEND

ITEM	EXISTING	PROPOSED
Manhole	Ⓜ	⊙
Catch Basin	○	●
Sign	⊥	
Water Meter	⊠	
Water Surface Indicator	▽	
GuyWire	→	
Deciduous Tree	⊙	
Bush or Shrub	⊙	
Evergreen Tree	⊙	
Vegetation Line	~~~~~	
Woods & Bush Line	~~~~~	
Baseline	_____	_____
Centerline	_____	_____
Channel	-----	-----
Culvert Line	- - - - -	_____
Storm Sewer	—▷—▷—▷—▷—	—▷—▷—▷—▷—
Sanitary Sewer	—))))))	—))))))
Fence	- x - x - x - x - x	- x - x - x - x - x
Fiber Optic	— FO —	— FO —
Gas Pipe	— G —	— G —
Water Pipe	— W —	— W —
Riprap		

Note: Electrical Legend Items Can Be Found On Electrical Symbols Sheet.

BILL OF MATERIALS - LOCKHOUSE

PAY ITEM	UNIT	QUANTITY
Aggregate Base Course, Type A	Ton	1,718
Controlled Low-Strength Material	Cu Yd	5
Detectable Warnings	Sq Ft	212
Earth Excavation	Cu Yd	15
Mulch, Method 2	Acre	6.25
Portland Cement Concrete Sidewalk 4 Inch	Sq Ft	641
Portland Cement Concrete Sidewalk 6 Inch	Sq Ft	1,883
Security Fence, 6'	Foot	740
Security Fence Gate, 6'x10' Double Swing	Each	2
Seeding, Class 1	Acre	6.25
Sidewalk Removal	Sq Ft	1,132
Topsoil Excavation and Placement	Cu Yd	60
Topsoil Furnish and Place, 4"	Sq Yd	245
Tree Removal (6 to 15 Units Diameter)	Unit	30
Tree Removal (Over 15 Units Diameter)	Unit	36
Tree Trunk Protection	Each	7

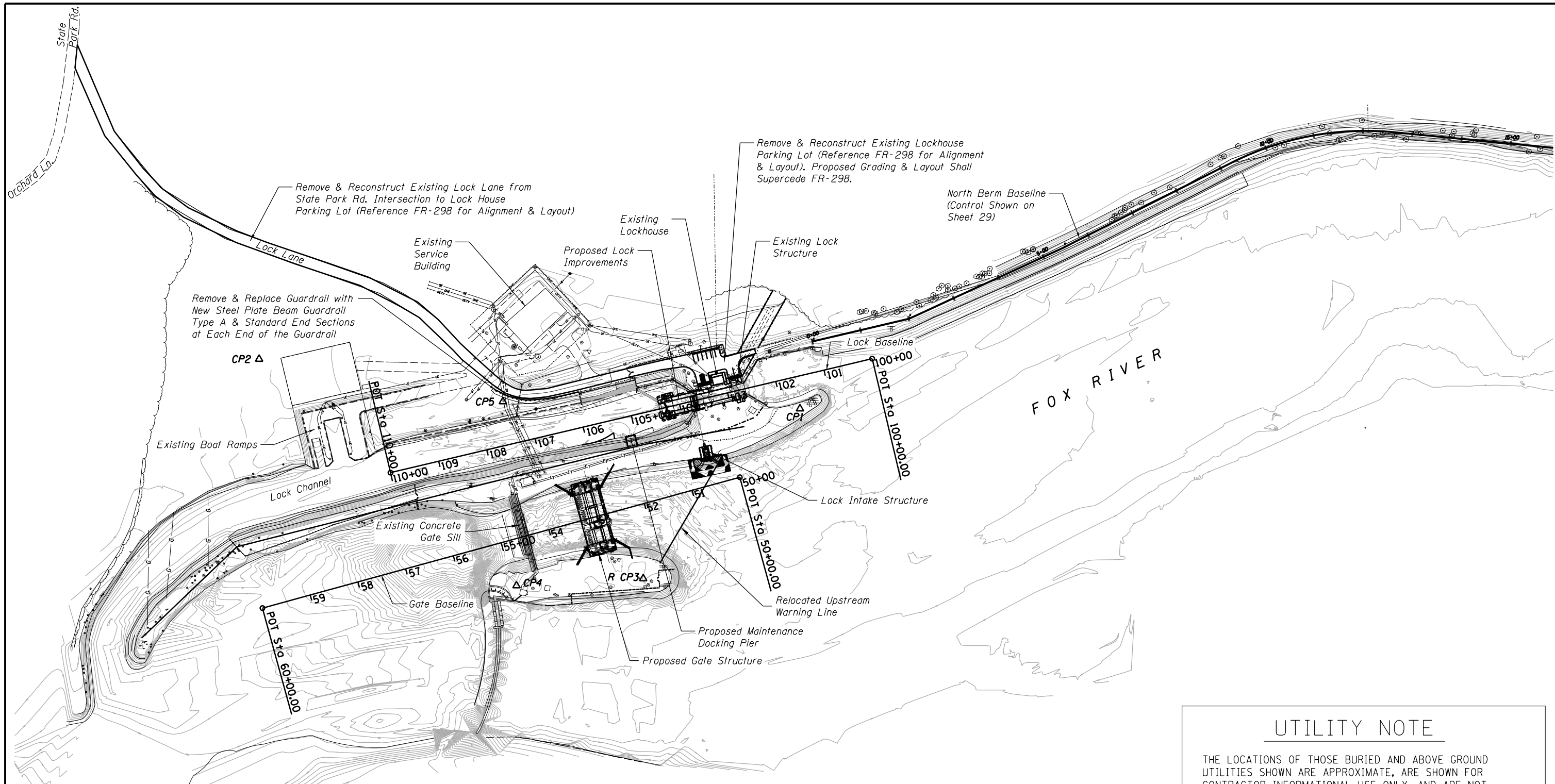
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PLOT DATE - JANUARY 23, 2014	CHECKED - LJB	REVISIONS -	

**STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES**

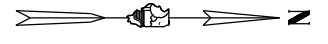
**GENERAL NOTES, TYPICAL SYMBOLS & DETAILS
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS**

**ILLINOIS DEPARTMENT
OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES**

COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	24
PROJECT FR-435		



PLAN



UTILITY NOTE

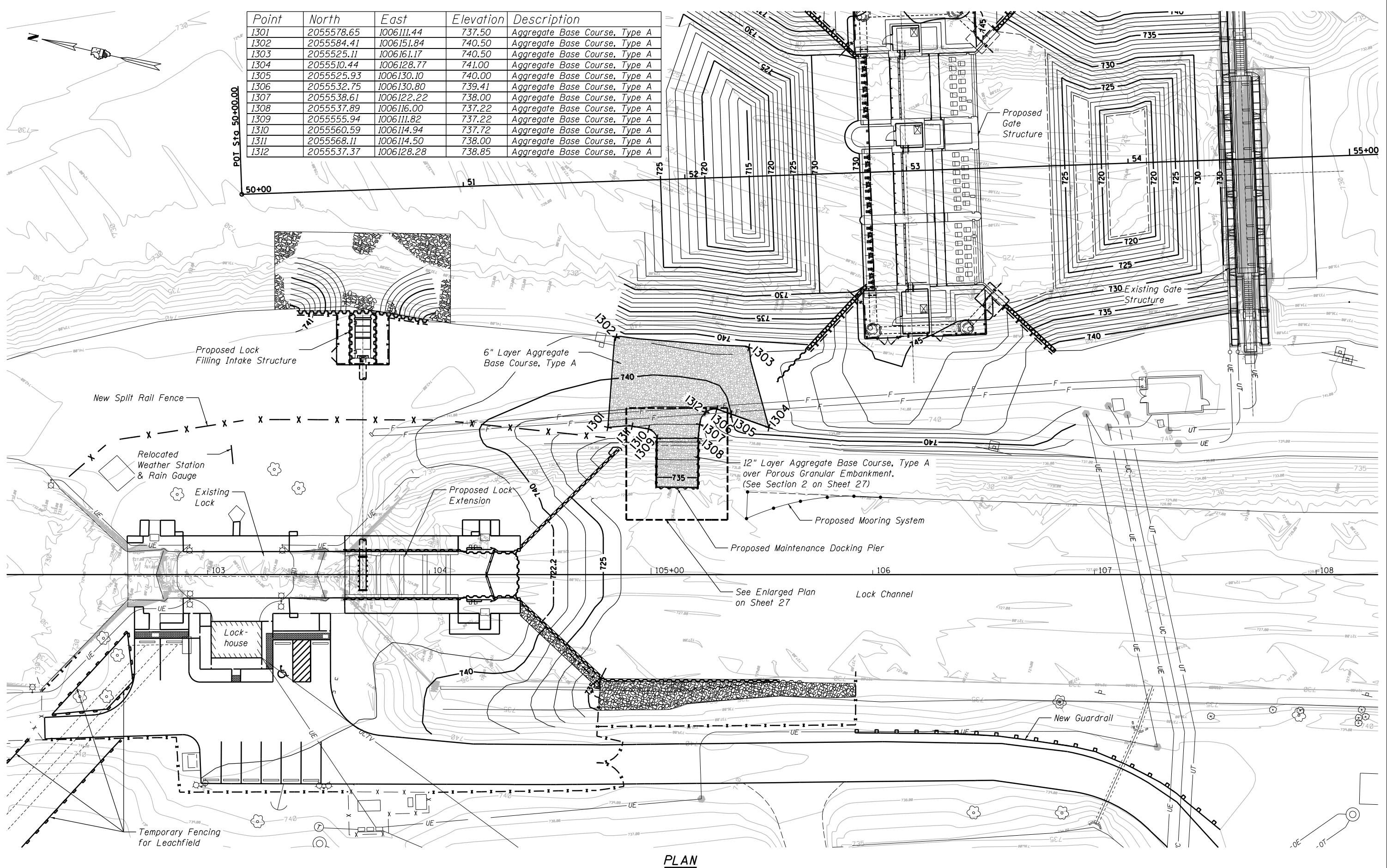
THE LOCATIONS OF THOSE BURIED AND ABOVE GROUND UTILITIES SHOWN ARE APPROXIMATE, ARE SHOWN FOR CONTRACTOR INFORMATIONAL USE ONLY, AND ARE NOT TO BE REFERENCED FOR CONSTRUCTION PURPOSES. THE IMPLIED PRESENCE OR ABSENCE OF UTILITIES IS NOT TO BE CONSTRUED BY THE DEPARTMENT, ENGINEER, CONTRACTOR, OR SUBCONTRACTORS TO BE AN ACCURATE AND COMPLETE REPRESENTATION OF UTILITIES THAT MAY OR MAY NOT EXIST ON THE CONSTRUCTION SITE. BURIED AND ABOVE GROUND UTILITY LOCATION, IDENTIFICATION, AND MARKING ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. REROUTING, DISCONNECTION, PROTECTION, ETC. OF ANY UTILITIES MUST BE COORDINATED BETWEEN THE CONTRACTOR, UTILITY COMPANY, AND ENGINEER. SITE SAFETY, INCLUDING THE AVOIDANCE OF HAZARDS ASSOCIATED WITH BURIED AND ABOVE GROUND UTILITIES, REMAIN THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

NOTES:

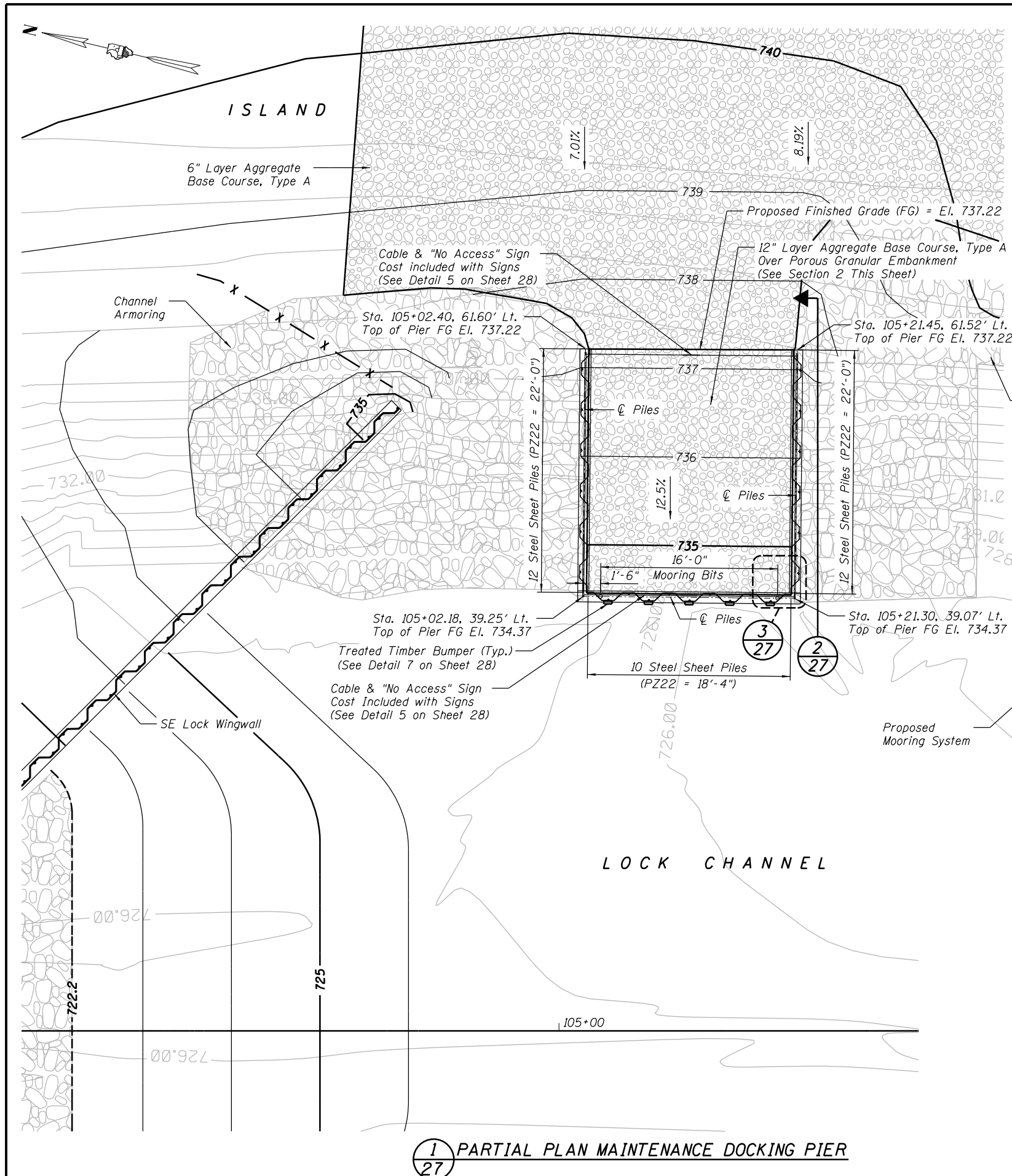
1. See Sheet 6 & 7 for Alignment, Ties, BM, & Baselines.
2. The Design Elements Included on These Plans are Based on Existing Topographic Survey Performed by Illinois Department of Natural Resources, Office of Water Resources.
3. The Horizontal Datum is Based on Illinois State Plane East, Zone 1201, NAD 83.
The Vertical Datum is Based on NGVD 29.
4. Contractor Shall Remove & Reconstruct Entire Lock Lane. All Subgrade Shall be Proof Rolled and Witnessed by the Engineer Prior to Pavement Being Laid.
5. Contractor shall Refer to FR-298 Included in the Reference Plans for Entrance Drive Alignment Geometry
6. Contractor Shall Coordinate Lay Down Areas with Engineer and Shall Ensure Erosion Control Measures are in Place Prior to Placement in Laydown Area.
7. Finish Grade and Other Site Improvements Not Shown for Clarity.

	USER NAME =	DESIGNED - LJB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF NATURAL RESOURCES	SITE DEVELOPMENT PLAN STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS	ILLINOIS DEPARTMENT OF NATURAL RESOURCES OFFICE OF WATER RESOURCES	COUNTY	TOTAL SHEETS	SHEET NO.
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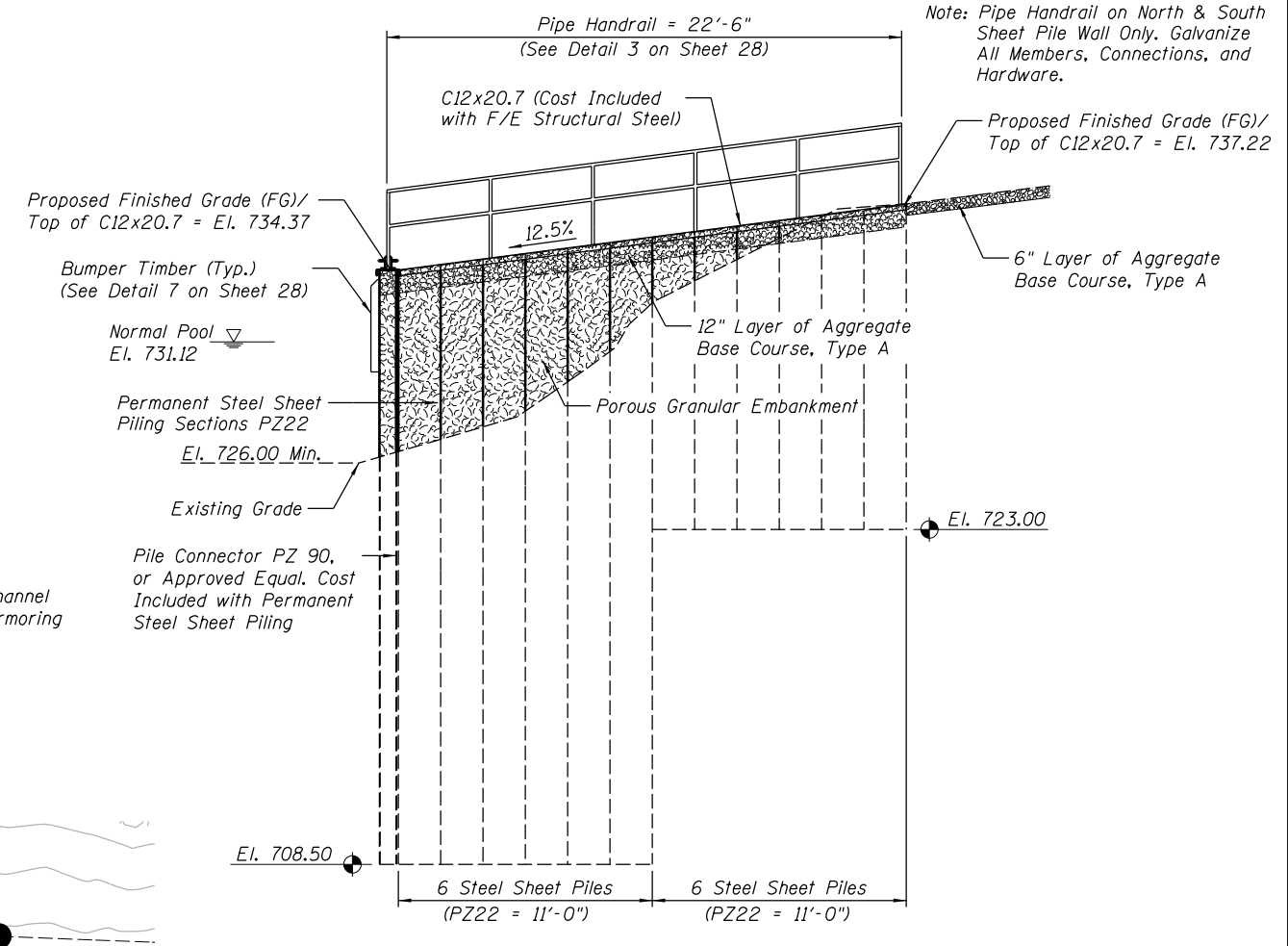
Point	North	East	Elevation	Description
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1302	2055584.41	1006151.84	740.50	Aggregate Base Course, Type A
1303	2055525.11	1006161.17	740.50	Aggregate Base Course, Type A
1304	2055510.44	1006128.77	741.00	Aggregate Base Course, Type A
1305	2055525.93	1006130.10	740.00	Aggregate Base Course, Type A
1306	2055532.75	1006130.80	739.41	Aggregate Base Course, Type A
1307	2055538.61	1006122.22	738.00	Aggregate Base Course, Type A
1308	2055537.89	1006116.00	737.22	Aggregate Base Course, Type A
1309	2055555.94	1006111.82	737.22	Aggregate Base Course, Type A
1310	2055560.59	1006114.94	737.72	Aggregate Base Course, Type A
1311	2055568.11	1006114.50	738.00	Aggregate Base Course, Type A
1312	2055537.37	1006128.28	738.85	Aggregate Base Course, Type A



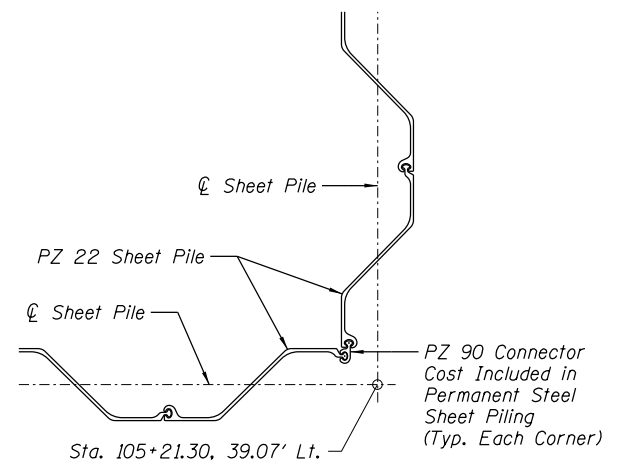
PLAN



1 PARTIAL PLAN MAINTENANCE DOCKING PIER



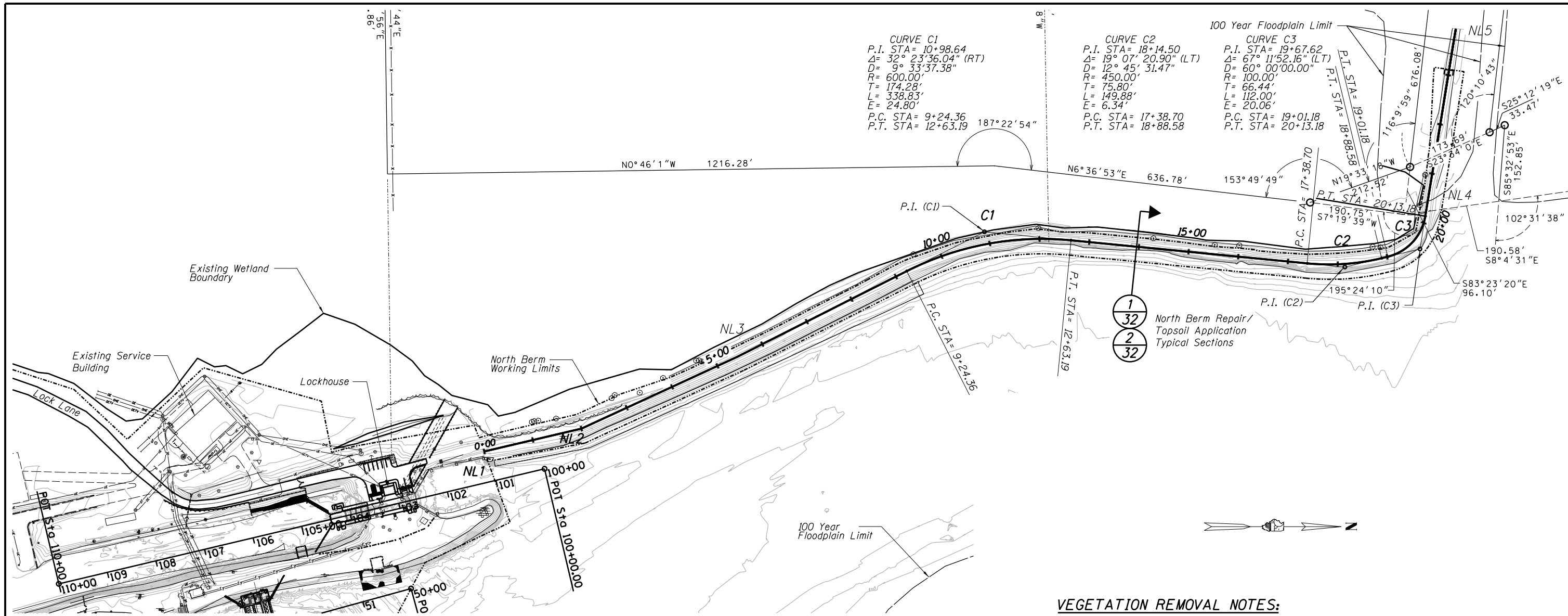
2 SECTION AT MAINTENANCE DOCKING PIER



3 SHEET PILE CONNECTION DETAIL

Note: See Sheets 26 and 85 for Grading at Pier.

BILL OF MATERIALS - PIER		
PAY ITEM	UNIT	QUANTITY
Aggregate Base Course, Type A	Ton	114
Earth Excavation	Cu Yd	110
Furnishing and Erecting Structural Steel	Pound	1,430
Pipe Handrail	Foot	45
Porous Granular Embankment	Cu Yd	25
Permanent Steel Sheet Piling	Sq Ft	1,354
Treated Timbers	F.B.M.	63



1-PLAN

NORTH BERM BASELINE CONTROL

Point	North	East	Station
NL1	2055910.1340	1005901.4004	0+00.00
NL2	2056105.1402	1005855.5119	2+00.33
NL3	2056417.9637	1005711.4339	5+44.74
P.I. (C1)	2056912.3172	1005461.5701	10+98.64
P.I. (C2)	2057634.4571	1005532.1267	18+14.50
P.I. (C3)	2057784.9876	1005495.8686	19+67.62
NL4	2057856.7884	1005055.4505	23+92.97

BILL OF MATERIALS - BERM

PAY ITEM	UNIT	QUANTITY
Filter Fabric	Sq Yd	1,425
Hand Compacted Earth Fill	Cu Yd	1,140
North Berm Embankment Tree and Vegetation Removal	Acre	2.1
Seeding, Class 3	Acre	2.5
Shot Rock	Ton	1,625
Topsoil Furnish and Place, 4"	Sq Yd	2,710

GENERAL NOTES

All Elevations Refer to the National Geodetic Vertical Datum (N.G.V.D). All Elevations are Based on the 1929 Datum.

All Construction Operations Shall Be Contained Within the Working Limits.

The Illinois DOT Standard Specifications for Road and Bridge Construction, Adopted January 1, 2012 Shall be Referred to as the "Standard Specifications."

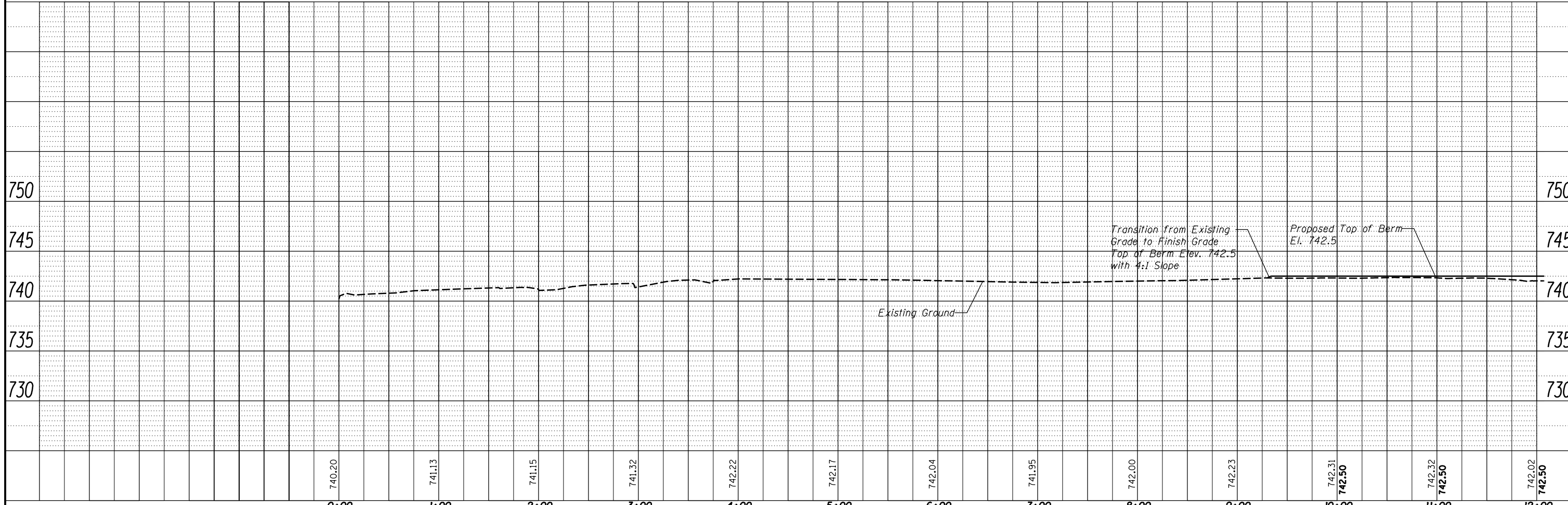
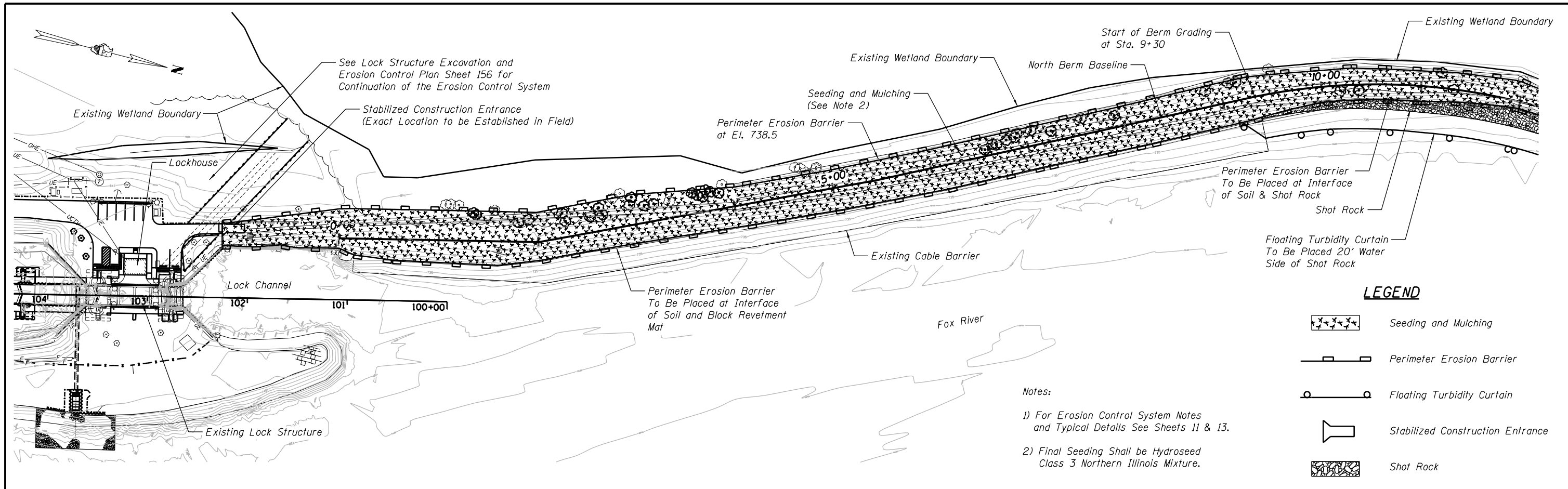
The Adjacent Property West of the Berm is a High Quality Wetland. The Contractor Shall Ensure no Damage Occurs to the Wetland Outside the Limits Identified on the Plans. At no Time Shall the Contractor Drive Equipment Outside the Limits of Construction.

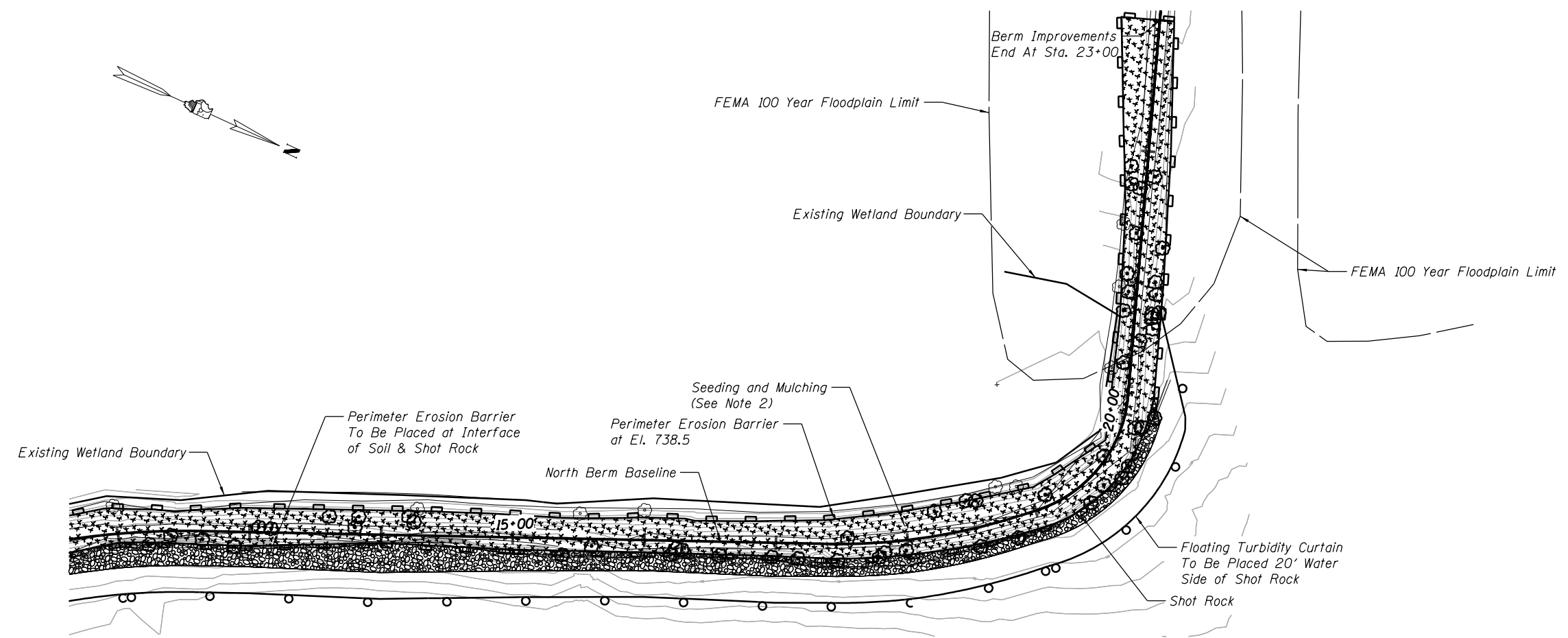
IDNR has Obtained Permits as Described in the Construction Procedure Special Provision. Contractor Shall Obtain any Other Required Permits. Contractor Shall Abide by and Meet All Permit Requirements.

Contractor shall Coordinate Laydown Areas with Engineer.

VEGETATION REMOVAL NOTES:

- Woody Vegetation Shall Be Removed from the Berm Within the Identified Limits as Follows:
- Tree and Shrub Removal Shall be Performed in Accordance with Special Provision "North Berm Embankment Tree and Vegetation Removal." Voids Shall be Filled in Accordance with Special Provision Hand Compacted Earth Fill.
 - It Shall be the Responsibility of the Contractor to Complete all Clearing and Debris Removal Necessary for the Complete Construction of the Proposed Berm Improvements and Bank Restoration.
 - Trees Located Outside the Land Side Berm Elevation of 738.5 Shall Be Trimmed Along a Vertical Line Extended from the 738.5 Elevation. Care is to Be Taken to not Disturb the Ground Below the 738.5 Elevation.
 - Tree Removal Between Station 0+00 and 9+30 Shall Use the 738.5 Elevation. If the Ground does not Drop Off to 738.5, the Contractor Shall use a 30 Foot Offset from the Baseline as the Limits.
 - Trees Shall be Cut Down and Removed From the Berm. The Stump, Root Ball, and any Roots Greater than 1-in Shall be Removed Completely. The Contractor Shall Ensure the Resulting Void is Free of Organic Debris.
 - All Remaining Saplings and Shrubs Shall be Removed in Accordance with Section 201.08 of the Standard Specifications.
 - Resulting Voids Shall be Filled as They are Exposed.
 - Trees and Shrubs May be Stockpiled During Construction at a Location Coordinated with the Engineer. Trees and Shrubs Shall be Disposed of Off Site Such that No Stockpile Remains after Construction.
 - Animal Burrows Shall be Top Excavated to Expose the Void. Backfilling the Void Shall Be Completed as if it Were a Root Ball. The Contractor Shall Stop Excavating if the Burrow Extends More than 30% Into the Berm and Notify the Engineer for Further Guidance.

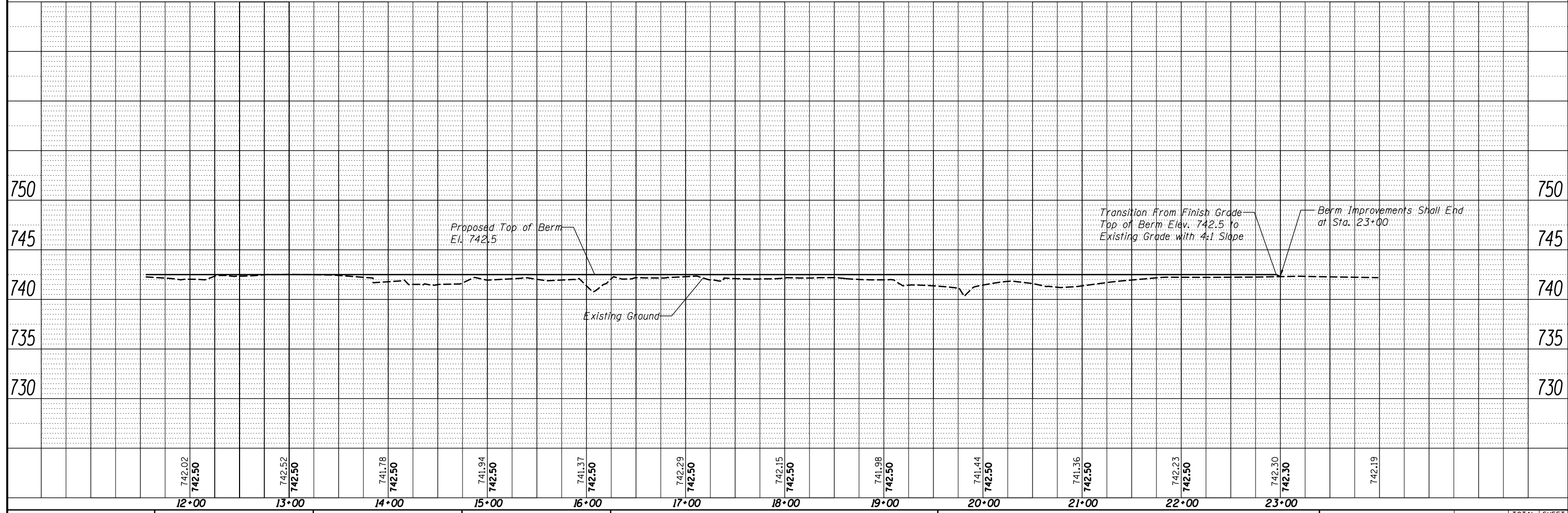


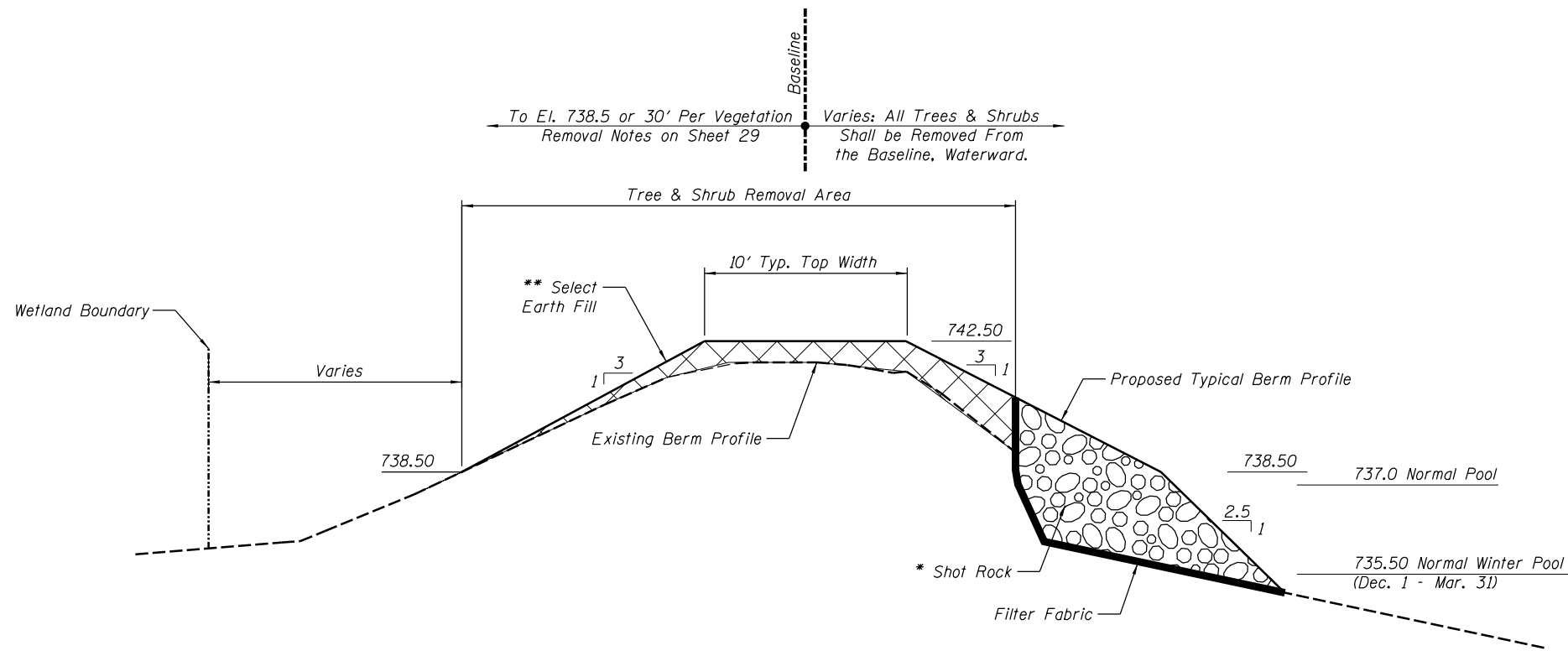


Notes:
 1) For Erosion Control System Notes and Typical Details See Sheets 11 & 13.
 2) Final Seeding Shall be Hydroseed Class 3 Northern Illinois Mixture.

LEGEND

- Seeding and Mulching
- Perimeter Erosion Barrier
- Floating Turbidity Curtain
- Stabilized Construction Entrance
- Shot Rock





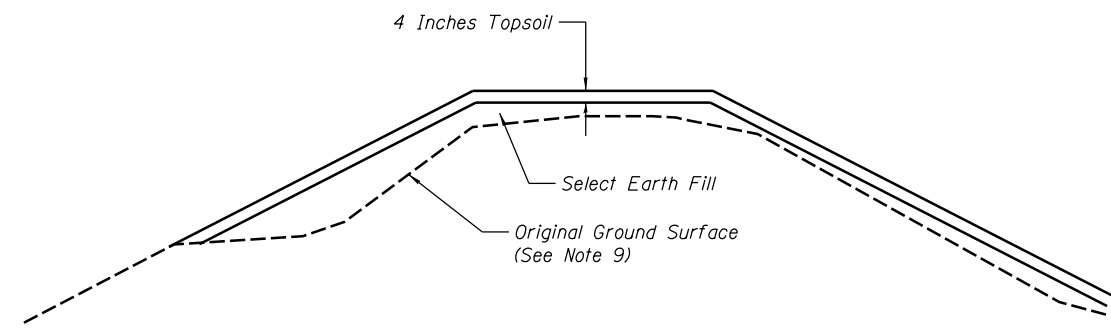
1
32 TYPICAL SECTION - NORTH BERM

* Shot Rock fill shall be well graded rock or crushed stone with less than 15% of the Stones larger than 15" Dia. and less than 20% of the Stones smaller than 1" Dia. Per Visual Inspection. Shot Rock Fill Must be Approved by Engineer Prior to Placement. Shot Rock Fill Shall be Placed Between Sta. 9+30 to Sta. 20+14

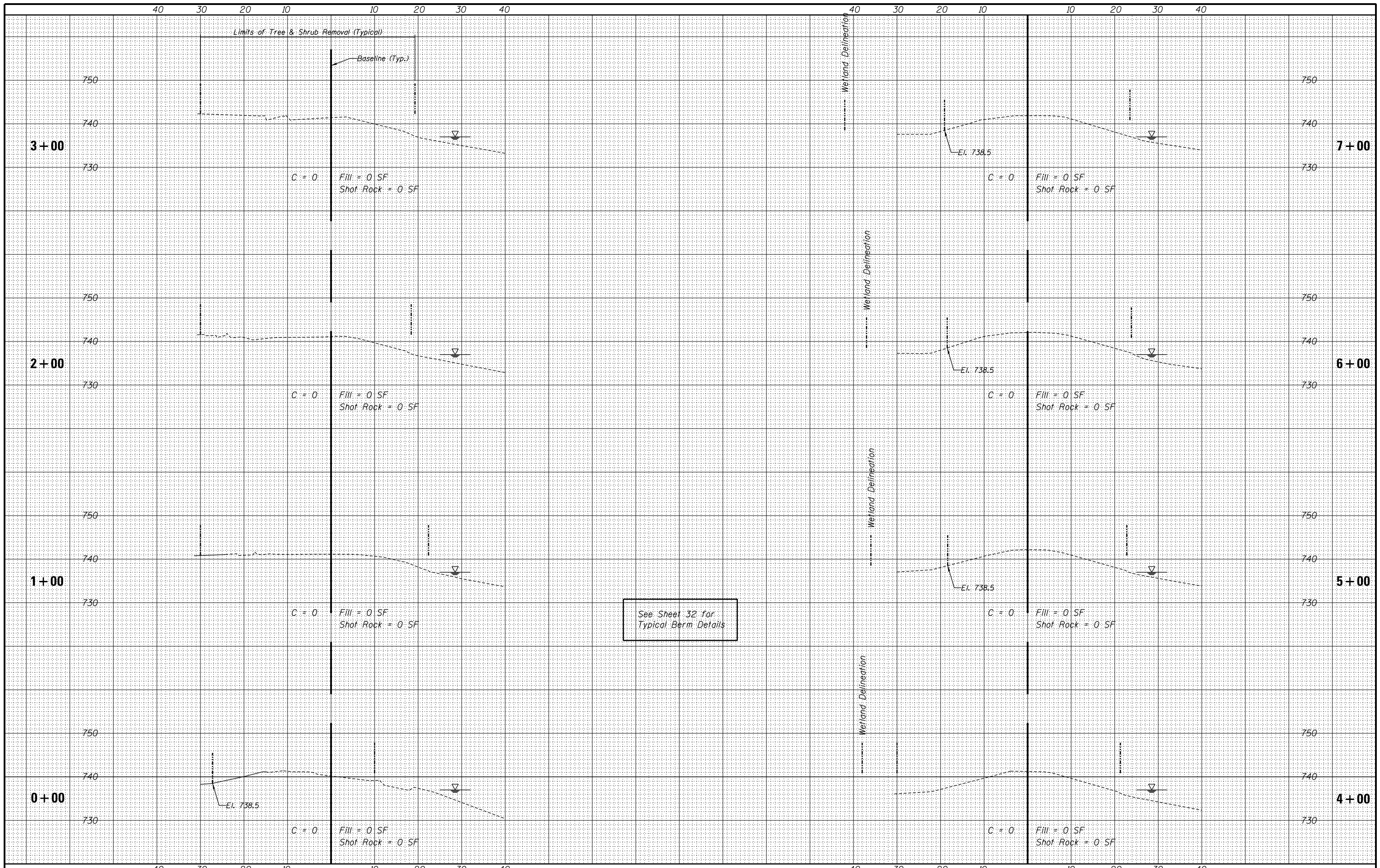
** Select Earth Fill: Suitable Material Shall Consist of Cohesive Material With 30% or More Passing the No. 200 Sieve, and Have a Plasticity Index (PI) Between 3 and 35. Materials Having 85% Fines By Weight That are Smaller Than 0.05mm Will Not be Acceptable.

Berm Notes:

1. The Centerline of the Berm Shall Be Established and the Surrounding Grade Brought Up to the Minimum Elevations Outlined in the Typical Section.
2. If the Berm Elevation Exceeds that of the Typical Section, No Work Apart from Tree and Shrub Removal Shall Take Place. The Existing Vegetation Shall Remain. No Earth Shall be Borrowed from it.
4. The Top of Berm and Land Side of the Berm that are Raised and/or Disturbed Shall be Final Shaped per Section 212 with Topsoil Applied per Section 211 of the Standard Specifications. Topsoil Shall Be Applied to a Depth of 4". All Disturbed Surfaces Shall Be Hydroseeded per Section 250 of the Standard Specifications Using a Class 3 Northern Illinois Slope Mixture.
5. Locations on the Water Side of the Berm that Require Fill and are Below Elevation 738.50, Shall be Covered with Filter Fabric per Section 282 of the Standard Specifications. The Area Shall then be Filled with Shot Rock, Packed into the Section by Mechanical Means to Match the Typical Section from the Top of Berm to Where the Typical Section Intersects the Existing Grade.
6. Where the Rock Fill Meets Earth Fill, the Contractor Shall Keep Filter Fabric Between the Two to Maintain a Filter Between the Two.
7. Any Trees and Shrubs to be Removed Shall be Disposed of Off Site. No Stockpile of Landscaping to Remain on Site after Construction.
8. No Top Soil, Soil, or Dirt Shall be applied on Top of the Shot Rock Fill.
9. Contractor Shall Roughen the Existing Surface Prior to Placing any Fill Material or Top Soil in Accordance With Section 211.04 of the Standard Specifications.



2
32 TOPSOIL APPLICATION IN DISTURBED AREAS



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 PLOT DATE = SEPTEMBER 18, 2013

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 DRAWN - SKB
 CHECKED - LJB

REVISED -
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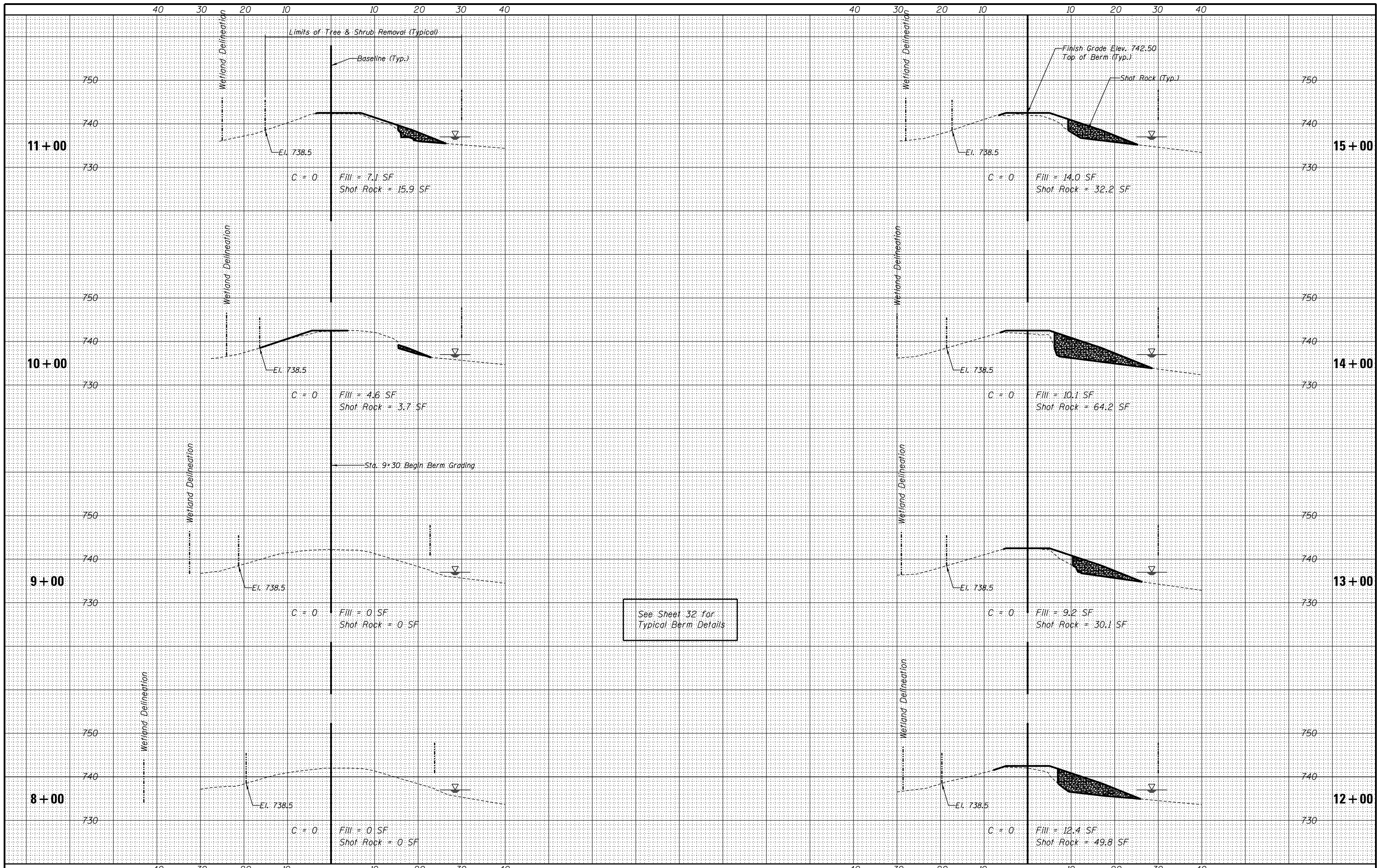
STATE OF ILLINOIS
 DEPARTMENT OF NATURAL RESOURCES

NORTH BERM CROSS SECTIONS
 STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS

ILLINOIS DEPARTMENT
 OF NATURAL RESOURCES
 OFFICE OF WATER RESOURCES

COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	33

PROJECT FR-435



See Sheet 32 for
Typical Berm Details

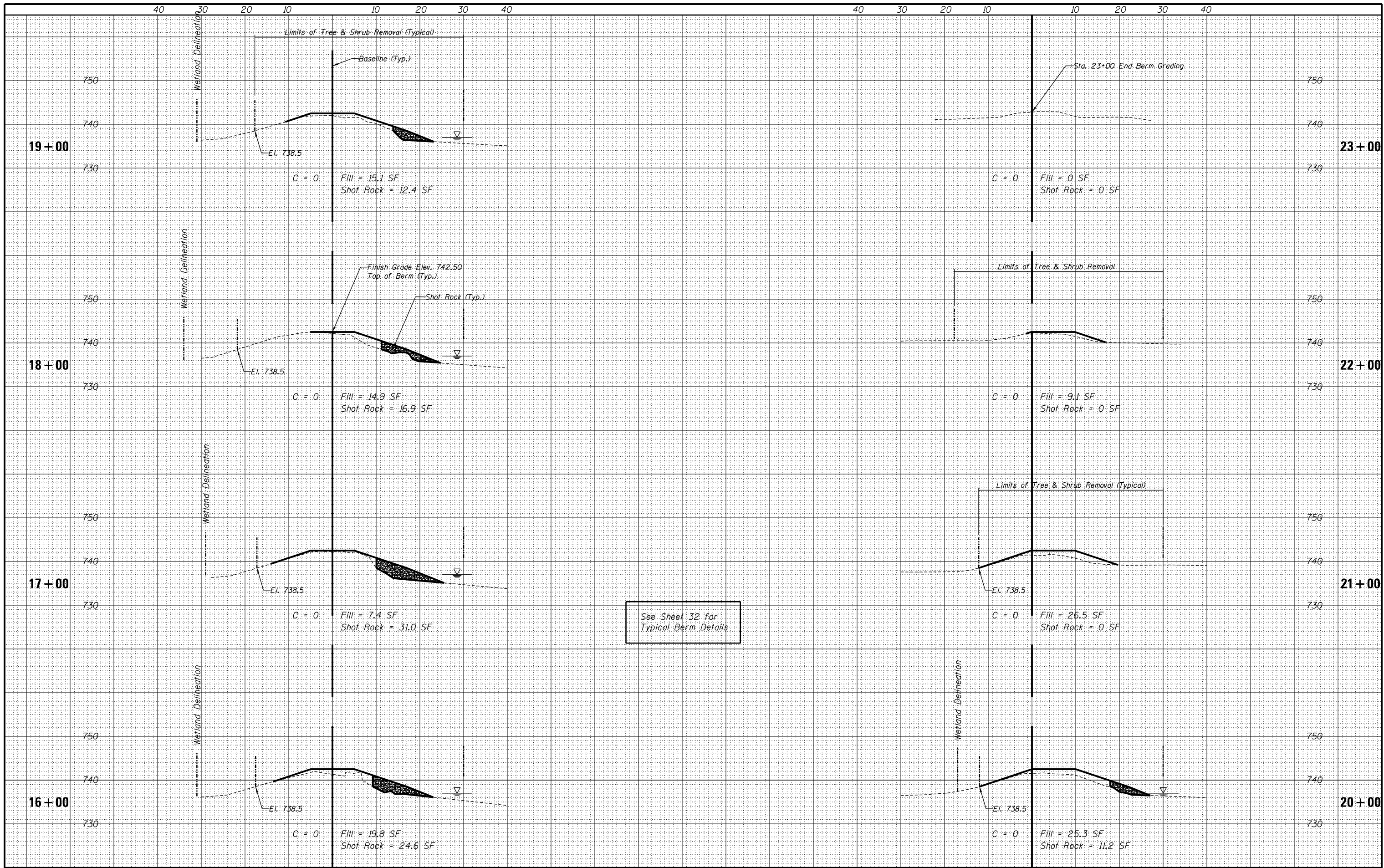
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STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

NORTH BERM CROSS SECTIONS
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS

ILLINOIS DEPARTMENT OF NATURAL RESOURCES OFFICE OF WATER RESOURCES	COUNTY	TOTAL SHEETS	SHEET NO.
	McHENRY	238	34
PROJECT FR-435			



See Sheet 32 for
Typical Berm Details

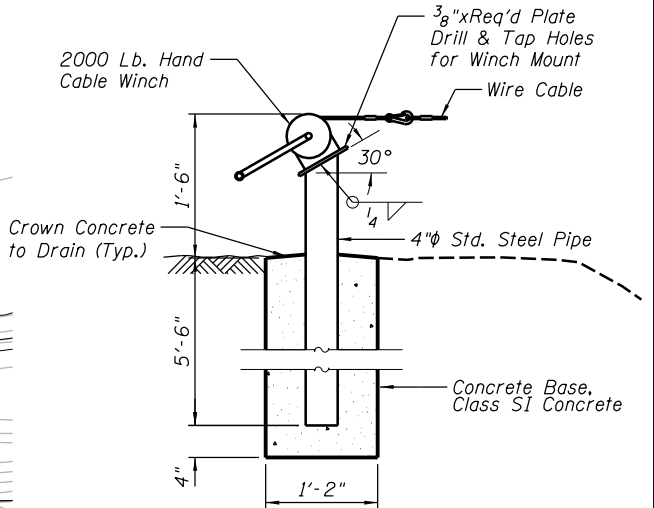
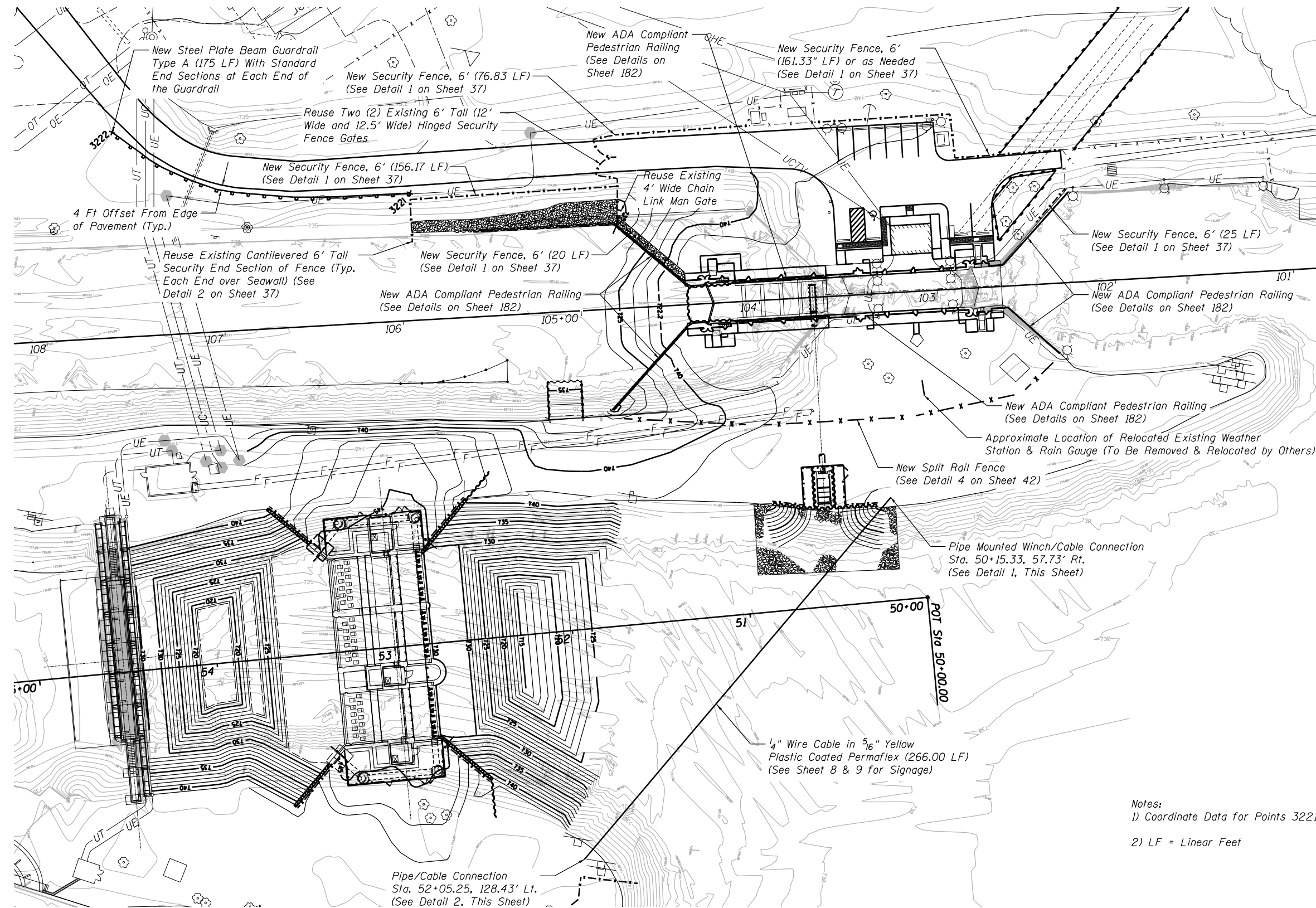
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STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

NORTH BERM CROSS SECTIONS
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS

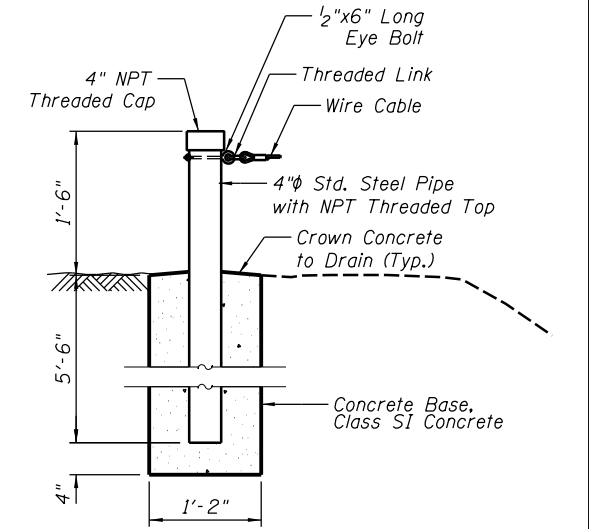
ILLINOIS DEPARTMENT
OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES

COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	35
PROJECT FR-435		



1 WINCH CONNECTION DETAIL

36 Note: Cost for Cable, Hardware, Steel Pipe, and Winch Included in Warning Cable and Mounting System.

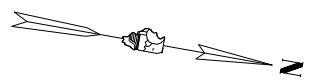


2 PIPE CONNECTION DETAIL

36 Note: Cost for Cable, Hardware, and Steel Pipe Included in Warning Cable and Mounting System.

Notes:
 1) Coordinate Data for Points 3221 & 3222 are on Sheet 40.
 2) LF = Linear Feet

PLAN



FILE NAME = C-1007-SITE.dgn 	USER NAME =	DESIGNED - LJB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF NATURAL RESOURCES	PUBLIC SAFETY /ADA IMPROVEMENTS GENERAL PLAN & NOTES STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS	ILLINOIS DEPARTMENT OF NATURAL RESOURCES OFFICE OF WATER RESOURCES	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = SEPTEMBER 18, 2013	DRAWN - SKB/EJM	REVISED -				PROJECT FR-435		
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SOUTH DESIGNATED FISHING AREA FENCING

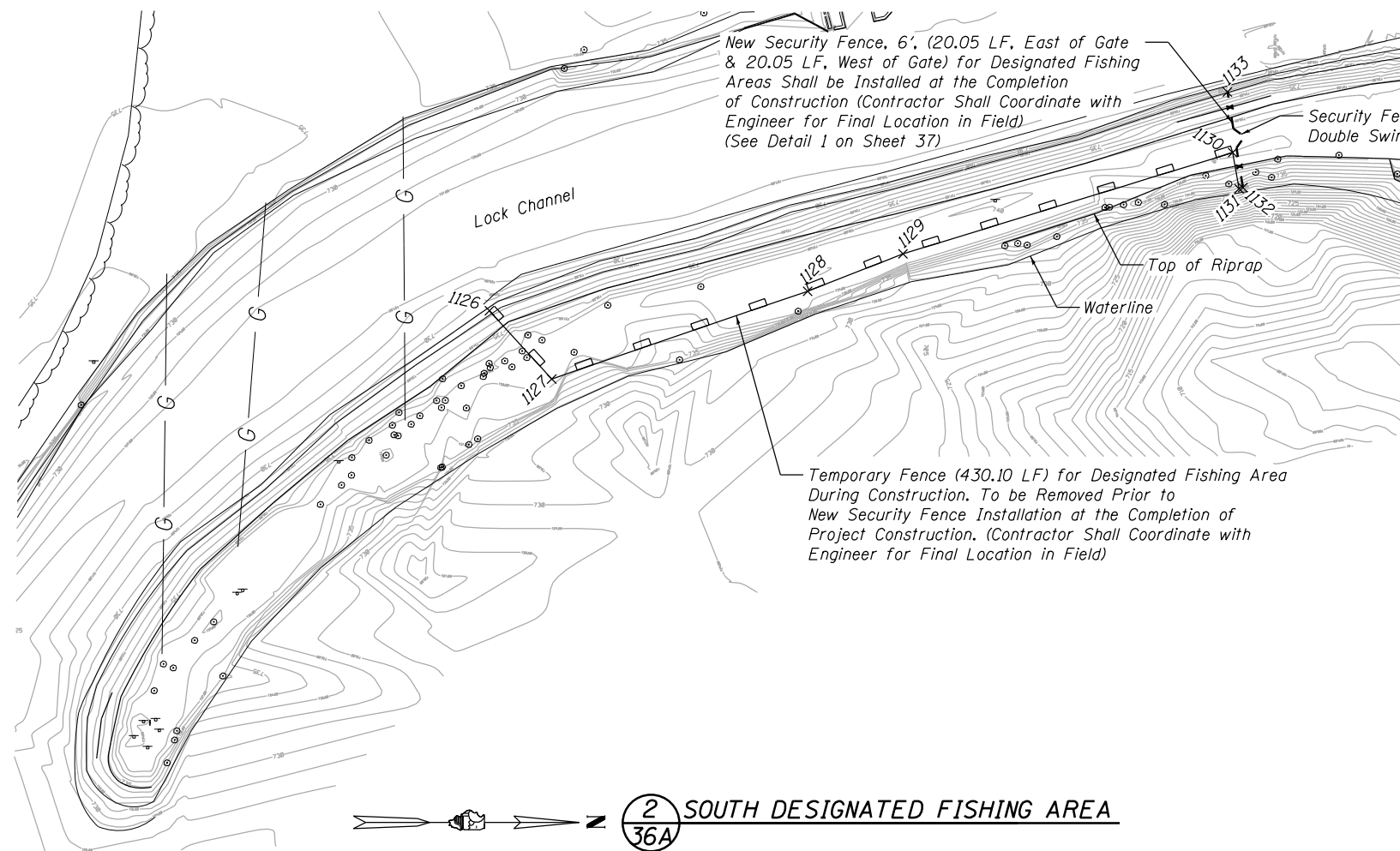
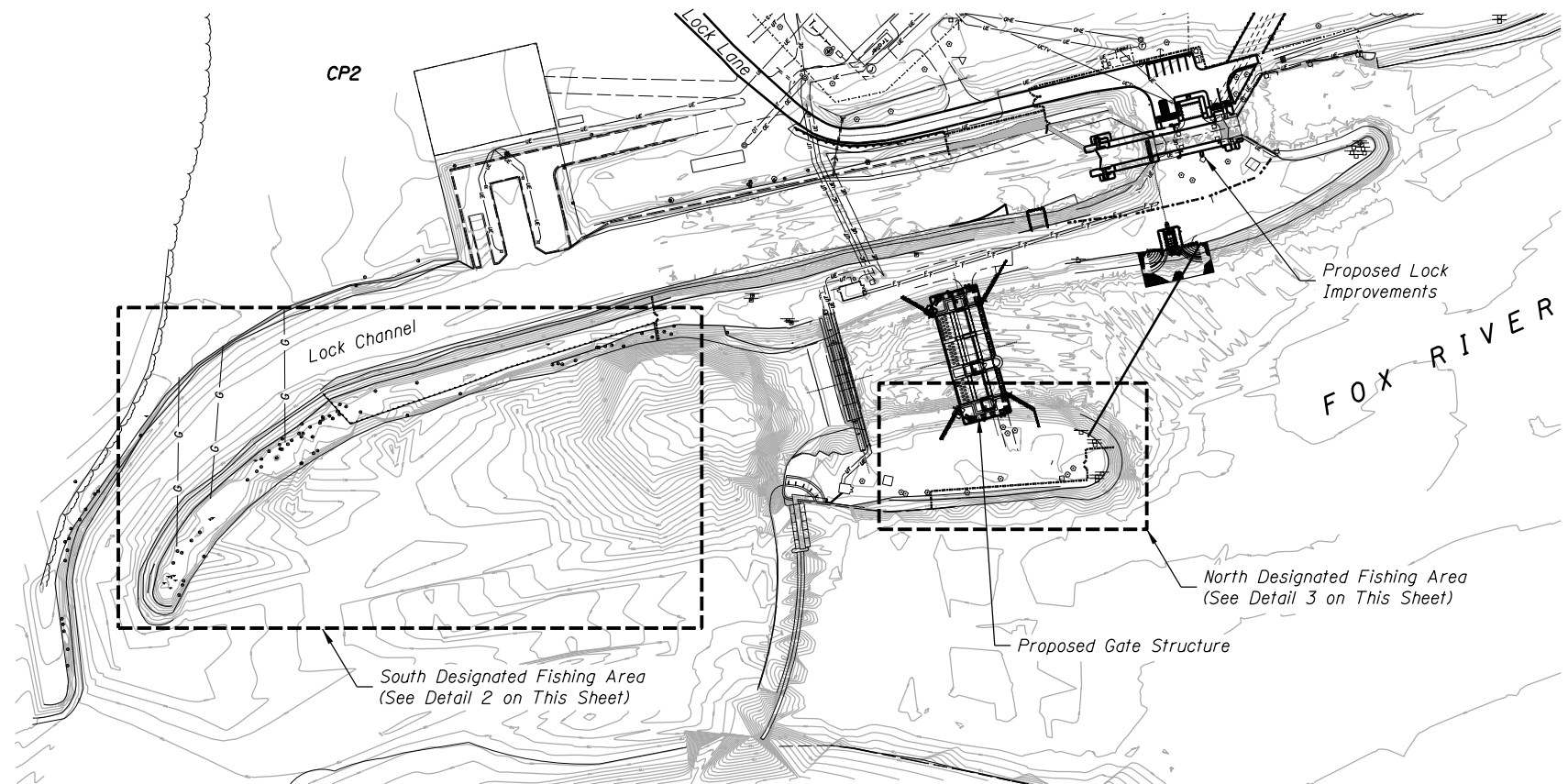
Point	North	East	Description
1126	2054732.57	1006300.81	TEMPORARY FENCE
1127	2054764.14	1006335.35	TEMPORARY FENCE
1128	2054893.66	1006290.90	TEMPORARY FENCE
1129	2054941.99	1006271.99	TEMPORARY FENCE
1130	2055108.86	1006220.70	TEMPORARY FENCE
1131	2055112.33	1006240.30	TEMPORARY FENCE
1132	2055114.19	1006239.45	SECURITY FENCE, 6'
1133	2055106.26	1006189.98	SECURITY FENCE, 6'

NORTH DESIGNATED FISHING AREA FENCING

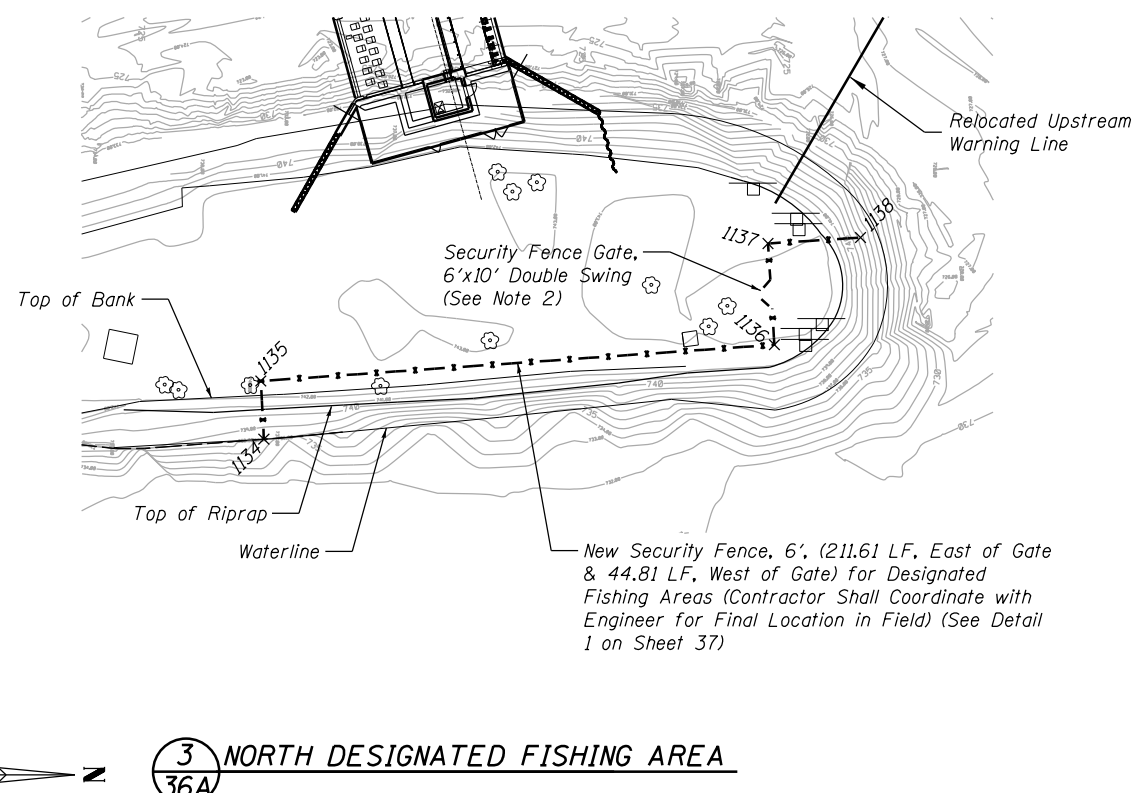
Point	North	East	Description
1134	2055424.28	1006431.87	SECURITY FENCE, 6'
1135	2055423.26	1006411.66	SECURITY FENCE, 6'
1136	2055601.57	1006399.08	SECURITY FENCE, 6'
1137	2055599.32	1006363.92	SECURITY FENCE, 6'
1138	2055631.45	1006361.87	SECURITY FENCE, 6'

NOTES:

1. Finish Grade and Other Site Improvements Not Shown for Clarity.
2. When Security Fence Gate, 6'x10' Double Swing is in Open Position, the Gate Arms Shall Be Secured to the Retaining Posts with a Suitable Hook & Eye Connector. (See Detail 13 on Sheet 88).
3. LF = Linear Feet.



1 PARTIAL SITE PLAN
36A



3 NORTH DESIGNATED FISHING AREA
36A

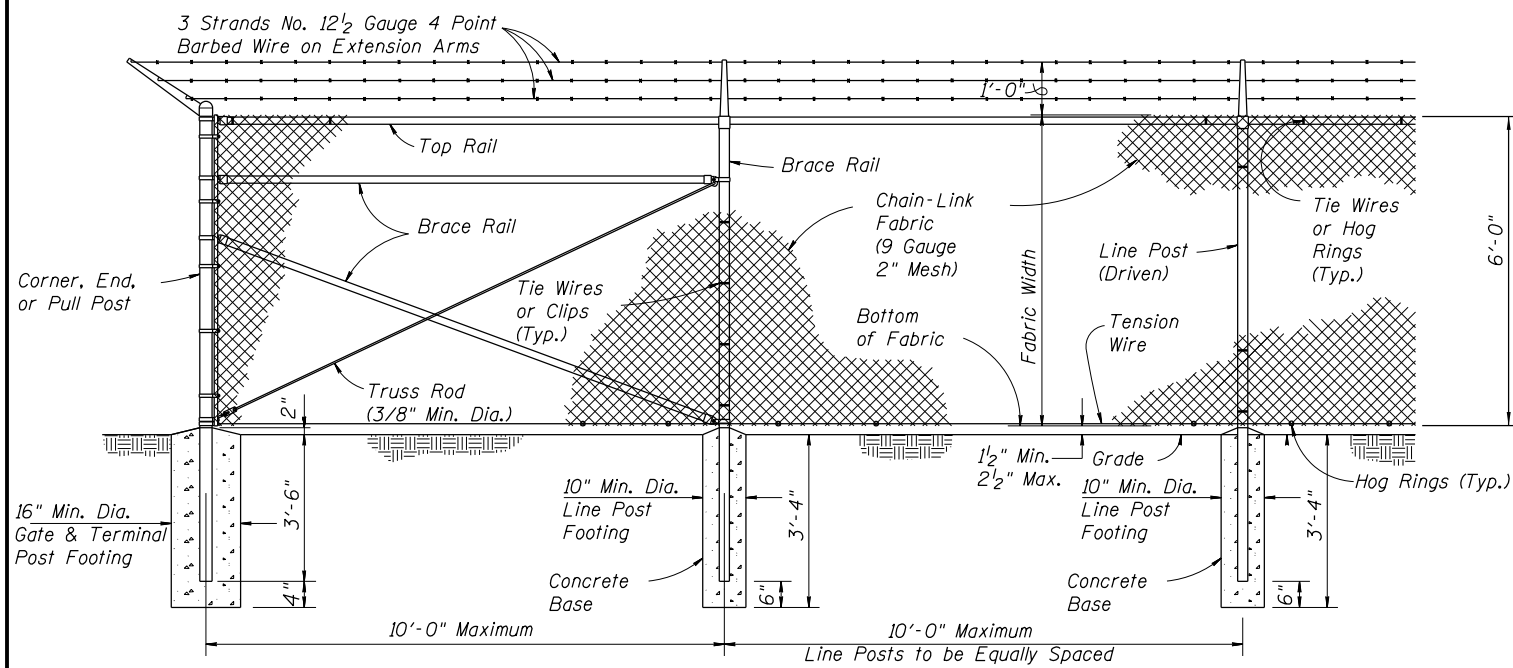
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**STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES**

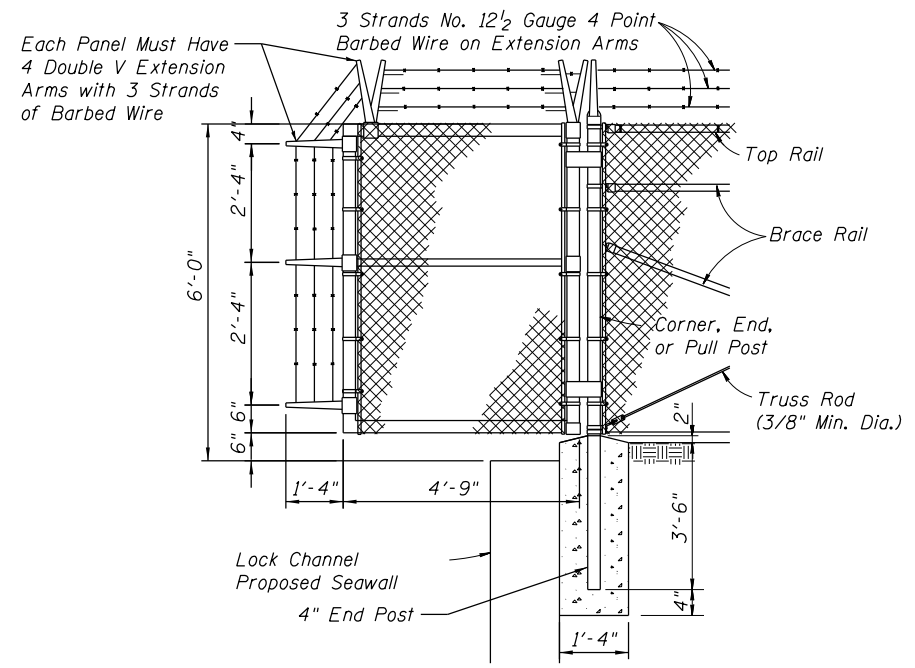
**PUBLIC SAFETY - DESIGNATED FISHING AREAS
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS**

**ILLINOIS DEPARTMENT
OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES**

COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	36A
PROJECT FR-435		

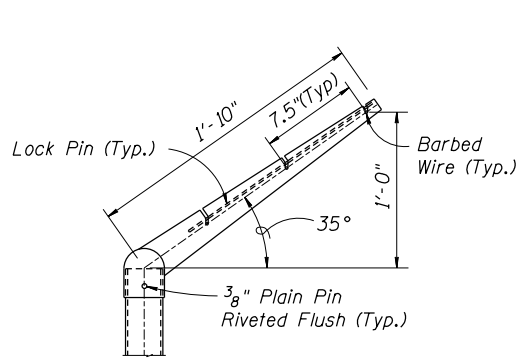


1 SECURITY FENCE, 6' DETAIL
37



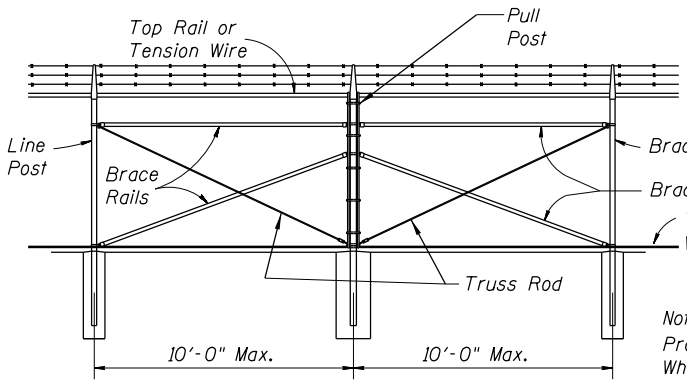
2 CANTILEVERED 6' TALL SECURITY END SECTION OF FENCE
37

Notes:
1. Reuse Existing Stockpiled Security End Sections for Fence Adjacent to the Lock Channel Seawall. The Security End Section with Signage Shall be Placed on the Southern Most Connection with the Signs "Keep Right" & "Slow No Wake" Facing North. The Existing Signs Shall be Removed & Replaced. (See Sheet 8 & 9 for Signage)



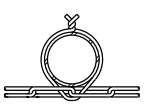
LINE POST

CORNER POST

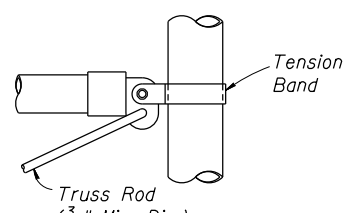


BRACE PANEL DETAIL

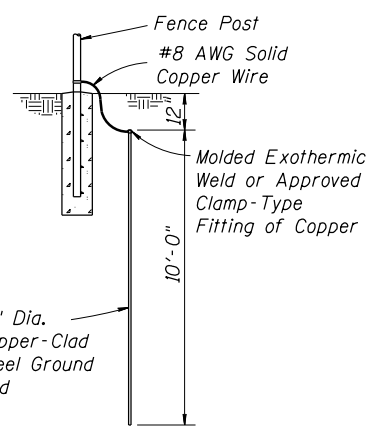
Note:
Provide Brace Panel Whenever Straight Runs Exceed 500 feet.



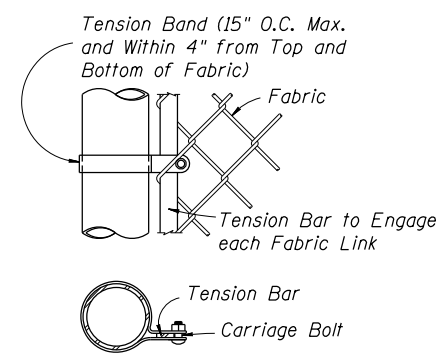
ROUND LINE POST ATTACHMENT



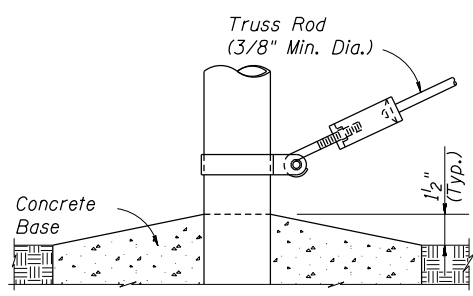
ROUND POST



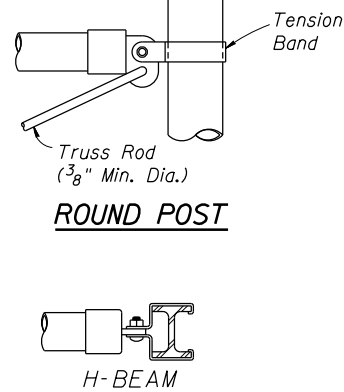
GROUNDING DETAIL



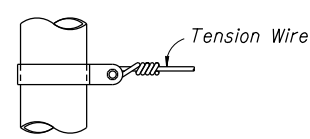
END OR GATE POST DETAIL



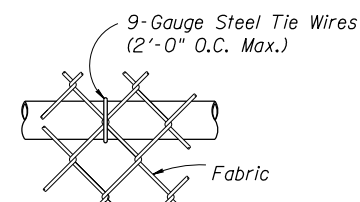
TRUSS ROD AND BAND



BRACE RAIL CLAMP DETAILS



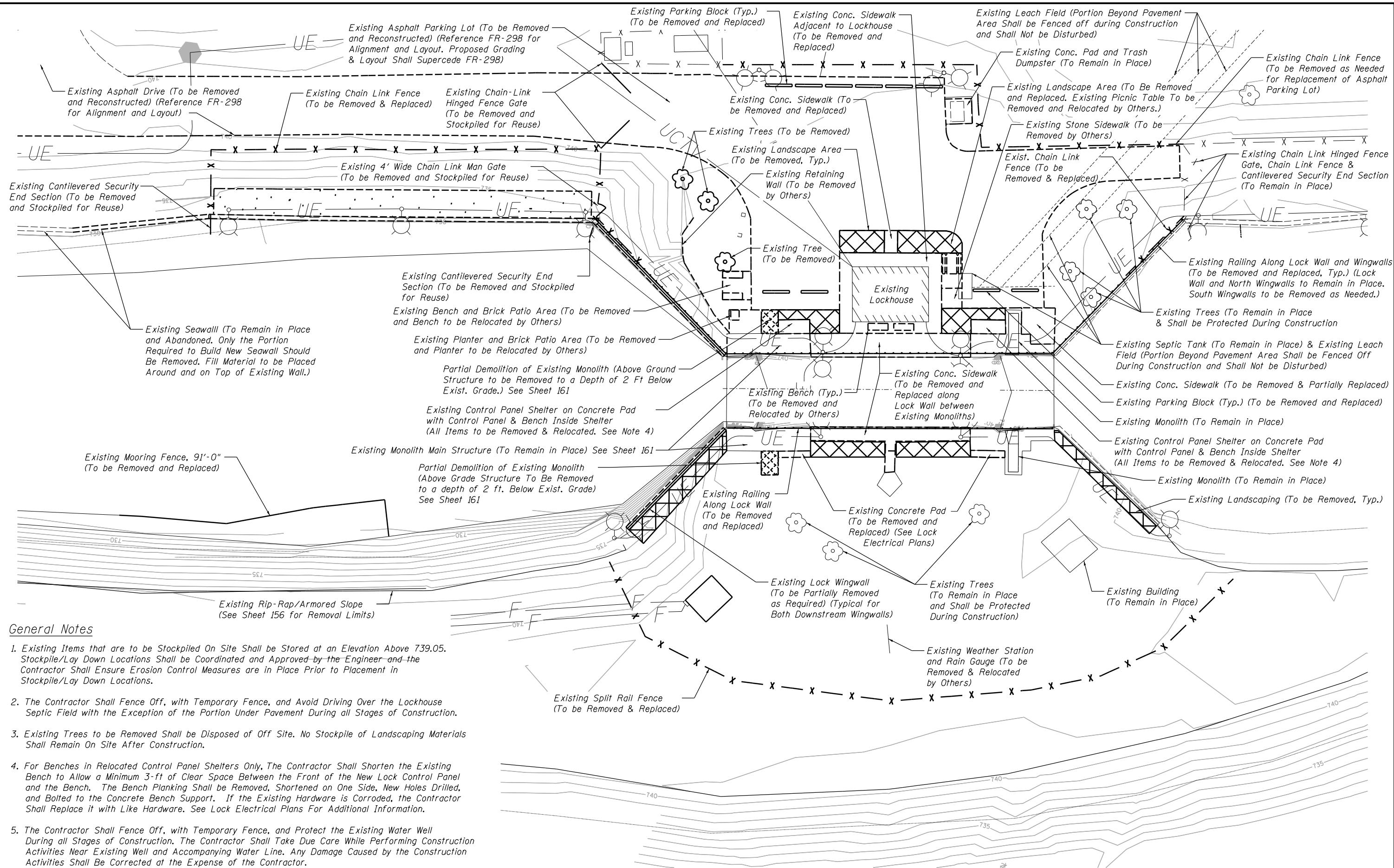
TENSION BAND DETAIL



TOP OR BRACE RAIL ATTACHMENT

- General Notes:**
1. Details Shown are to Clarify Requirements and are Not Intended to Limit Other Types of Fence Sections and Methods of Installation that Comply with the Specifications.
 2. Wire Ties, Rails, Posts, and Braces Shall be Constructed on the Secure Side of the Fence Alignment. Chain-Link Fabric Shall be Placed on the Side Opposite the Secure Area.
 3. Detailed Views Show only General Dimensions and Typical Requirements.
 4. All Materials, Including Hardware and Miscellaneous Incidentals to be Incorporated in the Fence.
 5. Gates to be Equipped with Approved Stop and Latching Device. Each Gate to Swing 100°.
 6. Bases Shall be Class "S.I." Concrete. Exposed Portion of Base to be Trowel Finished.
 7. Corner Sections and Terminal Sections to be Braced in Same Manner.
 8. All Materials Incorporated in the Fence Shall be Items of Standard Manufacture, Intended for Use in Fence Construction.
 9. All Fence Corners to be 90° Unless Otherwise Specified.
 10. 1/4" Dia. Weep Holes to be Drilled in all Tubular Posts 1/2" above Crown of Bases.
 11. Spring Type Expansion Couplings Shall be Incorporated in Top Rail at Intervals not Exceeding 100 Feet.

3 FASTENING DETAILS
37



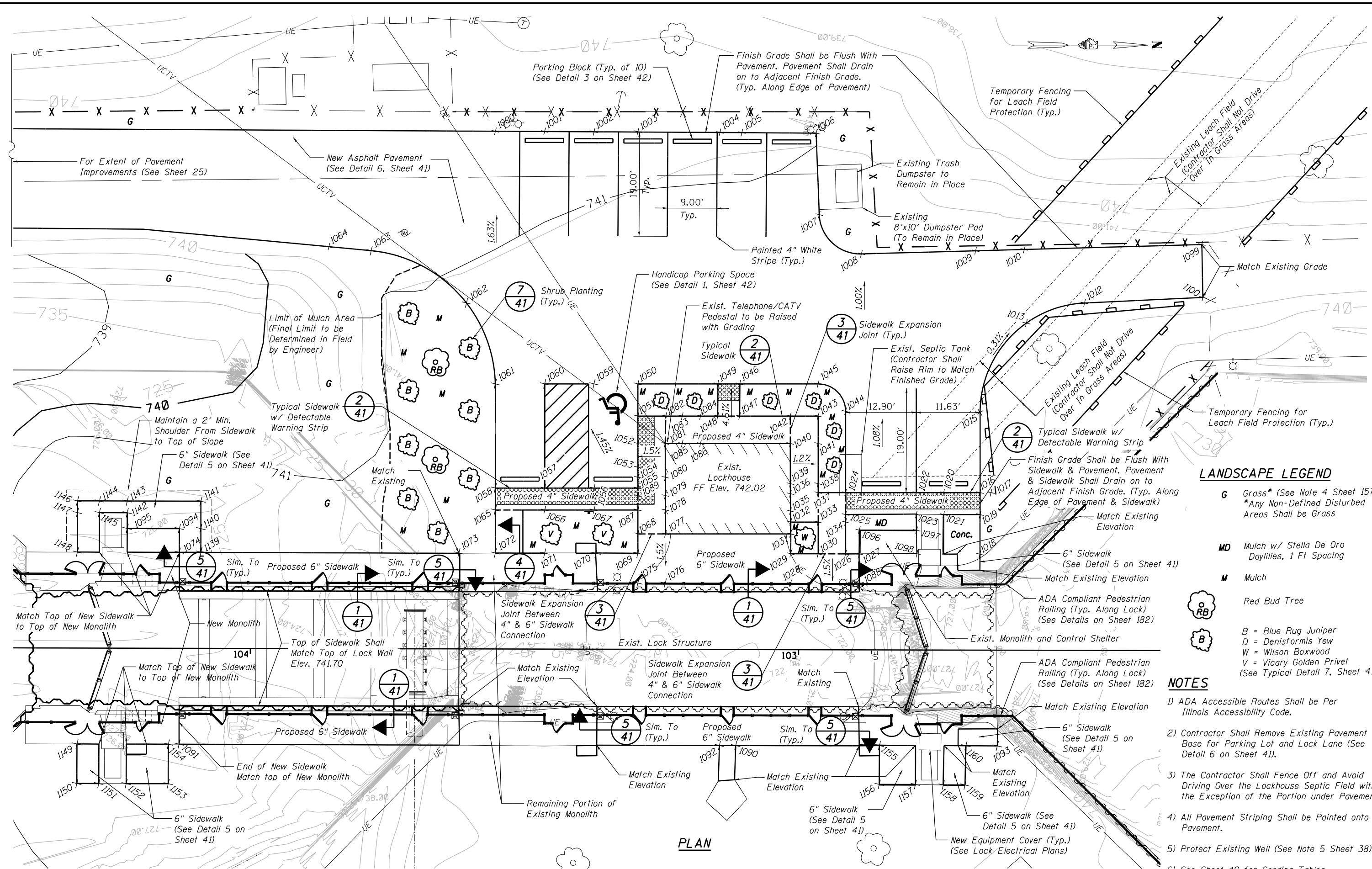
General Notes

- Existing Items that are to be Stockpiled On Site Shall be Stored at an Elevation Above 739.05. Stockpile/Lay Down Locations Shall be Coordinated and Approved by the Engineer and the Contractor Shall Ensure Erosion Control Measures are in Place Prior to Placement in Stockpile/Lay Down Locations.
- The Contractor Shall Fence Off, with Temporary Fence, and Avoid Driving Over the Lockhouse Septic Field with the Exception of the Portion Under Pavement During all Stages of Construction.
- Existing Trees to be Removed Shall be Disposed of Off Site. No Stockpile of Landscaping Materials Shall Remain On Site After Construction.
- For Benches in Relocated Control Panel Shelters Only, The Contractor Shall Shorten the Existing Bench to Allow a Minimum 3-ft of Clear Space Between the Front of the New Lock Control Panel and the Bench. The Bench Planking Shall be Removed, Shortened on One Side, New Holes Drilled, and Bolted to the Concrete Bench Support. If the Existing Hardware is Corroded, the Contractor Shall Replace it with Like Hardware. See Lock Electrical Plans For Additional Information.
- The Contractor Shall Fence Off, with Temporary Fence, and Protect the Existing Water Well During all Stages of Construction. The Contractor Shall Take Due Care While Performing Construction Activities Near Existing Well and Accompanying Water Line. Any Damage Caused by the Construction Activities Shall Be Corrected at the Expense of the Contractor.
- For Electrical Demolition, See Lock Electrical Plans.

PLAN



FILE NAME = C:\1009-SITE.dgn 	USER NAME =	DESIGNED - LJB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF NATURAL RESOURCES	LOCKHOUSE SITE DEMO STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS	COUNTY McHENRY TOTAL SHEETS 238 SHEET NO. 38
	PLOT SCALE =	CHECKED - TMF	REVISED -			
PLOT DATE = SEPTEMBER 18, 2013 <small>© Copyright Hanson Professional Services Inc. 2013</small>	DRAWN - SKB CHECKED - LJB	REVISED - REVISED -	REVISED - REVISED -	ILLINOIS DEPARTMENT OF NATURAL RESOURCES OFFICE OF WATER RESOURCES PROJECT FR-435		



- LANDSCAPE LEGEND**
- G** Grass* (See Note 4 Sheet 157)
*Any Non-Defined Disturbed Areas Shall be Grass
 - MD** Mulch w/ Stella De Oro Daylilies, 1 Ft Spacing
 - M** Mulch
 - RB** Red Bud Tree
 - B** Blue Rug Juniper
 - D** Denisformis Yew
 - W** Wilson Boxwood
 - V** Vicary Golden Privet (See Typical Detail 7, Sheet 41)

- NOTES**
- 1) ADA Accessible Routes Shall be Per Illinois Accessibility Code.
 - 2) Contractor Shall Remove Existing Pavement & Base for Parking Lot and Lock Lane (See Detail 6 on Sheet 41).
 - 3) The Contractor Shall Fence Off and Avoid Driving Over the Lockhouse Septic Field with the Exception of the Portion under Pavement.
 - 4) All Pavement Striping Shall be Painted onto Pavement.
 - 5) Protect Existing Well (See Note 5 Sheet 38).
 - 6) See Sheet 40 for Grading Tables.

PLAN


FILE NAME = C-1010-SITE.dgn 	USER NAME =	DESIGNED - LJB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF NATURAL RESOURCES	LOCKHOUSE SITE GRADING PLAN STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS	COUNTY TOTAL SHEETS SHEET NO. McHENRY 238 39 ILLINOIS DEPARTMENT OF NATURAL RESOURCES OFFICE OF WATER RESOURCES PROJECT FR-435
	PLOT SCALE =	CHECKED - TMF	REVISED -			
	PLOT DATE = SEPTEMBER 18, 2013	DRAWN - SKB/EJM	REVISED -			
		CHECKED - LJB	REVISED -			

Point	North	East	Elevation	Description
1000	2055663.22	1005926.10	740.65	EDGE OF PAVEMENT/MATCH EXISTING
1001	2055671.97	1005924.04	740.69	EDGE OF PAVEMENT/MATCH EXISTING
1002	2055680.75	1005922.00	740.73	EDGE OF PAVEMENT/MATCH EXISTING
1003	2055688.53	1005920.13	740.76	EDGE OF PAVEMENT/MATCH EXISTING
1004	2055703.11	1005916.77	740.83	EDGE OF PAVEMENT/MATCH EXISTING
1005	2055707.00	1005915.87	740.85	EDGE OF PAVEMENT/MATCH EXISTING
1006	2055720.21	1005912.84	740.91	EDGE OF PAVEMENT/MATCH EXISTING
1007	2055724.21	1005927.16	741.34	EDGE OF PAVEMENT/MATCH EXISTING
1008	2055733.36	1005932.33	741.41	EDGE OF PAVEMENT
1009	2055753.48	1005926.93	741.43	EDGE OF PAVEMENT
1010	2055762.06	1005924.63	741.44	EDGE OF PAVEMENT/MATCH EXISTING
1012	2055775.02	1005931.57	741.69	EDGE OF PAVEMENT/MATCH EXISTING
1013	2055765.54	1005937.60	741.64	EDGE OF PAVEMENT/MATCH EXISTING
1015	2055761.13	1005955.43	741.70	EDGE OF PAVEMENT/FINISH GRADE
1016	2055764.53	1005969.64	741.59	EDGE OF PAVEMENT/SIDEWALK
1017	2055768.33	1005972.85	741.55	FINISH GRADE
1018	2055767.12	1005980.57	741.70	SIDEWALK/FINISH GRADE
1019	2055765.46	1005973.54	741.63	SIDEWALK
1020	2055758.08	1005971.18	741.65	EDGE OF PAVEMENT/EDGE OF SIDEWALK
1021	2055759.01	1005975.08	741.70	SIDEWALK/MATCH EXISTING
1022	2055753.22	1005972.34	741.69	EDGE OF PAVEMENT/SIDEWALK
1023	2055754.15	1005976.23	741.70	SIDEWALK/MATCH EXISTING
1024	2055740.67	1005975.34	741.86	EDGE OF PAVEMENT/MATCH EXISTING
1025	2055741.60	1005979.23	741.88	SIDEWALK
1026	2055743.27	1005986.21	741.72	SIDEWALK
1027	2055745.68	1005985.64	741.70	SIDEWALK/MATCH EXISTING
1028	2055734.78	1005993.79	741.70	SIDEWALK/MATCH EXISTING/TOP OF WALL
1029	2055733.53	1005988.52	741.80	SIDEWALK
1030	2055738.40	1005987.36	741.76	SIDEWALK
1031	2055732.66	1005985.00	741.87	SIDEWALK AT BUILDING
1032	2055732.20	1005982.89	741.99	SIDEWALK AT BUILDING
1033	2055737.06	1005981.73	741.94	SIDEWALK
1034	2055741.92	1005980.56	741.89	SIDEWALK
1035	2055731.68	1005980.95	742.02	SIDEWALK AT BUILDING
1036	2055730.94	1005977.88	742.02	SIDEWALK AT BUILDING
1037	2055735.81	1005976.50	741.94	SIDEWALK
1038	2055735.43	1005974.92	741.94	SIDEWALK
1039	2055730.51	1005976.10	742.00	SIDEWALK AT BUILDING
1040	2055728.78	1005968.97	741.86	SIDEWALK AT BUILDING
1041	2055733.72	1005967.79	741.79	SIDEWALK
1042	2055727.62	1005964.11	741.79	SIDEWALK
1043	2055732.56	1005962.92	741.75	SIDEWALK
1044	2055737.22	1005960.92	741.70	EDGE OF PAVEMENT
1045	2055731.20	1005957.22	741.70	EDGE OF PAVEMENT
1046	2055717.28	1005960.55	741.62	EDGE OF PAVEMENT/SIDEWALK
1047	2055718.63	1005966.26	741.89	SIDEWALK AT BUILDING
1048	2055714.76	1005967.18	741.93	SIDEWALK AT BUILDING
1049	2055713.39	1005961.48	741.66	EDGE OF PAVEMENT/SIDEWALK
1050	2055699.22	1005964.86	741.80	EDGE OF PAVEMENT
1051	2055700.59	1005970.57	741.87	EDGE OF PAVEMENT/SIDEWALK
1052	2055701.75	1005975.43	741.93	EDGE OF PAVEMENT/SIDEWALK
1053	2055702.76	1005979.65	741.94	EDGE OF PAVEMENT/SIDEWALK
1054	2055703.18	1005981.43	741.96	EDGE OF PAVEMENT/SIDEWALK
1055	2055703.64	1005983.34	741.96	EDGE OF PAVEMENT/SIDEWALK
1056	2055695.86	1005985.20	741.86	EDGE OF PAVEMENT/SIDEWALK
1057	2055687.11	1005987.30	741.80	EDGE OF PAVEMENT/SIDEWALK
1058	2055678.35	1005989.39	741.80	EDGE OF PAVEMENT/SIDEWALK
1059	2055691.44	1005966.72	741.70	PAVEMENT
1060	2055682.69	1005968.82	741.56	PAVEMENT
1061	2055673.93	1005970.91	741.40	EDGE OF PAVEMENT
1062	2055665.38	1005957.78	741.08	EDGE OF PAVEMENT
1063	2055646.25	1005952.55	740.84	EDGE OF PAVEMENT
1064	2055638.59	1005953.64	740.75	EDGE OF PAVEMENT/MATCH EXISTING GRADE
1065	2055679.28	1005993.28	741.84	SIDEWALK
1066	2055688.04	1005991.19	741.84	SIDEWALK
1067	2055696.79	1005989.09	741.88	SIDEWALK
1068	2055705.58	1005991.47	741.83	SIDEWALK
1069	2055706.41	1005994.92	741.78	SIDEWALK
1070	2055698.97	1005996.70	741.72	SIDEWALK/MATCH EXISTING GRADE
1071	2055689.87	1005998.85	741.73	SIDEWALK/MATCH EXISTING GRADE
1072	2055681.11	1006000.92	741.72	SIDEWALK/MATCH EXISTING GRADE
1073	2055674.64	1006002.45	741.71	SIDEWALK/MATCH EXISTING GRADE
1074	2055625.01	1006014.20	741.70	SIDEWALK/TOP OF MONOLITH
1075	2055707.67	1006000.20	741.70	SIDEWALK/TOP OF WALL
1076	2055712.52	1005999.06	741.70	SIDEWALK/TOP OF WALL

Point	North	East	Elevation	Description
1077	2055710.48	1005990.30	741.83	SIDEWALK AT BUILDING
1078	2055709.45	1005986.07	741.99	SIDEWALK AT BUILDING
1079	2055708.83	1005983.51	742.02	SIDEWALK AT BUILDING
1080	2055708.04	1005980.27	742.02	SIDEWALK AT BUILDING
1081	2055706.59	1005974.27	742.00	SIDEWALK AT BUILDING
1082	2055705.53	1005969.39	741.93	SIDEWALK
1083	2055708.45	1005968.69	741.96	SIDEWALK
1084	2055711.69	1005967.91	741.96	SIDEWALK
1085	2055709.61	1005973.55	742.02	SIDEWALK AT BUILDING
1086	2055712.85	1005972.78	742.02	SIDEWALK AT BUILDING
1087	2055704.57	1005987.23	741.92	SIDEWALK
1088	2055747.05	1005991.27	741.70	SIDEWALK/TOP OF WALL/MATCH EXISTING
1089	2055703.96	1005984.67	741.96	SIDEWALK
1090	2055731.90	1006024.87	741.76	SIDEWALK
1091	2055633.10	1006048.25	741.70	SIDEWALK/TOP OF CONCRETE OF MONOLITH
1092	2055729.01	1006025.55	741.76	SIDEWALK
1093	2055778.34	1006013.83	741.70	SIDEWALK/FINISH GRADE
1094	2055624.01	1006009.98	741.70	TOP OF CONCRETE
1095	2055624.01	1006009.98	741.70	TOP OF CONCRETE
1096	2055744.70	1005981.42	741.70	TOP OF CONCRETE
1097	2055744.70	1005981.42	741.70	TOP OF CONCRETE
1098	2055744.70	1005981.42	741.70	TOP OF CONCRETE
1099	2055793.35	1005916.23	Match Existing	EDGE OF PAVEMENT/MATCH EXISTING GRADE
1100	2055795.78	1005925.56	Match Existing	EDGE OF PAVEMENT/MATCH EXISTING GRADE
1139	2055628.82	1006013.29	741.70	SIDEWALK/TOP OF CONCRETE OF MONOLITH
1140	2055627.82	1006009.07	741.70	SIDEWALK
1141	2055626.67	1006004.21	741.63	SIDEWALK
1142	2055614.10	1006009.37	741.70	SIDEWALK/TOP OF CONCRETE OF MONOLITH
1143	2055613.61	1006007.30	741.68	SIDEWALK
1144	2055608.69	1006008.46	741.68	SIDEWALK
1145	2055609.15	1006010.54	741.70	SIDEWALK/TOP OF CONCRETE OF MONOLITH
1146	2055604.77	1006009.39	741.64	SIDEWALK
1147	2055605.26	1006011.46	741.68	SIDEWALK
1148	2055606.92	1006018.48	741.70	SIDEWALK/TOP OF CONCRETE OF MONOLITH
1149	2055614.97	1006052.54	741.70	SIDEWALK/TOP OF CONCRETE OF MONOLITH
1150	2055616.63	1006059.55	741.70	SIDEWALK
1151	2055620.53	1006058.63	741.70	SIDEWALK/TOP OF CONCRETE OF MONOLITH
1152	2055625.43	1006057.47	741.70	SIDEWALK/TOP OF CONCRETE OF MONOLITH
1153	2055632.86	1006055.71	741.70	SIDEWALK
1154	2055631.20	1006048.70	741.70	SIDEWALK/TOP OF CONCRETE OF MONOLITH
1155	2055757.40	1006018.78	741.70	SIDEWALK/TOP OF CONCRETE OF MONOLITH
1156	2055759.02	1006025.67	741.70	SIDEWALK
1157	2055765.46	1006024.15	741.70	SIDEWALK/TOP OF CONCRETE OF MONOLITH
1158	2055770.37	1006023.06	741.70	SIDEWALK/TOP OF CONCRETE OF MONOLITH
1159	2055774.26	1006022.14	741.70	SIDEWALK
1160	2055772.76	1006015.13	741.70	SIDEWALK
3221	2055438.39	1006002.98	-	GUARDRAIL
3222	2055268.09	1005998.37	-	GUARDRAIL

Notes:

- 1) Elevations are to the Top of the Element Description.
- 2) Point Numbers 1000-1100 & 1139-1160 are Shown on Sheet 39.
- 3) Point Numbers 3221-3222 are Shown on Sheet 36.

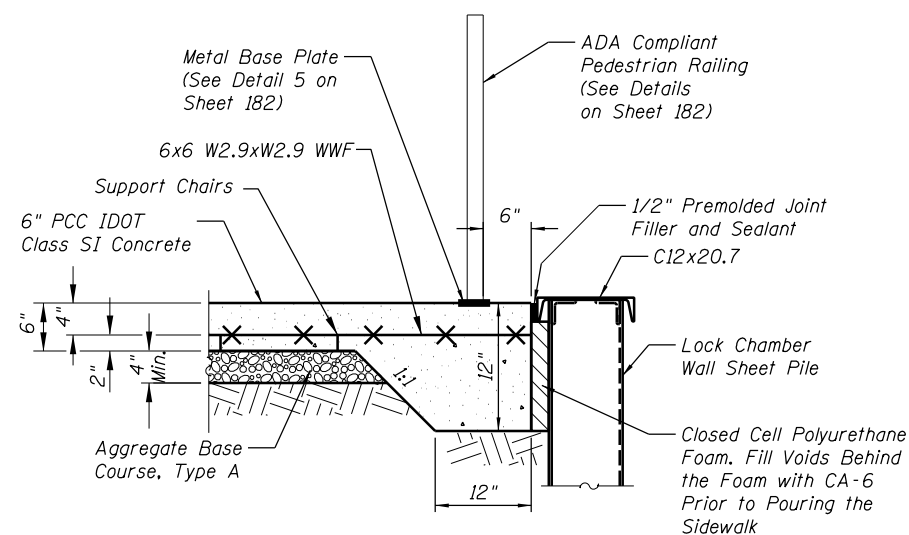
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STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

LOCKHOUSE GRADING TABLES
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS

ILLINOIS DEPARTMENT
OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES

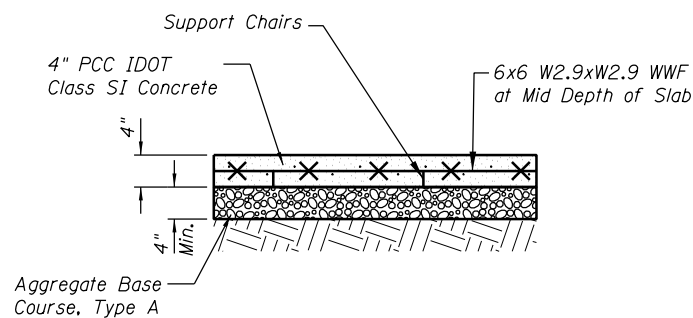
COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	40
PROJECT FR-435		



Notes:

- 1) This Detail is Typical for Any Sidewalk Adjacent to the Lock Chamber Wall.
- 2) Sidewalk to Drain Away from Lockhouse to Lock Wall.
- 3) ADA Compliant Handrail to be Surface Mounted to the Sidewalk.
- 4) All Slopes Within the Confines of the Occurrence of this Sidewalk Shall Meet ADA Standards.
- 5) Cost of the Thickened Slab Shall be Included in the Cost of the Portland Cement Concrete Sidewalk, 6".

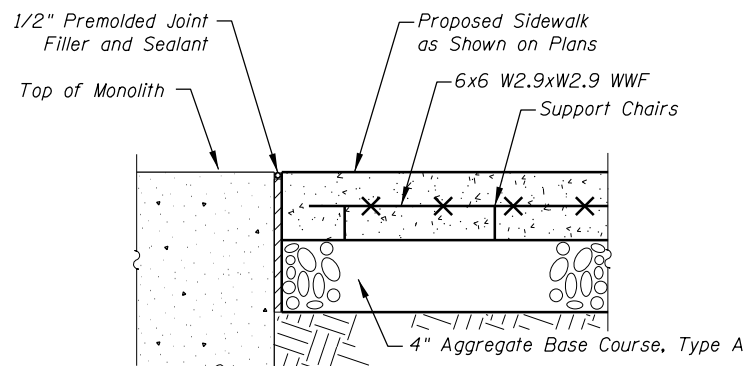
1 SIDEWALK ADJACENT TO LOCK WALL
41



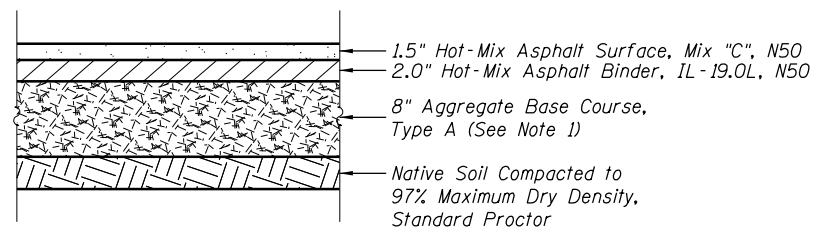
Notes:

- 1) This Detail is Typical for Any Site Sidewalk not Adjacent to Lock Chamber Wall.
- 2) Sidewalk to Drain Away from Lockhouse.
- 3) ADA Compliant Slopes Shall be Maintained from the ADA Stall and Access Aisle to the Door of the Lockhouse. ADA Compliant Slopes Shall Also be Maintained Around the Perimeter of the Lockhouse and to the Sidewalk Adjacent to the Lock Wall.
- 4) Detectable Warning Strips Shall be Installed Where Shown on Plans Per ADA & Illinois Accessibility Code.

2 TYPICAL SIDEWALK
41



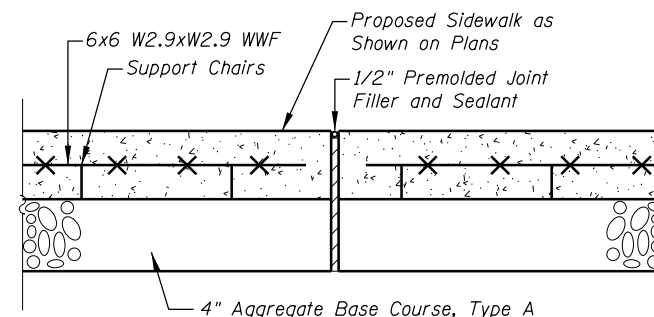
5 SIDEWALK EXPANSION JOINT AT MONOLITH
41



Notes:

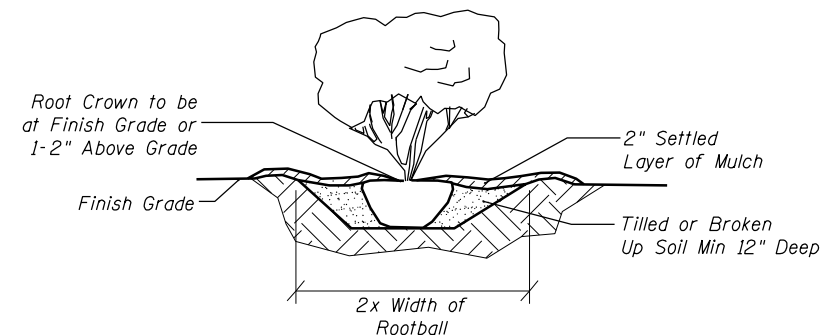
- 1) Contractor Shall Remove Existing Pavement Surface and Base. Removal of the Base Shall be Included in the Cost of Hot-Mix Asphalt Surface Removal, 2 1/2".
- 2) Contractor Shall Add Subgrade and/or Repair All Damage to Subgrade Which Occurs During Construction Activities. All Subgrade Shall be Proof Rolled and Witnessed by the Engineer Prior to Pavement Placement.
- 3) ADA Parking Stall and Access Aisle Shall Maintain Slopes Which Comply to the Illinois Accessibility Code.
- 4) Subbase Shall be Proof Rolled Prior to Paving.

6 STANDARD PAVEMENT SECTION
41



Longitudinal and Transverse Expansion Joints per Section 424.07 I.D.O.T. Standard Specifications

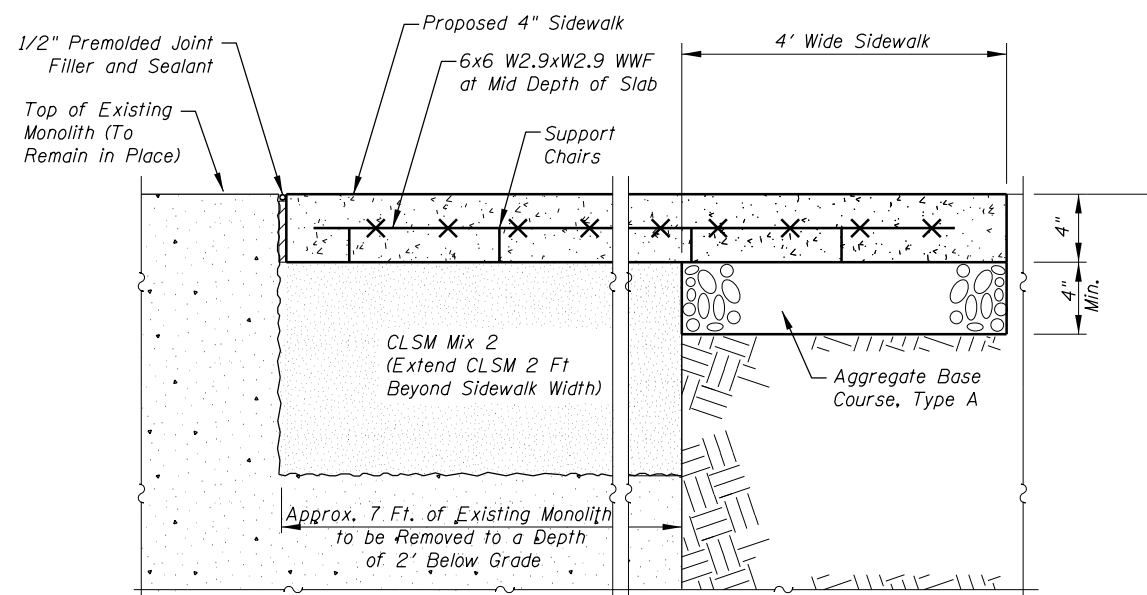
3 SIDEWALK EXPANSION JOINT DETAIL
41



Notes: Typical Shrub Planting, Individual Planting Hole

1. Dig Planting Hole at Least 2x the Width of the Root Ball or Container.
2. Scarify Subgrade and Sides of Planting Hole When Planting in Clay Soil.
3. Set the Top of the Root Ball Level With the Soil Surface, or 1-2" Above if the Soil is Prone to Settling.
4. If Container Grown Plant, Gently Slide Plant Out of Container. Disturb the Roots.
5. If B&B Plant, Remove Burlap From at Least the Top 12 inches of the Rootball, Without Disturbing the Rootball. Remove all Cord From the Trunk. Remove Burlap and Wire Basket (If Present) From the Root Ball.
6. Back Fill the Planting Hole with Excavated Native Soil, Broken Up or Tilled. Water to Remove Air Pockets. Do Not Add Amendments.
7. Place Pine Straw or Bark Mulch on the Surface to a (Settled) Depth of 1 to 3 inches.

7 TYP. SHRUB PLANTING: INDIVIDUAL PLANTING HOLE
41



4 SIDEWALK EXPANSION JOINT AT DECOMMISSIONED MONOLITH
41

FILE NAME = C-5005-SITE.dgn



USER NAME =

PLOT SCALE =

PLOT DATE = SEPTEMBER 18, 2013

DESIGNED - LJB

CHECKED - TMF

DRAWN - SKB

CHECKED - LJB

REVISED -

REVISED -

REVISED -

REVISED -

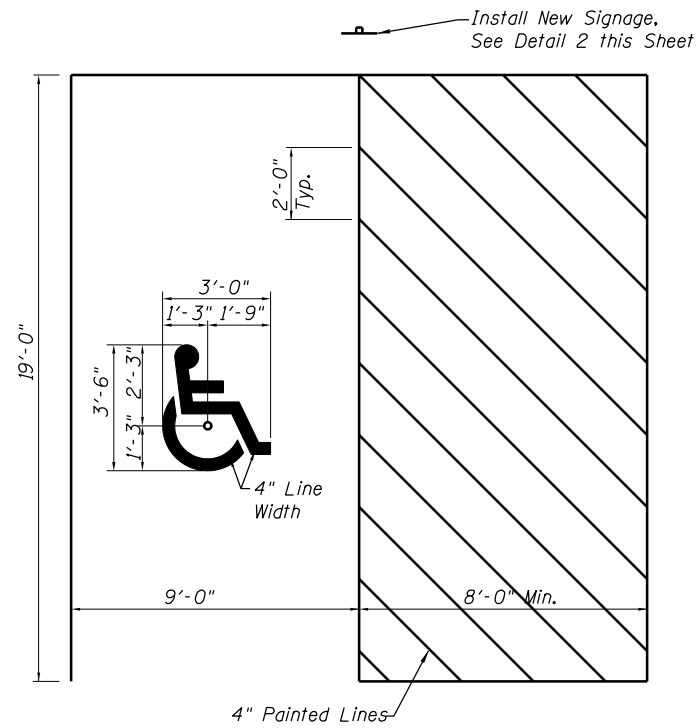
STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

SITE PAVEMENT DETAILS
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS

ILLINOIS DEPARTMENT
OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES

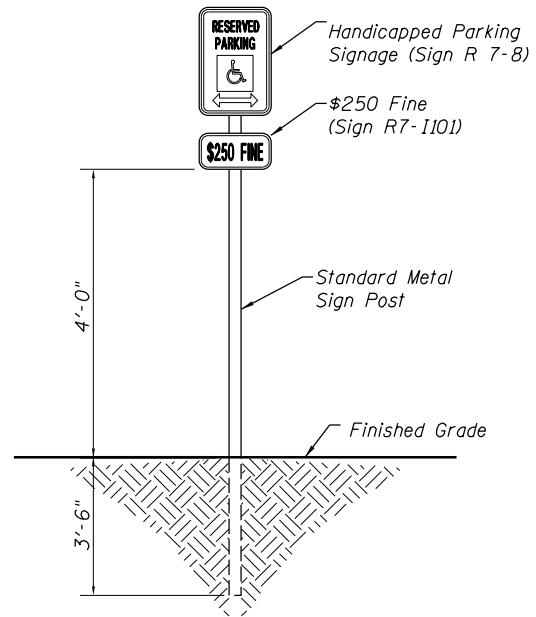
COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	41

PROJECT FR-435



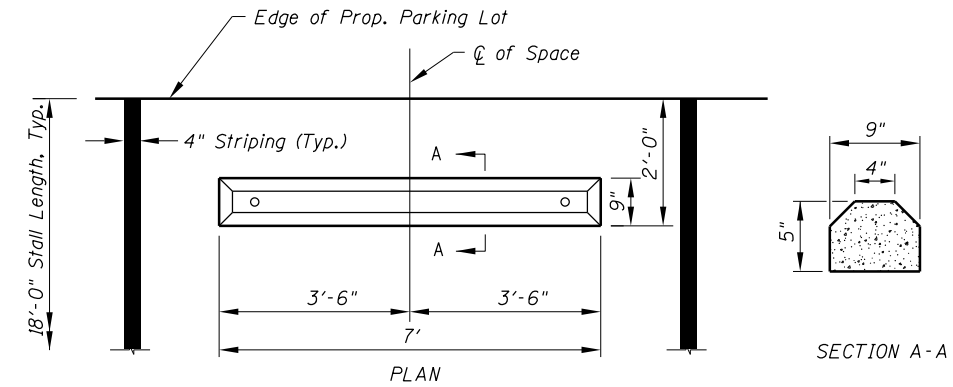
1 TYPICAL HANDICAPPED PARKING
42 SPACE PAINT STRIPING

- Notes:
- 1) Center Symbol in Stall.
 - 2) Striping Shall be Painted onto Pavement.
 - 3) Striping Shall be Per the Illinois Accessibility Code.



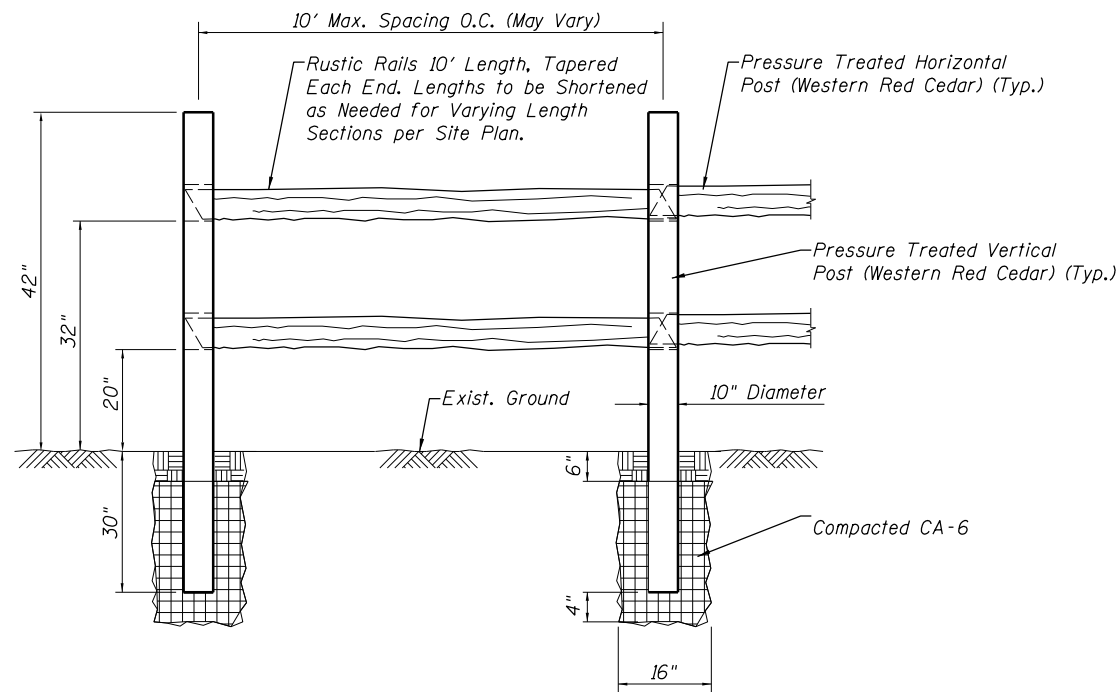
2 HANDICAPPED SIGNAGE
42

- Notes:
- 1) See Sheet 8 & 9 for Additional Signage Information.
 - 2) Signs Shall be Per MUTCD, Illinois Supplement to the National Manual on Uniform Traffic Control Devices, and the Illinois Vehicle Code.



3 TYPICAL PARKING BLOCK DETAIL
42

- Notes:
- 1) Parking Blocks Shall be Installed at All Parking Stalls.
 - 2) Only the Three Non-ADA stalls on the East Side of the Parking Lot near the Lockhouse shall be Painted with "LOCKTENDER".
 - 3) Parking Blocks Shall Have Slots which Allow Surface Drainage to Flow Through the Parking Block.
 - 4) Parking Blocks Shall be Anchored to the Pavement.
 - 5) The Parking Block at the ADA Stall Shall be Painted to Match ADA Striping.



4 RUSTIC SPLIT RAIL FENCE
42

GENERAL ARCHITECTURAL NOTES

1. Coordinate with Building Personnel so as Not to Disrupt Ongoing Operations in Areas Where There is no Work.
2. The Contractor Shall Assure that all Subcontractors Receive Complete Contract Documents for Bidding Purposes. Providing Partial Information to the Subcontractors Shall be at the Risk of the General Contractor.
3. The General Contractor and all Sub Contractors will Visit the Project Site and Examine the Existing Building Conditions Affected by this Work Prior to Submitting a Bid. Any Bid Submitted Without Prior Examination of On-Site Existing Conditions will be at the Sole Risk of the General Contractor.
4. The Contractor Shall Examine the Site Conditions and all Architectural, Structural, Civil, Landscaping, Mechanical, Plumbing and Electrical Drawings and Specifications for the Full Extent of this Project. Any Discrepancies in the Drawings and Specifications Shall be Brought to the Immediate Attention of the Architect Prior to Submittal of Bid.
5. The General Contractor is Responsible for Any Site Work (Trenching, Cutting and Patching with Similar Materials) that is Required in Order to Remove Existing Buried Utilities or for the Install of New Under Ground Utilities Where Identified in the Construction Documents.
6. For Items not Shown or Scheduled to Remain, Remove all Interior Building Elements and Appurtenances Within Area to be Demolished. All Finishes, Furnishings, Equipment and Associated Connectors and Hardware Shall Be Removed so that the Area is Ready to Receive all New Finishes and Equipment.
7. "Limited Work" Areas are Those Areas that Require an Upgrade of Building Systems as Noted Within These Documents. Contractor Shall Use all Care to Not Disturb Existing Building Finishes to Remain.

ARCHITECTURAL DOCUMENT QUALIFICATION

Information on Existing Conditions Shown on the Drawings has been Recorded with Usual Professional Care by the Architect/Engineer and is Based on the Owner's Available Existing Documents and Usually Observable In-Place Elements.

The Contractor and His/Her Sub-Contractors is to Verify the Drawing Information of Existing Conditions by Field Inspection and Review of the Owner's Existing Record Drawings. Use of These Drawings Without Verification is at the Contractors Sole Risk.

The Contractor Shall Review the Project Specifications for Information That is not Provided in the Drawings. If There are any Apparent Conflicts Between the Specifications and Drawings, the More Stringent Requirements are to Apply.

The Preparation and Delivery of these Drawings Shall not in any way be Construed to Provide any Implied or Expressed Warranty or Guaranty that Certain Conditions Exist or that the Architect has Performed Exhaustive Review or Destructive Investigation to Verify the Information Supplied Here In.

Verify Existing Conditions in Field and Coordinate with All Trades Prior to Commencing Work.

All Work Shall Comply with Applicable Codes and Standards.

Prior to Bid, Coordinate all Mechanical Work and Electrical Work with Other Trades. See Specifications for Requirements.

Contractor Shall not Conceal any Work Until Inspected by the Local Authority Having Jurisdiction and/or Architect/Engineer. Contractor Shall Notify A/E of a Scheduled Inspection Time Within 72 Hours. General Contractor Shall not Conceal Work Until Authorized to Do So, Regardless of Schedule.

All Changes Made in the Field Shall be Recorded by the Contractor(s) on As-Built Drawings, Shop Drawings, and in Maintenance Manuals.

Notify Architect/Engineer of any Conflicts Prior to Purchasing Equipment and Prior to Cutting Openings.

Contractor Shall Provide Shop Drawings Prior to Procuring or Installing Equipment and Systems Indicated on Contract Documents. Submit in Strict Accordance with the Project Specifications. Prior to Submittal, Contractor Shall Verify that Adequate Space Exists for the Submitted Equipment. Shop Drawings Shall be Reviewed By Engineer or Architect.

Prior to Bid, Check Lead Times of all Equipment in the Project, If Necessary to Meet the Project Schedule. Allow Time for Normal Shop Drawing Preparation and Review.

ARCHITECTURAL PROJECT DESCRIPTION

The Architectural Portion of this Project Applies to the Renovation of the Existing Lockhouse. The Scope of Work Includes: Upgrading the Building to Meet Current Building Codes for Life Safety, Handicap Accessibility and Energy Efficiency. The New Work Consists of Installation of Energy Efficient Doors & Windows, New Interior Finishes, New Wall Insulation and Roofing, New Hvac Equipment, New Plumbing and Plumbing Fixtures, and all New Electrical Wiring and Electrical Devices and Lighting.

CODES IN EFFECT AT TIME OF DRAWING SUBMITTAL

- 2006 International Building Code
- 2006 International Mechanical Code
- 2006 International Fire Code
- 2008 International Electric Code
- Illinois State Plumbing Code 2004
- State Of Illinois Accessibility Code
- 2010 ADA Standards For Accessible Design

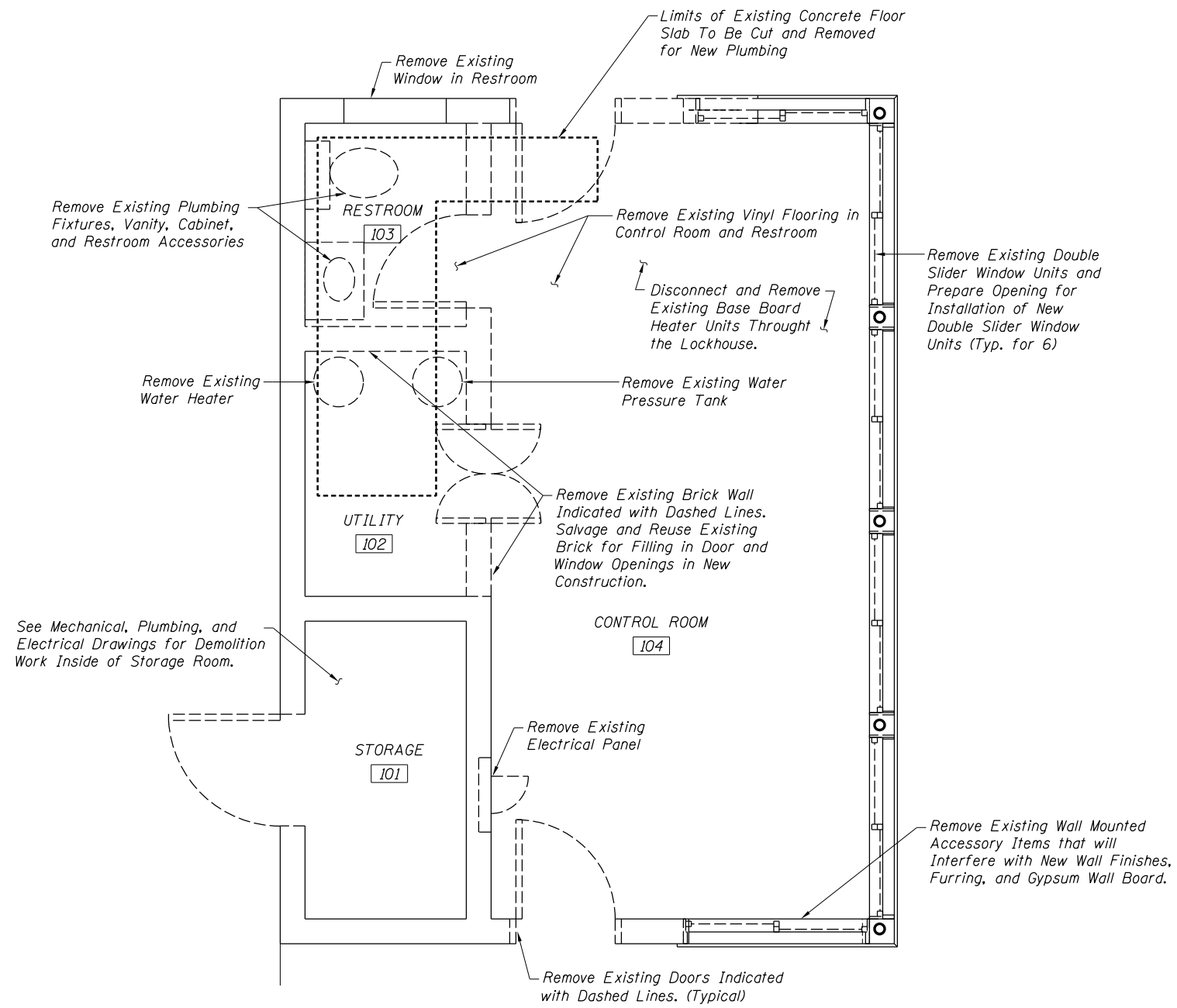
BUILDING CODE DATA

- A. Use Group Classification: Business
- B. Base Bldg Occupancy: Business Group B: (Section 304)
- C. Construction Type: Type Iib (Table 601)
- D. Scope Of Work: Renovation
- E. Building Height In Stories: 1 Story
- F. Fire Ratings For Type Iib Construction (Table 601): Hour(s)
Structural Frame:
Columns, Girders, Trusses0
Bearing Walls:
Exterior.....0
Interior.....0
Nonbearing Walls And Partitions - Exterior.....0
Nonbearing Walls And Partitions - Interior.....0
Floor Construction - Supp. Beams And Joists:.....0
Roof Construction - Supp. Beams And Joists:.....0
- G. Fire Suppression System: Non-Sprinklered
- H. Fire Alarm System: N/A
- I. Travel Distance To An Exit Or Exit Passageway: (Table 1016.1)
Business.....300' Max
- J. Common Path Of Travel Distance:
Business.....75' Max (Section 1014.3)
- K. Exit Signs And Emergency Lighting: Provided Per Nfpa
- L. Flame Spread Requirements (Table 803.5 - Non Sprinklered): Class "A"
- M. Means Of Egress (Table 1015.1): 1 Exit (ADA Accessible)
Phase 1 - Life Safety Calculations
Total Building Area = 376 Sf
Occupant Load Shown On Life Safety Plan Are Based On Table 1004.1.1.
Total Building Occupant Load = 3.76 Rounded Up To 4-Occupants
Egress Capacity
Table 1005.1
Level: 0.2 Inches/Occupant.....4 X 0.2 = 0.8 Inches Required.
36 Inches Provided

LIFE SAFETY NOTES

1. All Fire Extinguishers are to be Class 2-A Unless Noted Otherwise. Class 2-A Fire Extinguishers Shall be Placed at Intervals not Exceeding a Travel Distance of 75 Ft. Fire Extinguishers are to be Installed in Accordance with NFPA 10, Standard for Portable Fire Extinguishers.
2. Install ADA Exit Sign at Door 104A per the Requirements of the 2010 ADA Standards for Accessible Design, Section 216.4 Means of Egress.

MATERIAL SYMBOLS	
Material	Symbol
Compact Fill	
Earth (Existing Grade)	
Compact Stone, Rubble, Gravel	
Stone, Rubble, Gravel (Existing)	
Concrete	
Brick	
Concrete Masonry Units	
Acoustical Material	
Batt Insulation	
Rigid Insulation	
Steel	
Wood (Dimensional Lumber & Blocking)	
Stucco, Sand, Cement And Grout	
Plywood	
Limestone	



LOCKHOUSE DEMOLITION PLAN AT EL. 742'-6"

DEMOLITION NOTES:

1. Items Shown and Scheduled to be Removed are Major Items or Components. Remove Related Non-Structural Anchors, Bracing, or Other Items That Interfere or Cannot be Used in the Finished Work.
2. Remove Architectural Finish Items Required for the Installation of Piping or Other Items. Patch Back to Existing Condition Where Architectural Finish Items are Shown and Scheduled to Remain.
3. Except for Noted Salvaged Items, Remove All Demolished Materials from the Building and Site and Dispose of in a Legal Manner (Per Leed Requirements). All Salvaged Items shall be Removed by the Contractor and shall be Transported to a Designated Location. Use of the Building Owner's Waste Containers is Prohibited.
4. During Demolition Contractor shall Protect and Store Enough Material to Patch Existing Materials Called for in the Finish Schedule.
5. Refer to Structural, Mechanical, Electrical, and Civil Drawings for Additional Demolition Information.
6. For Items Not Shown or Scheduled to Remain, Remove All Interior Building Elements and Appurtenances Within Area to be Demolished. All Finishes, Furnishings, Equipment and Associated Connectors and Hardware Shall be Removed so that the Area is Ready to Receive All New Finishes and Equipment.
7. "Limited Work" Areas are Those Areas that Require an Upgrade of Building Systems as Noted Within These Documents. Contractor shall use All Care to not Disturb Existing Building Finishes to Remain.

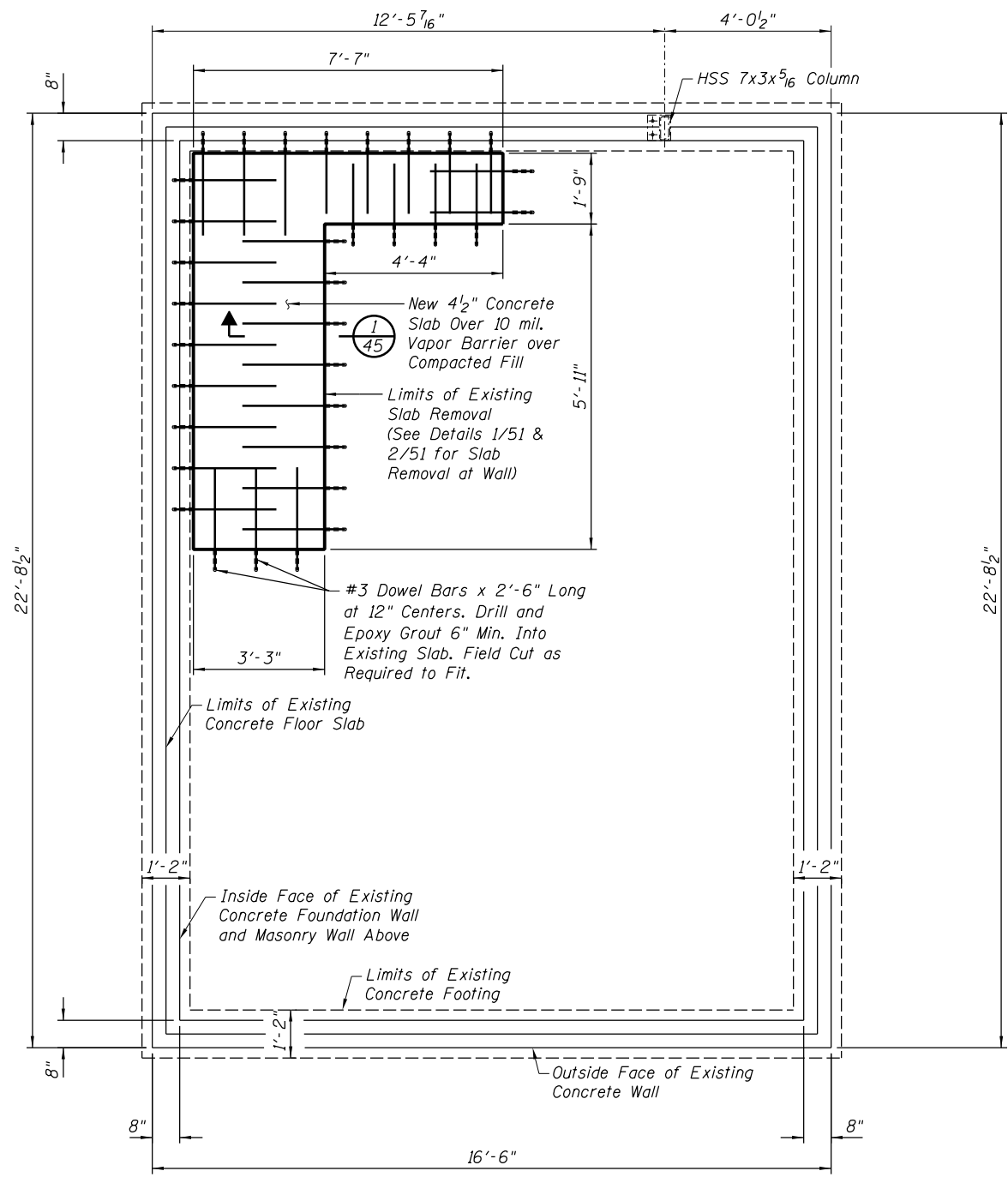
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	PLOT SCALE =	DRAWN - EJM	REVISED -
	PLOT DATE = SEPTEMBER 18, 2013	CHECKED - JJT	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES**

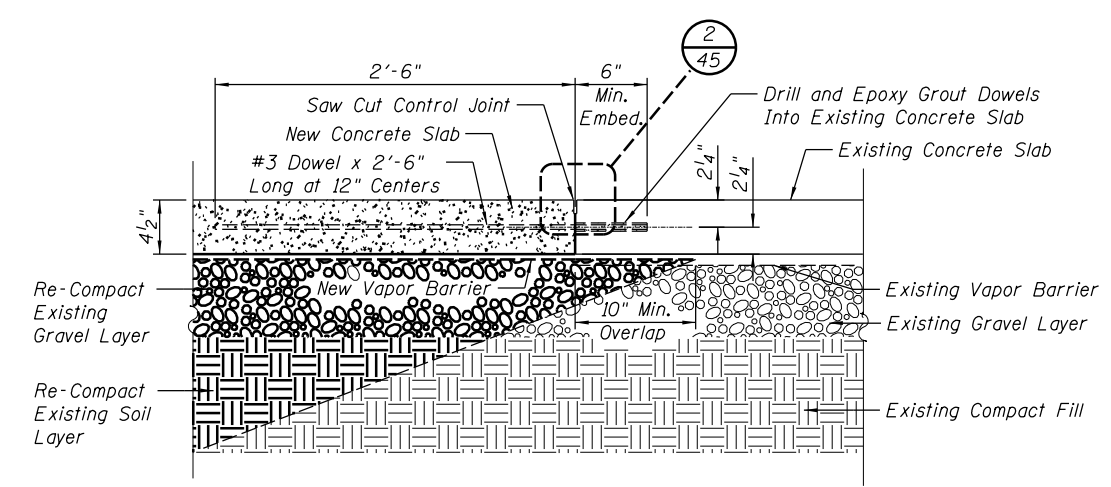
**LOCKHOUSE DEMOLITION PLAN AT EL. 742'-6"
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS**

**ILLINOIS DEPARTMENT
OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES**

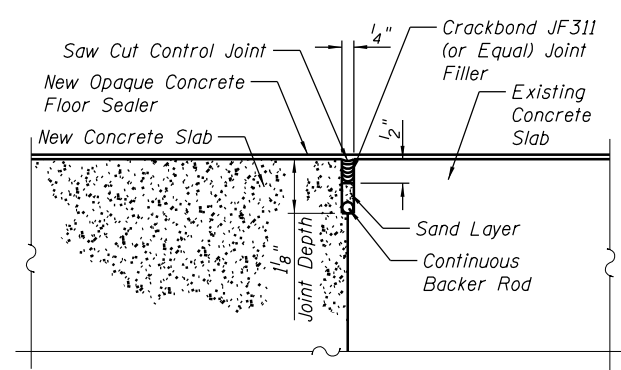
COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	44
PROJECT FR-435		



LOCKHOUSE FOUNDATION PLAN AT EL. 742'-0"



1 SECTION AT SLAB REMOVAL
2/45



2 CONTROL JOINT DETAIL
2/45

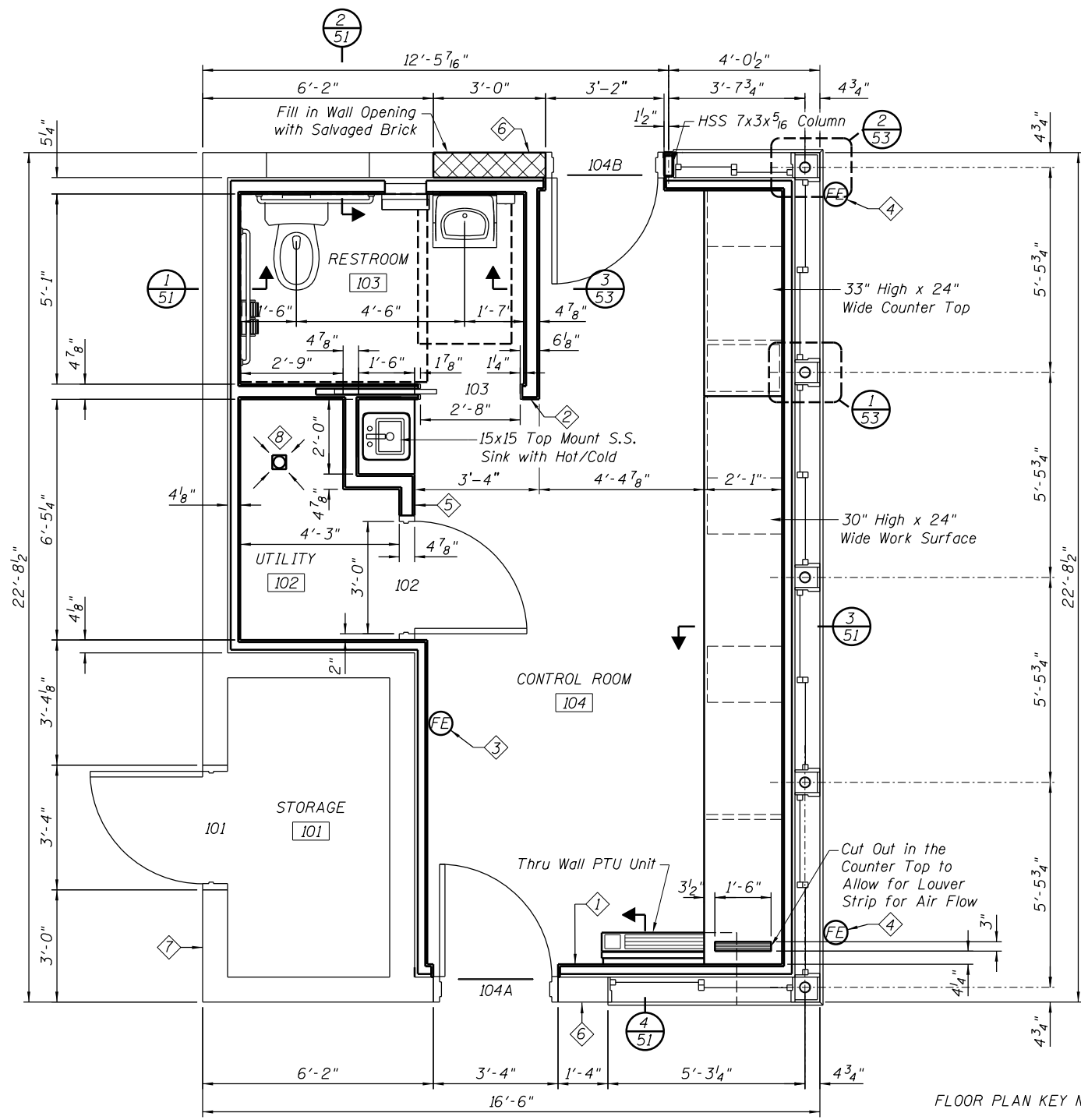
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	PLOT DATE = SEPTEMBER 18, 2013	CHECKED - JJT	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES**

**LOCKHOUSE FOUNDATION PLAN AT EL. 742'-0"
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS**

**ILLINOIS DEPARTMENT
OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES**

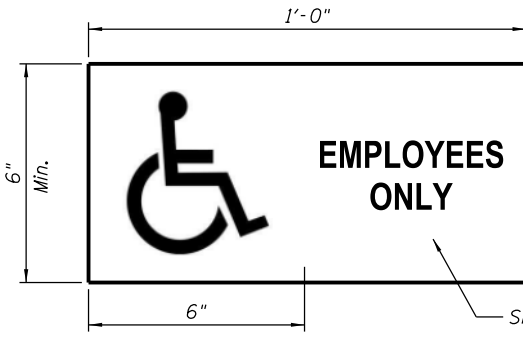
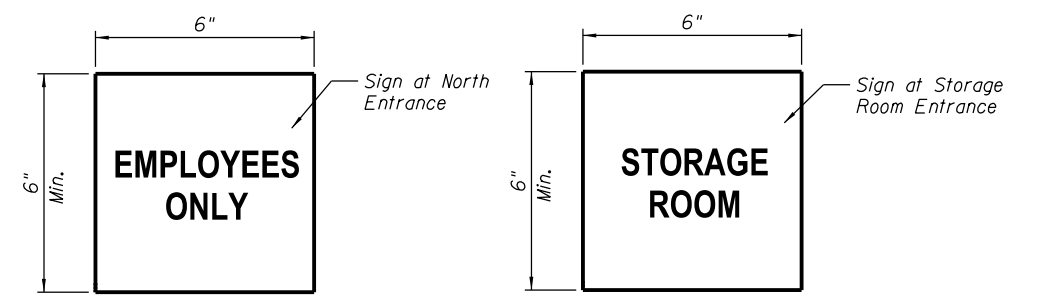
COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	45
PROJECT FR-435		



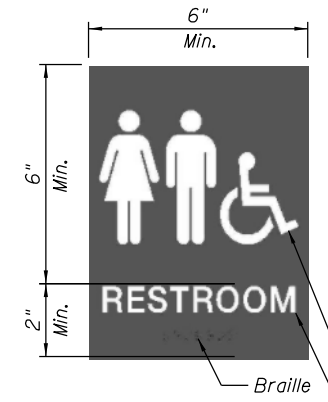
LOCKHOUSE FLOOR PLAN AT EL. 742'-6"

FLOOR PLAN KEY NOTES:

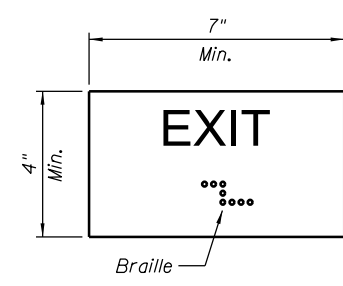
- ① Install ADA Exit Sign.
- ② Install ADA Restroom Sign.
- ③ New 5 Lbs. Class ABC Fire Extinguisher.
- ④ New 10 Lbs. Class ABC Class Fire Extinguisher.
- ⑤ Install New Room Designation Sign.
- ⑥ Install New Building Entrance Sign.
- ⑦ Install New Storage Room Sign.
- ⑧ Slope New Concrete Floor to Floor Drain.



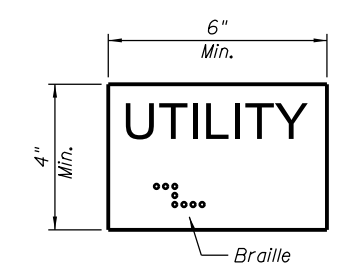
- Building Entrance Sign:**
- Room Signs Are To Be Mounted per the Requirements of the 2010 Standards for Accessible Design, Section 216.6 Entrances.
 - Case: Uppercase
 - Style: Sans Serif
 - Character Proportions: Per Section 703.5.4
 - Character Height: 1"
 - Pictogram: Per Section 703.6 And 703.7 Symbol of Accessibility.
 - Sign Construction: Rust-Free, 0.50 Gauge Aluminum w/ Baked Enamel, Non-Reflective White Lettering and Pictogram on Flat Matte Blue Background.
 - Building Entrance Sign To Be Provide Screw Holes for Mechanical Fastening to Wall Surface.



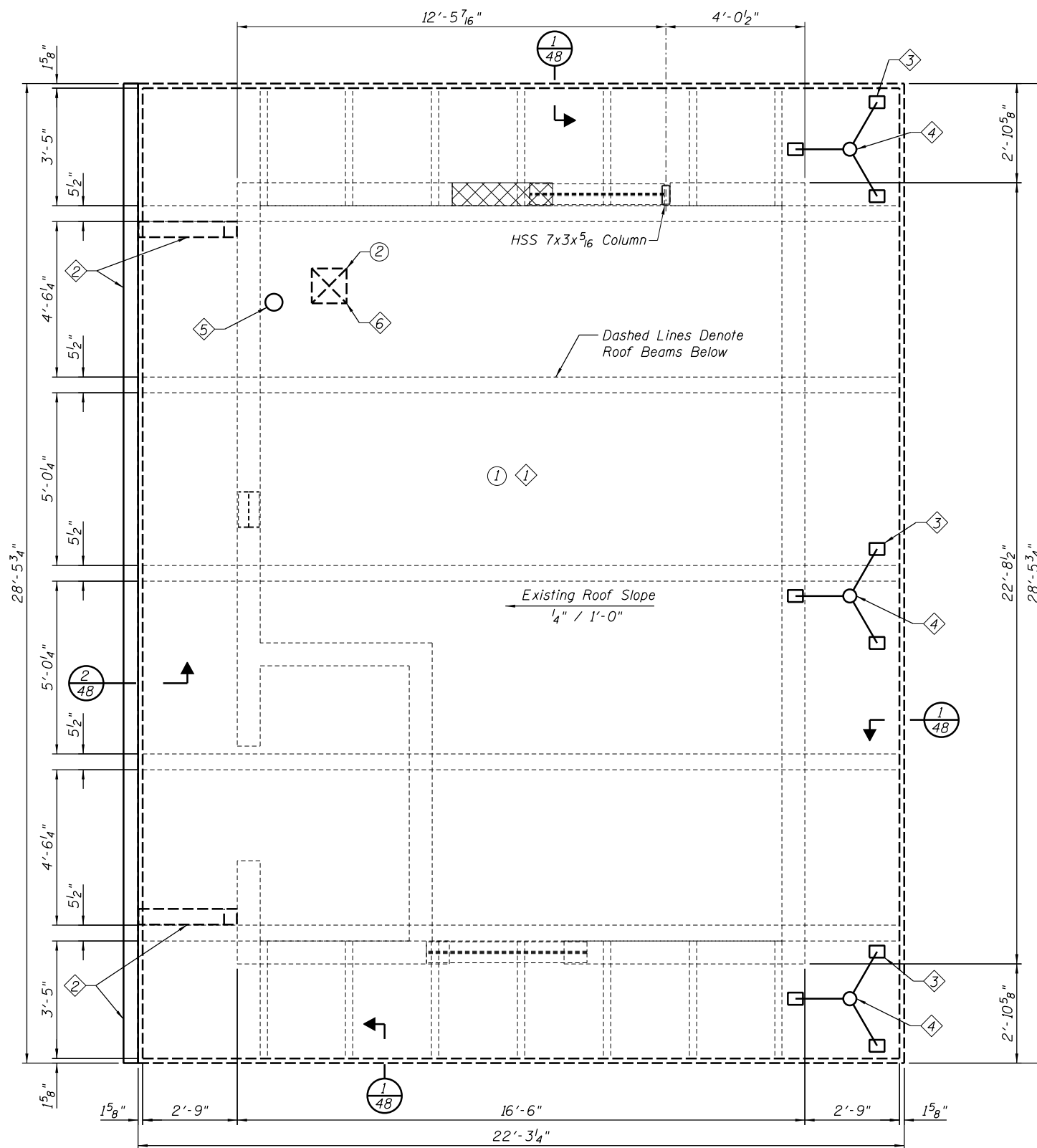
- Restroom Sign Notes:**
- Sign To Identify Unisex Restroom.
 - Room Signs Are To Be as Required by the 2010 Standards for Accessible Design, Section 216.8 Toilet Rooms and Bathing Rooms and Section 703 Signs.
 - Character Depth: 1/32" Min.
 - Case: Uppercase
 - Style: Sans Serif
 - Character Proportions: Per Section 703.2.4
 - Character Height: 1"
 - Braille: Per Section 703.3.
 - Raised Pictogram: Per Section 703.6
 - Sign Construction: 1/8" Thick, Matte Finished Acrylic w/ Eased Corners. Sign Color To Be Blue Background w/ White Non-Reflective Lettering.
 - Provide Screw Holes for Mechanical Fastening to Wall Surface.



- ADA Exit Sign Notes:**
- ADA Exit Signs to Identify the Exit Door.
 - Room Signs Are To Be as Required by the 2010 Standards for Accessible Design, Section 216.4 Designations and Section 703 Signs.
 - Character Depth: 1/32" Min.
 - Case: Uppercase
 - Style: Sans Serif
 - Character Proportions: Per Section 703.2.4
 - Character Height: 2"
 - Braille: Per Section 703.3.
 - Sign Construction: 1/8" Thick, Matte Finished Acrylic w/ Eased Corners. Sign Color To Be Blue Background w/ White Non-Reflective Lettering.
 - Provide Screw Holes for Mechanical Fastening to Wall Surface.



- Room Designations Signs:**
- Interior Room Name Signs Room Signs Are To Be As Required by the 2010 Standards for Accessible Design, Section 216.2 Designations and Section 703 Signs.
 - Character Depth: 1/32" Min.
 - Case: Uppercase
 - Style: Sans Serif
 - Character Proportions: Per Section 703.2.4
 - Character Height: 1"
 - Braille: Per Section 703.3.
 - Sign Construction: 1/8" Thick, Matte Finished Acrylic w/ Eased Corners. Sign Color To Be Blue Background w/ White Non-Reflective Lettering.
 - Provide Screw Holes for Mechanical Fastening to Wall Surface.

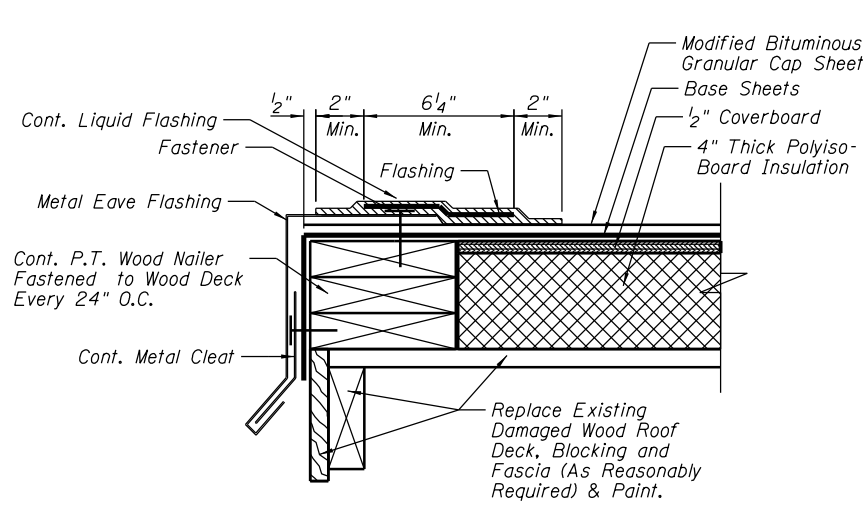


ROOF DEMOLITION KEY NOTES

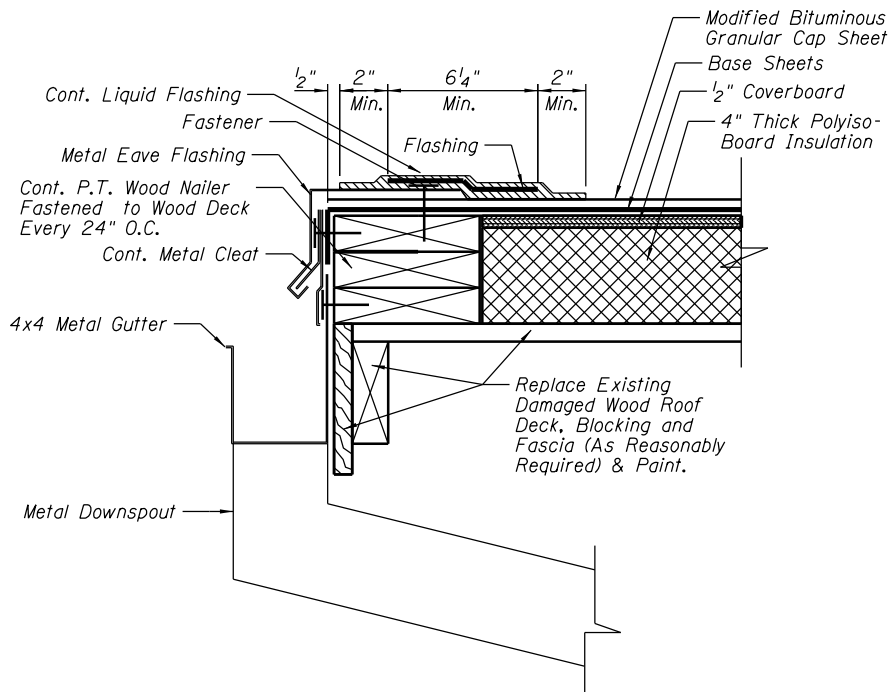
- ① Remove the Existing Roof System, Metal Gravel Stops, Gutter, Downspouts, & Flashing. Remove and Replace any Damaged Wood Deck, Nailers and Fascia Board.
- ② Remove Existing Roof Top Exhaust Vent System and Roof Curbs.

NEW ROOF KEY NOTES

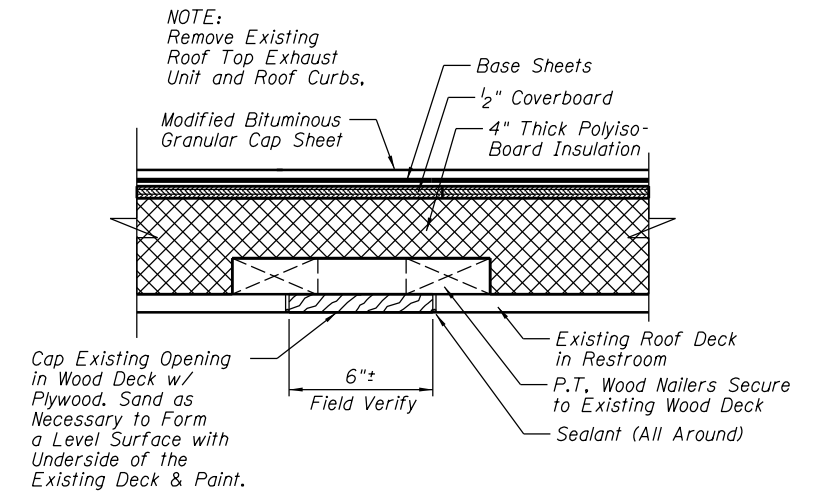
- ① Intall 4" Thick Rigid Polyisocyanurate Roof Insulation Board and 1/2" Thick Cover Board, and SBS Modified Bitumenous Roofing System.
- ② New Gutter and Downspouts.
- ③ Existing Roof Top Mounted Antenna System. To Be Removed by Contractor without Damaging the Antenna Equipment. Remove Existing Roof Supports and Replace with New (See Detail 5/48).
- ④ Existing Antenna Conduit to Remain. Install New Flashing. See Detail 4/48.
- ⑤ Existing 4" Plumbing Vent Pipe to Remain. Install New Flashing. See Detail 6/48.
- ⑥ See Detail 3/48 for Roof Repair at Former Exhaust Vent Opening.



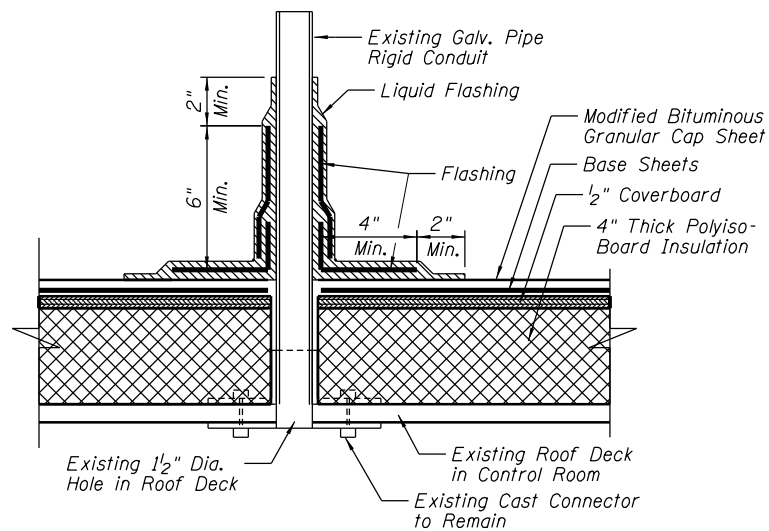
1 ROOF DETAIL
48



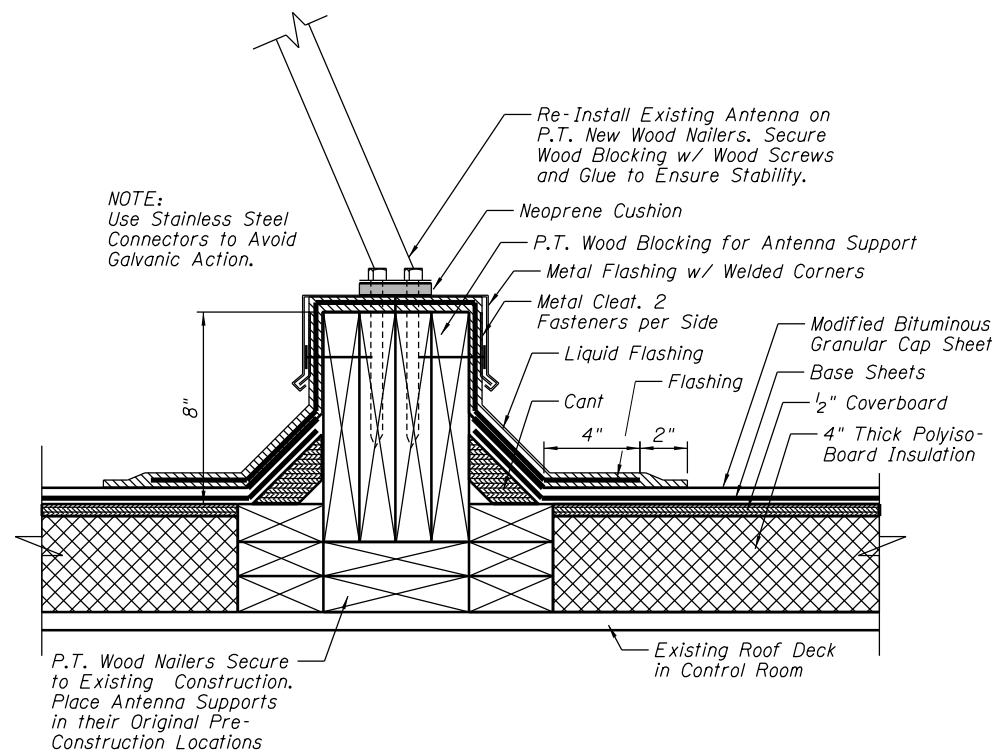
2 ROOF DETAIL AT GUTTER
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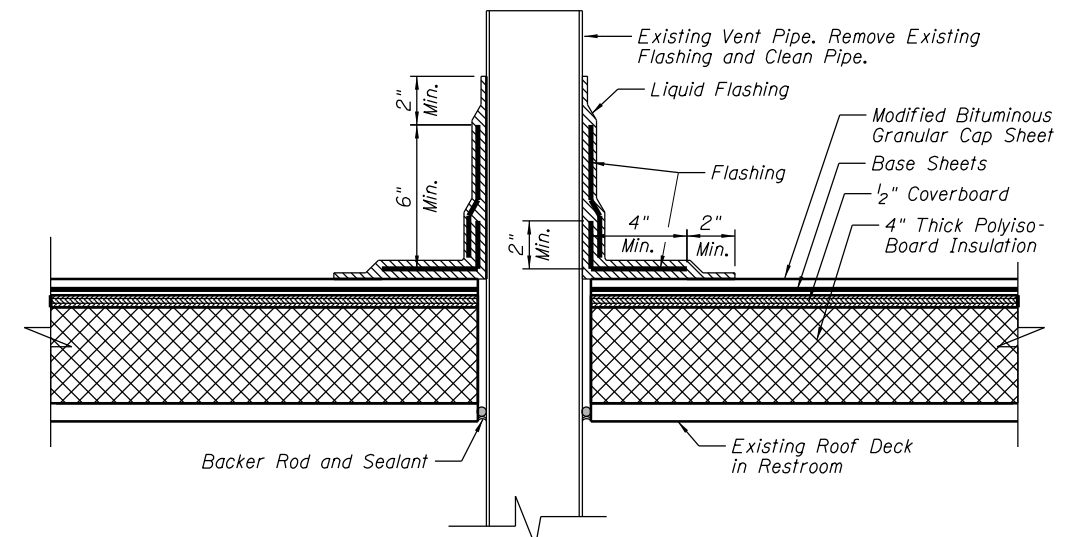
3 ROOF DETAIL AT OPENING REPAIR
48



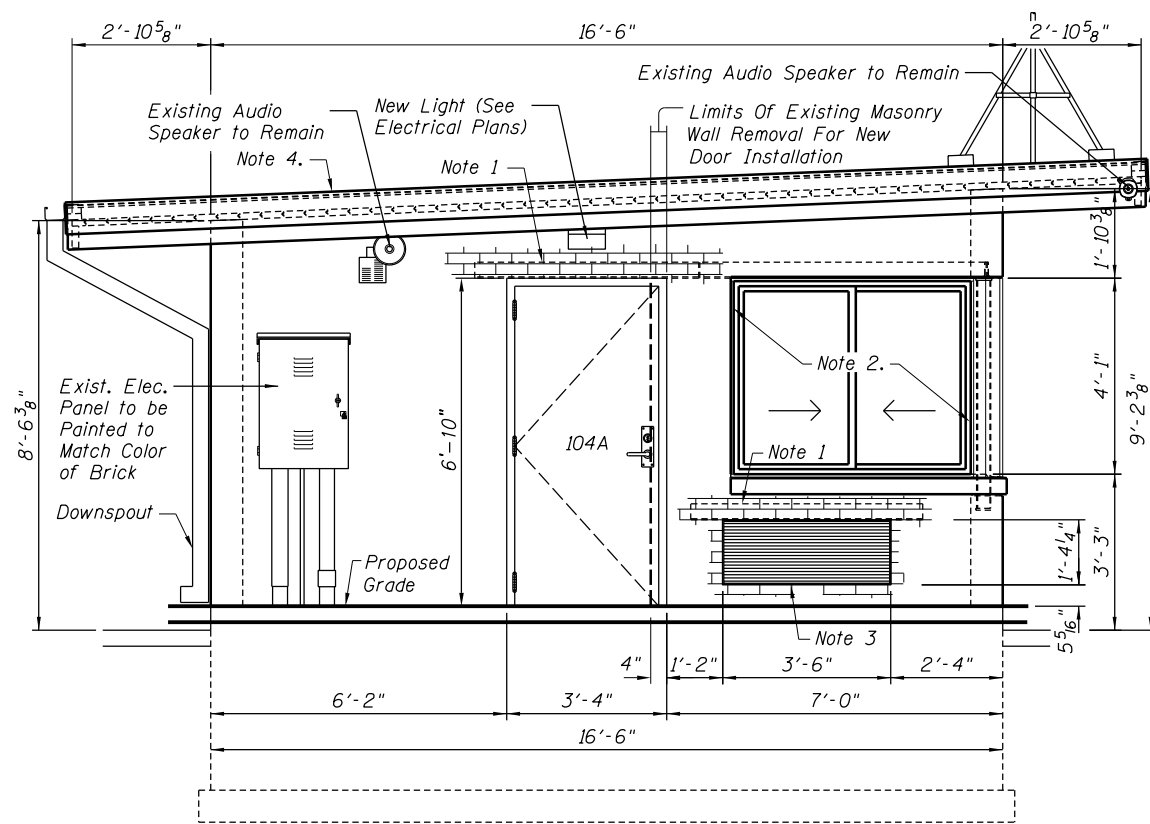
4 ROOF DETAIL AT ANTENNA CONDUIT
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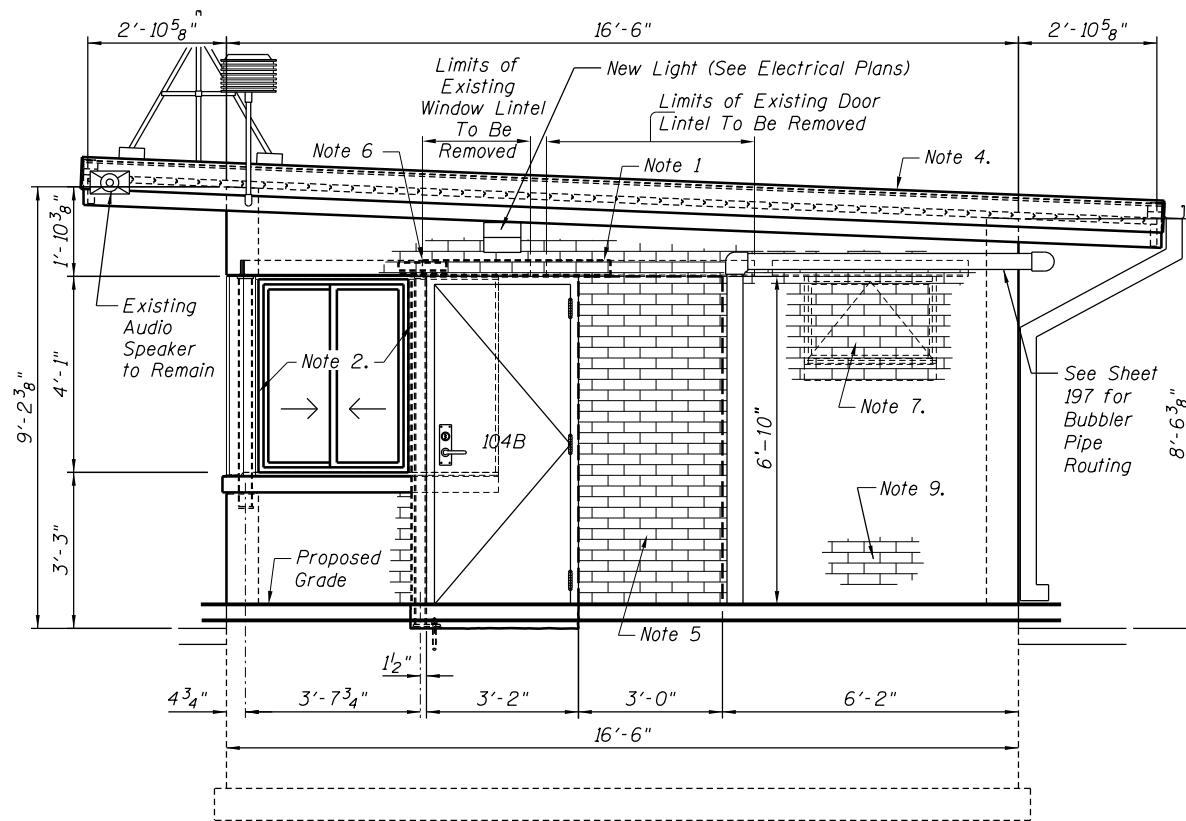
5 ROOF DETAIL AT ANTENNA SUPPORT
48



6 ROOF DETAIL AT PLUMBING VENT
48



EXTERIOR SOUTH ELEVATION LOOKING NORTH



EXTERIOR NORTH ELEVATION LOOKING SOUTH

CONSTRUCTION NOTES:
 1. Remove and Tooth-In Salvaged Brick as Required for Installation of New Double Angle Lintel $3\frac{1}{2} \times 4 \times \frac{5}{16}$ (LLV). Provide 8" Bearing at Each End (Typical).

2. Existing Windows To Be Removed. Existing Wood Casement and Wood Column Wrap to Remain. Contractor to Field Verify the Size of Each Rough Opening and Replace with New Double Slider Windows (See Specifications).

3. Packaged Terminal Air Conditioner / Heat Pump with Wall Sleeve, Base Support and Exterior Architectural Style Grill.

4. New SBS Modified Bituminous Roofing System Over 3" Rigid Insulation.

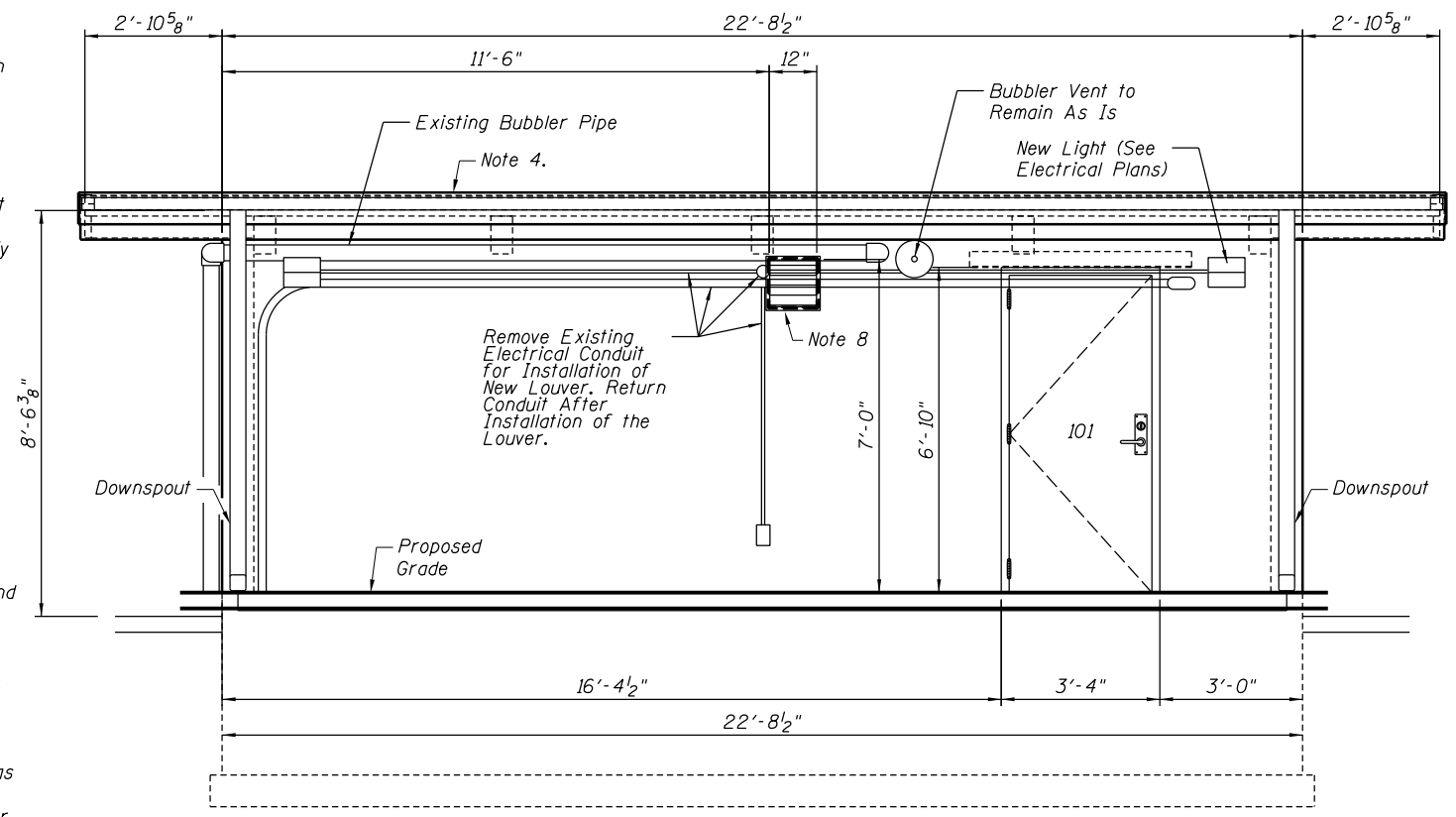
5. Existing Door, Door Frame, and Lintel To Be Removed. Tooth-In Existing Salvaged Brick at Opening. Provide 8" Min. Bearing for New Lintel at Relocated Door Location.

6. Temporarily Shore Existing Exterior Wall and Window Lintel as Required. Cut and Remove Existing Double Angle Lintel after New HSS Jamb Column is Installed. Provide Welded Splice Plate Connection to New Double Angle Lintel as Shown on Details 2/50 & 3/50.

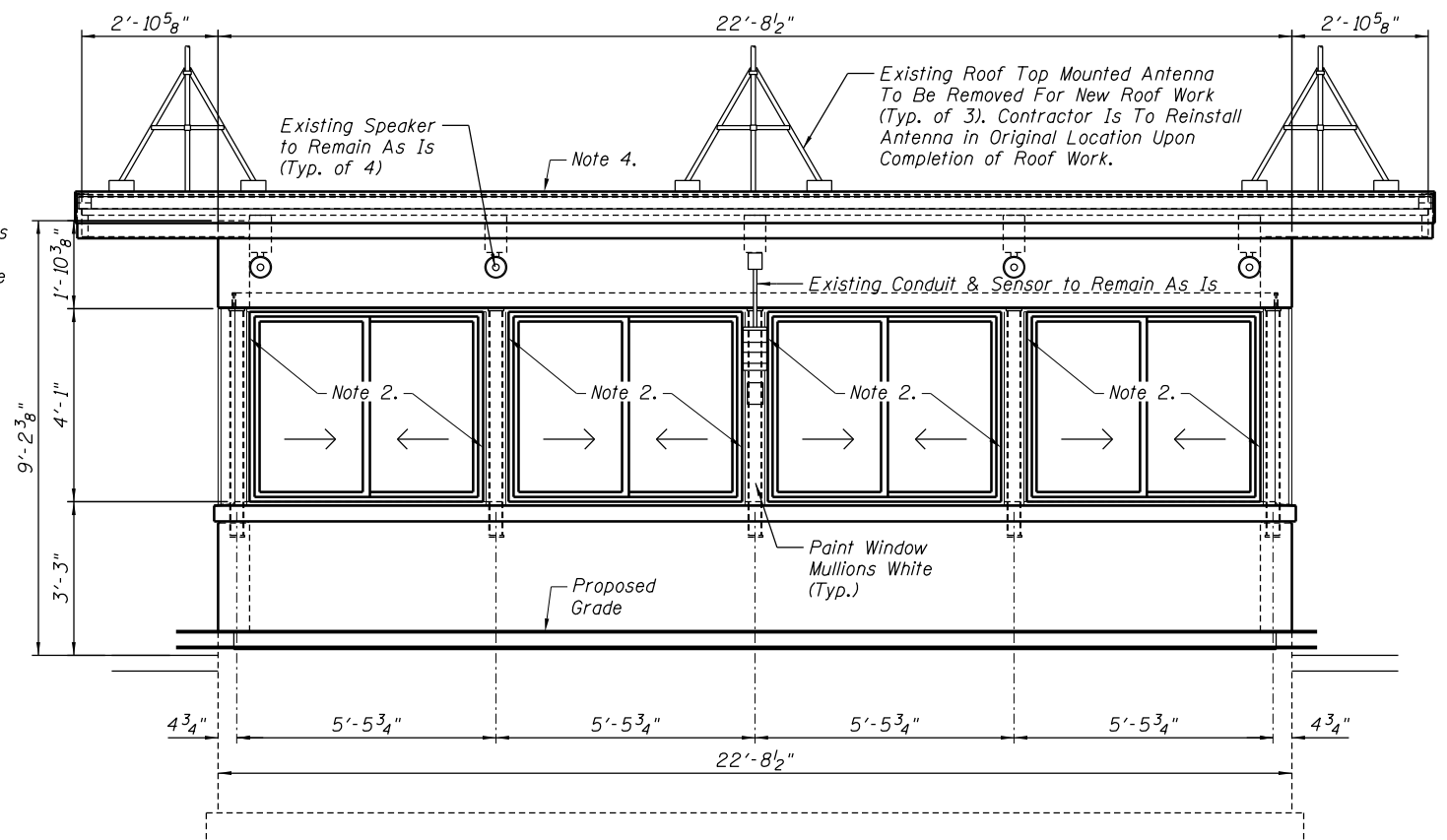
7. Existing Stone Bathroom Window Sill, Window, and Double Angle Lintel To Be Removed. In-Fill Opening with Toothed-In Salvaged Brick.

8. New Opening in Existing Wall for 12"x12" Duct and Vent. Saw Cut and Remove Existing Brick as Required for Installation of 2 Galvanized Steel Wall Sleeves. See Detail 1/50. Coordinate Work Around Existing Bubbler Pipe.

9. Existing Bathroom Heater To Be Removed. In-Fill Opening with Toothed-In Salvaged Brick.



EXTERIOR WEST ELEVATION LOOKING EAST



EXTERIOR EAST ELEVATION LOOKING WEST

FILE NAME = A-2001-SITE.dgn



USER NAME =

DESIGNED - ZA

CHECKED - NEM

PLOT SCALE =

PLOT DATE = SEPTEMBER 18, 2013

DESIGNED - ZA

CHECKED - NEM

DRAWN - MAE/EJM

CHECKED - JJT

REVISED -

REVISED -

REVISED -

REVISED -

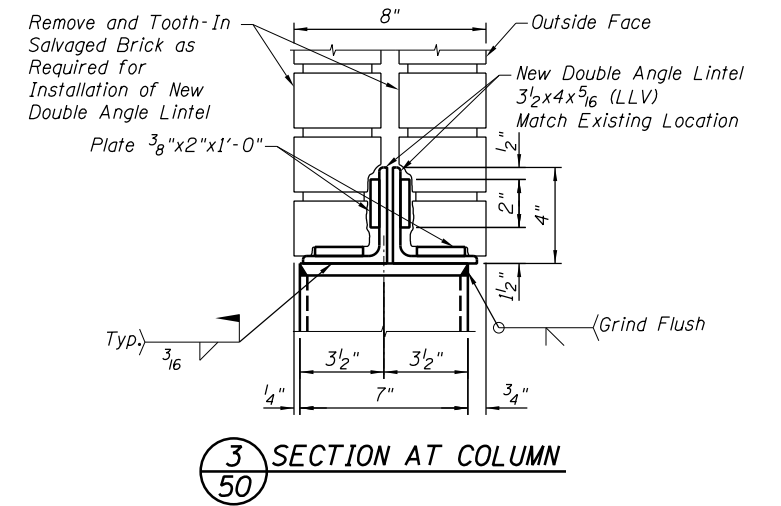
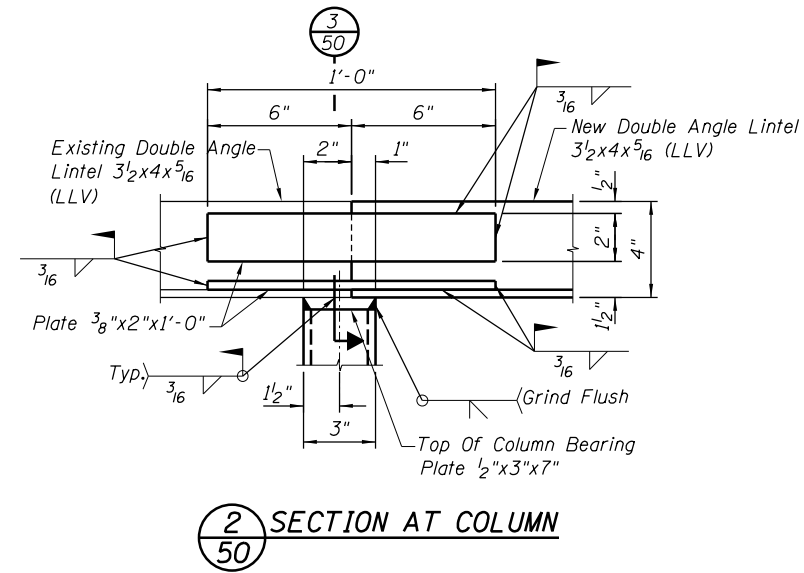
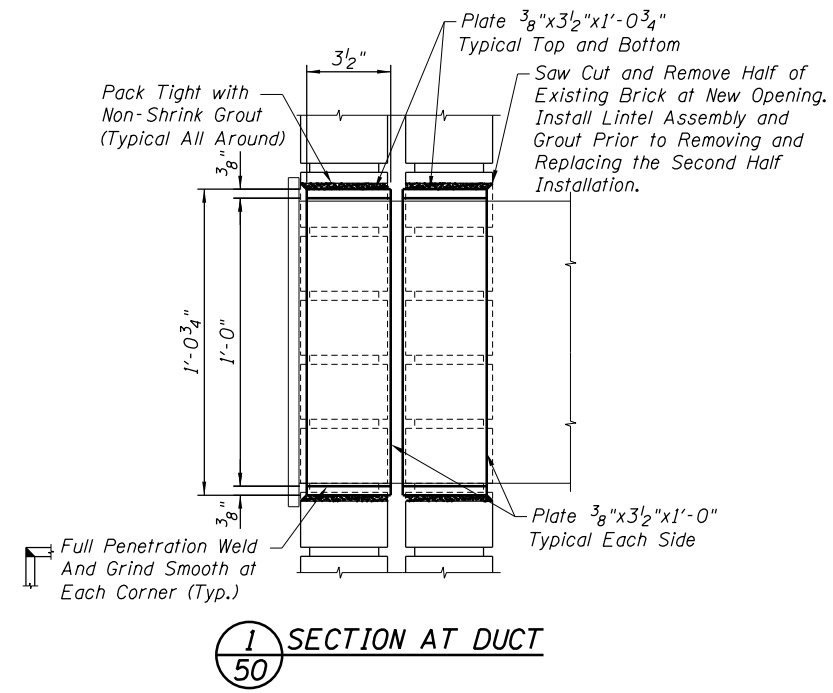
**STATE OF ILLINOIS
 DEPARTMENT OF NATURAL RESOURCES**

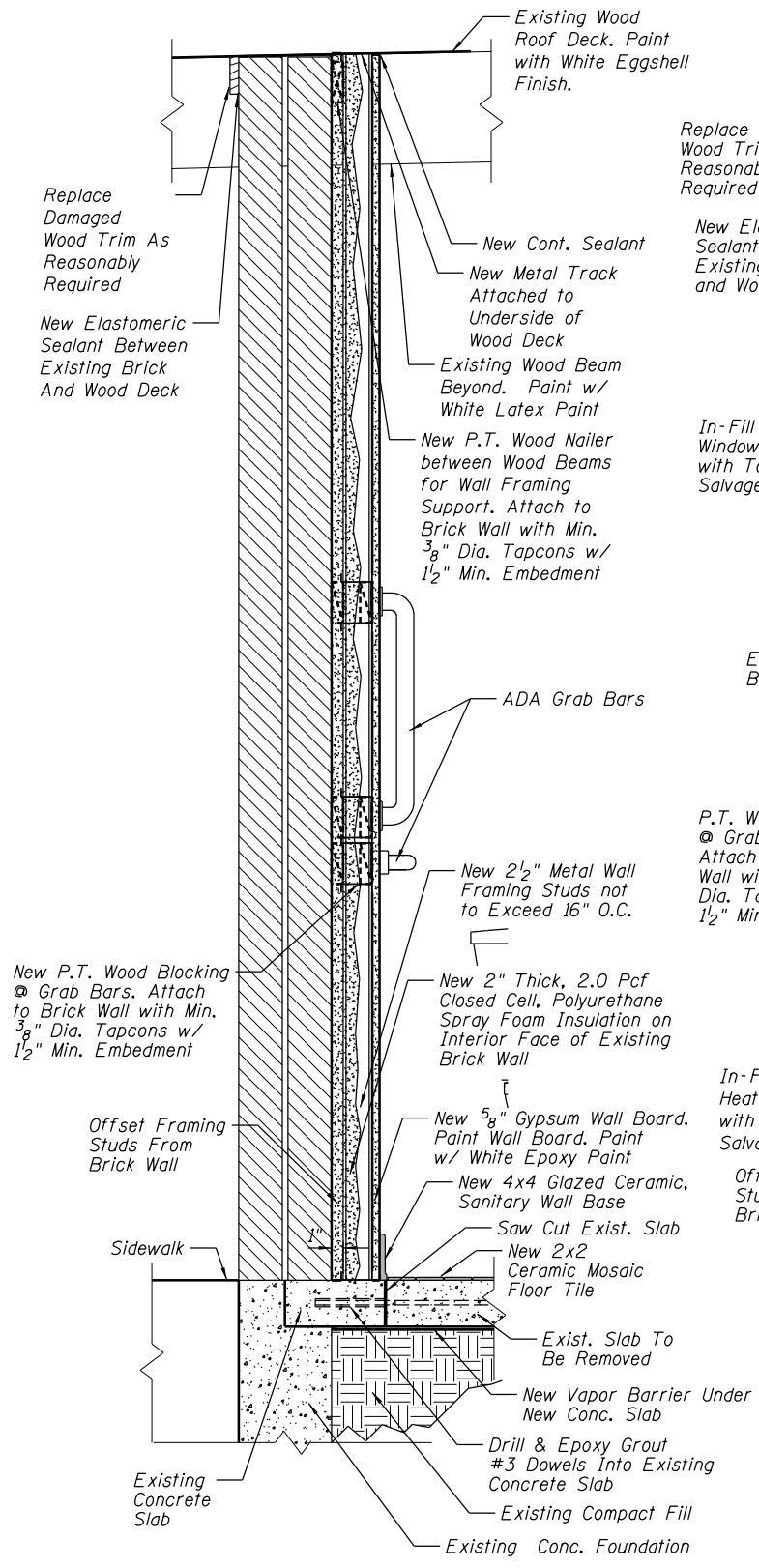
**LOCKHOUSE EXTERIOR ELEVATIONS
 STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS**

**ILLINOIS DEPARTMENT
 OF NATURAL RESOURCES
 OFFICE OF WATER RESOURCES**

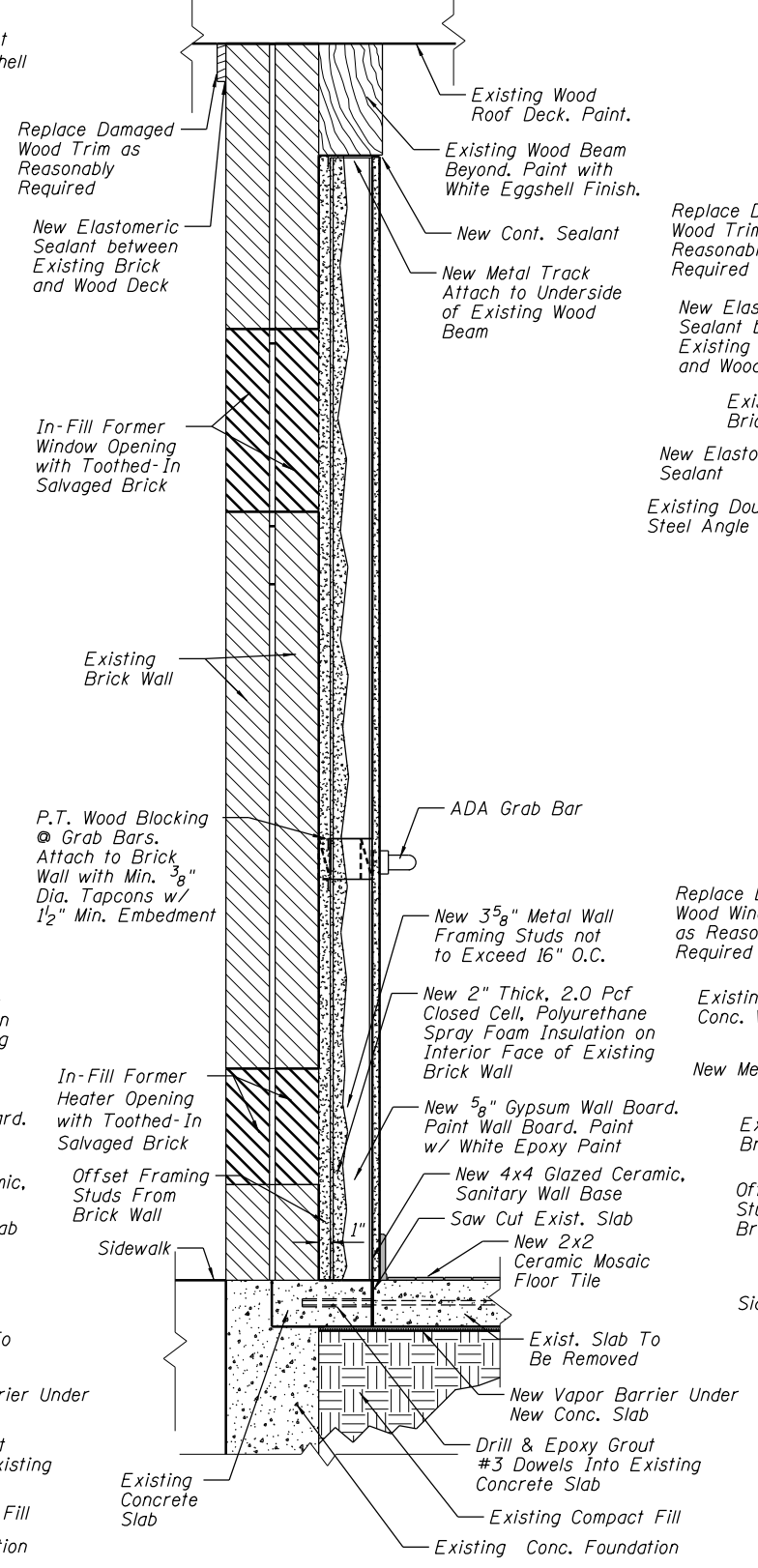
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McHENRY	238	49

PROJECT FR-435

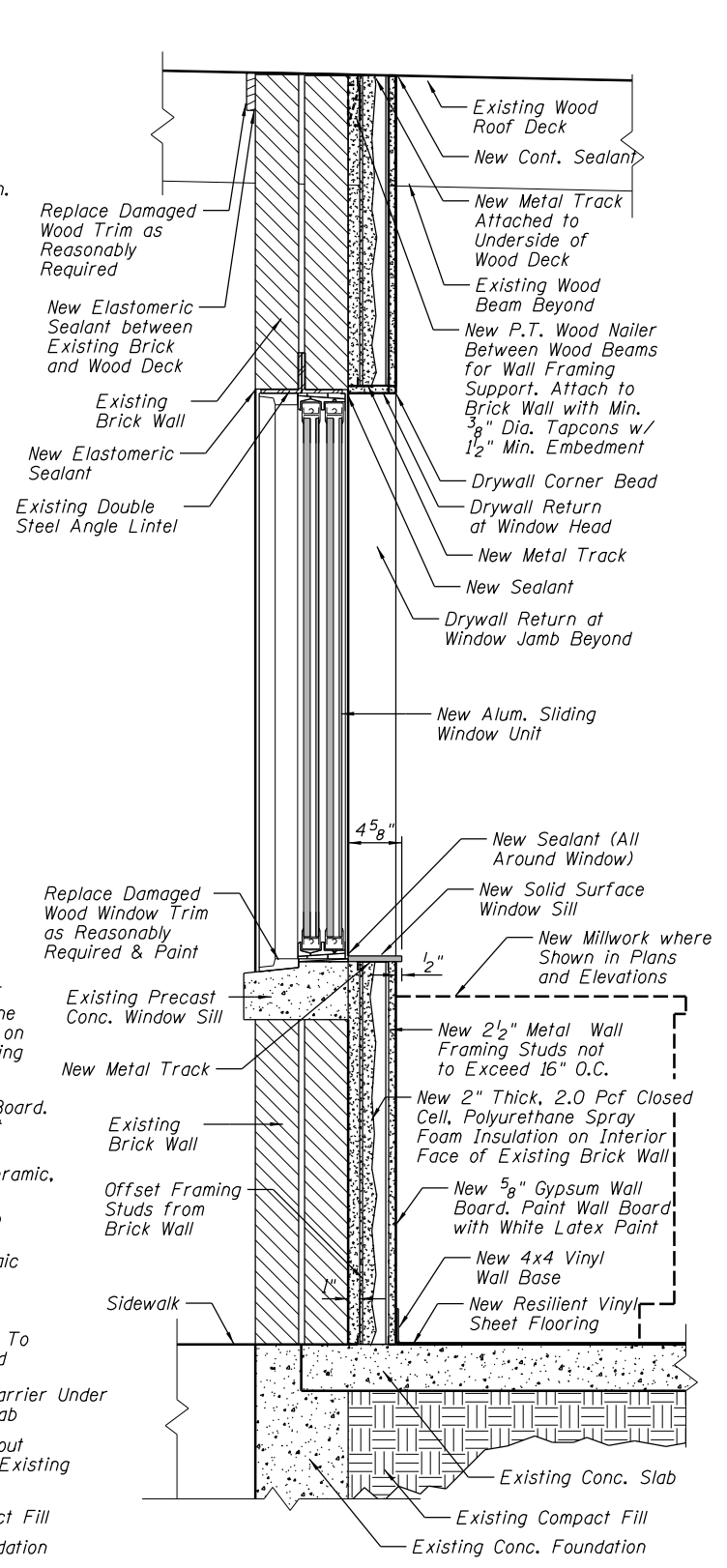




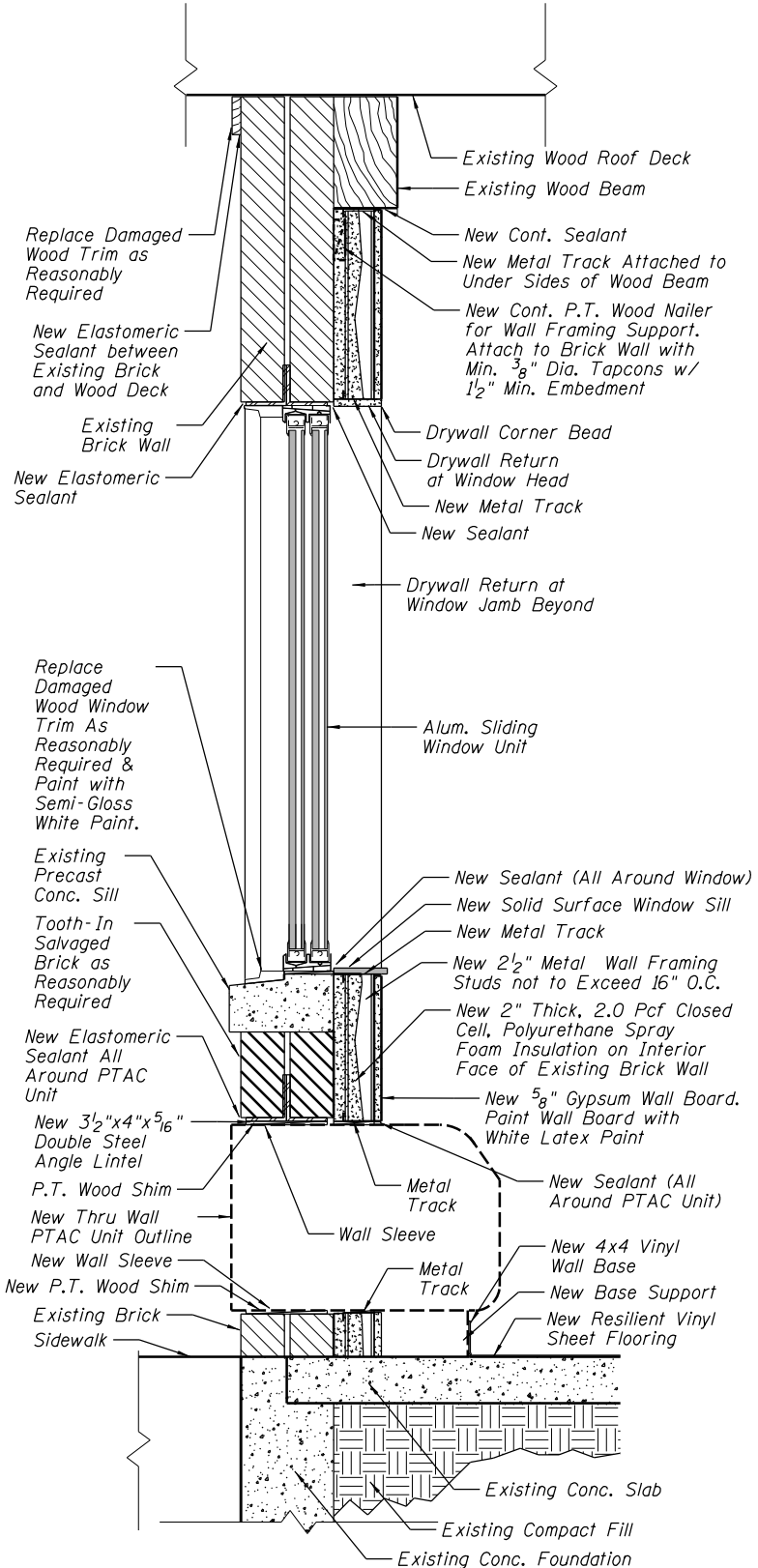
1 RESTROOM WALL SECTION A
51



2 RESTROOM WALL SECTION B
51



3 WALL SECTION THRU WINDOW
51



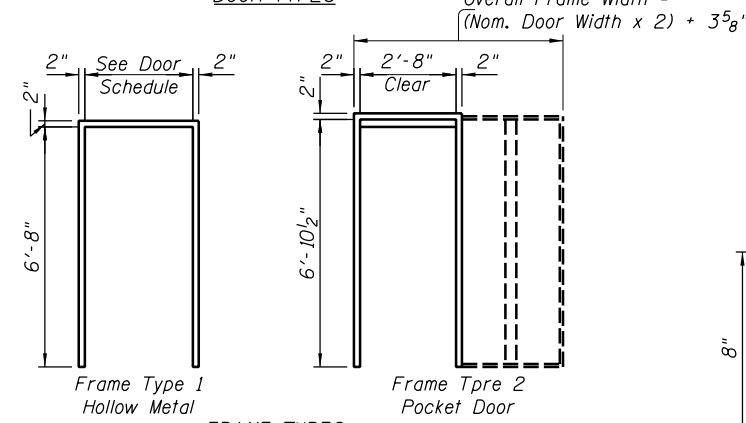
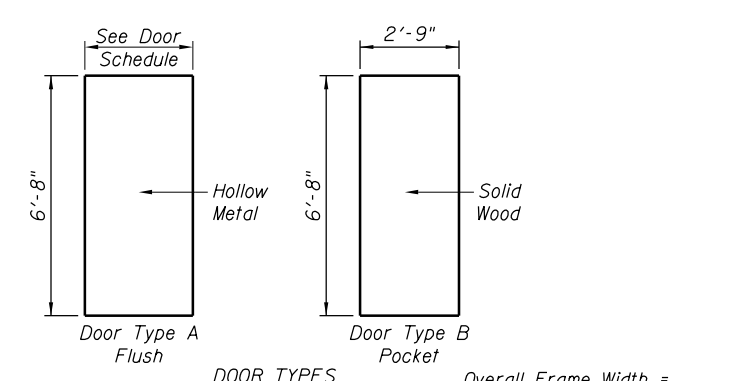
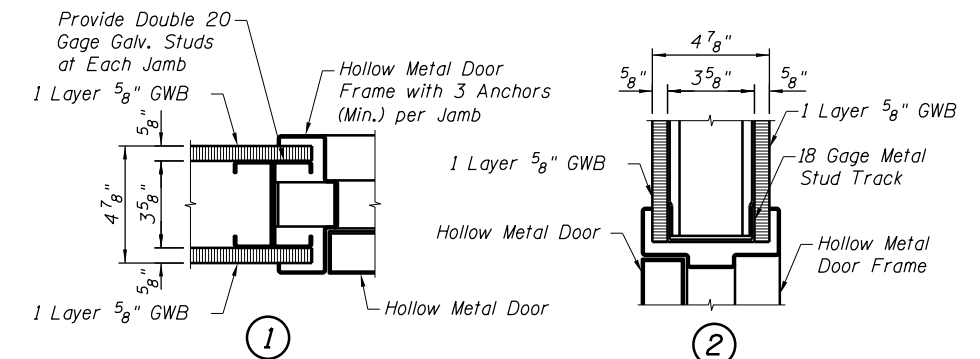
4 WALL SECTION AT PTAC
51

LOCKHOUSE ROOM FINISH SCHEDULE

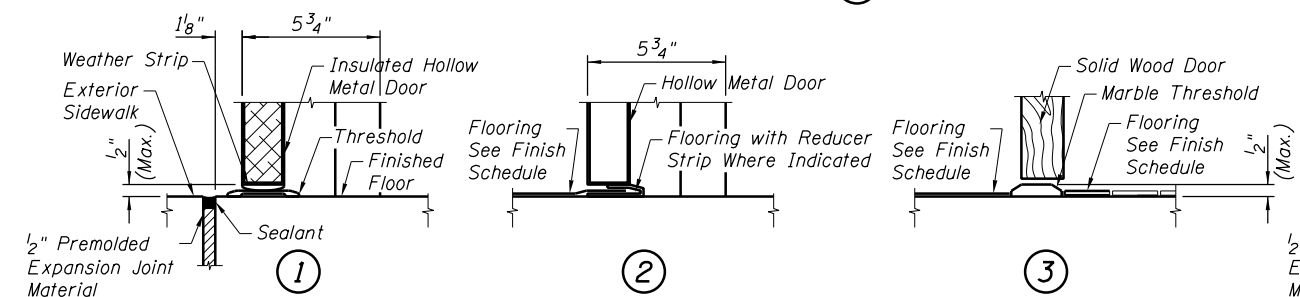
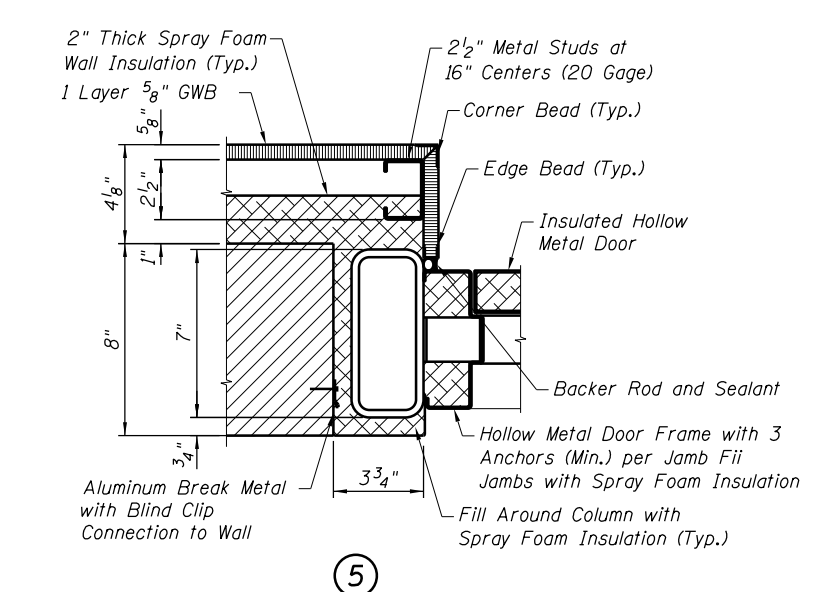
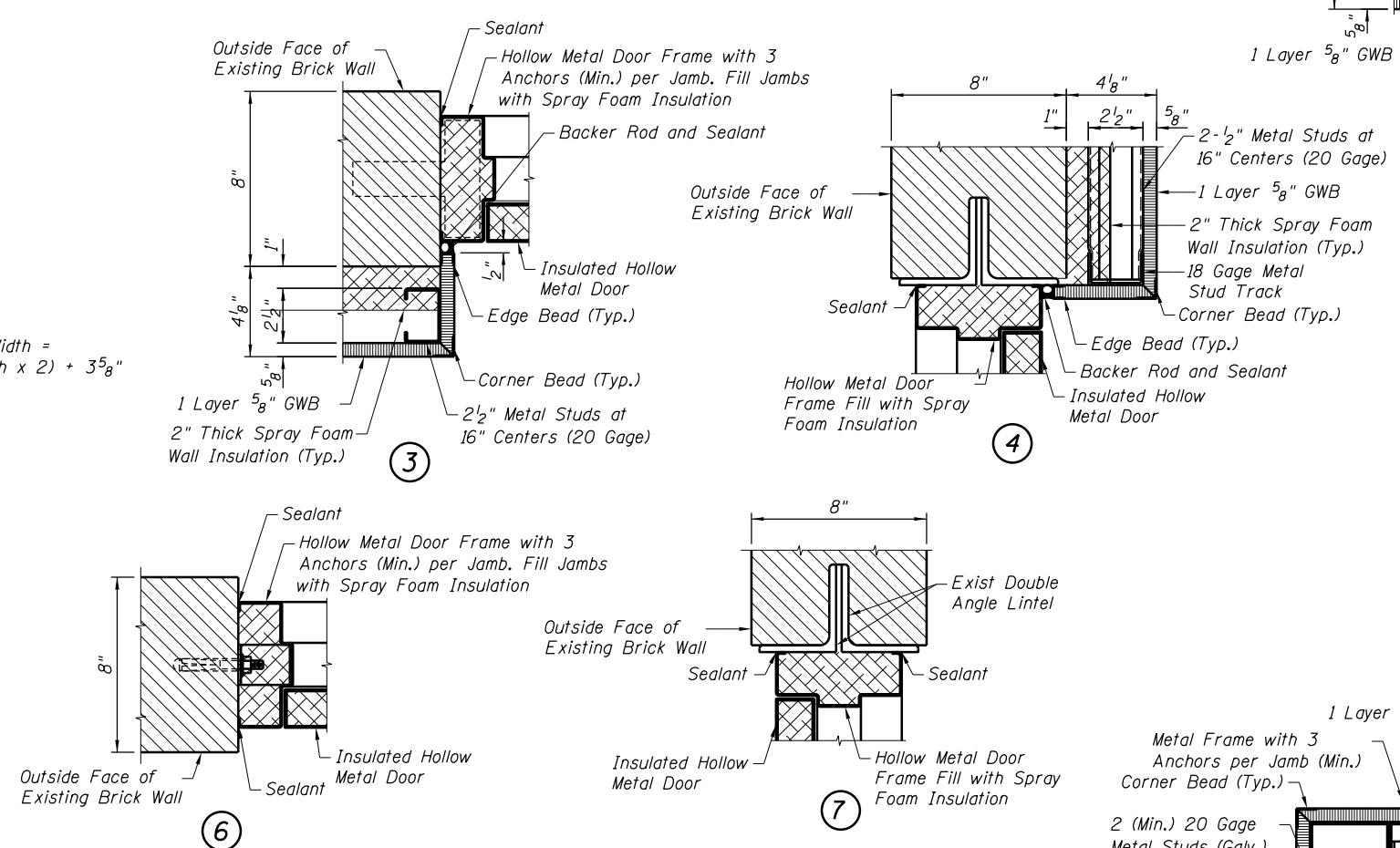
ROOM NO.	ROOM NAME	FLOOR			BASE			WALLS												CEILING			REMARKS
		MATERIAL	FINISH	COLOR	MATERIAL	FINISH	COLOR	NORTH			EAST			SOUTH			WEST						
								MAT'L	FINISH	COLOR	MAT'L	FINISH	COLOR	MAT'L	FINISH	COLOR	MAT'L	FINISH	COLOR				
101	STORAGE	CONCRETE	SEALER	GREY	BRICK	--	TBD	BRICK	SEALER	CLEAR	BRICK	SEALER	CLEAR	BRICK	SEALER	CLEAR	BRICK	SEALER	CLEAR	WOOD	EXIST. STAIN	EXIST. STAIN	DRY CLEAN EXISTING WOOD CEILING
102	UTILITY	CONCRETE	SEALER	GREY	GWB	4" RUBBER BASE	TBD	GWB	LATEX PAINT	WHITE	GWB	LATEX PAINT	WHITE	GWB	LATEX PAINT	WHITE	GWB	LATEX PAINT	WHITE	WOOD	LATEX PAINT	WHITE	--
103	RESTROOM	CONCRETE	2x2 CERAMIC MOSIC TILE	TBD	GWB	4x4 SANITARY TILE BASE	TBD	GWB	EPOXY PAINT	WHITE	GWB	EPOXY PAINT	WHITE	GWB	EPOXY PAINT	WHITE	GWB	EPOXY PAINT	WHITE	WOOD	LATEX PAINT	WHITE	TILE GROUT COLOR TBD
104	CONTROL ROOM	CONCRETE	SHEET FLOORING	WOOD GRAIN	GWB	4" RUBBER BASE	TBD	GWB	LATEX PAINT	WHITE	GWB	LATEX PAINT	WHITE	GWB	LATEX PAINT	WHITE	GWB	LATEX PAINT	WHITE	WOOD	EXIST. STAIN	EXIST. STAIN	DRY CLEAN EXISTING WOOD CEILING

DOOR AND FRAME SCHEDULE

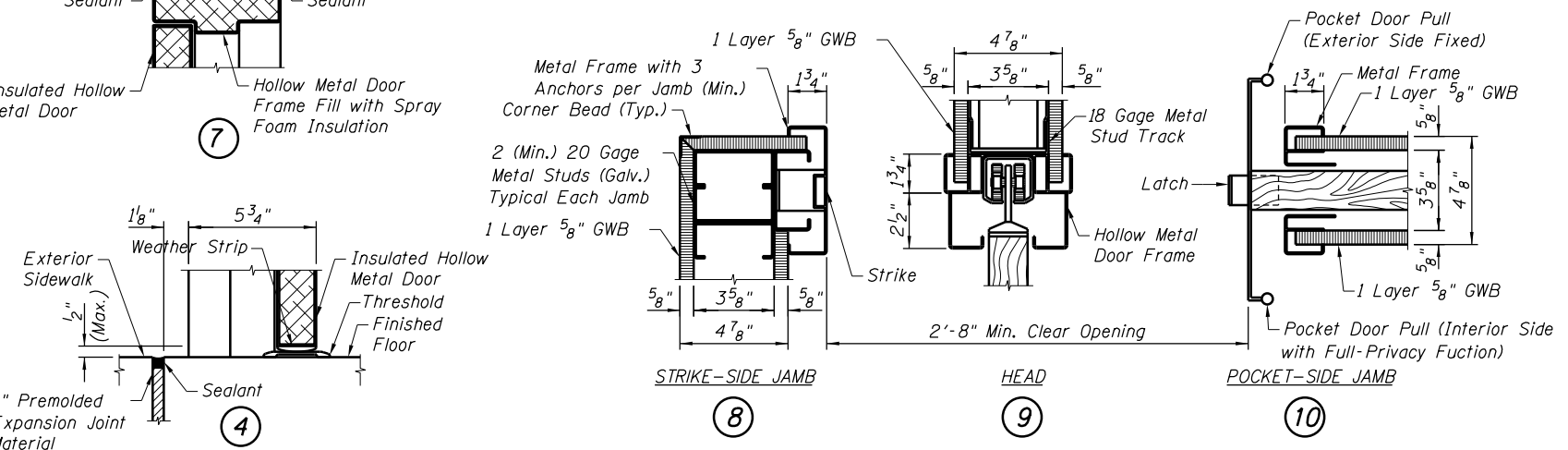
DOOR NO.	LOCATION ROOM	NO.	SIZE		DETAIL			DOOR					FRAME			REMARKS
			WIDTH	HEIGHT	PANEL	HEAD	JAMB	THRESHOLD	TYPE	HARDWARE GROUP	MATERIAL	FINISH	TYPE	MATERIAL	FINISH	
101	STORAGE	101	3'-0"	6'-8"	1 3/4"	7	6	1	A	HW-02	INSUL H.M.	PAINT	1	H.M.	PAINT	--
102	UTILITY	102	3'-0"	6'-8"	1 3/4"	2	1	2	A	HW-03	H.M.	PAINT	1	H.M.	PAINT	--
103	RESTROOM	103	2'-8"	6'-8"	1 3/4"	9	8&10	3	B	HW-04	SOLID WOOD	PAINT	2	H.M.	PAINT	--
104A	CONTROL ROOM	104	3'-0"	6'-8"	1 3/4"	4	3	4	A	HW-02	INSUL H.M.	PAINT	1	INSUL H.M.	PAINT	--
104B	CONTROL ROOM	104	2'-10"	6'-8"	1 3/4"	4	3&5	4	A	HW-02	INSUL H.M.	PAINT	1	INSUL H.M.	PAINT	--



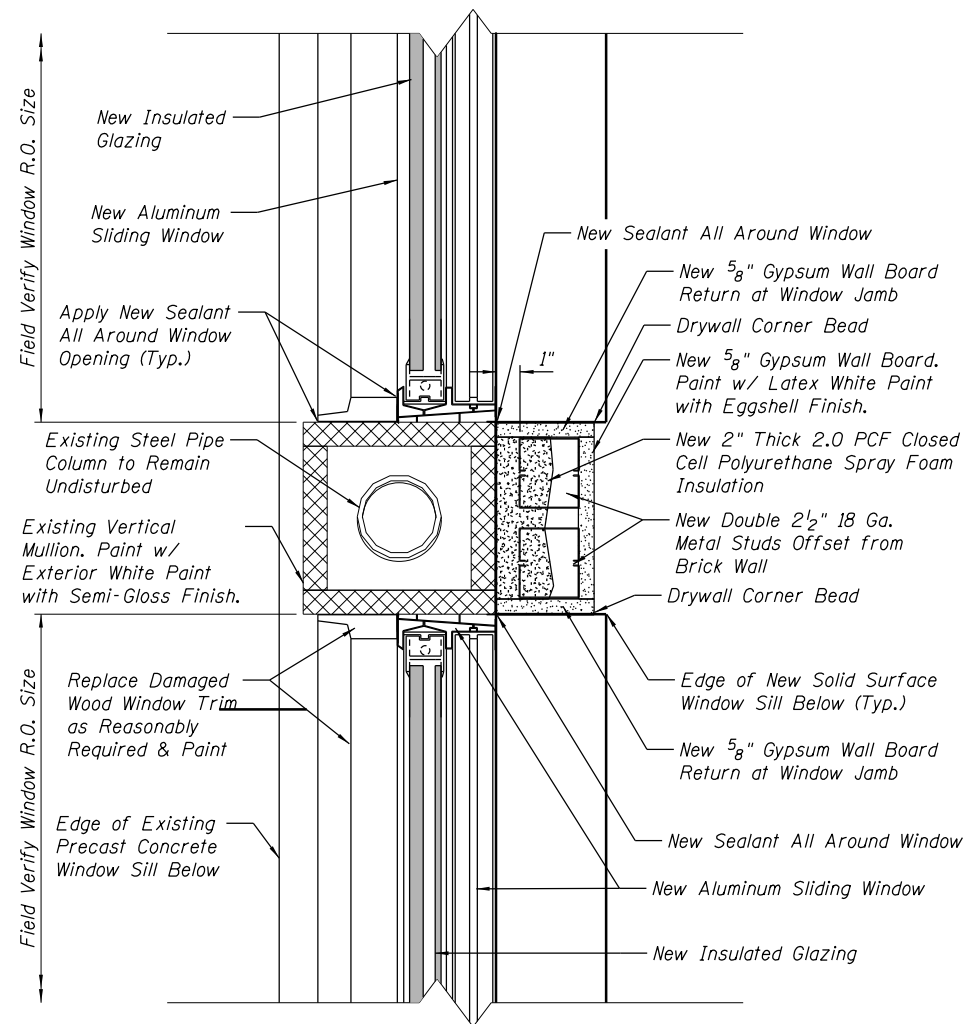
1-DOOR / FRAME TYPES



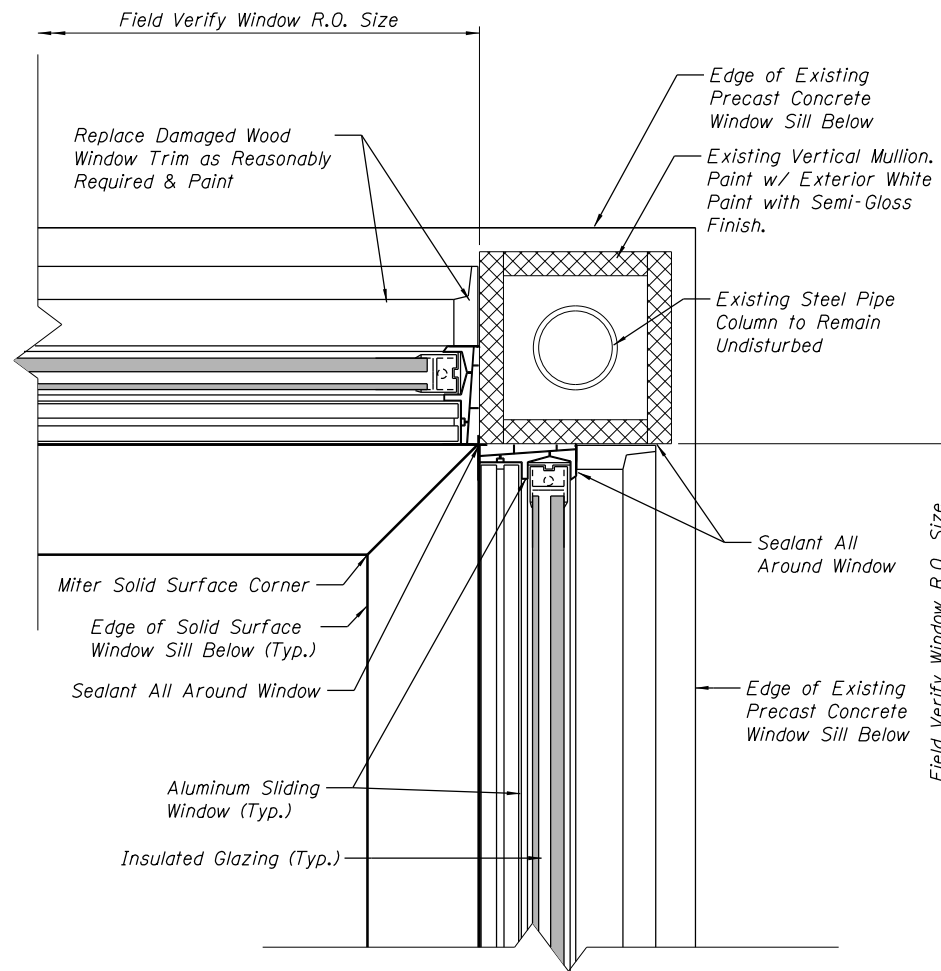
2-DOOR THRESHOLD DETAILS



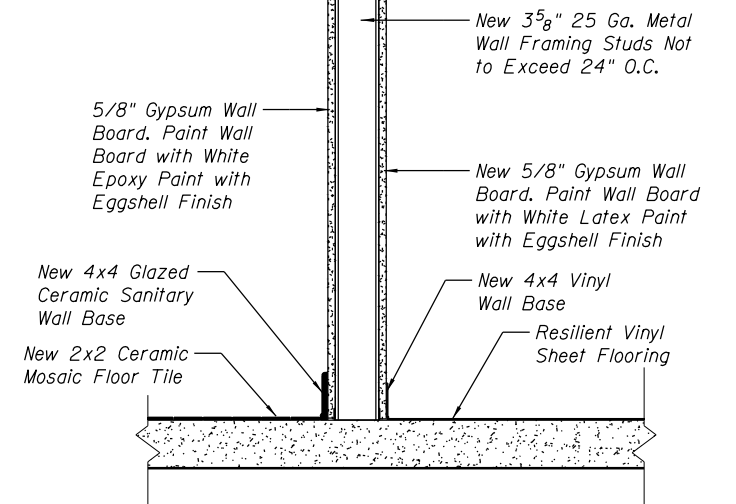
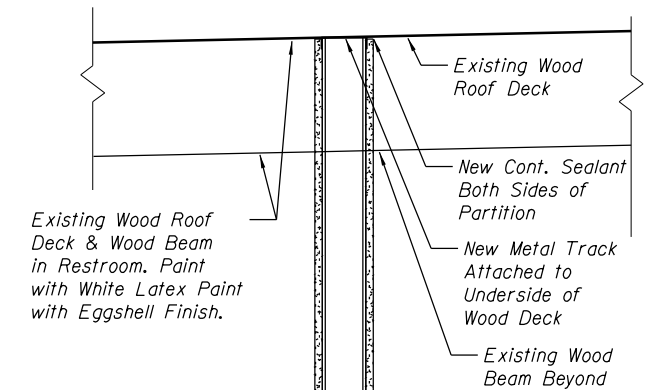
3-DOOR FRAME DETAILS



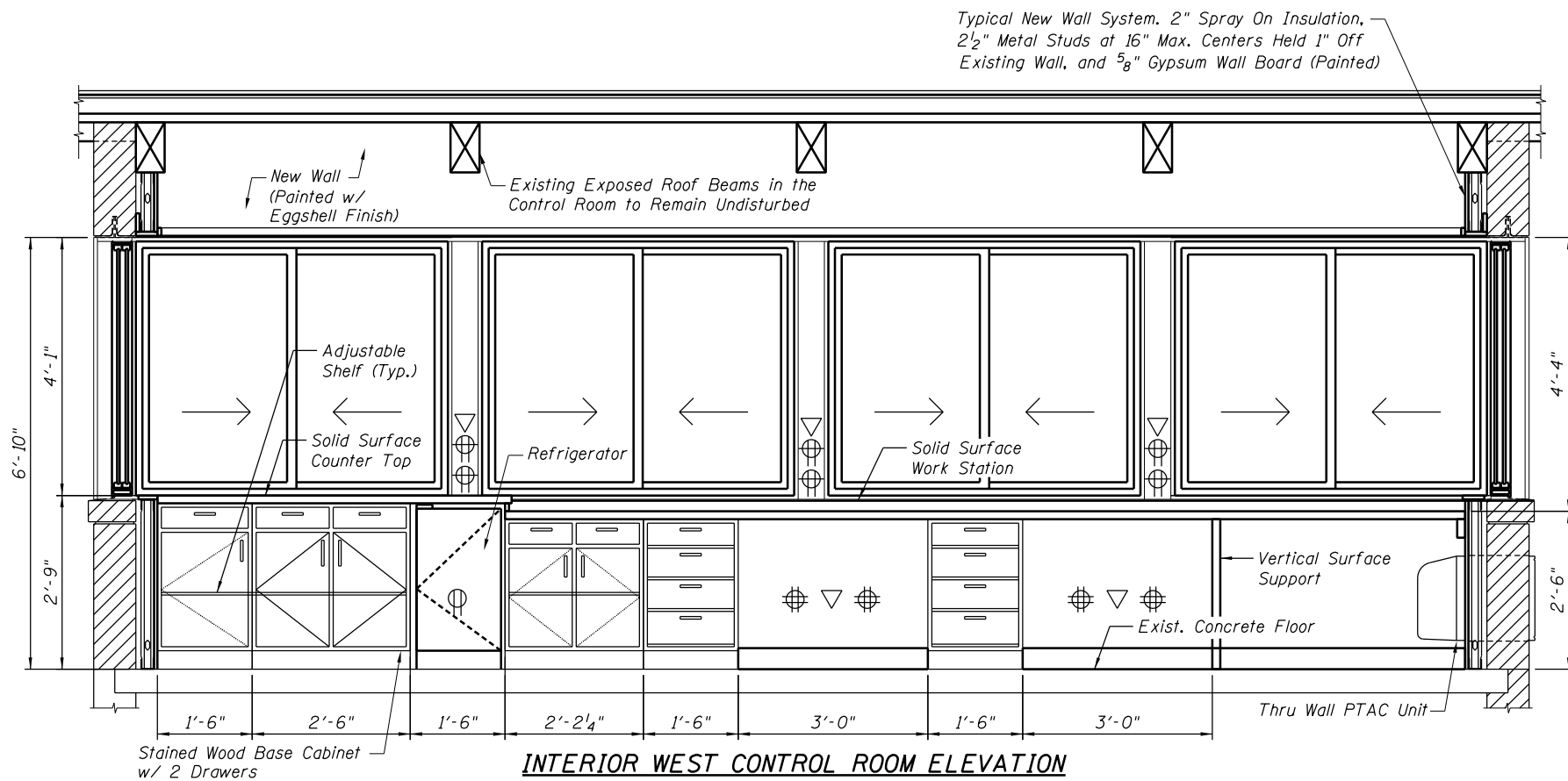
1
53
DETAIL - TYP. WINDOW JAMB



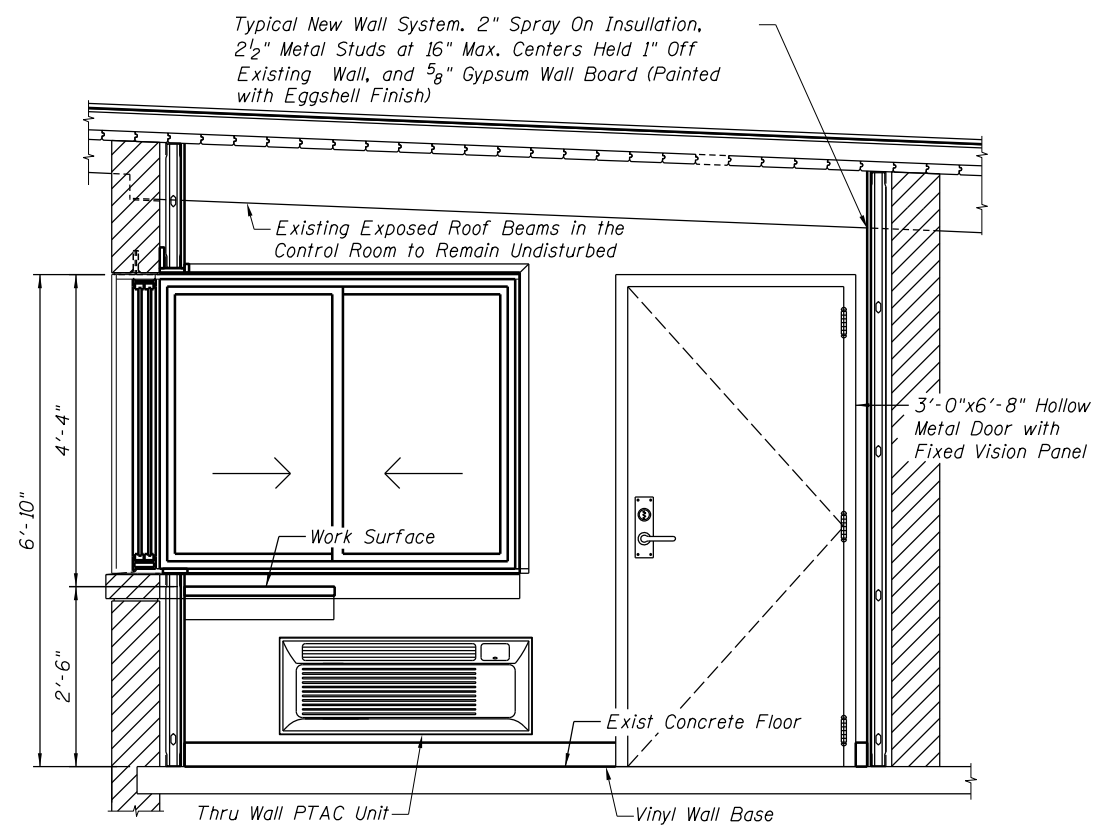
2
53
DETAIL - TYP. WINDOW JAMB AT CORNER



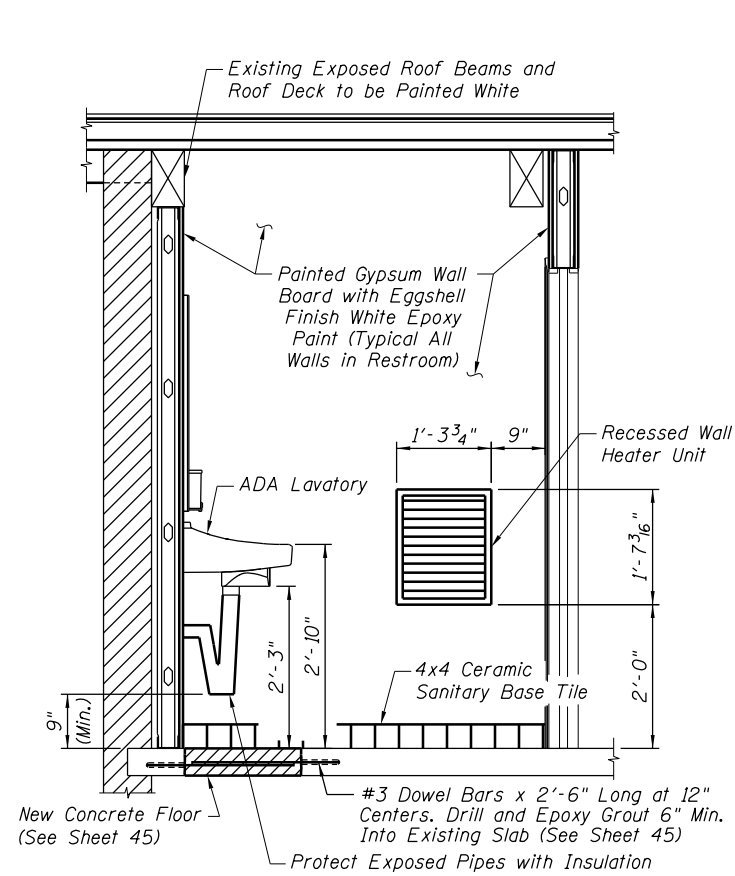
3
53
DETAIL - DRYWALL PARTITION BETWEEN CONTROL ROOM AND RESTROOM



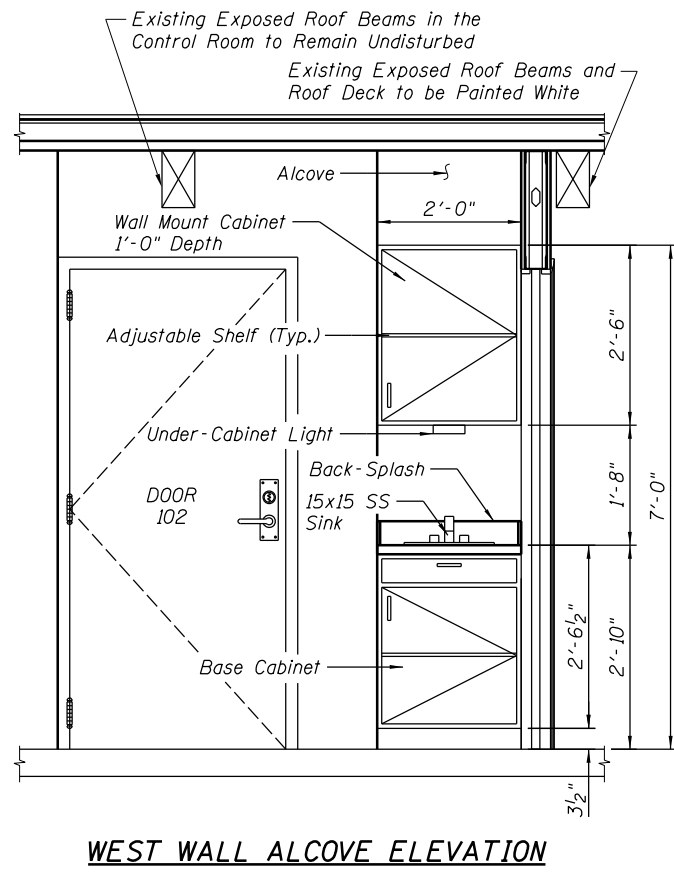
INTERIOR WEST CONTROL ROOM ELEVATION



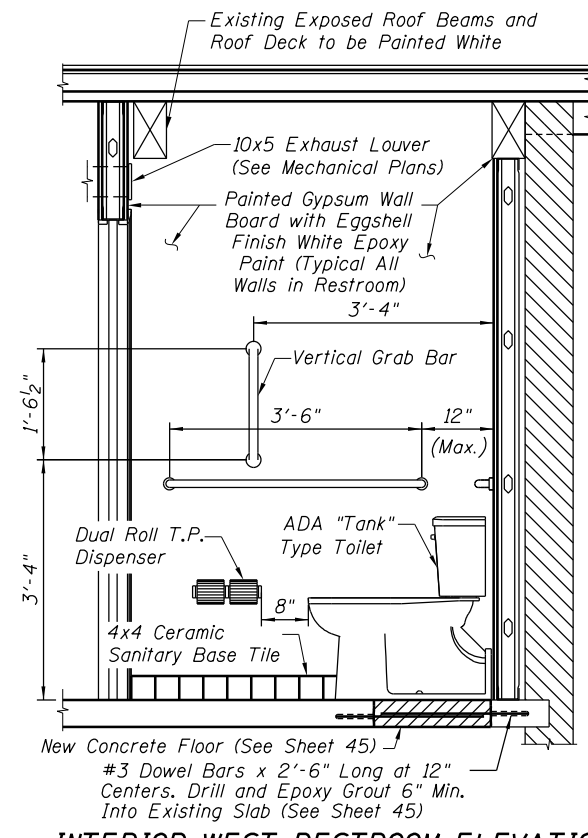
INTERIOR SOUTH ELEVATION LOOKING SOUTH



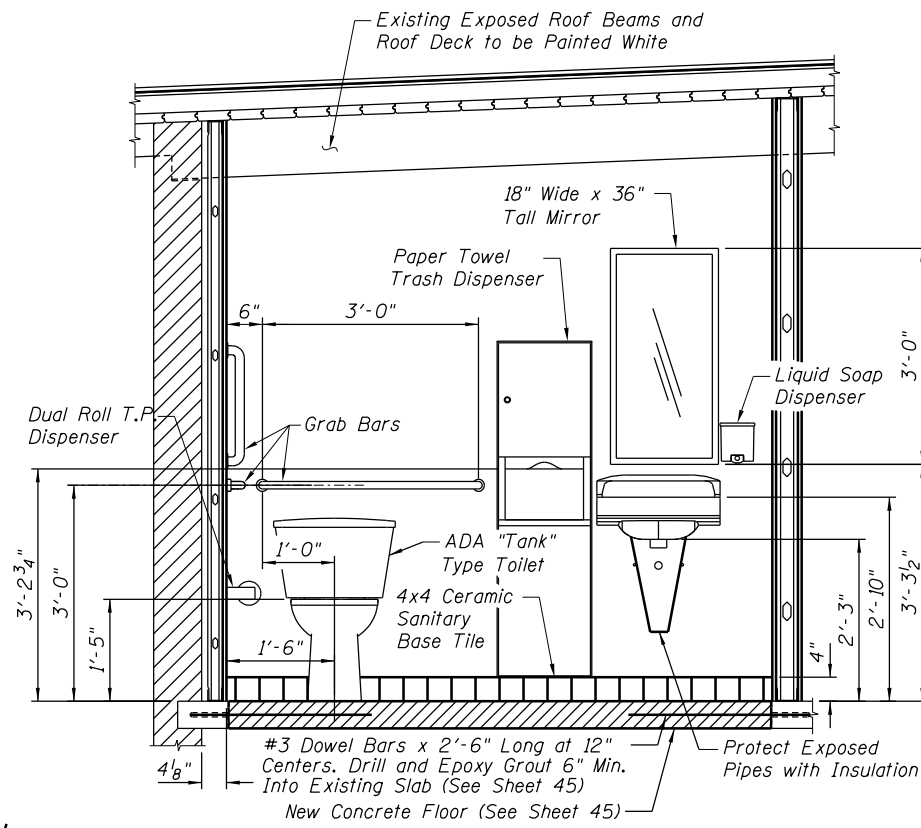
INTERIOR EAST RESTROOM ELEVATION



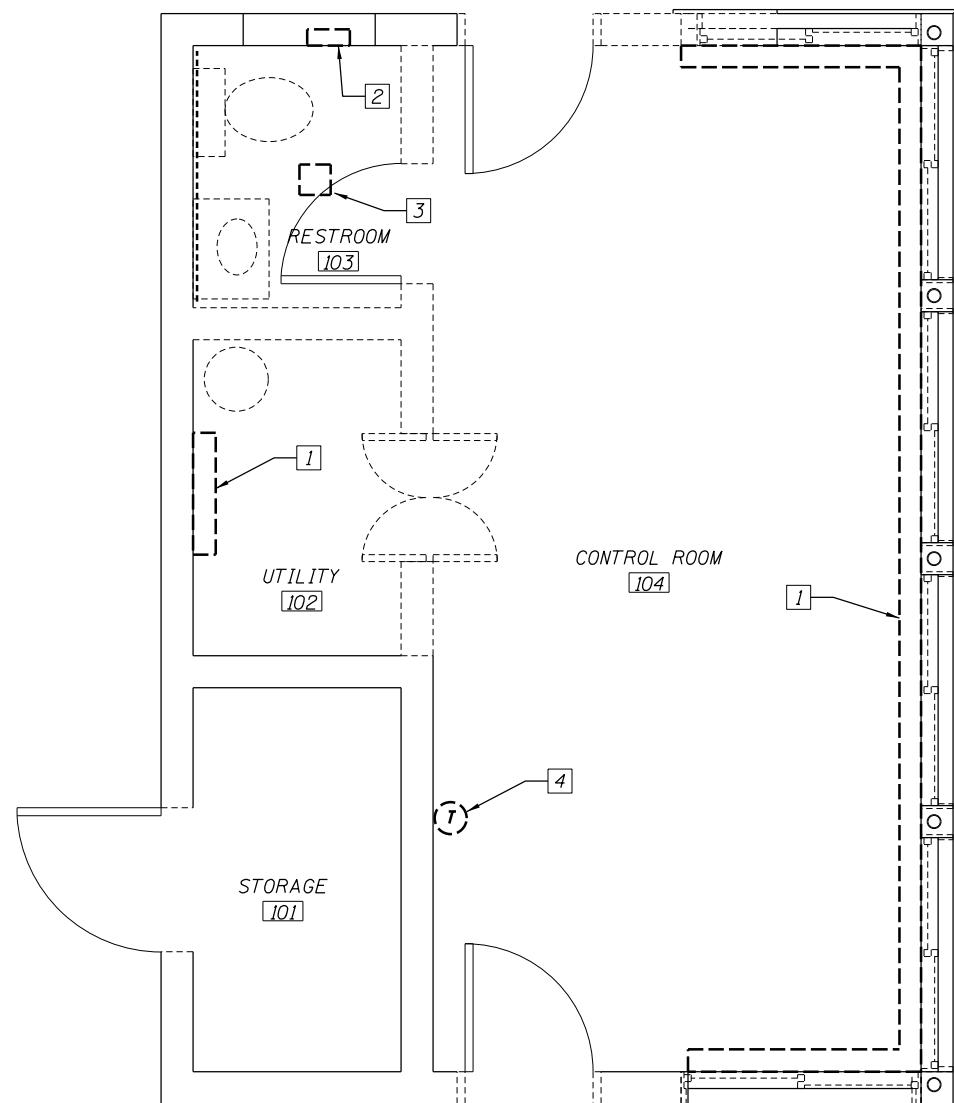
WEST WALL ALCOVE ELEVATION



INTERIOR WEST RESTROOM ELEVATION



INTERIOR NORTH RESTROOM ELEVATION



MECHANICAL DEMOLITION KEYED NOTES:

- 1 Existing Electric Baseboard Heaters Shall Be Removed and Disposed Of.
- 2 Existing Cabinet Unit Heater Shall Be Removed and Disposed Of.
- 3 Existing Exhaust Fan and Associated Roof Mounted Exhaust Hood Shall Be Removed and Disposed Of. Patching of Roof Deck Shall Be the General Contractor's Responsibility.
- 4 Existing Wall Mounted Thermostat for Control Room Electric Baseboard Heaters Shall Be Removed and Disposed Of.

MECHANICAL FLOOR PLAN - DEMOLITION



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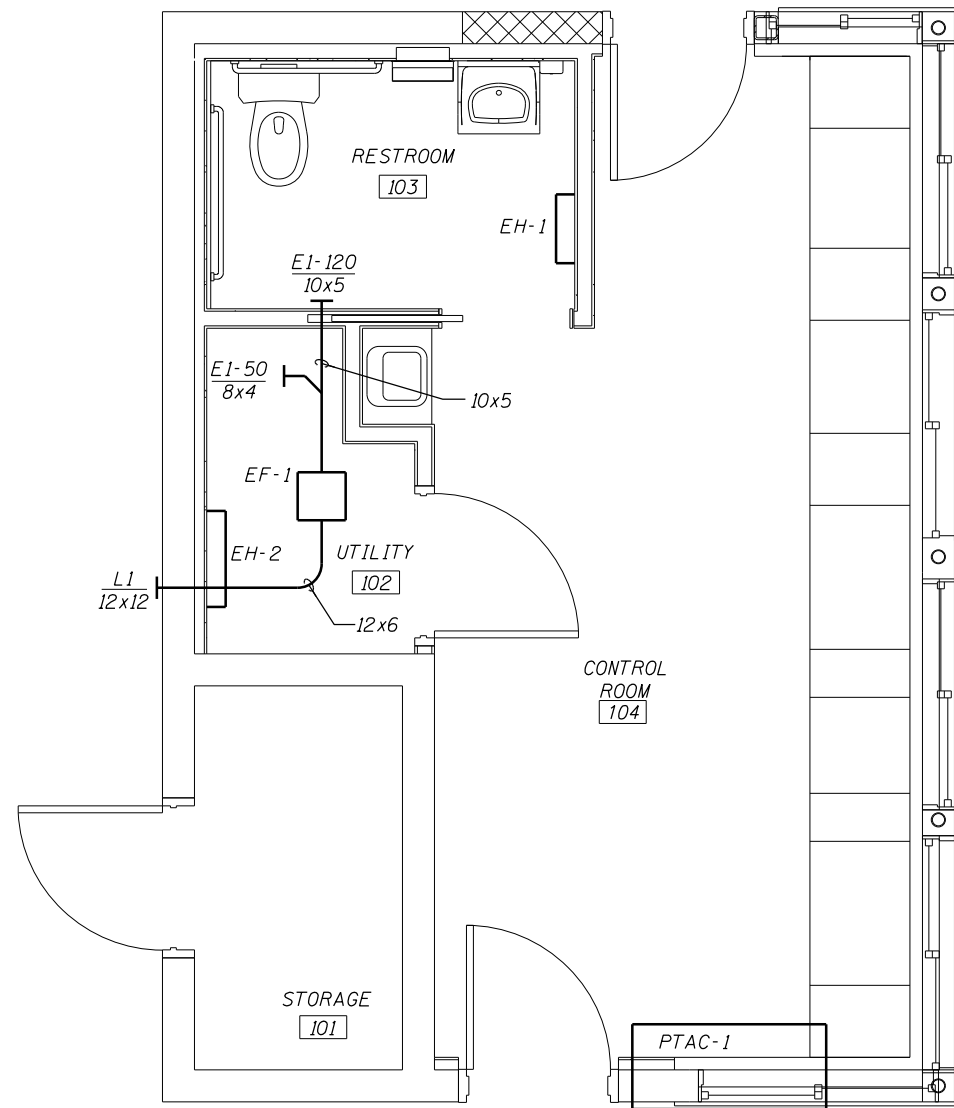
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	CHECKED - ATK	REVISED -
PLOT SCALE =	DRAWN - HWH/EJM	REVISED -
PLOT DATE = SEPTEMBER 18, 2013	CHECKED - ATK	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES**

**LOCKHOUSE MECHANICAL FLOOR PLAN - DEMOLITION
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS**

**ILLINOIS DEPARTMENT
OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES**

COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	55
PROJECT FR-435		



MECHANICAL FLOOR PLAN - NEW WORK



Notes:

1. Install Ductwork and Exhaust Fan as High as Possible.
2. Insulate Exhaust Duct Starting at Wall Louver to Exhaust Fan. Use 1.5" Thick Fiberglass Ductwrap.

EXHAUST FAN SCHEDULE

MARK	EF-1
SERVICE	RESTROOM
LOCATION	INLINE
MANUFACTURER	GREENHECK
MODEL	CSP-A190
DD/BD	DIRECT DRIVE
TYPE	CENTRIFUGAL
CFM	170
MAX. SP (INCH W.G.)	0.3
FAN RPM	1400
MOTOR	HP 100 WATTS
	VOLT 115
	PHASE 1
ACCESSORIES	1, 2, 3
REMARKS	1

- Accessories:**
1. Hanging Vibration Isolation With Mounting Brackets.
 2. Gravity Backdraft Damper.
 3. Solid State Speed Controller. If Speed Controller Is Shipped Loose, Mech. Contractor Shall Be Responsible For Field Installation.

- REMARKS:**
1. Fan Operation Shall Be Via Local On/Off Light Switch (Or Motion Sensor) In Restroom. Relay Shall Be Provided By E.C.

AIR DEVICE SCHEDULE

MARK	E1
MANUFACTURER	TITUS
MODEL	350ZFL
SERVICE	EXHAUST
MAXIMUM CFM	-
MAX. APD (IN. WG)	0.1
THROW (FT/50 FPM)	-
MAXIMUM NC	25
ADAPTER SIZE	-
NOMINAL NECK SIZE	SEE PLANS
MODULE SIZE	-
PATTERN	-
FRAME	SW./SURFACE
FINISH	WHITE
MATERIAL	ALUMINUM
ACCESSORIES	1
REMARKS	

- Accessories:**
1. Opposed Blade Damper.

(PTAC) PACKAGE TERMINAL AIR CONDITIONING UNIT SCHEDULE

MARK	LOCATION	MANUF./MODEL	CAPACITY			EER	ELECTRICAL			ACCESSORIES	REMARKS
			COOLING (BTUH)	HEAT PUMP (BTUH)	ELECTRIC HEAT (KW)		VOLT/PH	MCA	MOCP		
PTAC-1	CONTROL ROOM	GREE/PTAC-GAA15AB-D	14000	13000	4.2	9.8	230/1	21.5	30	1 THRU 6	1, 2

Accessories:

1. Insulated Polymer Or Powder Coated Steel Wall Sleeve With Wall Sleeve Molding Kit.
2. Aluminum Architectural Outdoor Grille Factory Painted To Match Color Finish Selected By A/E.
3. Hard Wired Sub-Base Assembly With Hardwire Kit, Leveling Legs And Power Disconnect Switch Assembly. Plug-in Arrangement Will Also Be Acceptable.
4. Remote Wall Mounted Thermostat With Following Features:
 - Digital 7-Day Programmable Stat With Auto-Changeover Between Heating And Cooling Mode.
 - Disable Heat Pump Below a Preset Outdoor Air Temp. (25°F adj.).
5. Drain Kit.
6. One Extra Set Of Filters For Each PTAC.

Remarks:

1. Caulk Around Sleeve On Indoor And Outdoor Sides.
2. Model Based On Scheduled Manufacturer. Alternate Acceptable Manufacturers As Listed Must Meet Scheduled Performance Criteria: GE, Trane, Ice-Air. Refrigerant Shall Be R-410A or R-407C.

ELECTRIC HEATER SCHEDULE

MARK	EH-1	EH-2
LOCATION	RESTROOM	UTILITY ROOM
MANUFACTURER	QMARK	QMARK
MODEL	AWH-4407	CBD-500
HEATER DATA	KW // #STAGES 1.5/1	0.5/1
	LENGTH (INCLUDING BLANK AND CORNERS) -	2 ft. (Approx.)
	VOLTS/PH 240/1	120/1
ACCESSORIES	3, 4	1, 2
REMARKS	2 Thru 6	1, 3, 7

Accessories:

1. Power Disconnect.
2. Built-in Thermostat Set For 60°F (Adj.).
3. Two Inch Deep Semi-Recessed Mounting Frame.
4. 14 Gauge Security Cover. Color To Be Selected By A/E.

Remarks:

1. Bottom Inlet, Top Outlet.
2. Built-in Thermostat Set For 55°F (Adj.).
3. Power Disconnect.
4. Fan-delay Switch.
5. Thermal Cut-OUT.
6. Install With Bottom Of Unit At Approximately 18"-24" Above Finished Floor and Approximately 12"-18" From Adjacent Wall.
7. Bottom Of Unit Shall Be Approx. 4" AFF.

STATIONARY LOUVER SCHEDULE

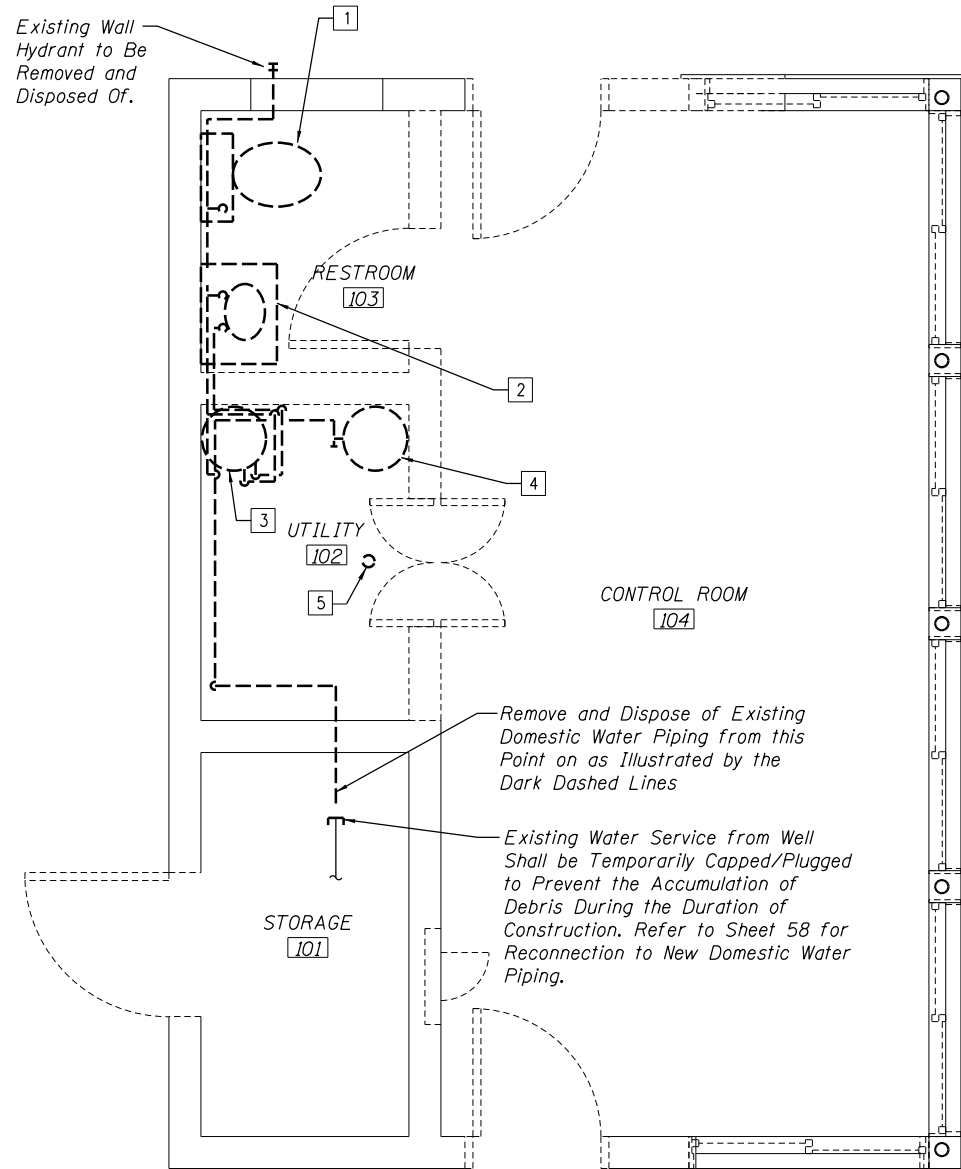
MARK	L1
SERVICE	EXHAUST
LOCATION	RESTROOM
MANUFACTURER	GREENHECK
MODEL/TYPE	ESD-403
CFM	170
MAX. SP (INCH W.G.)	0.04
NOM. SIZE (INCHES)	WIDTH 12
	HEIGHT 12
	DEPTH 4
AREA (SQ. FT.)	NET 1
	FREE 0.3
MATERIAL	HEAVY GAUGE EXTRUDED ALUMINUM
ACCESSORIES	1, 2,
REMARKS	1, 2,

Accessories:

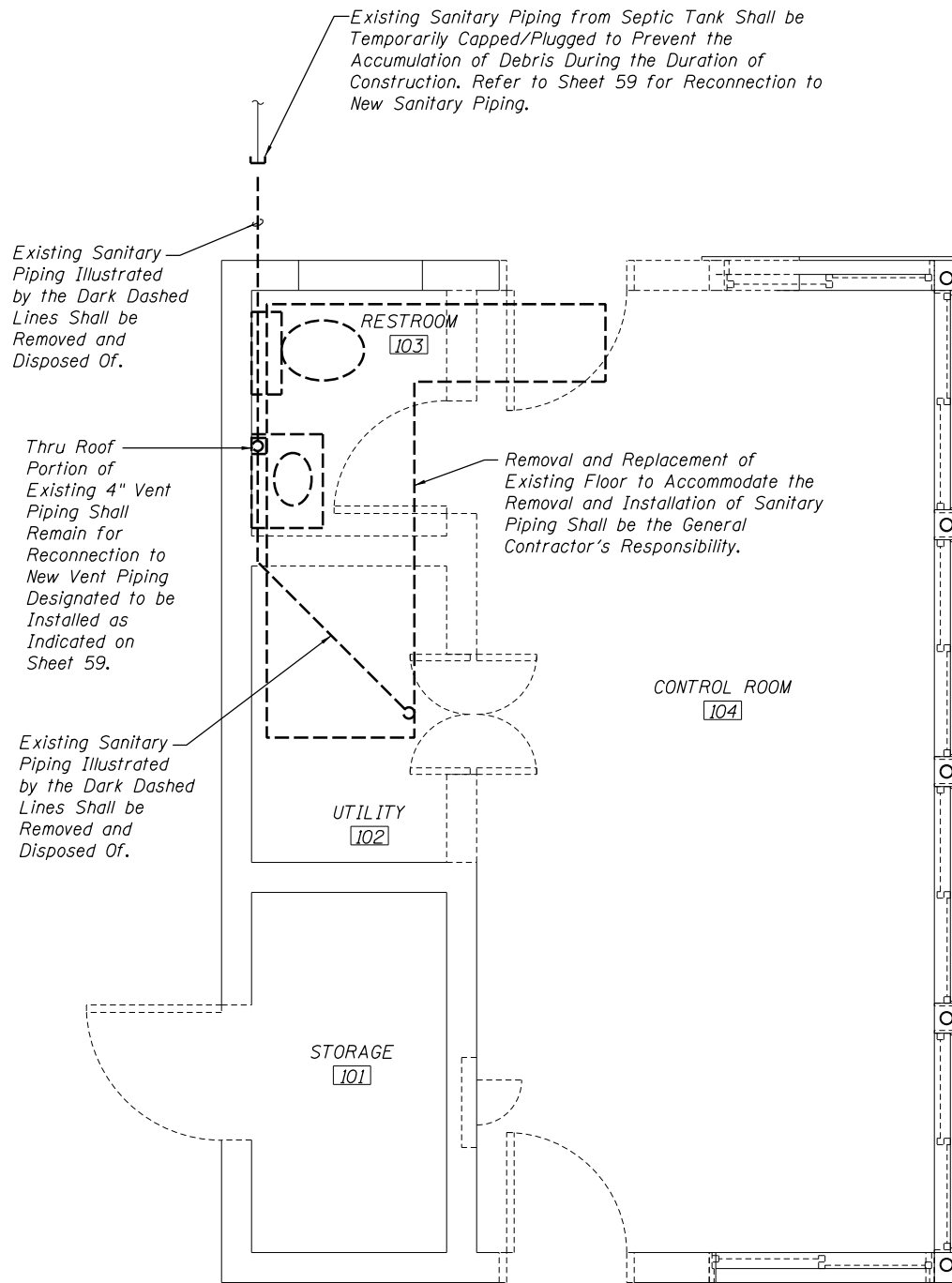
1. Stainless Steel Bird Screen.
2. Flanged Frame.

Remarks:

1. Provide Kynar Finish. Color As Selected By Architect. Intent Is To Match Wall Panels.
2. Other Acceptable Manufacturers:
 - Ruskin
 - Air Balance



DOMESTIC WATER PLAN - DEMOLITION

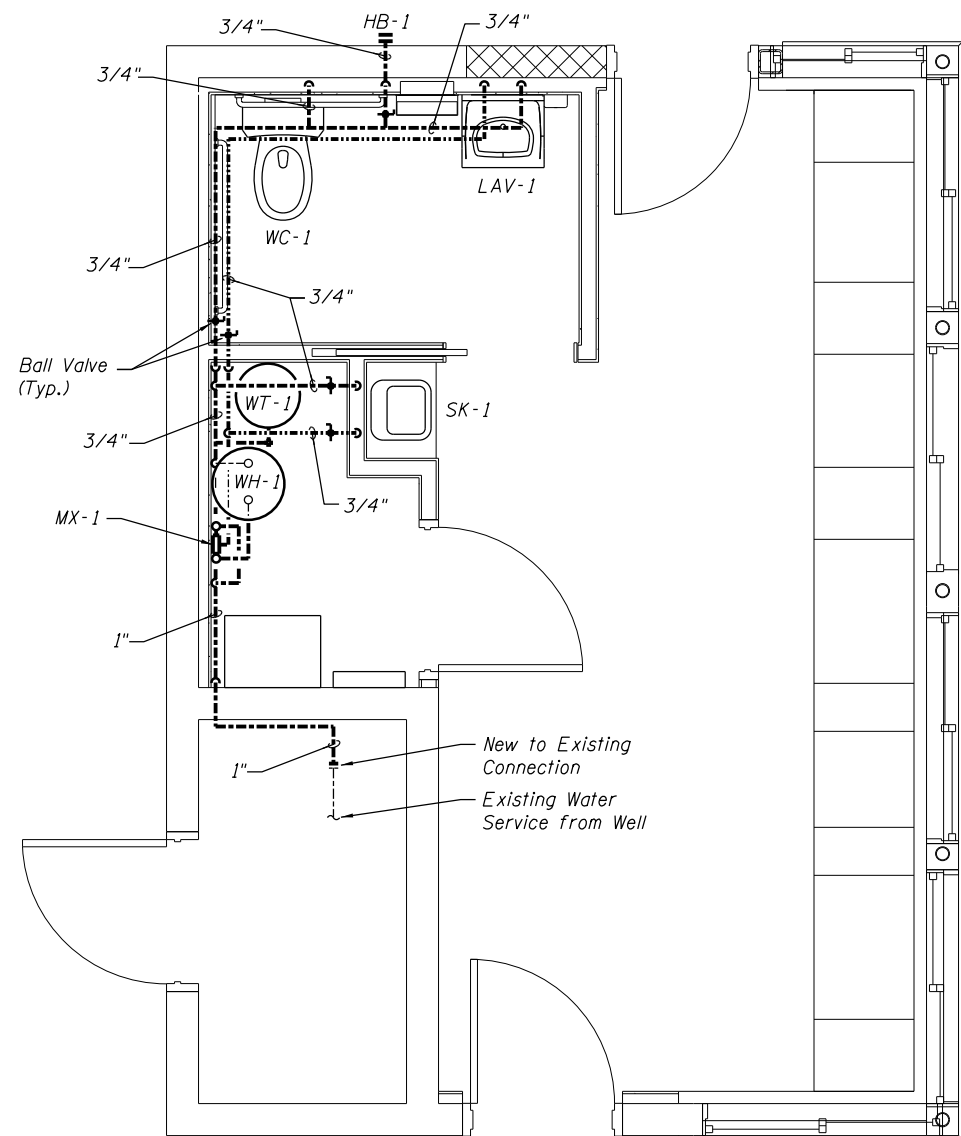


SANITARY PLAN - DEMOLITION

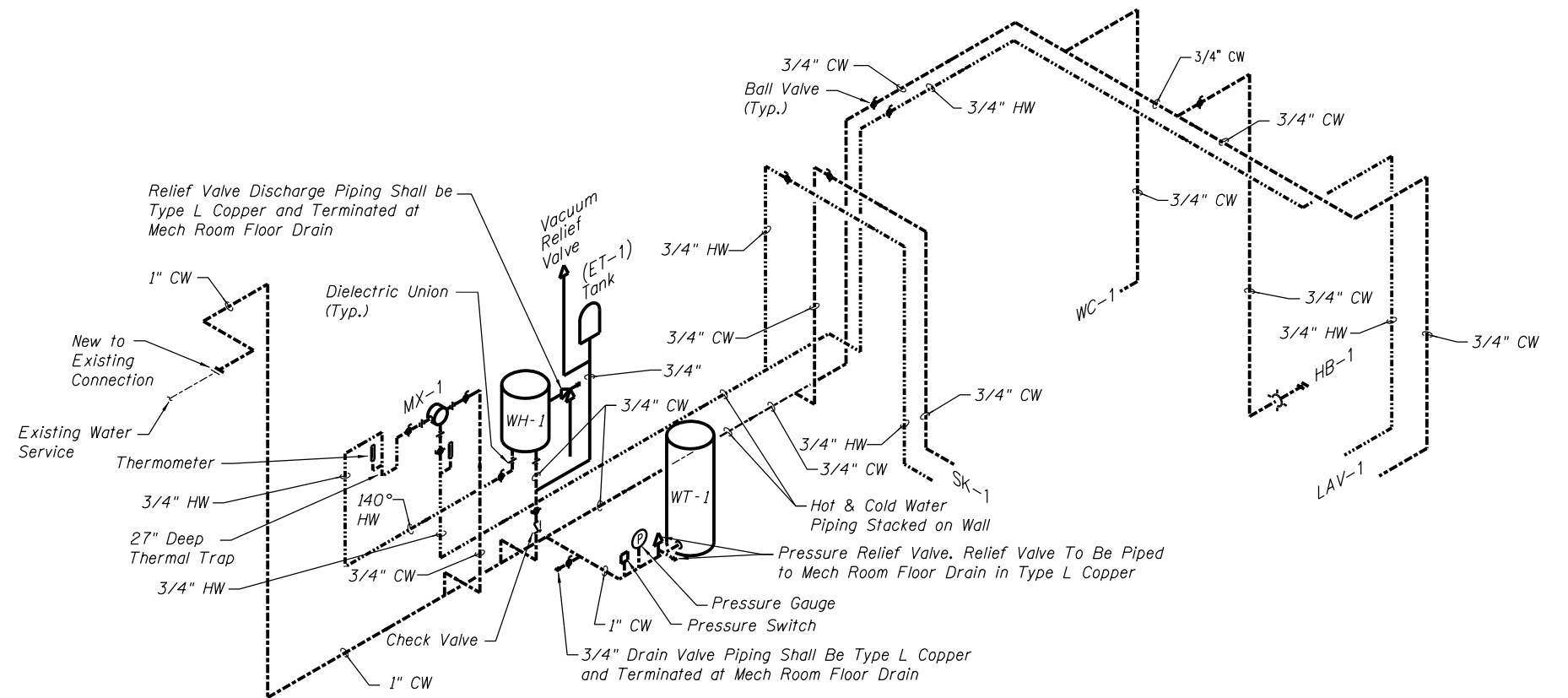


PLUMBING DEMOLITION KEYED NOTES:

- 1 Remove and Dispose of Existing Water Closet and All Associated Domestic Water and Sanitary Piping as Illustrated by the Dark Dashed Lines.
- 2 Remove and Dispose of Existing Lavatory and All Associated Domestic Water and Sanitary Piping as Illustrated by the Dark Dashed Lines.
- 3 Remove and Dispose of Existing Water Heater and All Associated Domestic Water Piping as Illustrated by the Dark Dashed Lines.
- 4 Remove and Dispose of Existing Well Tank and All Associated Piping as Illustrated by the Dark Dashed Lines.
- 5 Remove and Dispose of Existing Floor Drain and Associated Sanitary Piping Illustrated by the Dark Dashed Lines.

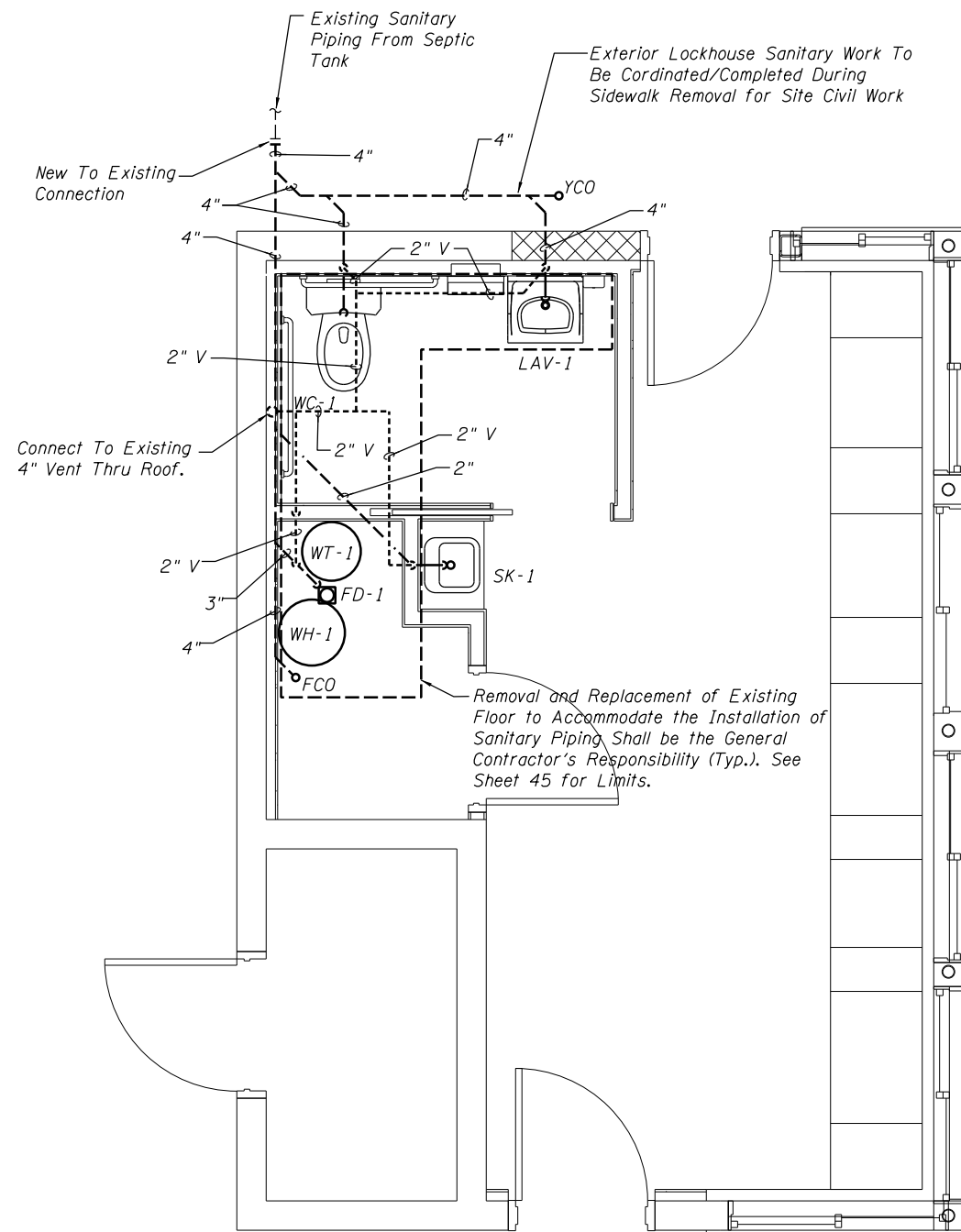


DOMESTIC WATER PLAN - NEW WORK

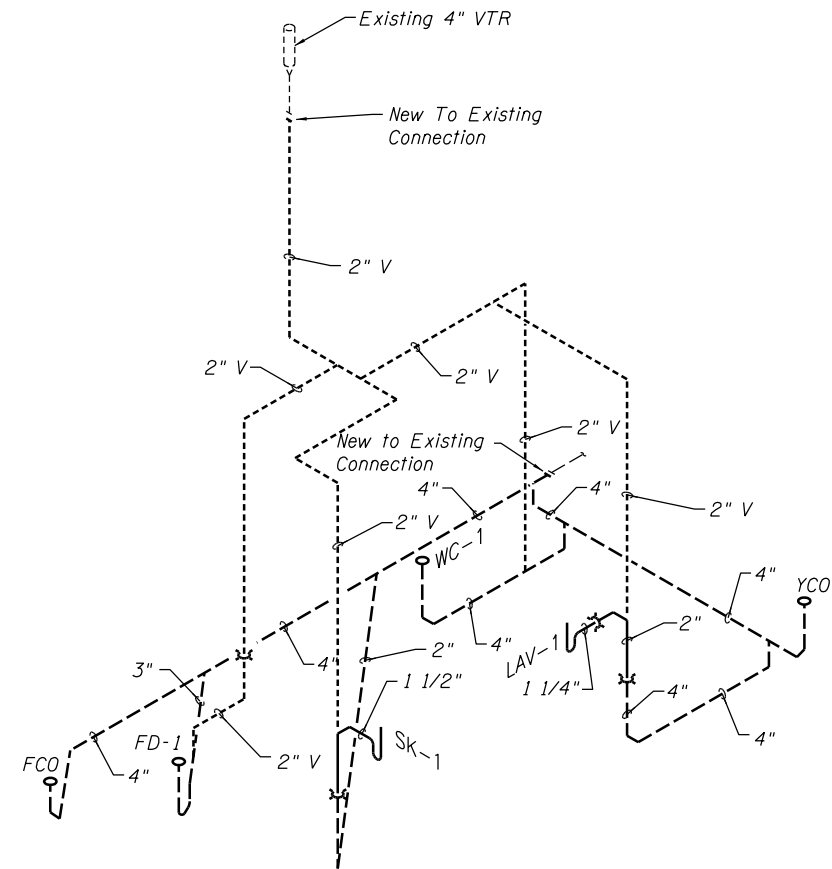


DOMESTIC WATER PIPING ISOMETRIC

Scale: None



SANITARY PLAN - NEW WORK



WASTE & VENT PIPING ISOMETRIC

Scale: None

FILE NAME = P-1002A-SITE.dgn



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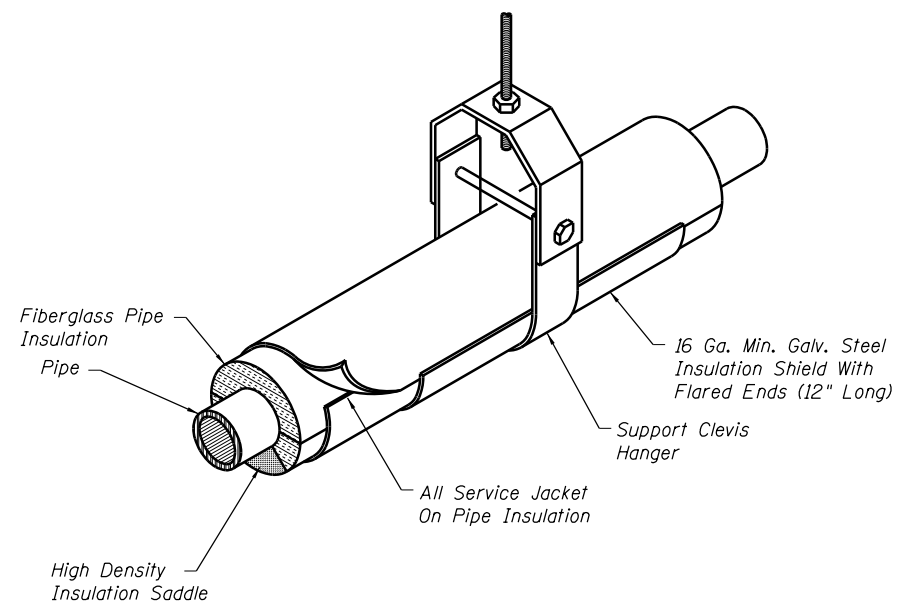
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PLOT DATE = SEPTEMBER 18, 2013	CHECKED - ATK	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES**

**LOCKHOUSE PLUMBING FLOOR PLAN - SANITARY - NEW WORK
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS**

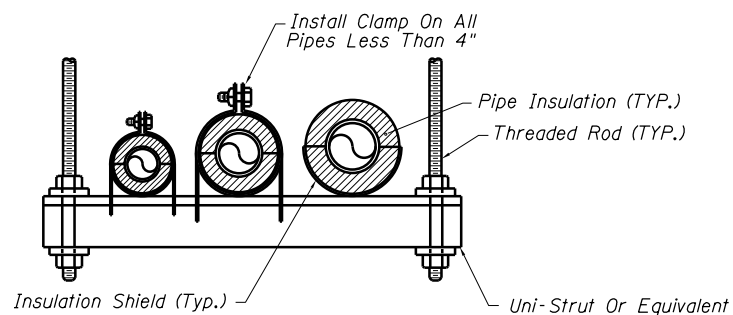
**ILLINOIS DEPARTMENT
OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES**

COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	59
PROJECT FR-435		



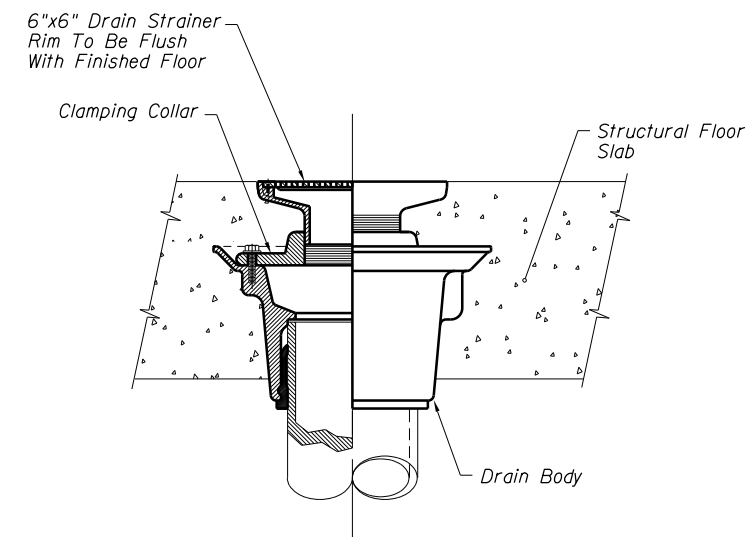
INSULATED PIPE SUPPORT DETAIL

Scale: None



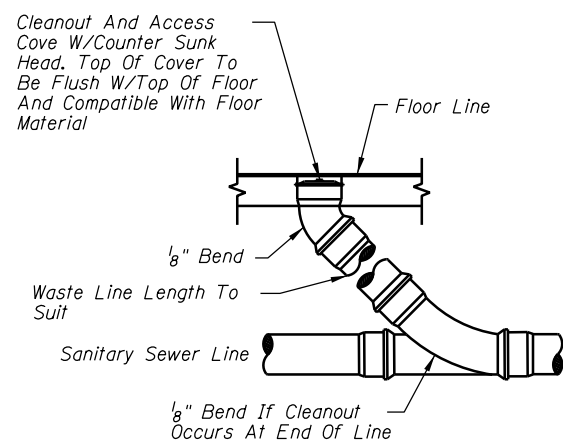
INSULATED PIPE SUPPORT DETAIL

Scale: None



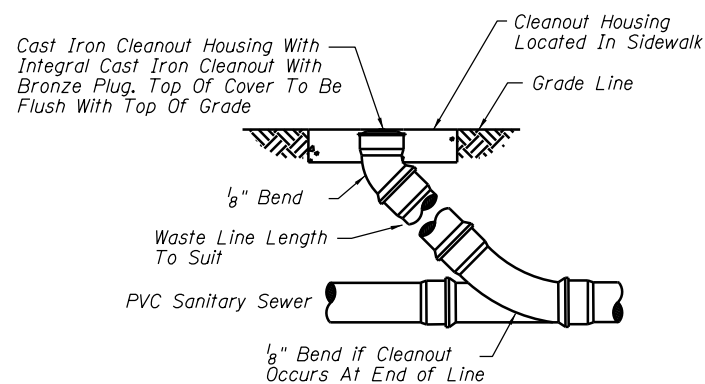
FLOOR DRAIN DETAIL (FD-1)

Scale: None



CLEANOUT TO FLOOR (FCO)

Scale: None



YARD CLEANOUT (YCO)

Scale: None

PLUMBING FIXTURE SCHEDULE

Mark	Description	Accessories	Soil or Waste	Minimum Vent	Trap	Cold Water	Hot Water	Remarks
WC-1	White Vitreous China Toilet, Two Piece, ADA Compliant Elongated Bowl, Floor Mount with 10" Rough-In Dimension, 1.6 GPF Siphon Jet Flushing Action, 2 1/8" Fully Glazed Trapway and Tank with Right Hand Actuator - Zurn Model No. Z5550-10-RH.	Open Front Less Cover, Elongated, Heavy Duty, Injection Molded Solid Plastic Toilet Seat with Molded-In Bumpers, Non-Self Sustaining Check Hinges with 300 Series Stainless Steel Posts and Pintles and Duraguard Antimicrobial Built-In Seat Protection - Bemis Model No. 2155CT.	4"	2"	Integral	1/2"	-	Toilet Tank Actuator To Be on Wide Side of Restroom.
LAV-1	White Vitreous China Lavatory, Wall Hung, ADA Compliant, D-Shaped Bowl with 4" Centers, Self-Draining Deck with Contoured Back and Side Splash Shields, Faucet Ledge and 21 1/4" L x 18 1/8" W Overall Dimensions - Kohler Model No. K-2005-0.	Lavatory Wall Hanger Bracket, ADA Compliant Deck Mounted Two-Handle Lavatory Faucet with 4" Wristblade Style Handles with Hot and Cold Color Indicators, 4" Center to Center Chrome Plated Solid Brass Construction and 0.5 Gpm - Chicago Faucets Model No. 802-VE2805-317ABCP. Chrome Plated Angle Stop Valves and Escutcheons, ADA Compliant Chrome Plated Cast Brass Offset Lavatory Strainer and P-Trap and Waste and Supply Piping Under Lavatory Protective Covers.	2"	2"	1 1/4"	1/2"	1/2"	Refer To Architectural Drawings for Installation Height.
SK-1	Single Bowl 18 Gauge Type 304 Stainless Steel Self-Rimming Sink with the Underside Fully Undercoated, 3 1/2" Drain Opening and 15"L x 15"W x 7"D Overall Sink Dimensions with Three Faucet Holes on 4" Centers - Elkay Model No. BLR1516	ADA Compliant Deck Mounted Gooseneck Faucet with 8" Fixed Centers, Chrome Plated Solid Brass Construction, 5 1/4" Center To Center Swing Gooseneck Spout, 2.2 GPM, 4" Wristblade Style Handles with Hot and Cold Color Indicators - Chicago Faucets Model No. 1100-G2E3-317AB. Type 304 Stainless Steel Removable Conical Basket Strainer with Rubber Stopper and 1 1/2" Chrome Plated Brass Tail Piece - Elkay Model No. LK-35. Chrome Plated Brass P-Trap, Chrome Plated Angle Stop Valves and Escutcheons.	2"	2"	1 1/2"	1/2"	1/2"	-
HB-1	Exposed Automatic Draining Freezeless Wall Hydrant with Hose Connection Double Check Backflow Preventer, 3/4" Inlet and Outlet Connection Sizes, Wall Clamp and Chrome Plated Exterior Finish - Woodford Model No. 67.	Loose Key For Operating Hydrant.	-	-	-	3/4"	-	Operating Rod Length Shall Be Based on Actual Wall Thickness
FCO	Adjustable Cast Iron Body Floor Cleanout with Gas and Watertight Tapered Threaded Bronze Plug and a Round Scoriated Nickel Bronze Top - Zurn Model No. Z1400	-	4"	-	-	-	-	Floor Cleanout Cover Shall Be Flush with Finished Floor
YCO	Cast Iron Body Yard Cleanout with Gas and Watertight Tapered Threaded Bronze Plug - Zurn Model No. Z1440.	Heavy Duty Cast Iron Cleanout Housing with Integral Anchor Flange and Scoriated Cover with Lifting Device - Zurn Model No. Z1474	4"	-	-	-	-	Yard Cleanout Cover Shall Be Flush with Sidewalk

PLUMBING GENERAL NOTES:

1. New Plumbing Fixtures and Equipment Shall Be Maintained Dust and Grit Free During the Construction Period. Contractor Shall Be Responsible for Cleaning of All Components to A/E Satisfaction Prior to Completion of the Project.
2. Piping Installation Heights Whenever Provided on the Drawings are Intended for Guidance Purposes Only. Contractor Shall Be Responsible for Coordination and Proper Installation of the System.
3. All Piping Penetrations Through Walls Shall Be Made Through Neatly Cut Openings.
4. Exposed Insulated Domestic Water Piping Shall Have a 20 Mils-Thick White Colored PVC Jacket Installed Over the Mineral-Fiber Pipe Insulation Factory Applied ASJ.

THERMOSTATIC MIXING VALVE SCHEDULE

Plan Mark	Min. Flow (gpm)	Max. Flow (gpm)	Inlet Sizes (in.)	Outlet Sizes (in.)	Description
MX-1	0.5	7	3/4"	3/4"	Thermostatic Mixing Valve, Bronze Body, Locked Temperature Adjustment Cap Set for 110°F, Integral Check Valves on Hot and Cold Inlets, Copper Encapsulated Thermostat Assembly with Polymer Thermoplastic Shuttle, Stainless Steel Springs, ASSE 1017 and ASSE 1070 Certified. Leonard Model 370.

PLUMBING SYMBOLS (GENERAL)

Symbol	Description
	X = Section [Letter] or Detail [Number] Y = Where Detail or Section is Shown
	Keyed Notes on Drawings & Schedules
	Revisions
	Room Numbers
	Equipment/Fixture Tags (XX = Marks Below)

PLUMBING ABBREVIATIONS

Symbol	Description
SAN	Sanitary
V	Vent
VTR	Vent Thru Roof
CW	Cold Water
HW	Hot Water
LAV	Lavatory
WC	Water Closet
SK	Sink
FCO	Floor Cleanout
YCO	Yard Cleanout
FD	Floor Drain
HB	Hose Bibb
MX	Thermostatic Mixing Valve
ET	Thermal Expansion Tank
WT	Well Tank
WH	Water Heater

WELL TANK SCHEDULE

Mark	WT-1
Manufacturer	Amtrol
Model No.	WELLXTROL WX-203
Service	Domestic Water
Location	Mech Room
Type	Diaphragm
* Min. Total Tank Volume (Gal.)	32
* Min. Acceptance Volume (Gal.)	11.2
** Min. Air Charge (PSIG)	28
Connection Size (N.P.T.)	1"
Mounting Position	Verticle
Accessories	1, 2, 3
Remarks	1
* Note Tank Volume Shall Satisfy Both of These Requirements.	
** Contractor Shall Adjust Air Charge to 2 PSI Below 30 PSI Pressure Switch Cut-In Setting.	
Accessories: 1. Stainless Steel System Connection. 2. Water Agitating Circulation Device at System Connection 3. Adjustable Pressure Switch (Current Well System Operation is 30/50 PSI).	
Remarks: 1. Well Tank Relief Valve, Drain Valve and Pressure Gage Shall Be Provided and Installed.	

ELECTRIC WATER HEATER SCHEDULE

Mark	WH-1
Manufacturer	Bradford White
Model No.	LD-WH12U3-1
Service	Domestic Water
Location	Mech Room
Stor. Cap. (Gal.)	12
Recovery (GPH)*	6
EWT °F	40
LWT °F	140
Max. KW Input	1.5
No. of Immersion Heaters	1
Volts	240
Phase	1
Accessories	1
Remarks	1
Accessories: 1. ASME Rated T&P Relief Valve.	
Remarks: 1. Recovery Rating in Gal./Hr. is Based on 100°F Rise.	

EXPANSION TANK SCHEDULE

Mark	ET-1
Manufacturer	Amtrol
Model No.	ST-5
Service	Domestic Water
Location	Mech Room
Type	Diaphragm
* Min. Total Tank Volume (Gal.)	2
* Min. Acceptance Volume (Gal.)	0.9
** Min. Air Charge (PSIG)	40
Connection Size (N.P.T.)	3/4"
Mounting Position	Vertical
Accessories	1
Remarks	-
* Note Tank Volume Shall Satisfy Both of These Requirements.	
** Contractor Shall Adjust Air Charge to Match Inlet Pressure (PSIG).	
Accessories: 1. Stainless Steel System Connection.	

PLUMBING SYMBOLS

Symbol	Description
	Tee - Up, Branch Out of Top
	Tee - Down, Branch Out of Bottom
	Elbow - Up
	Elbow - Down
	Rise or Drop in Piping
	Sleeve Thru Wall
	Cap on End of Pipe
	Ball Valve
	Union Joint
	Direction of Flow
	Thermometer
	Check Valve
	Pipe Reducer (Concentric)

PLUMBING PIPING DESIGNATIONS

Linetype	Description
	Sanitary or Waste Line (Above Grade)
	Sanitary or Waste Line (Below Grade)
	Vent Line
	Cold Water (CW)
	Hot Water (HW)

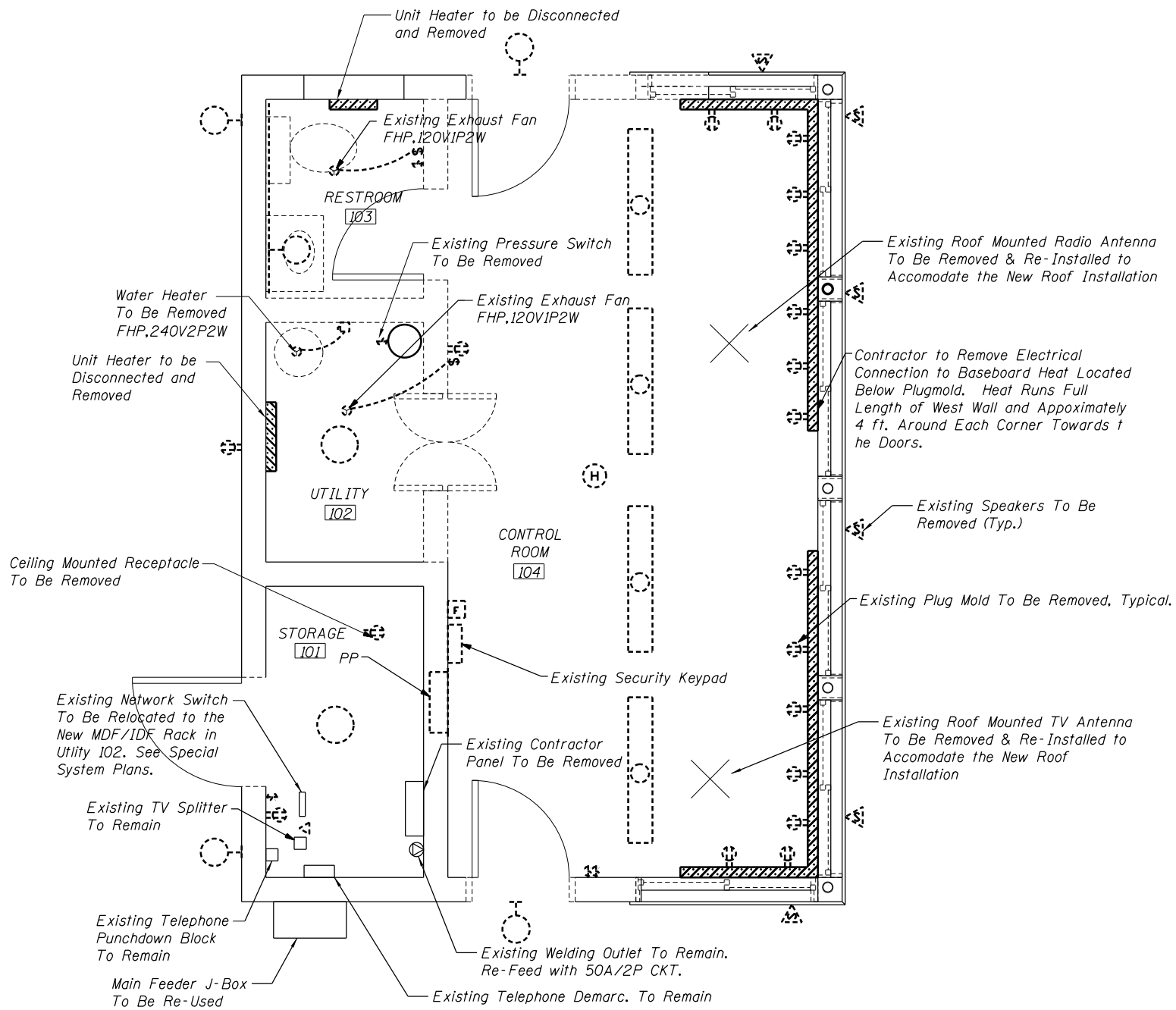
ELECTRICAL GENERAL NOTES

1. The Drawings and Applicable Specifications Shall be Considered Supplementary, One to the Other and are Considered the "Contract Documents." All Workmanship, Methods, and/or Materials Described or Implied by One and Not Described or Implied by the Other Shall be Provided, Furnished, or Performed as if it Had Appeared in Both Sections. The Term "Contract Documents" Described Herein is not Limited Solely to the Electrical Portion of the Drawings and Specifications, But Encompasses the Drawings and Specifications of All Divisions as a Whole.
2. Where a Discrepancy or Conflict is Found Between One Drawing and Another, or Between a Drawing and Applicable Specifications, the Contractor Shall Notify the A/E Immediately in Written Form. Contractor Shall Not Proceed with that Portion of the Work Until a Written Directive has Been Returned. In General, the Most Stringent Requirement Shall Govern Unless the Discrepancy Conflicts with Applicable Codes, Wherein the Code Shall Govern.
3. The Drawings are Diagrammatic and are not Intended to Show Every Detail of Construction, Methods, Materials and Equipment, or Exact Locations, Routing, etc. They Indicate the Result to be Achieved by the Assemblage of Several Systems for a Complete and Operational Electrical System. Do Not Scale the Contract Documents. Coordinate Exact Equipment Locations with the Architectural and Structural Portions of the Contract Documents, as Well as Field Conditions, Approved Shop Drawings, and Work of All Other Divisions/Trades.
4. The Term "Provide" Used in the Contract Documents Indicates that the Contractor Shall Furnish and Install Materials, Including All Cost for Shipping, Unloading, Storage, Unpacking, Erection, Anchoring, etc. Required for Correct Installation of a Complete System, Unless Specifically Noted Otherwise.
5. Unless Noted as Existing, All Electrical Indicated in the Contract Documents Shall be New, Shall be U.L. Listed, and Shall Bear a U.L. Label. Where No U.L. Label or Listing is Available the Material Shall be Listed with an Approved, Nationally Recognized Electrical Testing Agency. Where No Labeling or Listing is Available for Material, Test Data Shall be Submitted to the A/E as Evidence that the Material Meets or Exceeds Available Standards. Equipment Shall be Installed and Used in Accordance with any Instructions Included in the Listing or Labeling.
6. All Work Shall be Performed in Accordance with Latest Edition of the National Electrical Code (NEC), All Applicable Local Codes, Ordinances and All Requirements of the Authority Having Jurisdiction (AHJ), as a Minimum.
7. The Contractor Shall Provide Experienced, Qualified, and Responsible Supervision for all Work Required by the Contract Documents. All Electrical Equipment Shall be Installed in a Neat and Workmanlike Manner, to the Satisfaction of the A/E And Owner. All Work Shall be Performed in a First-Class Manner.
8. The Contractor Shall Carry All Insurance Required to Protect Against Public Liability and Property Damage for the Duration of this Project.
9. The Contractor Shall Guarantee All Materials and Workmanship are Free from Defects for a Period of Not Less than One Year from the Date of Final Acceptance by the A/E and Owner. The Contractor, at no Additional Costs, Shall Provide the Correction of Any Defects Including Repair or Replacement.
10. The Contractor Shall Include All Costs Associated with Permits, Licenses, Fees, Inspections, Testing and Temporary Power in His Proposal, Unless Specifically Noted Otherwise.
11. The Contractor Shall Visit and Carefully Examine Those Portions of the Building and/or Site Affected by this Work Prior to Submitting Proposals, so as to Become Familiar with Existing Conditions and Difficulties that May Affect Execution of the Work. Submission of a Proposal will be Construed as Evidence that Such Examination has Been Made. Later Claims for Labor, Equipment and/or Materials Required Due to Difficulties Encountered that Could Have Reasonably Been Observed by the Contractor will Not be Recognized.
12. The Contractor Shall Coordinate all Project Scheduling and Phasing Requirements with A/E and Owner Prior to Submitting Proposal. This Project May Require Phasing Sequences and Potential Premium Time Work and All Costs for Such Shall be Included in the Contractor's Proposal. The Contractor Shall Provide Adequate Work Force, Equipment, and Shall Work Such Hours Including Premium Time as May be Required in Order to Adhere to the Project Schedule. Additionally, the Contractor Shall Ensure that Long-Lead Items do not Impact the Project's Schedule or Phasing.
13. All Temporary Downtime Required for System Tie-In or Switchover for Any Portion of the Electrical System Shall be Pre-Approved by the Owner and Scheduled in Advance.
14. The Contractor Shall Coordinate the Exact Requirements with All Local Utility Companies (Electric, Telephone, Cable TV, etc.) and Include All Costs for Providing Temporary and Permanent Services Required for this Project in His Bid. Contractor's Proposal Shall Include, but is not Limited to: Excavation, Raceways, Backfill, Equipment, Equipment Pads, Backboards, Meters, Grounding and Impact Fees.
15. The Contractor Shall Include All Cost for the Proper Storage, Transport, Disposal, and/or Recycling of All Waste Materials Generated by this Work. Contractor Shall Comply with all Rules, Regulations and Guidelines that Apply. Remove Debris, Rubbish, etc. Resulting from this Work from the Site Daily.
16. If Hazardous Materials are Encountered, the Contractor Shall Comply with All Applicable Rules, Regulations and Guidelines Concerning Removal, Handling, Disposal, and Protection Against Environmental Exposure or Pollution. Contractor Shall Provide Documentation of Said Compliance.
17. Conduct Work Operations and Debris Removal in a Manner that Ensures Minimum Interference with Normal Business Operations, Traffic, Parking, etc. Ongoing in Adjacent Occupied Spaces or Facilities. Provide All that is Required to Effectively Protect Surrounding Occupants, Equipment, Finishes, Furniture, etc. from Damage or Excessive Noise Throughout the Duration of this Project. Any Damage to Surrounding Elements Resulting from the Contractor's Failure to Adhere to this Requirement Shall be Restored to Original Condition by the Contractor, to the Satisfaction of the A/E and Owner, at no Additional Costs. Report any Such Occurrence to the A/E and Owner Immediately and Await Written Direction Prior to Proceeding with Repairs.
18. Provide Six (6) Copies of Submittals (Product Data & Shop Drawings) for Each Major Component of the Electrical System for Review by the A/E and Owner. Major Items Include, but Are Not Limited to: Raceway, Boxes, Wire and Cable, Equipment, Devices, Light Fixtures, Switchgear, Panelboards, Circuit Breakers, Safety Switches, Fire Alarm, etc. Contractor Shall Review and "Approve" All Submittals for Conformance with the Project Requirements Prior to Issuing to A/E. Contractor Shall Not Order any Materials Without A/E's Review of Submittals. Allow 10 Days for Review by A/E.
19. The Electrical Portion of the Contract Documents are Coordinated with the Design Basis Equipment Specified by Division 16 and Other Divisions. Where the Contractor Elects to Substitute a Product in Lieu of Providing the Design Basis, and Said Substitution is Accepted by the A/E and Owner, the Contractor Shall Make All Corrections to the Electrical System Necessary in Order to Ensure a Complete and Operational Installation of the Equipment at No Additional Costs. Where the Contractor's Decision to Substitute Products Results in the Need for the A/E to Revise the Contract Documents, the A/E Reserves the Right to Request Compensation from the Contractor for Said Services.
20. Contractor Shall Maintain a Current Accurate Set of Project Record Documents (As-Builts) at the Site Throughout the Duration of this Project. Record Drawings Shall be Updated Each Day to Reflect the Actual Locations, Sizes, Routing, etc. of Each Portion of the Electrical System Affected by this Work. A Final Set of Record Documents Shall be Issued to the A/E for Review and then Submitted to the Owner at the Conclusion of the Project.
21. All 120V, 20A Branch Circuits Over 80'-0" in Length Shall be #10 AWG CU. Conductors Minimum to Accommodate Voltage Drop. Where a Conflict Exists Between this Requirement and Conductor Sizes Indicated Elsewhere in the Contract Documents, this Requirement Shall Take Precedence.
22. All 277V, 20A Branch Circuits Over 150'-0" in Length Shall be #10 AWG CU. Conductors Minimum to Accommodate Voltage Drop. Where a Conflict Exists Between this Requirement and Conductor Sizes Indicated Elsewhere in the Contract Documents, this Requirement Shall Take Precedence.
23. In General, Voltage Drop for any Branch Circuit Shall not Exceed 3%. Voltage Drop for any Feeder Shall not Exceed 2%. Where Voltage Drop Exceeds these Requirements, the Contractor Shall Increase the Size of the Conductors and Raceway as Required.
24. Contractor Shall Provide all Penetrations through Floors, Walls, Ceilings and Roofs. Coordinate Locations and Sizes with the Architectural and Structural Portions of the Contract Documents, Field Conditions, and Work of all Other Divisions/Trades. All Openings Shall be Sealed Watertight.
25. Where Openings Penetrate a Fire Rated Floor, Wall, Ceiling, or Roof, Firestopping shall be Provided. Meet all Requirements for the U.L. Assembly and Raceways Involved.
26. Contractor Shall Include all Costs for Excavation, Saw Cutting, Directional Boring, Core Drilling, Backfill, Surface Restoration, Repair of Finishes, etc. that is Required in Order to Meet the Project Requirements.
27. Contractor Shall Locate, Identify, Protect, and Document All Utility Lines Located within the Project Boundary Utilizing Appropriate Local Locating Services.
28. All Components of the Electrical System Located Outdoors or Indoors Where Exposed to Significant Moisture Shall be Rainproof Type NEMA 3R (Minimum), Whether Indicated on Contract Documents or not.
29. All Components of the Electrical System Located in a Hazardous (Classified) Location Shall be Approved for Use in Said Location Whether Indicated on the Contract Documents or not.
30. All Work on the Electrical System Required by the Contract Documents Shall be Coordinated with the Work of All Other Divisions/Trades Prior to the Commencement of Work. Avoid Interferences with the Progress of other Divisions/Trades.
31. Coordinate the Exact Locations of all Devices (Receptacles, Telecommunications Outlets, Fire Alarm, Security, etc.) with the Architectural Plans, Approved Millwork Shop Drawings, and Field Conditions.
32. Coordinate the Exact Requirements of All Mechanical (Division 15) Equipment Prior to Preparing Submittals (Product Data & Shop Drawings). The Contractor Shall Provide All Raceways, Conductors, Boxes, Equipment, Disconnect Switches, Circuit Breakers, Control Circuits, Control Transformers, Fire Alarm Shutdown, etc. Required for a Complete and Operational Division 15 System. Verify Exact Location of All Mechanical Equipment Prior to Commencement of Work.
33. Coordinate the Exact Requirements of All Miscellaneous Equipment (Copiers, Fax Machines, Printers, Kitchen Appliances, Laundry Appliances, Projection Screens, Shop Tools, Machinery, Elevators, etc.) with Approved Shop Drawings, Manufacturer's Instructions, and Equipment Name Plate and Provide All Electrical Required.
34. The Use of Aluminum Conductors, Raceways, Boxes, Bussing, Windings, etc. are Prohibited Unless Specifically Noted Otherwise, or Unless A/E and Owner Grants Written Permission.
35. The Use of Electrical Non-Metallic Tubing (ENT), and Liquidtight Flexible Nonmetallic Conduit (LFNC) are Prohibited Unless Specifically Noted Otherwise, or Unless A/E and Owner Grants Written Permission.
36. All Feeder and Branch Circuit Conductors, Including Low Voltage Systems, Shall be Installed in a Complete Raceway System Unless Specifically Noted Otherwise.
37. All Raceways that Rise Up from Underground Shall be Galvanized Rigid Steel (RGS) with Bitumastic Coating for at Least the Final 18" in Length. Use of Nonmetallic Conduit Above Grade is not Acceptable.
38. Provide a Separate Dedicated Neutral Conductor for All 120-Volt Receptacle Branch Circuits (Including Modular Furniture), and All Lighting Branch Circuits Controlled by a Dimmer. Shared Neutrals are not Acceptable.
39. All Branch Circuits Shall be Installed in 3#4" Trade Size Raceway Minimum, Including Flexible Metal Conduit and Liquidtight Flexible Metal Conduit (FMC & LFMC).
40. Flexible Metal Conduit and Liquidtight Flexible Metal Conduit (FMC & LFMC) Shall Not be Used in Lengths that Exceed 6'-0" Unless Specifically Noted Otherwise, or Unless A/E and Owner Grants Written Permission.
41. Panel Schedules Indicate Dedicated Homeruns for Each Branch Circuit. At His Discretion, the Contractor May Group Branch Circuits into a Common Homerun Where the Homerun Does not Exceed 3 Phase Conductors, 3 Neutral Conductors, 1 Equipment Ground and 1 Isolated Ground (8 Wires Maximum). The Contractor Shall Increase the Homerun Raceway Size as Necessary to Comply with the N.E.C. Raceway Fill Requirements.
42. Provide Plastic Laminate Name Tags on Each Switchgear, Switchboard, Panelboard, Motor Control Center, Safety Switch, Control Panel, Cabinet, and Any Other Major Component of the Electrical System.
43. Provide Typed Panel Directories for All Panelboards. Directories Shall Reflect True Project As-Built Conditions for All Branch Circuits. Directories Shall Include Where Each Panel is Fed from. Additionally, Each Branch Circuit Load Description Shall Include the Room Numbers for Each Load Served (i.e. "Receptacles - 501, 503"). Room Numbers Shall be Based on Actual Room Signage Installed in Field. Coordinate Exact Room Numbers with A/E and Owner Prior to Completion of Panel Directories.
44. For Switchgear, Switchboards, Motor Control Centers and Other Distribution Equipment that Does not Have Provisions for Attachment of a Panel Directory, Provide Plastic Laminate Name Tags for Each Branch Circuit Breaker. Name Tag Shall Include Load Description and Room Numbers for Each Load Served.
45. All Device Outlet Boxes, Junction Boxes, Pull Boxes, and Raceways Shall be Concealed in Ceilings, Walls or Below Slab Unless Specifically Noted Otherwise, or Unless A/E and Owner Grants Written Permission.
46. Provide a Reinforced Concrete Pad Sized 4" Larger in Both Directions and 4" High for all Freestanding, Floor Mounted Electrical Equipment. Provide Vibration Isolators and/or Anchors per Manufacturer's Instructions.
47. All Lighting Fixtures Shall be Provided Complete with Lamps.
48. Provide Wet Location Listed Fusing at Each Exterior Lighting Fixture that Contains Ballasts.
49. The Contractor Shall Provide All Temporary Normal Lighting, Emergency Lighting, and Exit Signage Required for the Duration of this Project.
50. Coordinate Exact Foundation and/or Compaction Requirements for All Pole Mounted Lighting Fixtures with Structural Engineer. Pole Bases Shall Meet or Exceed All Wind Load Ratings, Gust Factors, Importance Factors, etc. Required by National and/or Local Codes.

FILE NAME = E-0001-SITE.dgn  <small>© Copyright Hanson Professional Services Inc. 2013</small>	USER NAME =	DESIGNED - RDN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF NATURAL RESOURCES	LOCKHOUSE ELECTRICAL LEGEND & GENERAL NOTES STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS	ILLINOIS DEPARTMENT OF NATURAL RESOURCES OFFICE OF WATER RESOURCES	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	CHECKED - RDN	REVISED -				McHENRY	238	62
	PLOT DATE = SEPTEMBER 18, 2013	DRAWN - JFC/EJM	REVISED -				PROJECT FR-435		
		CHECKED - RDN	REVISED -						

ELECTRICAL ABBREVIATIONS

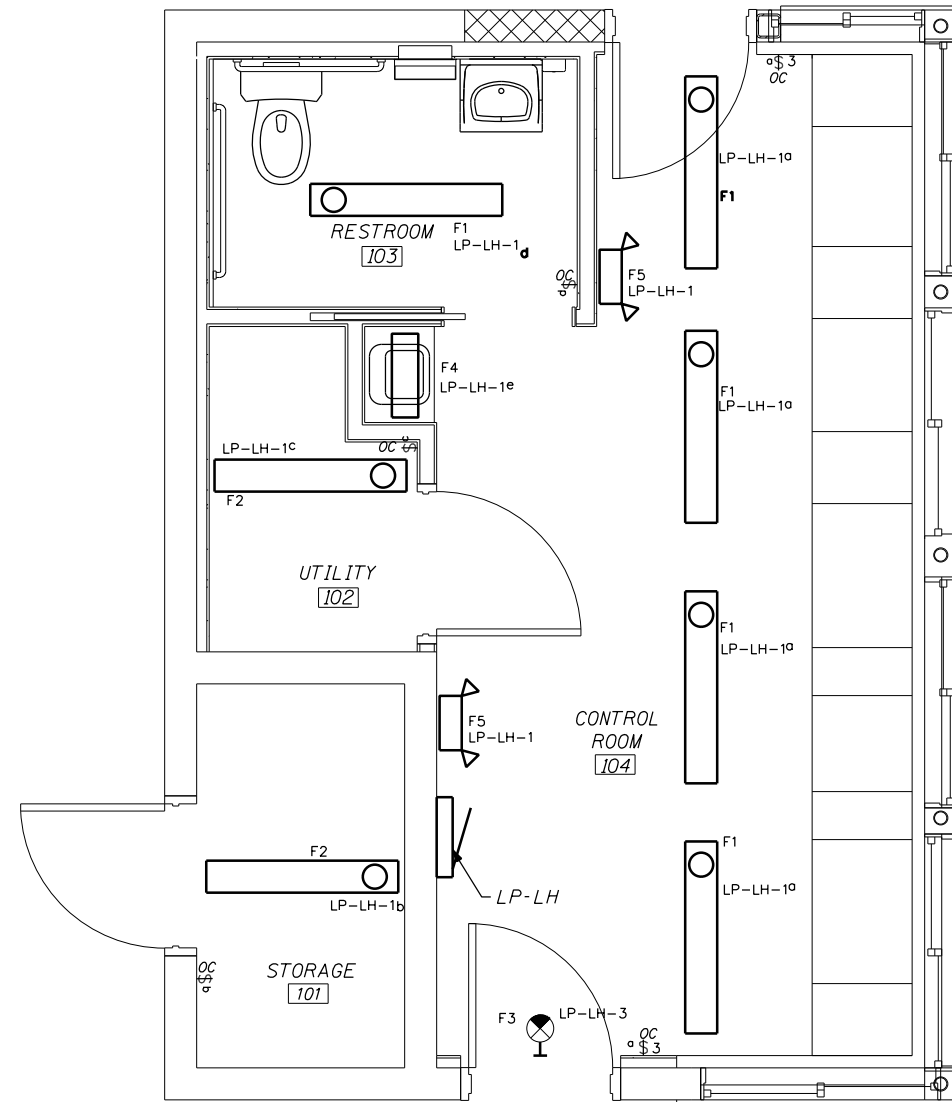
⊙	At	FC	Footcandles	NF	Non-Fused
A/C	Air Conditioning	FLA	Full Load Amperes	NFPA	National Fire Protection Association
AC	Alternating Current	FLR	Floor	NIC	Not In Contract
A/E	Architect/Engineer	FT	Feet	NL	Night Light, Not Switched
AFD	Adjustable Frequency Drive	FTB	Fan Terminal Box	NO	Normally Open Or Number
AFF	Above Finished Floor	FVNR	Full Voltage Non-Reversing	NPT	National Pipe Thread
AFG	Above Finished Grade	G or Gnd	Ground	OD	Outside Diameter
AHJ	Authority Having Jurisdiction	Gal	Gallon	OL	Overload
AHU	Air Handler Unit	Galv	Galvanized	OS&Y	Outside Screw And Yoke
AIC	Amps Interrupting Capacity	GC	General Contractor	%	Percent
AL	Aluminum	GFI	Ground Fault Interrupting	P	Pole
AM	Ammeter	GFP	Ground Fault Protection	PB	Full Box
AMP	Ampere	GPH	Gallons Per Hour	PH or *	Phase
ANSI	American National Standards Institute	GPM	Gallons Per Minute	PL	Compact Fluorescent Lamp
ATS	Automatic Transfer Switch	GRS	Galvanized Rigid Steel	PNL	Panel Or Panelboard
AWG	American Wire Gauge	HID	High Intensity Discharge	PR	Pair
BKR	Breaker	HH	Hand Hole	PR1	Primary
Bldg	Building	HO	High Output	PSF	Pounds Per Square Foot
BMS	Building Management System	HP	Horsepower Or Heat Pump	PSI	Pounds Per Square Inch
BPS	Bolted Pressure Switch	HPF	High Power Factor	PT	Potential Transformer
BTU	British Thermal Units	HPS	High Pressure Sodium	PVC	Polyvinyl Chloride
BTUH	British Thermal Units Per Hour	HR	Hour	Recept	Receptacle
C	Conduit	HS	Heat Strip	RGS	Rigid Galvanized Steel
CB	Circuit Breaker	Ht	Height	RPM	Revolutions Per Minute
CBM	Certified Ballast Manufacturers	HTR	Heater	RS	Rapid Start
CD	Candela	HZ	Hertz	RTU	Roof Top Unit
CFM	Cubic Feet Per Minute	IG	Isolated Ground	SCA	Short Circuit Amperes
CKT	Circuit	IMC	Intermediate Metallic Conduit	Sec	Secondary
C/L	Center Line	INCAND	Incandescent	SF	Square Foot Or Supply Fan
Clg	Ceiling	IN	Inches	S/N	Solid Neutral
Comp	Compressor	JB	Junction Box	SPST	Single Pole Single Throw
Cond	Conduit	K	Kelvin Or Kilo	SS	Stainless Steel
Conn	Connection	KCMIL	Thousand Circular Mils	SW	Switch
Cont	Continuous	KVA	Kilovolt Ampere	SWBD	Switchboard
CRAC	Computer Room Air Conditioning Unit	KW	Kilowatt	Sys	System
CRI	Color Rendering Index	KWH	Kilowatt Hour	Temp	Temperature
CT	Current Transformer	LAHJ	Local Authority Having Jurisdiction	TTB	Telephone Terminal Board
CTR	Counter	LED	Light Emitting Diode	TTC	Telephone Terminal Cabinet
CU	Copper Or Condenser Unit	LF	Linear Feet	TV	Television
CW	Cold Water	LLD	Lamp Lumen Depreciation	TVSS	Transient Voltage Surge Suppressor
DB	Direct Buried	LLF	Light Loss Factor	TVTC	Television Terminal Cabinet
DC	Direct Current	LPF	Low Power Factor	TVEC	Television Equipment Cabinet
Disc	Disconnect	LT	Light	Typ	Typical
Disc Sw	Disconnect Switch	LTG	Lighting	UG	Underground
DN	Down	LTS	Lights	UL	Underwriter's Laboratories
DPST	Double Pole Single Throw	LV	Low Voltage	UN	Unless Otherwise Noted
DS	Disconnect Switch	M	Meter	VE	Value Engineer
EA	Each	Maint	Maintenance	VFD	Variable Frequency Drive
ECB	Enclosed Circuit Breaker	Max	Maximum	VHF	Very High Frequency
EC	Electrical Contractor	MCB	Main Circuit Breaker	VHO	Very High Output
EDH	Electric Duct Heater	MCC	Motor Control Center	V	Volt
EF	Exhaust Fan	MCM	Thousand Circular Mils	VA	Volt Ampere
Elev	Elevation Or Elevator	Mfg	Manufacturer	VAV	Variable Air Volume
EMS	Energy Management System	MH	Manhole Or Metal Halide	VM	Volt Meter
EMT	Electrical Metallic Tubing	MIN	Minimum	Vol	Volume
Equip	Equipment	MLO	Main Lug Only	W	Watt Or Wire
Est	Estimate	MM	Millimeter	WP	Weatherproof
ETD	Existing To Be Demolished	MOC	Maximum Overcurrent Protection	WSA	Wire Size Amperes
ETR	Existing To Be Relocated	MPH	Miles Per Hour	WW	Wireway Or Auxiliary Gutter
EWC	Electric Water Cooler	MTD	Mounted	XFMR	Transformer
EWH	Electric Water Heater	MV	Medium Voltage	Y	Wye
Ex or Exist	Existing	#	Number	YD	Yard
F/A	Fire Alarm	N	Neutral	YR	Year
FAAP	Fire Alarm Annunciator Panel	NC	Normally Closed	3R	Rainproof
FACP	Fire Alarm Control Panel	NEC	National Electrical Code (Nfpa 70)	4X	Dusttight, Watertight
FATC	Fire Alarm Terminal Cabinet	NEMA	National Electrical Manufacturers Association		



ELECTRICAL FLOOR PLAN - DEMOLITION

GENERAL DEMOLITION NOTES:

1. All Existing Abandoned Items Above Ceiling Including Hangers, Supports, Conduit, Piping, Wiring, etc., to be Removed Back to Source and Capped.
2. Remove All Existing Electrical Materials and Associated Items as Shown or Noted on the Drawings and as Required by the Work.
3. Remove All Abandoned Wiring, Conduit, Fittings, etc., in the Project Area. Cap All Stubs, and Seal Penetrations Through Walls and Floors.
4. All Conditions Shall Be Carefully Field Determined and Verified Prior to Removal.
5. All Existing Items Requiring Power to Remain, Shall Be Re-Connected to their Existing Circuits if Interrupted by an Adjacent Item to be Demolished.
6. Salvageable Items Such as Lighting Fixtures, Devices, Circuit Breakers, etc; to be Removed Shall be Turned Over to the Owner. Items not Salvaged Shall be Removed from the Property and Disposed of Legally.
7. Contractor to Field Verify all Circuit Numbers and Update Plans to Reflect Correct Numbers During As-Built Drawing Phase.



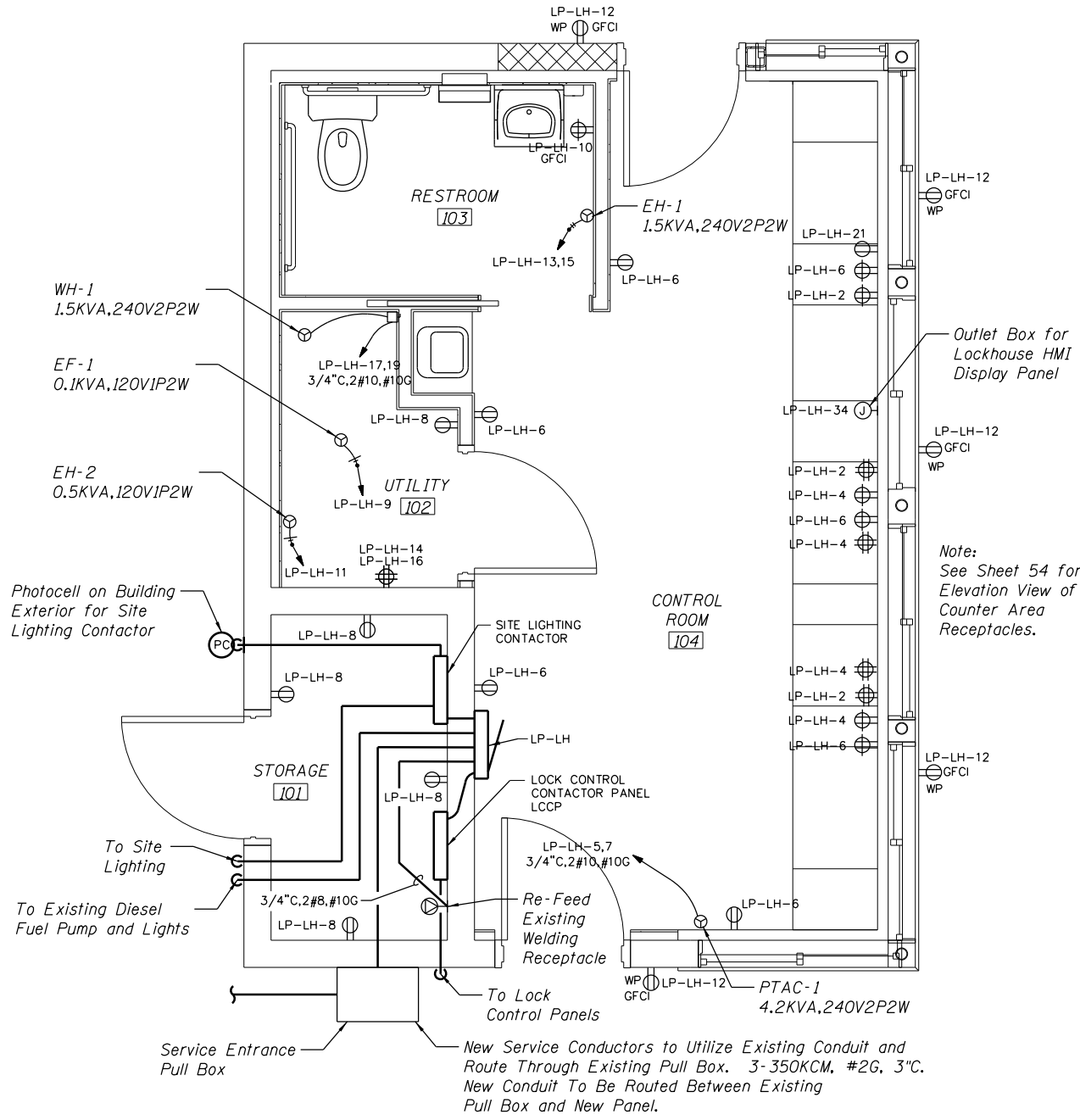
ELECTRICAL FLOOR PLAN - LIGHTING

LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	LAMP	DESCRIPTION	BALLAST	MOUNTING	MODEL	INPUT WATTS	VOLTS
F1		(2) 28W T5, 4100K	Surface Mounted Fluorescent Volumetric Wrap Around Light Fixture, Roll Formed Steel Housing, Die Cast End Caps, Post Fabrication Painted with White Polyester Powder Coat, High Angle Brightness Control, Program Rapid Start Ballast.	Electronic	Ceiling	Lithonia: ST5 2 28T5 MVolt GEB10PS Williams: AV12 or Approved Equal	57.6	120V 1P 2W
F2		(2) 28W T5, 4100K	Low Profile Industrial Fixture. Symmetric White Reflector, Die Formed Code Gauge Steel, High Gloss Baked White Enamel Finish, 8% Uplight, HPF Electronic Ballast with Less than 10% THD.	Electronic	Ceiling	Lithonia: Z 2 28T5 SMR Metalux: SNF Series Columbia Lighting: CS or Approved Equal	67	120V 1P 2W
F3		(1) 5W LED'S	Led Exit Sign, White Aluminum Housing and Face, Stencil Style Face with 6 Inch High by 3/4 Inch Stroke Red Letters on a White Background. Solid State Voltage Charger, Brown Out Circuit Protection, Test Switch, Indicator Lighting and Self Diagnostics.	Electronic	Wall	Lithonia: Signature Series Cooper Lighting: CX Security Lighting Systems: P Series or Approved Equal	5	120V 1P 2W
F4		(2) F8T5	2" Undercabinet Surface Mounted Lighting Fixture with Prismatic Acrylic Lens and a On/Off Rocker Switch, and Program Rapid Start Ballast with <10%THD.	Electronic	Ceiling	Lithonia Lighting: UC 24 Juno Lighting: UPF22 or Approved Equal	19	120V 1P 2W
F5		(1) ELP L275	Twin Head Emergency Lighting Fixture. White Thermoplastic Housing that is Impact and Scratch-Resistant, and Corrosion-Proof. Battery Backup with Self Diagnostic Testing.	Electronic	Ceiling	Lithonia Lighting: ELM2 LED Cooper Lighting: APEL or Approved Equal	1.5	120V 1P 2W

SWITCH SCHEDULE

CALLOUT	SYMBOL
Generic Switch, 3 Indicates 3 Way	\$
Wall Switch Sensor	\$8



ELECTRICAL FLOOR PLAN - POWER

EQUIPMENT SCHEDULE

CALLOUT	SYMBOL	VOLTS	AMPS	KVA	CIRCUIT
EF-1	⊕	120V 1P 2W	1.04	0.1	LP-LH-9
EH-1	⊕	240V 2P 2W	6.25	1.5	LP-LH-13,15
EH-2	⊕	120V 1P 2W	4.17	0.5	LP-LH-11
PTAC-1	⊕	240V 2P 2W	17.5	4.2	LP-LH-5,7
WH-1	⊕	240V 2P 2W	6.25	1.5	LP-LH-17,19

LP-LH

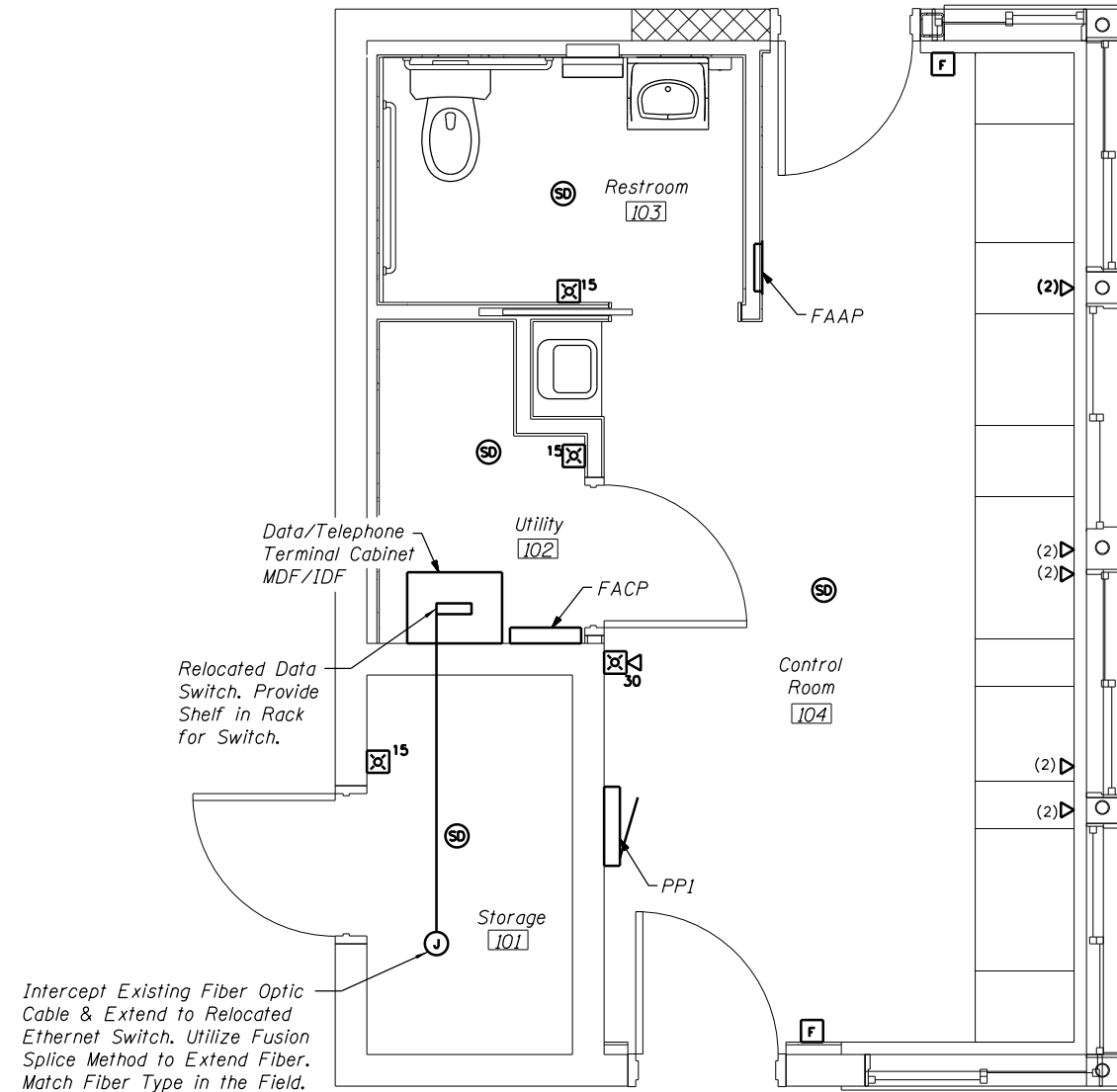
ROOM UTILITY ROOM 102 VOLTS 240/120V 2P 3W AIC 10,000
MOUNTING SURFACE BUS AMPS 400 MAIN BKR 300
FED FROM UTILITY NEUTRAL 100% LUGS STANDARD
NOTE

CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD		CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD	
			A	B				A	B
1	20/1	LIGHTING, 101, 102, 103, 104	0.444		2	20/1	RECEPTACLE, 104	0.54	
3	20/1	LIGHTING, 104		0.005	4	20/1	RECEPTACLE, 104		0.9
5	30/2	PTAC-1, 104	2.1		6	20/1	RECEPTACLE, 104	1.26	
7				2.1	8	20/1	RECEPTACLE, 101, 102		0.9
9	20/1	EF-1, 102	0.1		10	20/1	RECEPTACLE, 103	0.18	
11	20/1	EH-2, 102		0.5	12	20/1	EXTERIOR RECEPTACLE		0.9
13	20/2	EH-1, 103	0.75		14	20/1	RECEPTACLE, 102	0.18	
15				0.75	16	20/1	RECEPTACLE, 102		0.18
17	20/2	WH-1, 102	0.75		18	20/1	SUPPLEMENTAL AERATORS/PANEL HEATERS	1.5	
19				0.75	20	20/1	SUPPLEMENTAL AERATORS/PANEL HEATERS		1.5
21	20/1	REFRIGERATOR RECEPTACLE, 104	.68		22	20/1	SUPPLEMENTAL AERATORS/PANEL HEATERS	1.5	
23	20/1	SPARE		0	24	20/1	SUPPLEMENTAL AERATORS/PANEL HEATERS		1.5
25	20/1	SPARE	0		26	20/1	SUPPLEMENTAL AERATORS/PANEL HEATERS	1.5	
27	20/1	SPARE	0		28	20/1	SUPPLEMENTAL AERATORS/PANEL HEATERS		1.5
29	20/1	SPARE	0		30	20/1	SUPPLEMENTAL AERATORS/PANEL HEATERS	1.5	
31	20/1	SPARE		0	32	20/1	EXISTING SHED		0.5
33	20/2	SITE LIGHTING	1.18		34	20/1	HMI DISPLAY PANEL AND LCCP CONTROL POWER (E) DIESEL FUEL PUMP & LIGHTS	0.2	
35				1.18	36	20/1	TVSS		1.04
37	100/2	CONTACTOR PANEL FOR LOCK CONTROLS	6.53		38	30/2		0	
39				6.53	40			0	0
41	50/2	WELDING OUTLET, 101	4		42	20/1	SPACE	0	0
43				4	44	20/1	SPACE	0	0
45	20/1	SPACE	0		46	20/1	SPACE	0	0
47	20/1	SPACE	0		48	20/1	SPACE	0	0
49	20/1	SPACE	0		50	20/1	SPACE	0	0
51	20/1	SPACE	0		52	20/1	SPACE	0	0
TOTAL CONNECTED KVA BY PHASE								24.9	24.7
TOTAL CONNECTED AMPS BY PHASE								207	206

	CONN. KVA	CALC. KVA		CONN. KVA	CALC. KVA
LIGHTING	3.85	4.81 (125%)	CONTINUOUS	11.2	14 (125%)
LARGEST MOTOR	4.2	5.25 (125%)	HEATING	3.5	3.5 (100%)
OTHER MOTORS	13.2	13.2 (100%)	NONCONTINUOUS	0	0 (100%)
RECEPTACLES	5.72	5.72 (50%>10)	KITCHEN EQUIP	0	0 (N/A)
			NONCOIN/DIVERSE	0	0 (N/A)
			TOTAL KVA	49.1	49.9
			BALANCED PHASE AMPS 210		

RECEPTACLE SCHEDULE

CALLOUT	SYMBOL	NEMA	VOLTS	FEATURES
Above Counter	⊕	NEMA 5-20R	120V 1P 2W	GND
Duplex2	⊕		120V 1P 2W	GND
GFI Counter	⊕		120V 1P 2W	GFCI, GND
GFI WP	⊕		120V 1P 2W	WP, GFCI, GND
Quadruplex	⊕		120V 1P 2W	GND
Welding Receptacle	⊕		240V 2P 3W	GND



Intercept Existing Fiber Optic Cable & Extend to Relocated Ethernet Switch. Utilize Fusion Splice Method to Extend Fiber. Match Fiber Type in the Field.

Relocated Data Switch. Provide Shelf in Rack for Switch.

Data/Telephone Terminal Cabinet MDF/IDF

Utility

102

FACP

Control Room

104

PP1

Storage

101

Restroom

103

ELECTRICAL FLOOR PLAN - SPECIAL SYSTEMS

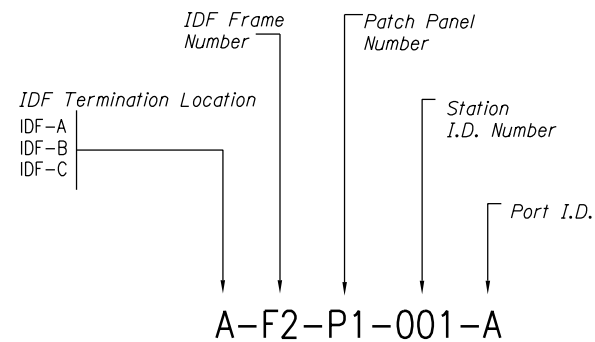
FIRE ALARM SCHEDULE

CALLOUT	SYMBOL	NOTE 1
Audio/Visual Alarm	⊠	Provide a 3/4" Conduit Between the Fire Alarm Device and the FACP. Provide Wiring per Manufacturer's Direction.
Manual Alarm Station	F	Provide a 3/4" Conduit Between the Fire Alarm Device and the FACP. Provide Wiring per Manufacturer's Direction.
Smoke Detector	⊙	Provide a 3/4" Conduit Between the Fire Alarm Device and the FACP. Provide Wiring per Manufacturer's Direction.
Visual Alarm	⊠	Provide a 3/4" Conduit Between the Fire Alarm Device and the FACP. Provide Wiring per Manufacturer's Direction.

TELEPHONE AND DATA SCHEDULE

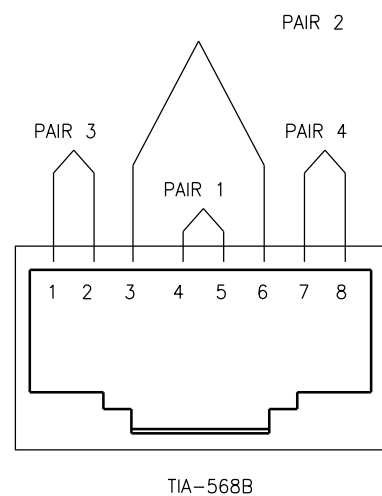
CALLOUT	SYMBOL	NOTE 1
Computer Outlet	◁	Provide a 1" Conduit Between Data/Telephone Terminal Cabinet and the Wall Outlet. Install 2 Category 6 Cables Between the Terminal Cabinet and the Faceplate. Provide a 4 Port Faceplate with 2 Active Category 6 RJ-45 Jacks and Two Spare Ports.

Note:
See Sheet 54 for Elevation View of Counter Area Computer Outlets.

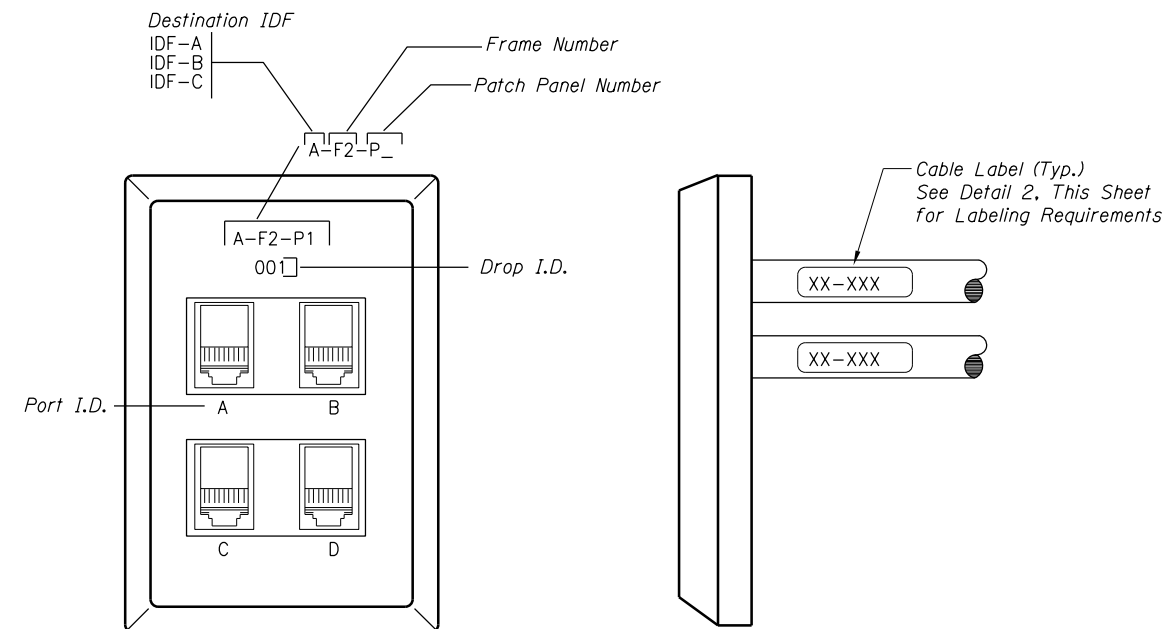


Note:
Locate Identification Markers on Both Ends of Cables and as Specified on Project Specifications.

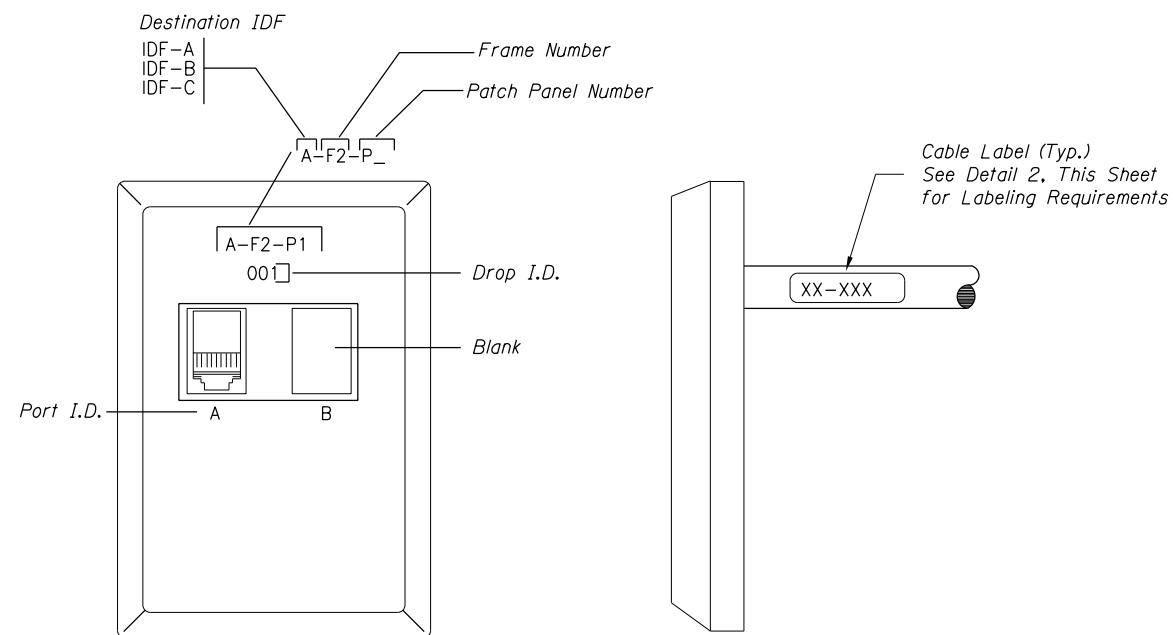
CABLE LABELING REQUIREMENT DETAIL



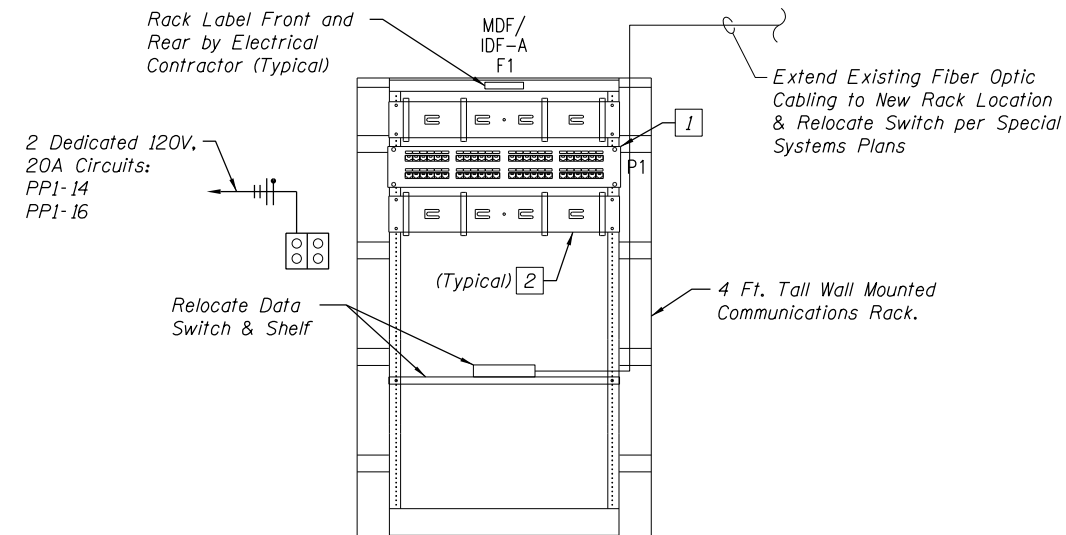
TYPICAL JACK WIRING DETAIL



TYPICAL VOICE/DATA OUTLET



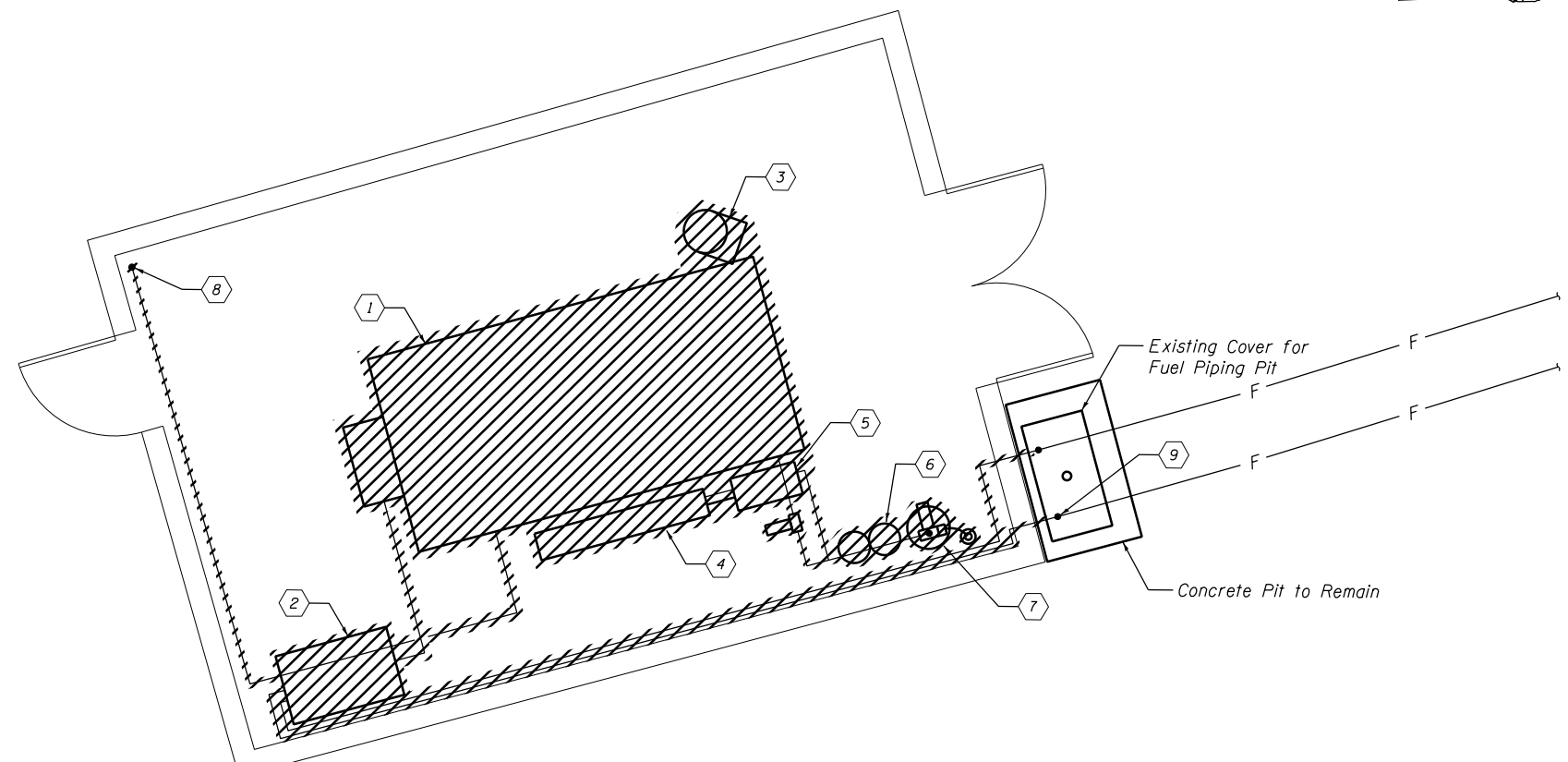
TYPICAL VOICE/DATA OUTLET



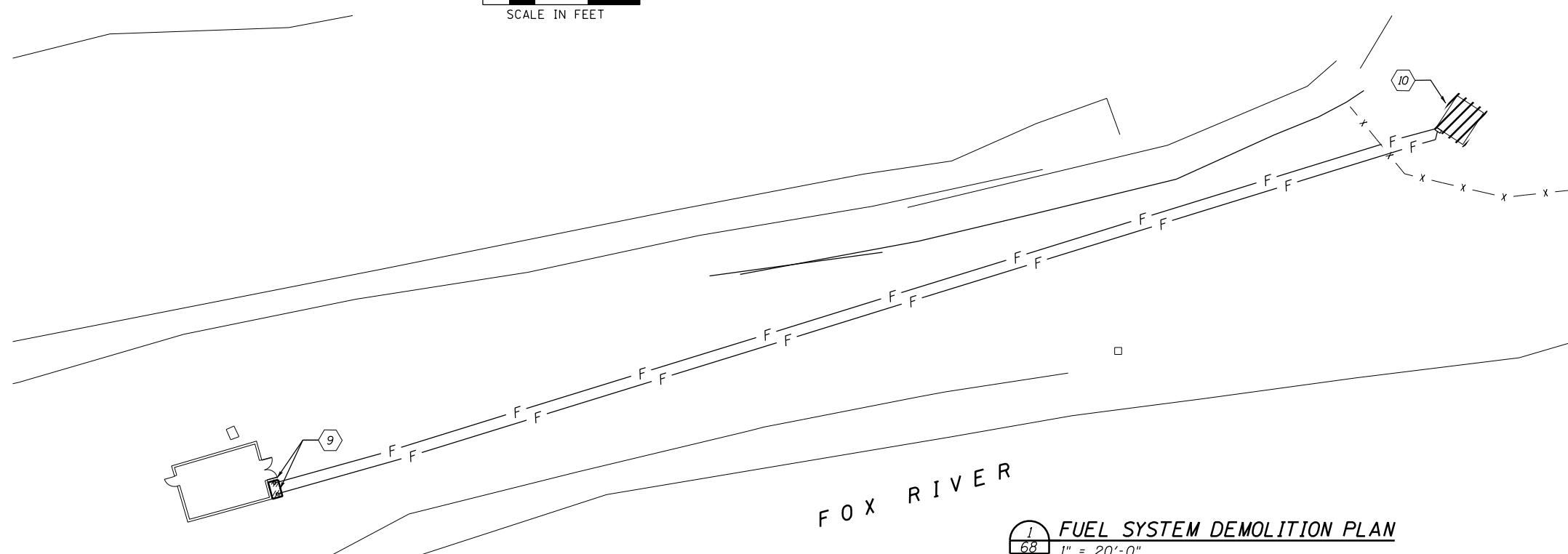
IDF-A KEYED NOTES:

- [1] Cat. 6 Patch Panel by Contractor.
- [2] Two Sided Horizontal Cable Management by Contractor.

IDF-C ELEVATION ROOM 102



2
68
BOILERHOUSE DEMOLITION PLAN
3/8" = 1'-0"
SCALE IN FEET



1
68
FUEL SYSTEM DEMOLITION PLAN
1" = 20'-0"
SCALE IN FEET

GENERAL NOTES

1. It Shall be the Responsibility of the Contractor to Cut, Patch and Repair Area of Demolition and/or New Work. All Work Shall Match the Existing Construction and Finish Unless Otherwise Noted.
2. It Shall be the Contractor's Responsibility to Verify All Existing Conditions. Limits of Demolition Shall be Indicated and as Required to Accommodate New Work Shown On Construction Drawings, Demolition Sheets are Provided as An Aid to the Contractor and May not Reflect All Demolition Required to Accommodate New Work.
3. All Demolition Shall be the Responsibility of the Contractor to Remove and Dispose of Unless Specifically Noted Otherwise. the Department Shall Have the Right to Retain Any Equipment, etc. Such Retainage by Department Shall be Agreed Upon Before Start of Work.
4. Patch All Wall and Ceiling Openings to Match Existing as a Result of Demolition Work.
5. All Work Shown this Sheet shall Be Included Under Boiler Demolition Pay Item.

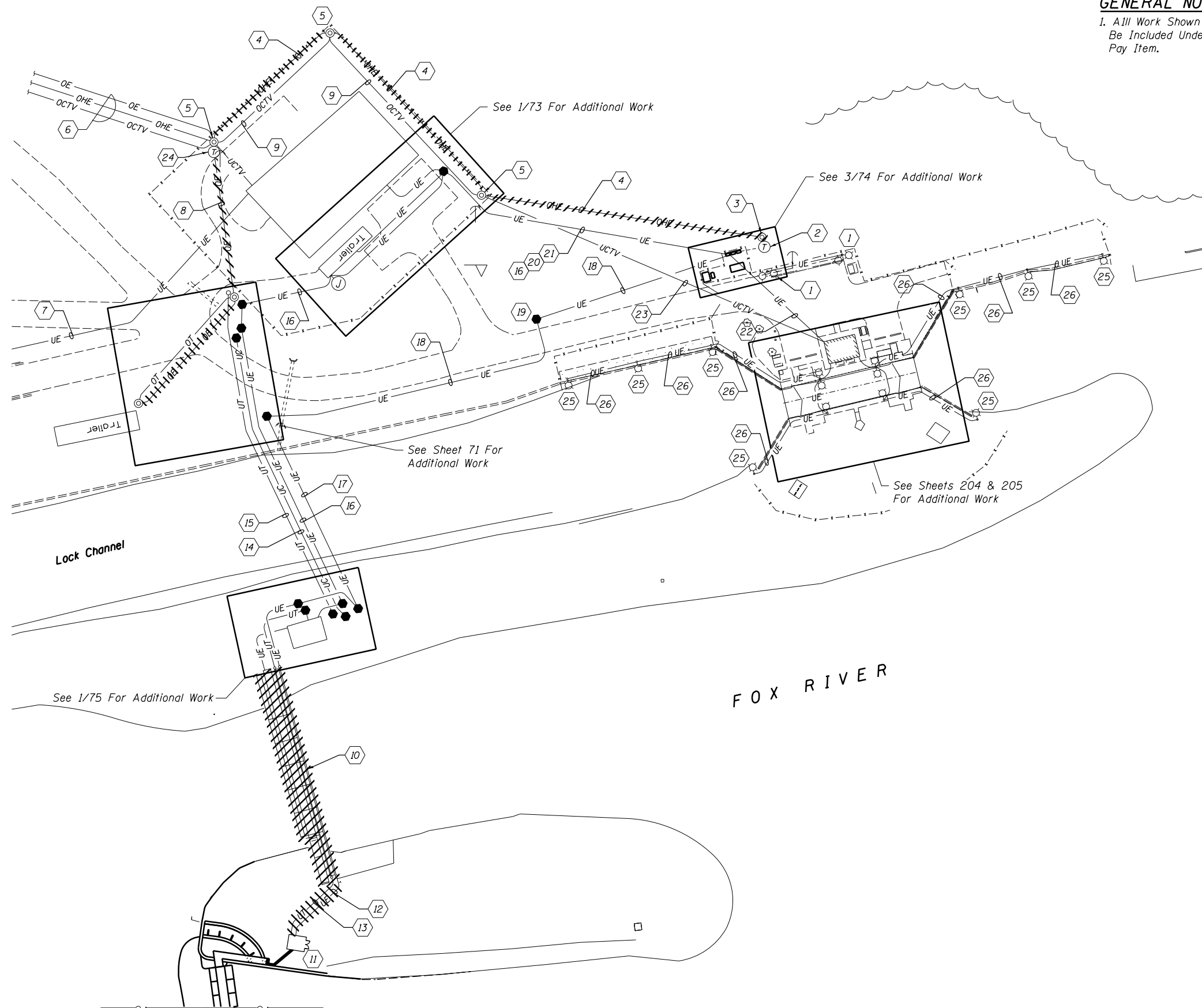
KEYED NOTES

- 1 Disconnect, Disassemble and Remove Existing Steam Boiler Complete, Including all Fuel, Water & Steam Piping; Day Tank & Associated Pump; Feed Water Pump, Tank & Softener; Abandoned Feed Water System; and Existing Concrete Housekeeping Pad.
- 2 Disconnect and Remove Existing Day Tank, Pump and Associated Piping Complete.
- 3 Remove Existing Flue, Base, Concrete Pad and Associated Roof Jack. Patch Existing Roof and Ceiling Openings and Finish to Match Existing.
- 4 Disconnect and Remove Existing Heat Exchanger, Pump, Housing Rack and Associated Piping Complete.
- 5 Disconnect and Remove Abandoned Feed Water System Complete.
- 6 Disconnect and Remove Existing Water Softener System Complete.
- 7 Disconnect and Remove Existing Jet Well, Pump, Piping Complete. Remove Piping Back to Below Floor Surface and Cap and Abandon Well. Patch Floor and Finish to Match Existing.
- 8 Remove Steam Piping Complete to Below Floor Surface and Cap. Abandon Remaining Piping Beneath Slab. Patch Floor and Finish to Match Existing.
- 9 Drain, Clean and Flush Existing Below Grade Fuel Piping. Cut and Remove Above Grade Piping thru Wall and to Below Grade in Existing Pit. Fill Fuel Lines with IDOT Section 1024.02 Non-Shrink Grout. Cap and Abandon Piping Below Grade. Fabricate and Install New Solid Covers for Pit and Install Watertight.
- 10 Disconnect and Remove Existing Diesel Fuel Tank and Existing Concrete Pad. Drain, Clean and Flush Existing Below Grade Fuel Piping. Fill Fuel Lines with IDOT Section 1024.02 Non-Shrink Grout. Cap and Abandon Piping Below Grade. Fill Back Area to Match Existing Grade.

	USER NAME =	DESIGNED - D. MIRABILE	REVISED -	STATE OF ILLINOIS DEPARTMENT OF NATURAL RESOURCES	BOILER DEMOLITION PLANS STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS	ILLINOIS DEPARTMENT OF NATURAL RESOURCES OFFICE OF WATER RESOURCES	COUNTY	TOTAL SHEETS	SHEET NO.
	CHECKED - R. ADRIAN	REVISIED -	McHENRY				238	68	
	PLOT SCALE =	DRAWN - L. TRAVIS	REVISED -				PROJECT FR-435		
	PLOT DATE = SEPTEMBER 18, 2013	CHECKED - G. ROSCETTI	REVISED -						

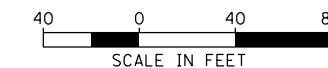
GENERAL NOTES:

1. All Work Shown this Sheet shall Be Included Under Site Demolition Pay Item.



KEYED NOTES:

- ① Existing Pole Mount Light Fixtures to Remain (No Work).
- ② Existing Utility Co. Service Transformer to be Removed.
- ③ Existing Power Pole to be Removed.
- ④ Existing Utility Co. Overhead Primary Line to be Removed.
- ⑤ Existing Pole to Remain.
- ⑥ Existing Overhead Utility Lines to Remain.
- ⑦ Existing Underground Electric to Remain (No Work).
- ⑧ Existing Utility Co. Overhead Secondary Line to be Removed.
- ⑨ Existing Overhead Cable TV Line to Remain.
- ⑩ Existing Gate Structure to be Removed, Including All Gate Electrical.
- ⑪ Existing PHG Gatehouse. See 1/74 for Interior Work.
- ⑫ Existing PHG Gatehouse Feeder Conduit and Wire to be Removed.
- ⑬ Existing Telephone Conduit and Wire to be Removed.
- ⑭ Existing Spare Conduit to Remain.
- ⑮ Existing Telephone Conduit and Wire to Remain.
- ⑯ Existing PHG Gatehouse Feeder. Remove Existing Conductors from Existing Conduit; Existing 3" Conduit to Remain for Reuse.
- ⑰ Existing Boilerhouse Feeder. Remove Existing Conductors from Existing Conduit; Existing 3" Conduit to Remain for Reuse.
- ⑱ Existing PHG Gatehouse Feeder. Remove Existing Conductors from Existing Conduit; Existing 2½" Conduit to Remain for Reuse.
- ⑲ Existing Handhole to Remain.
- ⑳ Existing Service Building Feeder. Remove Existing Conductors from Existing Conduits; Existing 2" Conduits to Remain for Reuse.
- ㉑ Existing Trailer Feeder. Remove Existing Conductors from Existing Conduit; Existing Conduit to Remain Abandoned in Place.
- ㉒ Existing Lockhouse Feeder. Remove Existing Conductors from Existing Conduit; Existing Conduit to Remain for Reuse.
- ㉓ Existing Underground Cable TV Line to Remain.
- ㉔ Existing Utility Co. Service Transformer to Remain.
- ㉕ Existing Area Light Fixture, Pole and Base to be Removed.
- ㉖ Existing Conduit and Wire to be Removed.



FILE NAME = E-1602-SITE.dgn



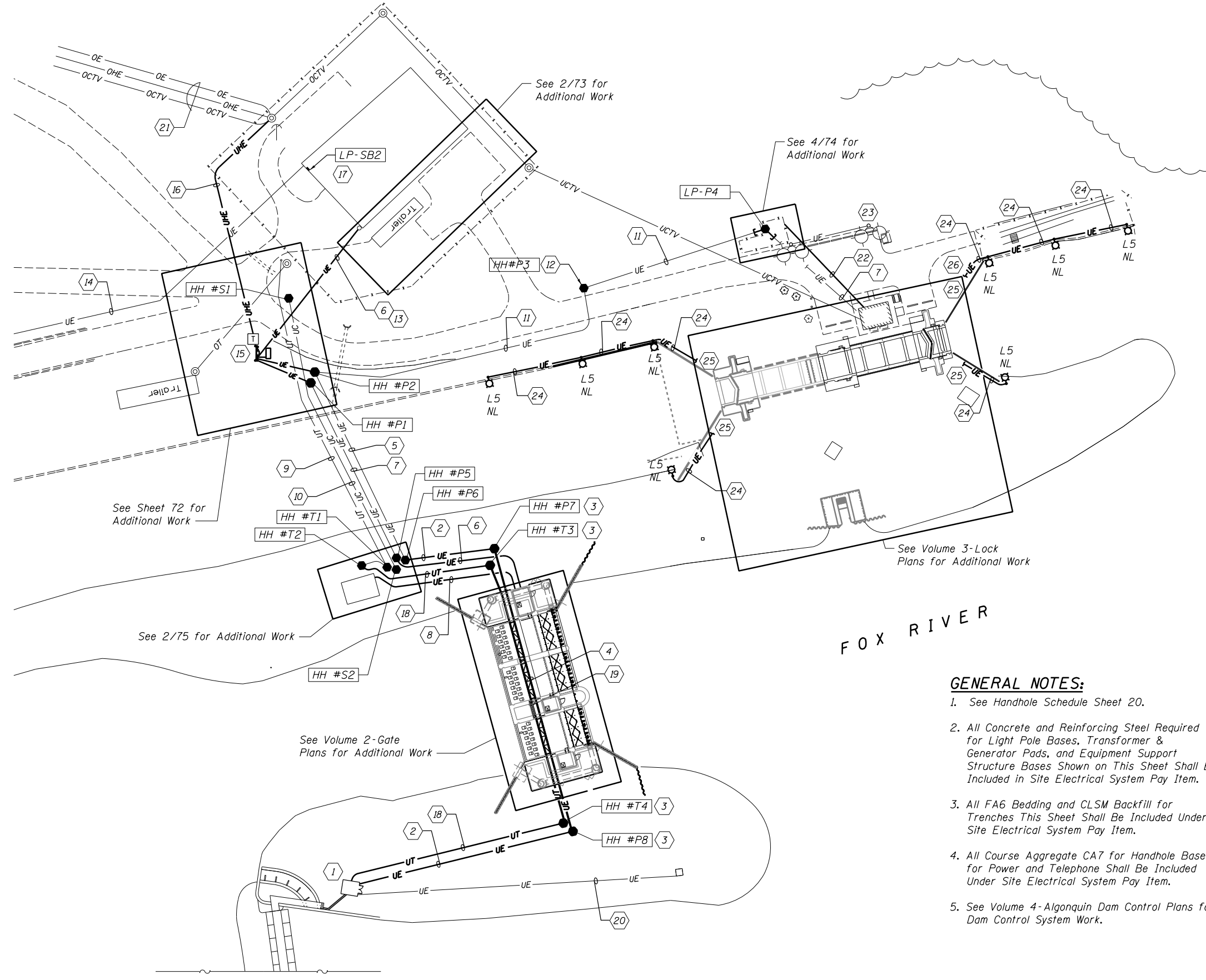
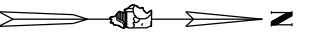
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PLOT SCALE =	CHECKED - B. DAVIDSON	REVISED -
PLOT DATE = SEPTEMBER 18, 2013	DRAWN - L. TRAVIS	REVISED -
	CHECKED - G. ROSCETTI	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

SITE ELECTRICAL DEMOLITION PLAN
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS

ILLINOIS DEPARTMENT
OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES

COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	69
PROJECT FR-435		



KEYED NOTES:

- ① Existing PHG Gatehouse. See 2/74 for interior work.
- ② New 2½" C with 3 #4/0 & 1 #2 G.
- ③ New Handhole. See Detail 2/20.
- ④ New 2½" RGS Conduit with 3 #4/0 & 1 #2 G on New Gate Structure Downstream Bridge.
- ⑤ Existing 3" C with New 3 #4/0 & 1 #2 G.
- ⑥ New 3" C with 3-250 kcmil & 1 #2 G.
- ⑦ Existing 3" C with New 3-350 kcmil & 1 #2 G.
- ⑧ New 1½" C with 3 #2 & 1 #6 G.
- ⑨ Existing Telephone Conduit.
- ⑩ Existing Spare Conduit.
- ⑪ Existing 2½" C with New 3-350 kcmil & 1 #2 G.
- ⑫ Existing Handhole. Raise Handhole So Top is Flush with Existing Grade.
- ⑬ New 1½" C with 3 #1 & 1 #6 G - Existing Trailer Temporary Power.
- ⑭ Existing Underground Electric to Boat Ramp (No Work).
- ⑮ New Padmount Transformer by Utility Co. New Concrete Pad per Utility Co. Requirements by Contractor.
- ⑯ New 4" Conduit by Contractor. New Primary Cables by Utility Co. Route Conduit to Avoid Existing Pavement at Service Building.
- ⑰ Approximate Location of Existing Panelboard in Service Building. Relabel Panelboard "LP-SB2".
- ⑱ New 2" Conduit by Contractor, New Telephone Service Cable by Telephone Co.
- ⑲ New 2" RGS Conduit on New Gate Structure Downstream Bridge by Contractor, New Telephone Service Cable by Telephone Co.
- ⑳ Existing USGS River Gauge Conduit & Wire to Remain - Protect From Damage.
- ㉑ Existing Utility Company's Service Lines.
- ㉒ ¾" C, 2 #10 & 1 #10 G from LP-LH #36 to Existing Fuel Dispenser Junction Box. See 4/74 for Continuation.
- ㉓ Connect Existing Pole Mounted Light Fixtures to New Circuit LP-LH #36.
- ㉔ ¾" C with 2 #8 & 1 #8 G.
- ㉕ To New Lighting Contactor in Lockhouse. See Volume 3-Lock Plans for Continuation.
- ㉖ Route New Conduit to Avoid Existing Trees. See Sheet 38.

GENERAL NOTES:

1. See Handhole Schedule Sheet 20.
2. All Concrete and Reinforcing Steel Required for Light Pole Bases, Transformer & Generator Pads, and Equipment Support Structure Bases Shown on This Sheet Shall Be Included in Site Electrical System Pay Item.
3. All FA6 Bedding and CLSM Backfill for Trenches This Sheet Shall Be Included Under Site Electrical System Pay Item.
4. All Course Aggregate CA7 for Handhole Bases for Power and Telephone Shall Be Included Under Site Electrical System Pay Item.
5. See Volume 4-Algonquin Dam Control Plans for Dam Control System Work.



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PLOT SCALE =	CHECKED - B. DAVIDSON	REVISED -
PLOT DATE = SEPTEMBER 18, 2013	DRAWN - L. TRAVIS	REVISED -
	CHECKED - G. ROSCETTI	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF NATURAL RESOURCES**

**SITE ELECTRICAL NEW WORK PLAN
 STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS**

ILLINOIS DEPARTMENT OF NATURAL RESOURCES OFFICE OF WATER RESOURCES	COUNTY	TOTAL SHEETS	SHEET NO.
	McHENRY	238	70
PROJECT FR-435			

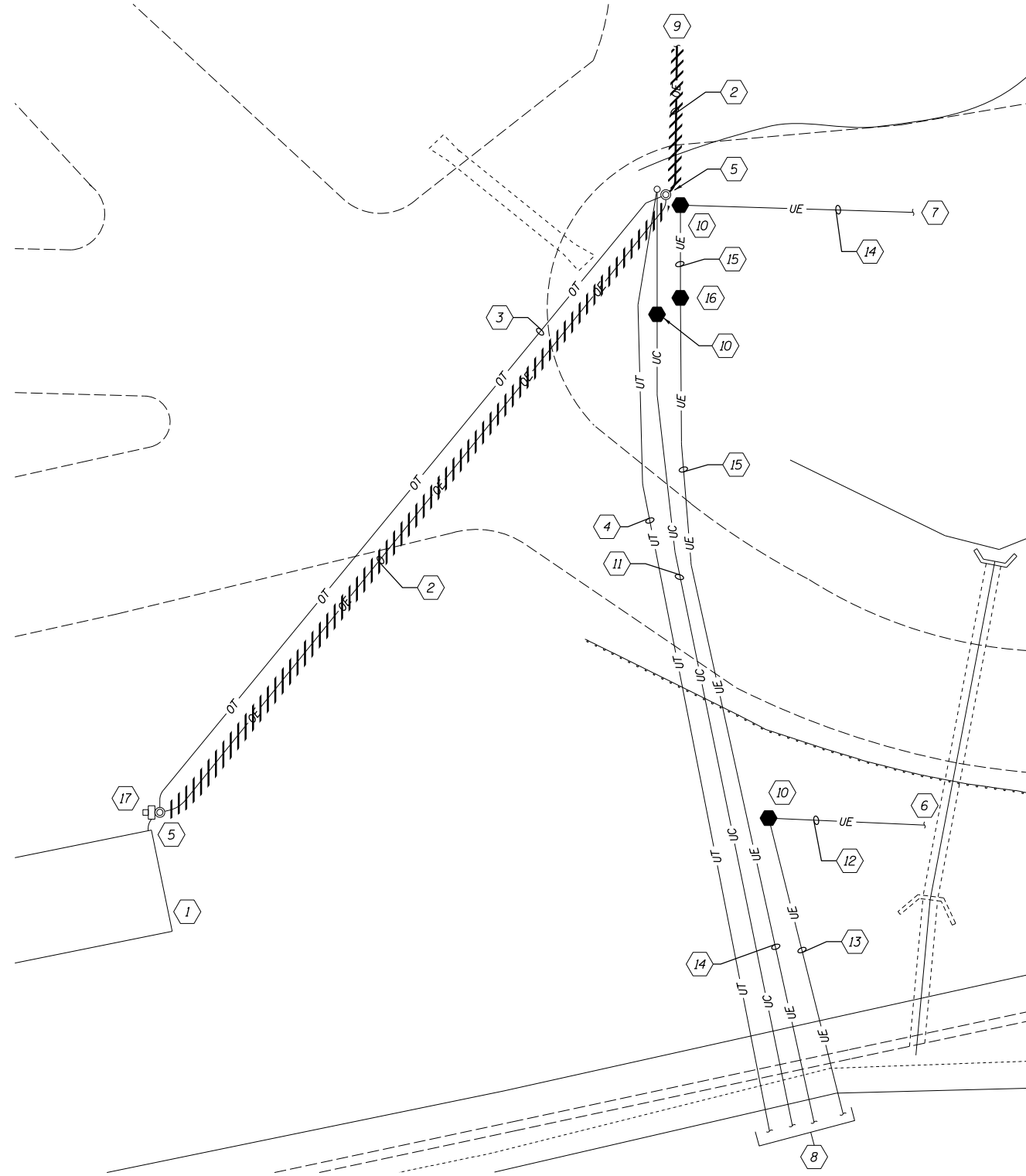


GENERAL NOTE

- All Work Shown this Sheet Shall Be Included Under Site Demolition Pay Item.

KEYED NOTES

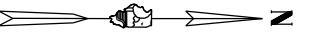
- Existing McHenry County Sheriff's Department Trailer to Remain.
- Existing Utility Company Electrical Service to Trailer to be Removed.
- Existing Overhead Telephone Line to Remain.
- Existing Underground Telephone Line to Remain.
- Existing Pole to Remain.
- To Existing Electric Service Location. See Sheet 69 For Continuation.
- To Existing Service Building. See Sheet 69 For Continuation.
- To Existing Handholes Outside Boiler House Across Boat Channel. See Sheet 70 For Continuation.
- To Existing Utility Company Pole. See Sheet 69 for Continuation.
- Existing Handhole to Remain.
- Existing Spare 4" Conduit to Remain.
- Existing PHG Gatehouse Feeder: 2 1/2" C With 3 #3/0. Remove Existing Conductors from Conduit; Existing Conduit to Remain for Reuse.
- Existing PHG Gatehouse Feeder: 3" C With 3 #3/0 & 1 #4 G. Remove Existing Conductors from Conduit; Existing Conduit to Remain for Reuse.
- Existing Boiler House and Gate Feeder: 3" C with 3 #4/0 & 1 #4 G. Remove Existing Conductors from Conduit; Existing Conduit to Remain for Reuse.
- Existing Boiler House and Gate Feeder: 3" C with 3 #4/0 & 1 #4G. Remove Existing Conductors from Conduit; Existing Conduit to Be Abandoned in Place.
- Existing Handhole to Be Abandoned in Place.
- Existing McHenry County Sheriff's Department Trailer Service Meter to Remain for Reuse.



NEW ELECTRICAL SERVICE LOCATION - DEMOLITION



FILE NAME = E-1604A-SITE.dgn 	USER NAME =	DESIGNED - G. ROSCETTI	REVISED -	STATE OF ILLINOIS DEPARTMENT OF NATURAL RESOURCES	SITE NEW ELECTRICAL SERVICE LOCATION - DEMOLITION STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS	ILLINOIS DEPARTMENT OF NATURAL RESOURCES OFFICE OF WATER RESOURCES	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - B. DAVIDSON	REVISED -				McHENRY	238	71
	PLOT SCALE =	DRAWN - L. TRAVIS	REVISED -				PROJECT FR-435		
	PLOT DATE = SEPTEMBER 18, 2013	CHECKED - G. ROSCETTI	REVISED -						

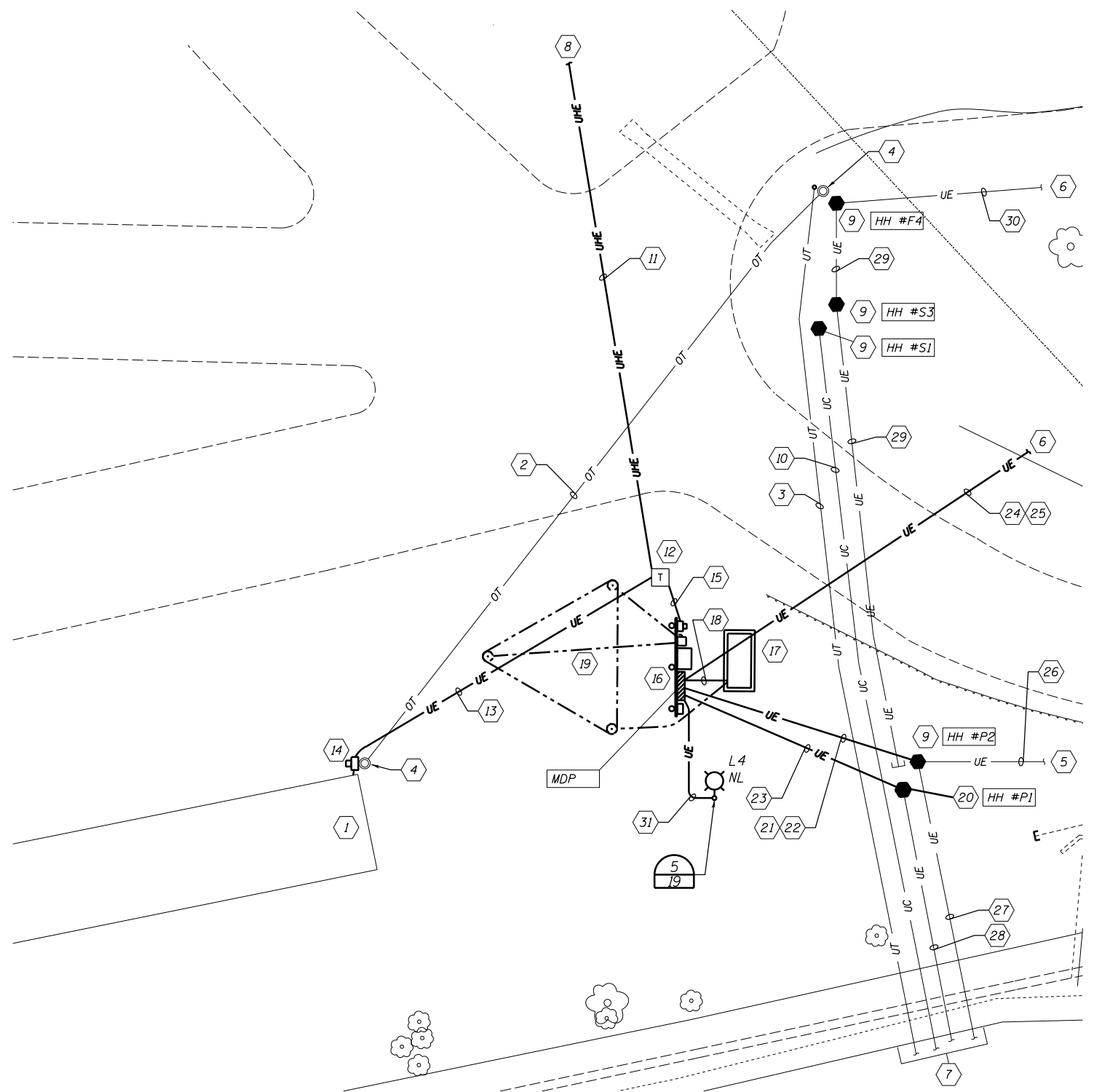


GENERAL NOTES

1. See Handhole Schedule Sheet 20
2. All Concrete and Reinforcement Steel Required for Light Pole Base, Generator & Transformer Pads, and Service Equipment Support Structure Bases Shown This Sheet Shall Be Included Under Site Electrical System Pay Item.
3. All Type FA6 Conduit Bedding and CLSM Trench Backfill for Underground Electrical Work Shall Be Included Under Site Electrical System Pay Item.
4. All Course Aggregate Type CA7 for Telephone and Power Handhole Bases Shall Be Included Under Site Electrical System Pay Item.
5. Terminal Junction Box at New Electrical Distribution Equipment Support Structure Shall Be Included Under Dam Control System Pay Item. See Volume 4-Algonquin Gate Control Plans for Dam Control System Work.

KEYED NOTES

- 1 Existing McHenry County Sheriff's Department Trailer to Remain.
- 2 Existing Overhead Telephone Line to Remain.
- 3 Existing Underground Telephone Line to Remain.
- 4 Existing Pole to Remain.
- 5 To Existing Electric Service Location. See Sheet 70 For Continuation.
- 6 To Existing Service Building. See Sheet 70 For Continuation.
- 7 To Existing Handholes Outside Boiler House Across Boat Channel. See Sheet 70 for Continuation.
- 8 To Existing Utility Company Pole. See Sheet 70 for Continuation.
- 9 Existing Handhole to Remain.
- 10 Existing Spare 4" Conduit to Remain.
- 11 New 4" Conduit By Contractor. New Primary Service Cables By Utility Co.
- 12 New Padmount Service Transformer. Contractor To Provide New Concrete Pad Per Utility Co. Requirements. Utility Co. To Provide Transformer and All Cable Terminations at Transformer.
- 13 New 2" C with 3 #3/0 to Existing McHenry County Sheriff's Trailer By Contractor.
- 14 Existing McHenry County Sheriff's Department Trailer Service Meter. Connect New Underground Service to Meter.
- 15 New Utility Co. Underground Service for Site.
- 16 New Site Electrical Service and Distribution Equipment. See Detail 3/78.
- 17 New Site Standby Generator on IDOT Section 1020 Class SI Concrete Pad: 9'-0"L x 5'-0"W x 1'-0" Thick with #4 Steel Reinforcement Bars 12" O.C. Both Ways Top and Bottom, Minimum 2" from All Sides.
- 18 New 3/2" C, 3-500 kcmil & 1 #2 G.
- 19 New Ground Field. See Grounding Diagram Sheet 78.
- 20 Intercept Existing Boiler House Feeder 3" Conduit and Extend into New Handhole.
- 21 New 3" C, 3-350 kcmil & 1 #2 G Lockhouse Feeder.
- 22 New 3" C, 3-250 kcmil & 1 #2 G New Gate Structure Feeder.
- 23 New 1/2" C, 3#4/0 & 1 #2 G PHG Gatehouse Feeder.
- 24 New 3" C, 3-250 kcmil & 1 #2 G Service Building Feeder.
- 25 New 1/2" C, 3 #1 & 1 #6 G. Temporary Feeder to Existing Trailer for Duration of Construction. Remove Conductors from Conduit at Completion of Construction; Conduit to Remain As Spare.
- 26 New 3-350 kcmil & 1 #2 G in Existing 2 1/2" Conduit for Lockhouse.
- 27 New 3-250 kcmil & 1 #2 G in Existing 3" Conduit for New Gate Structure.
- 28 New 3 #4/0 and 1 #2 G in Existing 3" Conduit for PHG Gatehouse.
- 29 Existing 3" Conduit to be Abandoned in Place.
- 30 Existing Conduit to be Used for New Dam Control System Fiber Optic Network Cabling. See Sheet 223 for Continuation.
- 31 3/4" C, 2 #12 & 1 #12 G. MDP #7

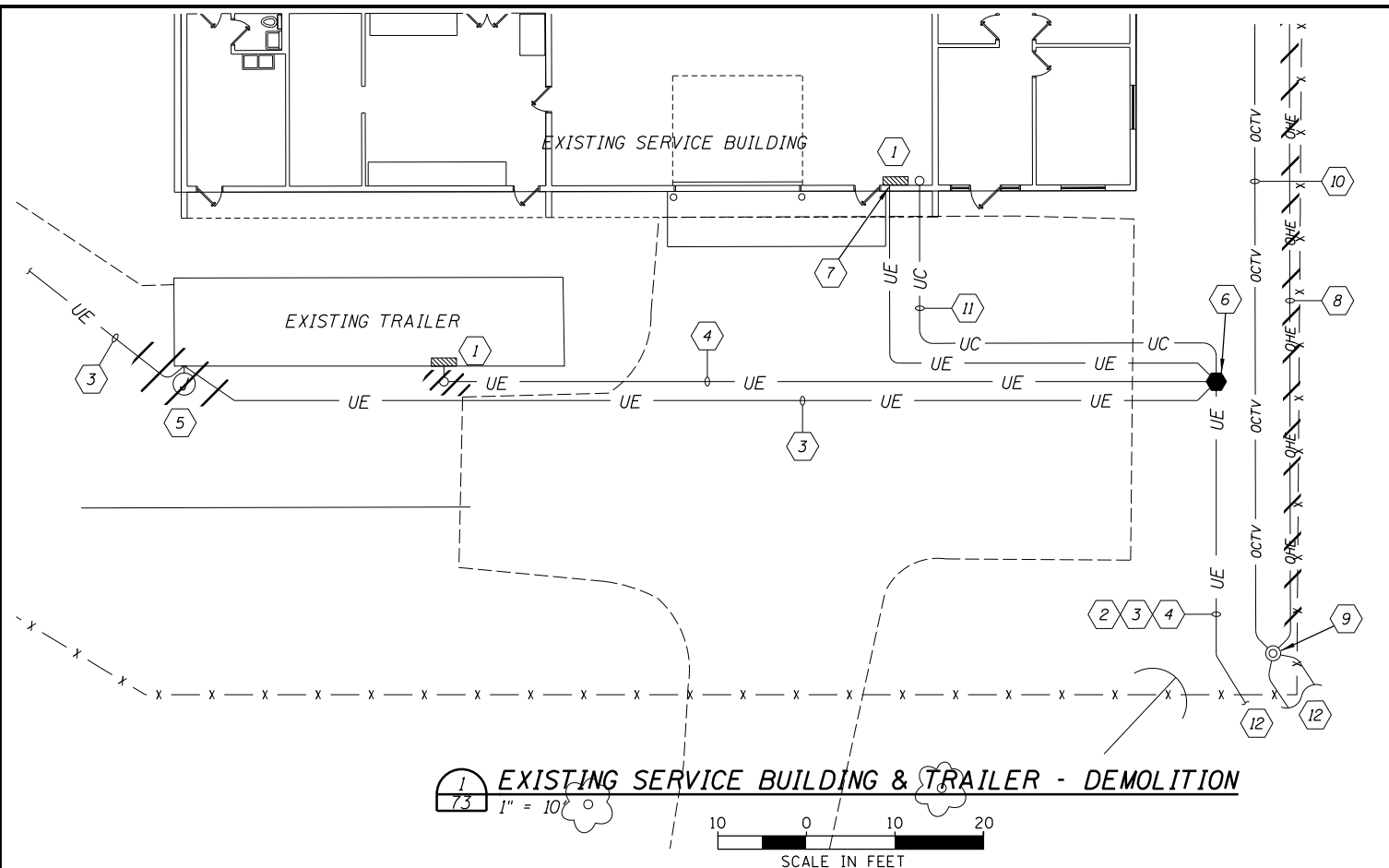


NEW ELECTRICAL SERVICE LOCATION - NEW WORK

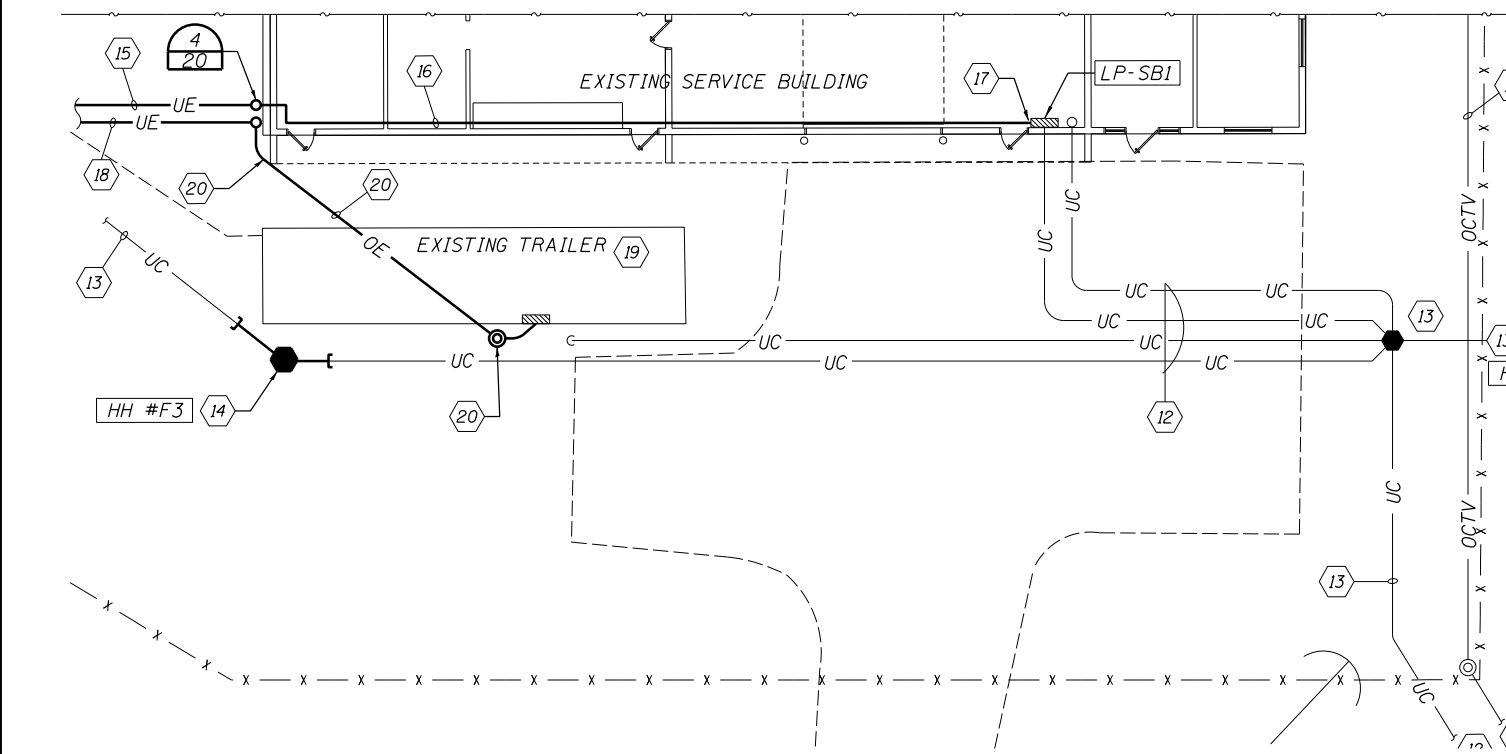
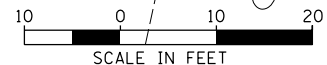
1" = 10'-0"



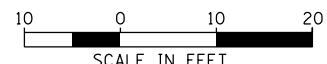
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	CHECKED - B. DAVIDSON	REVISED -	McHENRY				238	72	
	PLOT SCALE =	DRAWN - L. TRAVIS	REVISED -				PROJECT FR-435		
	PLOT DATE = SEPTEMBER 18, 2013	CHECKED - G. ROSCETTI	REVISED -						



1 EXISTING SERVICE BUILDING & TRAILER - DEMOLITION



2 EXISTING SERVICE BUILDING & TRAILER - NEW WORK



GENERAL NOTES:

1. All Work Shown on Plan 1/73 shall Be Included Under Site Demolition Pay Item.
2. All Work Shown on Plan 2/73 (Except Keyed Note 14) shall Be Included Under Site Electrical System Pay Item.
3. All Type FA6 Bedding and CLSM Backfill for Conduit Trenches shall Be Included Under Site Electrical System Pay Item.

KEYED NOTES:

- 1 Existing Panelboard to Remain. Disconnect Existing Feeder.
- 2 Remove Existing Service Building Feeder Conductors from Conduits; Existing 2" Conduits to Remain for Reuse.
- 3 Remove Existing Boilerhouse Feeder Conductors from Existing Conduit; Existing 3" Conduit to Remain for Reuse.
- 4 Disconnect Existing Trailer Feeder and Remove Conductors from Existing Conduit. Remove Exposed Conduits Above Grade; Conduits Below Grade to Remain for Reuse.
- 5 Existing Pull Box Outside Trailer to Be Removed.
- 6 Existing Handhole to Remain.
- 7 Disconnect Existing Conduits from Existing Panelboard and Close Openings in Bottom of Panelboard. One 2" Conduit to Be Used for Dam Controls Wiring; See Volume 4-Algonquin Gate Control Plans for New Work. Cap Second 2" Conduit for Spare.
- 8 Existing Utility Co. Overhead Primary Electric Line to Be Removed.
- 9 Existing Pole to Remain.
- 10 Existing Cable TV Lines to Remain.
- 11 Existing Spare Conduit to Remain.
- 12 To Existing Electrical Service Location by Lockhouse. See Sheets 69 & 70 for Continuation.
- 13 Existing Conduits and Handholes to Remain for Reuse. See Volume 4-Algonquin Gate Control Plans for New Work.
- 14 New Fiber Optic Network Handhole and Conduits to Be Included Under Dam Control System Pay Item. See Volume 4-Algonquin Gate Control Plans.
- 15 New 3" C with 3-250 Kcmil & 1 #2 G. See Sheet 70 for Continuation.
- 16 2-1/2" RGS Conduit with 3-250 Kcmil & 1 #2G. Run Exposed in Existing Service Building.
- 17 Connect New Feeder to Existing Panelboard. Relabel Existing Panelboard as Noted.
- 18 1" C, 3 #1 & 1 #6 G - Temporary Feeder to Existing Trailer for Duration of Construction. Remove Conductors from Conduit at End of Construction and Cap Conduit at Service Building as Spare.
- 19 Existing Trailer to Be Used by IDNR Throughout Construction and to Be Removed at End of Construction. Connect Existing Trailer Panelboard to Temporary Feeder for Duration of Construction.
- 20 3 #2+G Triplex Aerial Cable for Temporary Trailer Power. Support from Existing Service Building and Provide Wood Pole by Trailer as Required. Remove Cable and Supports at End of Construction.
- 21 To New Site Service Location. See Sheet 70 for Continuation.

FILE NAME = E-1605-SITE.dgn



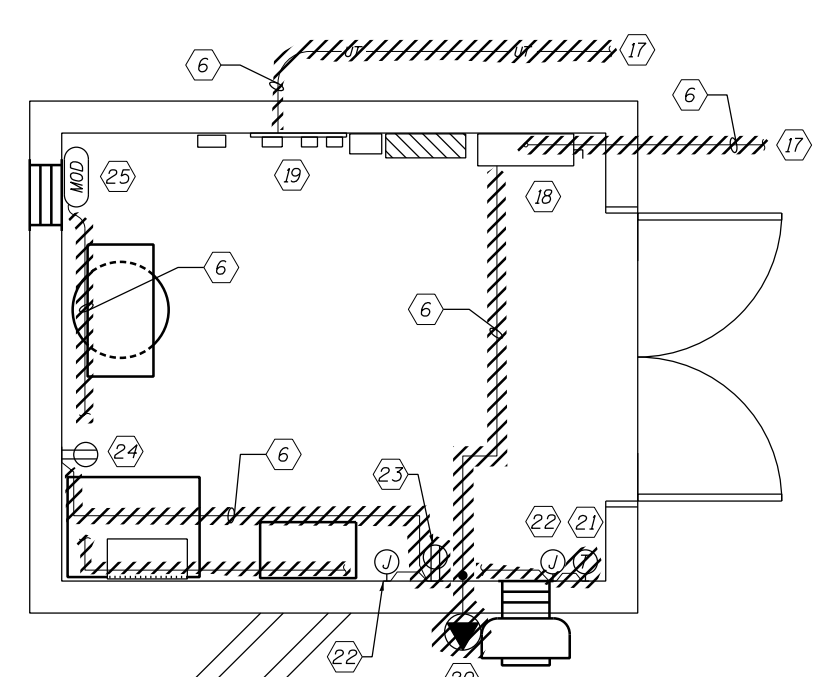
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PLOT SCALE =	CHECKED - B. DAVIDSON	REVISED -
PLOT DATE = SEPTEMBER 18, 2013	DRAWN - L. TRAVIS	REVISED -
	CHECKED - G. ROSCETTI	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

SITE SERVICE BUILDING ELECTRICAL PLANS
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS

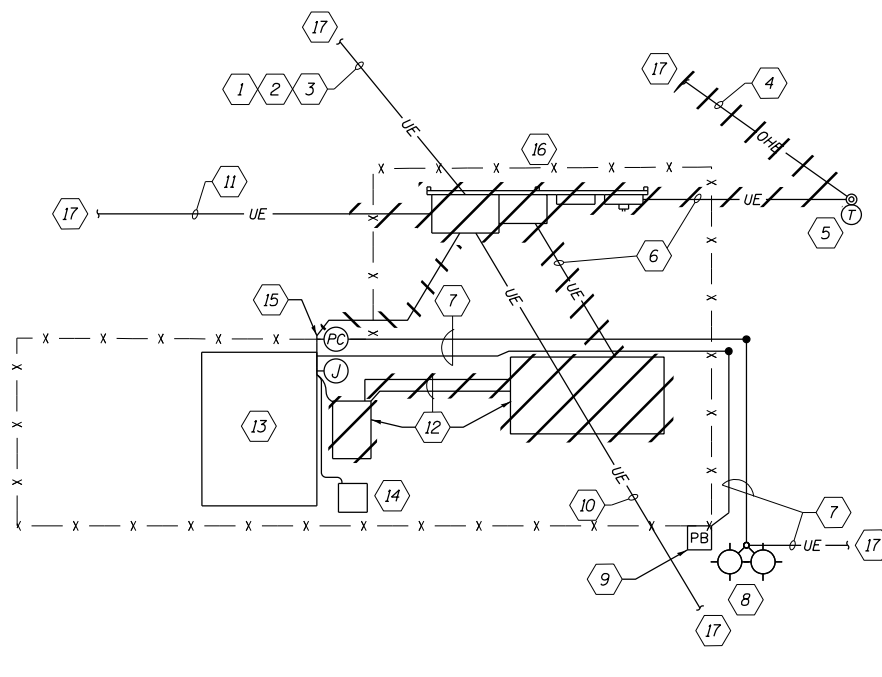
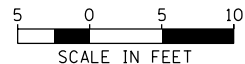
ILLINOIS DEPARTMENT
OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES

COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	73
PROJECT FR-435		



1 McHENRY PHG GATEHOUSE PLAN - DEMOLITION

3/8" = 1'-0"



3 EXISTING ELECTRICAL SERVICE LOCATION - DEMOLITION

1" = 5'

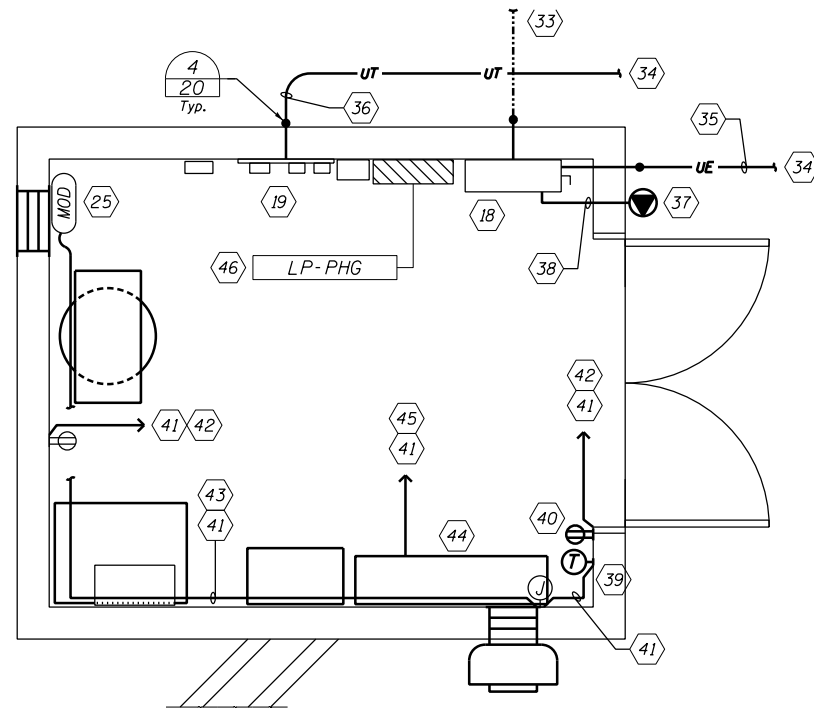


GENERAL NOTES:

- All Work Shown on Plans 1/74 and 3/74 Shall be Included Under Site Demolition Pay Item.
- All Work Shown on Plans 2/74 and 4/74, Including Type FA6 Bedding and CLSM Backfill for Underground Conduits and Course Aggregate CA7 for Power and Telephone Handhole Bases, Shall be Included Under Site Electrical System Pay Item.

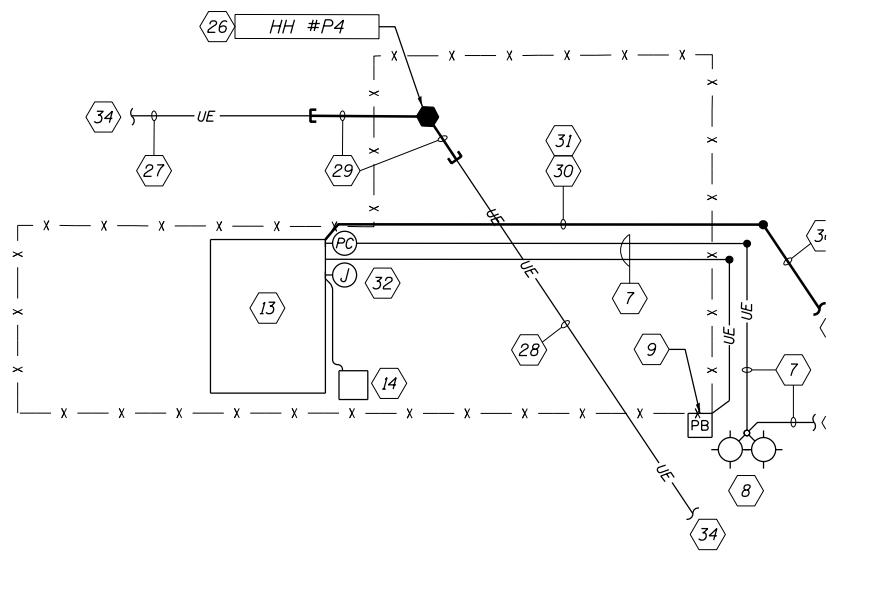
KEYED NOTES:

- Remove Existing Service Building Feeder Conductors from Existing Conduits; Existing 2" Conduits to Remain for Reuse.
- Remove Existing Boilerhouse Feeder Conductors from Existing Conduit; Existing 3" Conduit to Be Abandoned in Place.
- Remove Existing Trailer Feeder Conductors from Existing Conduit; Existing Conduit to Be Abandoned in Place.
- Existing Utility Co. Overhead Primary Line to Be Removed by Utility Co.
- Existing Utility Co. Service, Transformer, and Pole to Be Removed by Utility Co.
- Existing Conduit and Wire to Be Removed.
- Existing Conduit and Wire to Remain; Protect from Damage.
- Existing Pole Mount Light Fixtures to Remain (No Work).
- Existing Fuel Dispenser Emergency Power-Off Switch to Remain (No Work).
- Remove Existing Lockhouse Feeder Conductors from Existing Conduit; Existing 3" Conduit to Remain for Reuse.
- Remove Existing PHG Gatehouse Feeder Conductors from Existing Conduit; Existing 2" Conduit to Remain for Reuse.
- Existing Generator, Day-Tank, and Fuel Piping to Be Removed.
- Existing Diesel Fuel Tank to Remain (No Work).
- Existing Diesel Fuel Dispenser to Remain (No Work).
- Existing Junction Box and Photocell to Remain. Disconnect and Remove Existing Conduit and Wire to Panel MDP and Day-Tank. Existing Conduit and Wire to Diesel Fuel Dispenser, Dispenser Emergency Power-Off Switch, and Pole Lights to Remain.
- Existing Site Electrical Service and Main Distribution Equipment to Be Removed, Including Support Structure.
- See Site Plans this Volume for Continuation.
- Existing Manual Transfer Switch to Remain.
- Existing USGS River Gauge Equipment to Remain (No Work).
- Existing Portable Generator Receptacle to Be Removed and Retained for Reuse.
- Existing Exhaust Fan Thermostat to Be Removed and Retained for Reuse.
- Existing Junction Box at Ceiling to Remain. Provide Blank Covers for Any Unused Openings from Removed Conduits.
- Existing Receptacle to Be Removed.
- Existing Receptacle to Remain. Provide Blank Covers for Any Unused Openings from Removed Conduits.
- Existing Motorized Damper to Remain.
- New Handhole. See Detail 2/20.
- Existing 2 1/2" C with New 3-350 kcmil & 1 #2 G.
- Existing 3" C with New 3-350 kcmil & 1 #2 G.
- Intercept Existing Conduits Below Grade and Extend into New Handhole Shown.
- 3/4" C with 2 #10 & 1 #10 G from LP-LH #36.
- Extend New Conduit Across Existing Pad with Existing Conduits to Remain.
- Connect Existing Diesel Fuel Dispenser and Pole Mount Lights to New Circuit from Lockhouse.
- New Ground Rod and Ground Electrode Conductor. See Sheet 78..
- See Sheet 70 for Continuation.
- New PHG Gatehouse Building Feeder.
- New 2" Conduit by Contractor. New Telephone Service Cable for Existing USGS River Gauge by Telephone Co.
- Salvaged Portable Generator Receptacle. Install in New Location Shown.
- 1 1/2" C with 3 #2 & 1 #6 G.
- Salvaged Exhaust Fan Thermostat. Locate on Wall Shown, Adjacent to and Above Existing Light Switch. Reconnect to Exhaust Fan Same as Existing.
- New GFCI Duplex Receptacle.
- 3/4" C with 2 #12 & 1 #12 G.
- Connect Receptacle to Existing Receptacle Circuit Breaker in Panelboard.
- Route New Conduit and Wire at Ceiling Above Existing and New Equipment on Walls.
- New Dam Control System Panel DCP-PHG.
- Connect DCP-PHG to Existing Spare Circuit Breaker in Panelboard.
- Existing Building Panelboard. Provide New Nameplate to Rename Panelboard as Noted.



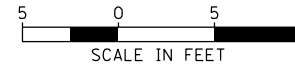
2 McHENRY PHG GATEHOUSE PLAN - NEW WORK

3/8" = 1'-0"



4 EXISTING ELECTRICAL SERVICE LOCATION - NEW WORK

1" = 5'



FILE NAME = E-1605A-SITE.dgn



USER NAME =
 PLOT SCALE =
 PLOT DATE = SEPTEMBER 18, 2013

DESIGNED - G. ROSCETTI
 CHECKED - B. DAVIDSON
 DRAWN - L. TRAVIS
 CHECKED - G. ROSCETTI

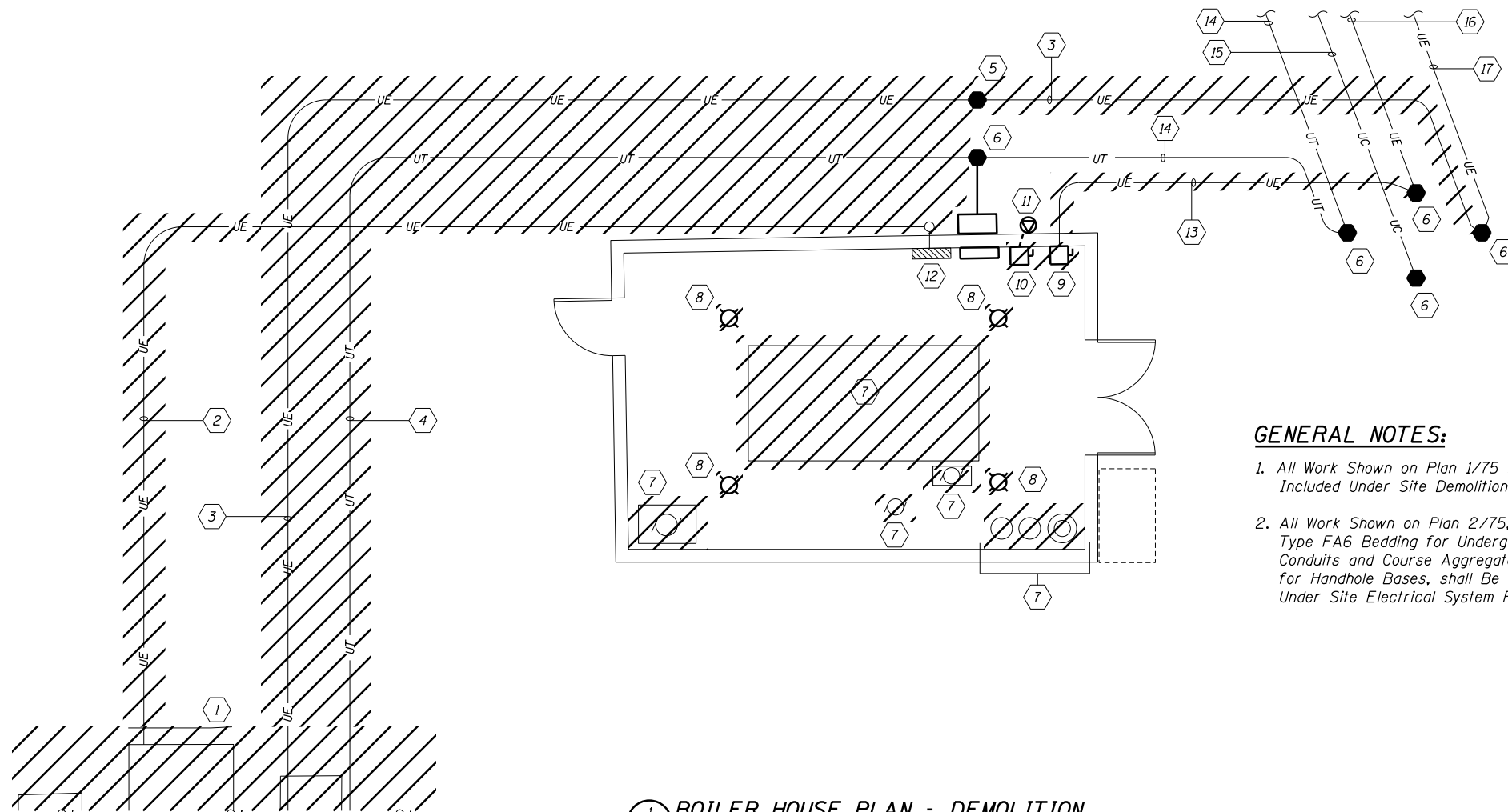
REVISED -
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STATE OF ILLINOIS
 DEPARTMENT OF NATURAL RESOURCES

SITE PHG GATEHOUSE & EXISTING SERVICE LOCATION PLANS
 STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS

ILLINOIS DEPARTMENT
 OF NATURAL RESOURCES
 OFFICE OF WATER RESOURCES

COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	74
PROJECT FR-435		



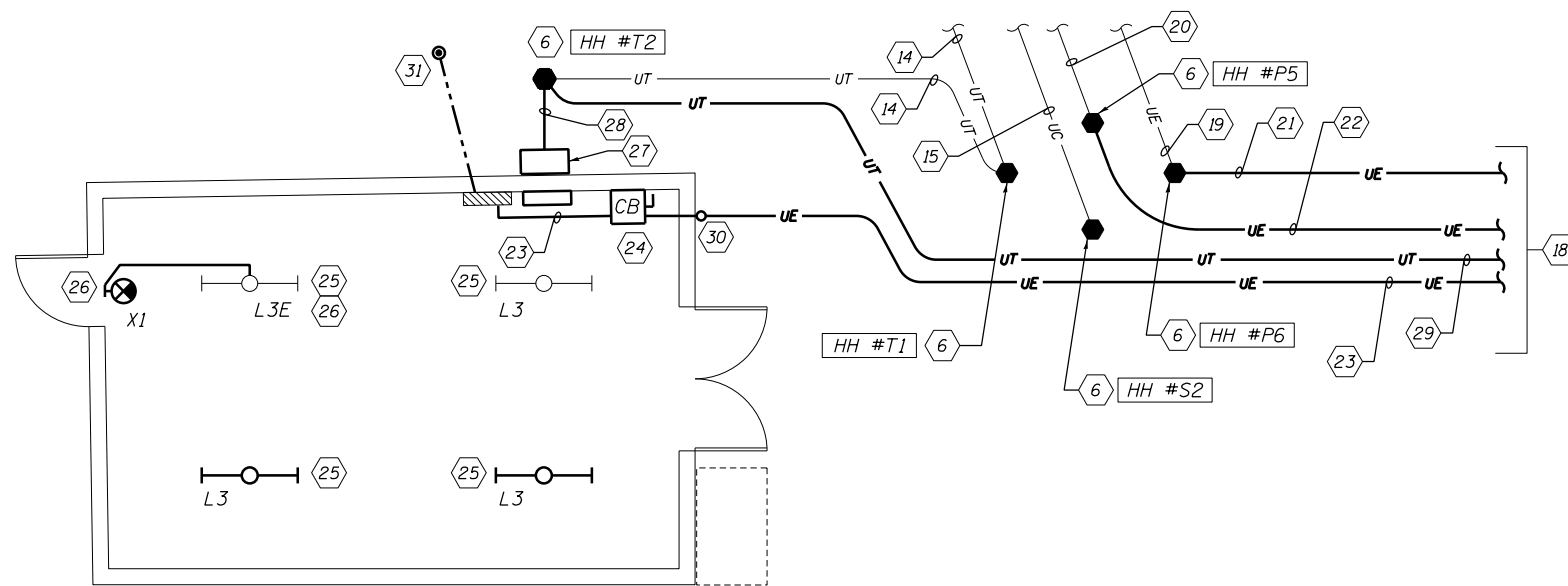
1 BOILER HOUSE PLAN - DEMOLITION
 1/75 1/4"=1'-0"

GENERAL NOTES:

- All Work Shown on Plan 1/75 Shall be Included Under Site Demolition Pay Item.
- All Work Shown on Plan 2/75, Including Type FA6 Bedding for Underground Conduits and Course Aggregate Type CA7 for Handhole Bases, shall Be Included Under Site Electrical System Pay Item.

KEYED NOTES:

- Existing Gate Structure to Be Removed. See Volume 2-Gate Plans for Additional Work.
- Existing Gate Operators Power Supply Conduit and Wire to Be Removed.
- Existing PHG Gatehouse Feeder Conduit and Wire to Be Removed.
- Existing Telephone Conduit and Wire to Be Removed.
- Existing Handhole to Be Removed.
- Existing Handhole to Remain.
- Existing Boiler and Associated Equipment to Be Removed. Disconnect and Remove All Conduit, Wire, and Electrical Equipment for Removed Boiler Equipment.
- Existing Incandescent Fixture to Be Removed.
- Existing Building Main Disconnect Switch to Be Removed.
- Existing Manual Transfer Switch to Be Removed.
- Existing Portable Generator Receptacle to Be Removed and Salvaged for Reuse.
- Existing Panelboard to Remain. Disconnect Existing Circuits to Removed Boiler Equipment and Relable Circuit Breakers as "Spare".
- Existing Boilerhouse Feeder Conduit and Wire to Be Removed.
- Existing Telephone Conduit and Wire to Remain.
- Existing Spare Conduit to Remain (No Work).
- Existing Boilerhouse Feeder. Remove Existing Conductors from Conduit; Existing 3" Conduit to Remain for Reuse.
- Existing PHG Gatehouse Feeder. Remove Existing Conductors from Conduit; Existing 3" Conduit to Remain for Reuse.
- To New Gate Structure. See Sheet 70 for Continuation.
- New 3-250 kcmil & 1 #2 G In Existing 3" Conduit for New Gate Structure.
- New 3 #4/0 & 1 #2 G In Existing 3" Conduit for Existing PHG Gatehouse.
- New 2 1/2" Conduit with 3-250 kcmil & 1 #2 G to New Gate Structure.
- New 1 1/2" Conduit with 3 #4/0 & 1 #2 G to Existing PHG Gatehouse.
- New 1 1/2" Conduit with 3 #2 & 1 #6 G New Feeder for Existing Boilerhouse.
- New 100A Enclosed Circuit Breaker for Boilerhouse Main Building Disconnect.
- Mount New Light Fixture over Existing Fixture Outlet Box. Connect New Fixture to Existing Wiring Inside Box.
- Connect New Exit Sign and Fixture Emergency Ballast to Existing Unswitched Lighting Circuit.
- Existing Telephone Co. Box. Telephone Co. shall Extend Existing Telephone Service for PHG Gatehouse Across New Gate Structure.
- Telephone Co. Shall Provide New Telephone Cable in Existing Conduit.
- New 2" C by Contractor. New Telephone Cable by Telephone Co.
- See Detail 4/20 for Conduit Entry into Existing Building.
- New Building Ground Rod and Ground Electrode Conductor. See Sheet 78.



2 BOILER HOUSE PLAN - NEW WORK
 2/75 1/4"=1'-0"



FILE NAME = E-4686-SITE.dgn



USER NAME =	DESIGNED - G. ROSCETTI	REVISED -
	CHECKED - B. DAVIDSON	REVISED -
PLOT SCALE =	DRAWN - L. TRAVIS	REVISED -
PLOT DATE = SEPTEMBER 18, 2013	CHECKED - G. ROSCETTI	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF NATURAL RESOURCES

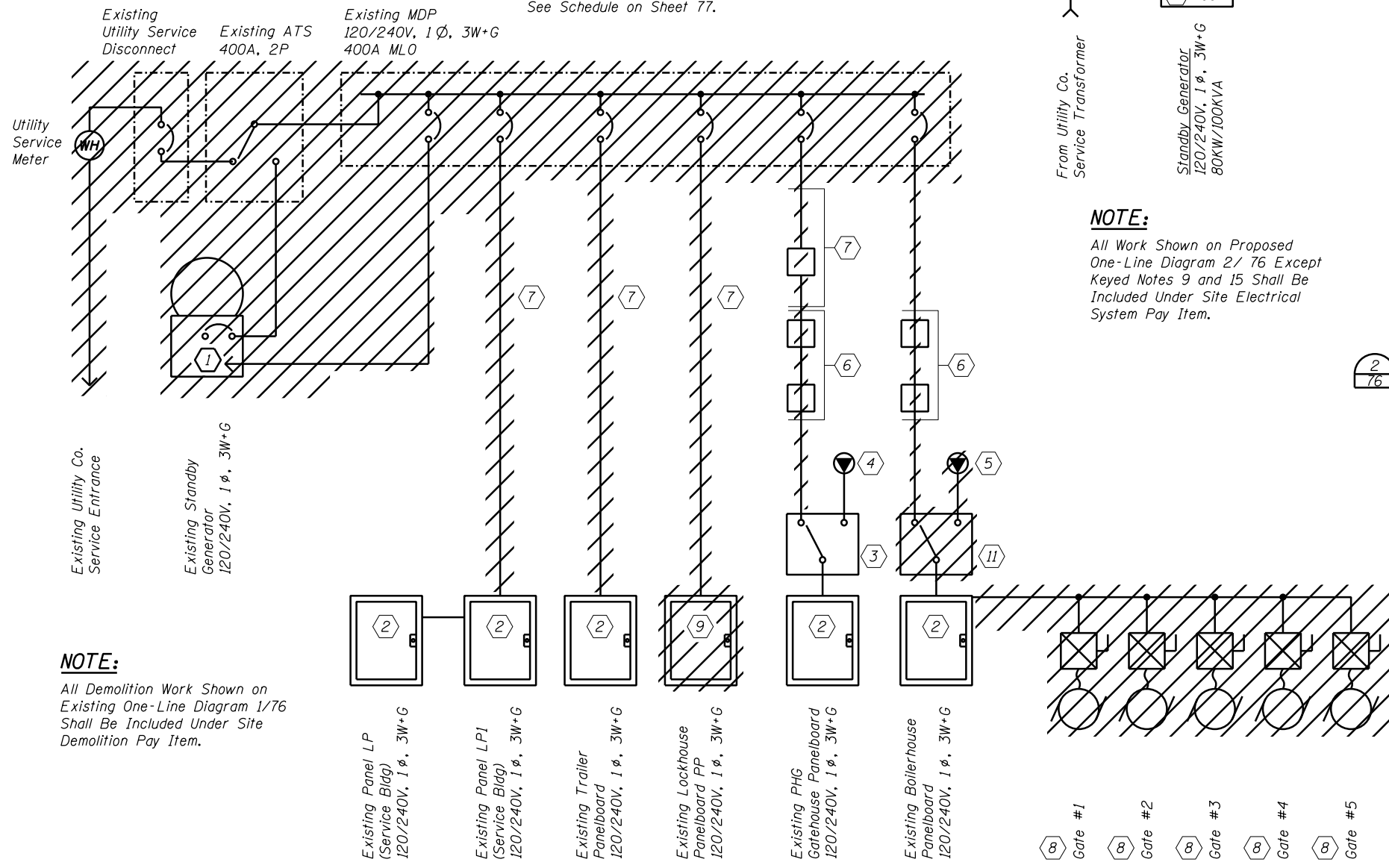
SITE BOILER HOUSE ELECTRICAL PLANS
 STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS

ILLINOIS DEPARTMENT
 OF NATURAL RESOURCES
 OFFICE OF WATER RESOURCES

COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	75
PROJECT FR-435		

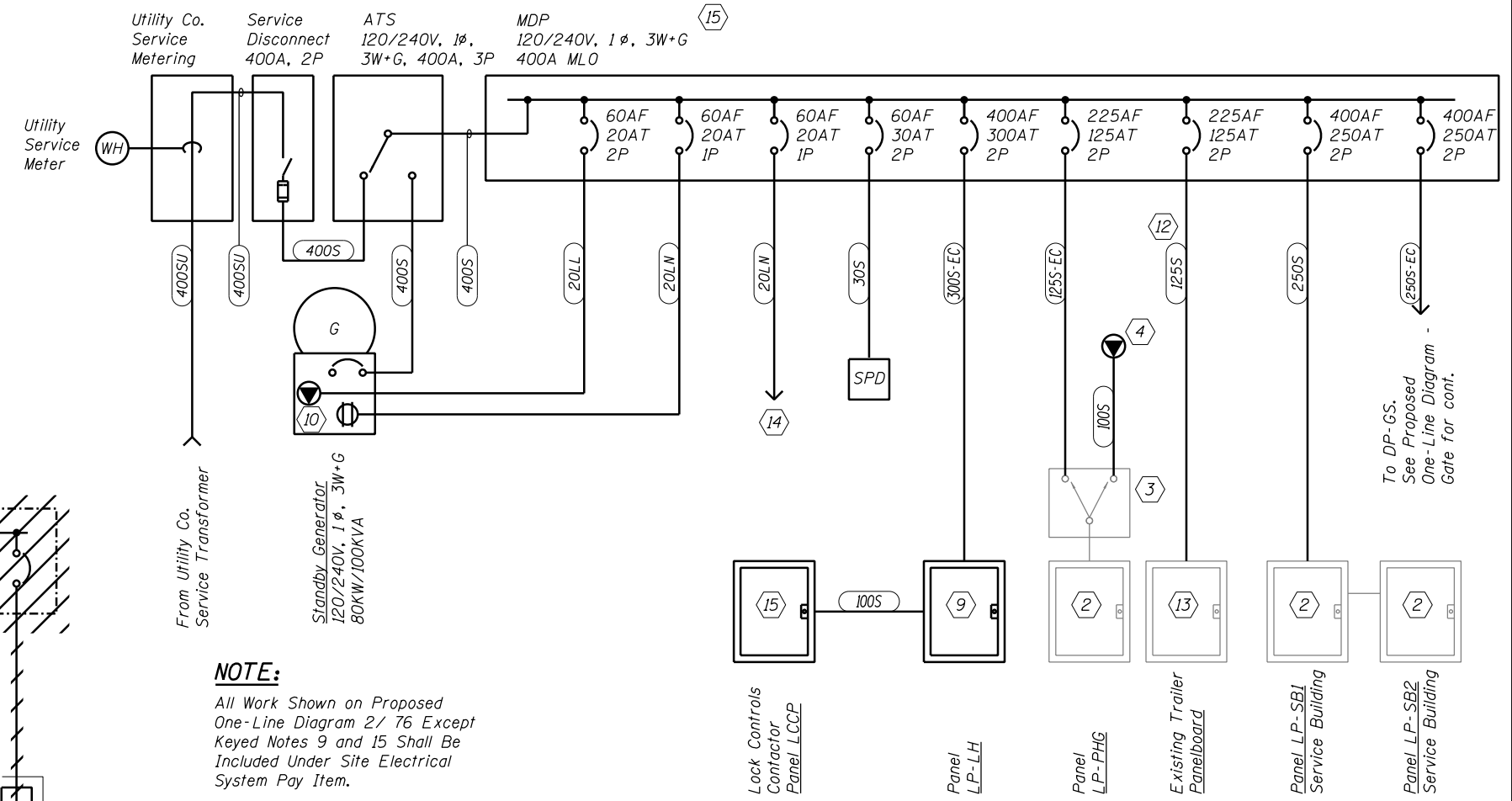
KEYED NOTES:

- ① To Existing Generator Block Heater
- ② Existing Panelboard to Remain. Relabel as Noted.
- ③ Existing Manual Transfer Switch to Remain.
- ④ Existing Portable Generator Outlet to Be Relocated.
- ⑤ Existing Portable Generator Outlet to Be Removed and Relocated to New Gate Structure.
- ⑥ Existing Conduit Under Lock Channel and Handholes to Remain for Reuse. Remove Existing Conductors From Conduit.
- ⑦ Existing Conduit and Handholes to Remain for Reuse. Remove Existing Conductors.
- ⑧ Existing Gate to Remain Operational Throughout Construction until New Gates Are Completed and Operational.
- ⑨ Existing Panelboard to Be Removed and Replaced with New. New Panelboard to Be Included Under Lockhouse Electrical Pay Item. See Schedule on Sheet 65.
- ⑩ Duplex GFCI Maintenance Receptacle and Block Heater Receptacle in Generator Enclosure
- ⑪ Existing Manual Transfer Switch to Be Removed.
- ⑫ Temporary Feeder for Duration of Construction. Existing Conductors to Be Removed at End of Construction; Existing Conduit to Remain.
- ⑬ Existing Trailer to Be Removed at End of Construction.
- ⑭ To Pole Mounted Fixture and Receptacle at New Service Location.
- ⑮ New Contactor Panel for Lock Controls Power to Be Included Under Lock Control System Pay Item. See Schedule on Sheet 77.



NOTE:
All Demolition Work Shown on Existing One-Line Diagram 1/76 Shall Be Included Under Site Demolition Pay Item.

1/76 **EXISTING ONE LINE DIAGRAM - DEMOLITION**



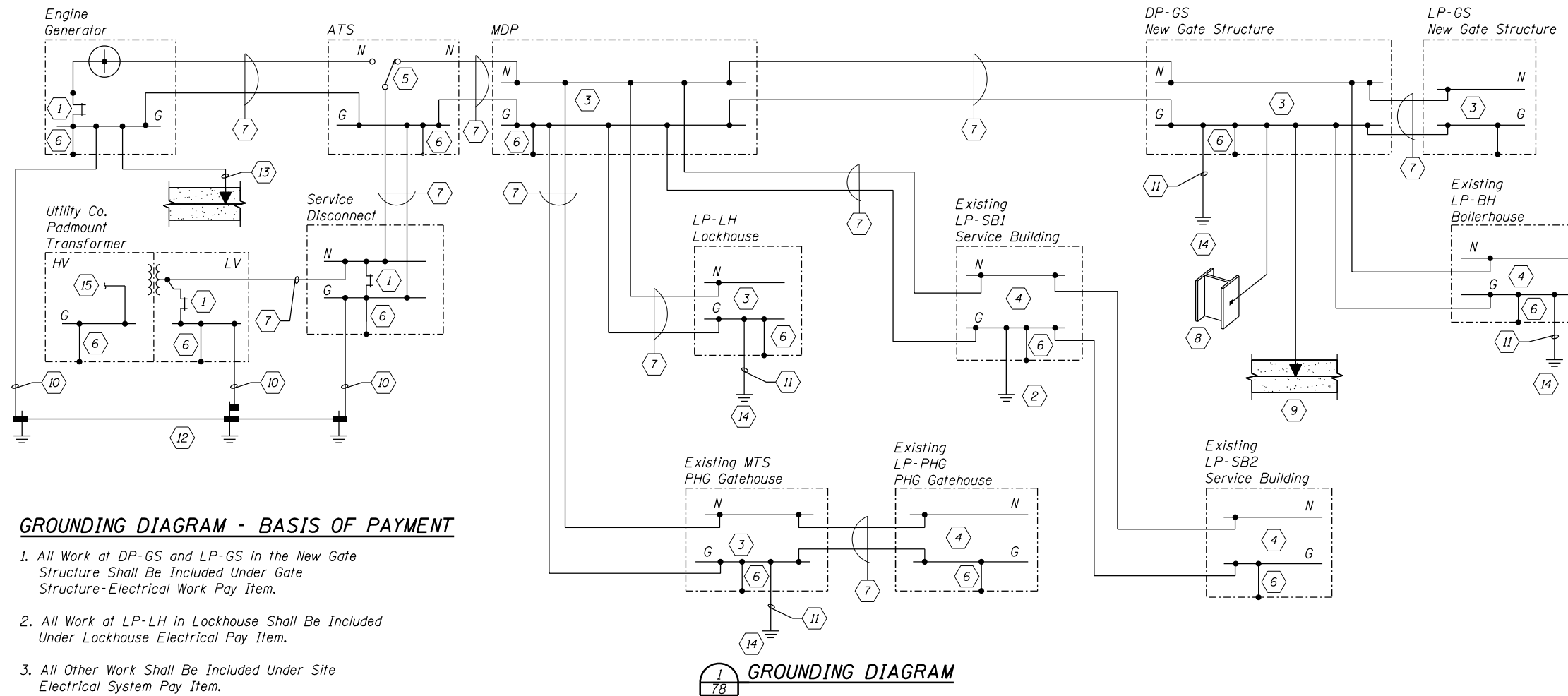
NOTE:
All Work Shown on Proposed One-Line Diagram 2/76 Except Keyed Notes 9 and 15 Shall Be Included Under Site Electrical System Pay Item.

2/76 **PROPOSED ONE LINE DIAGRAM - SITE**

FEEDER MARK SUFFIXES:

- VFD Indicates Shielded VFD Power Cable
- EC Indicates Existing Conduit

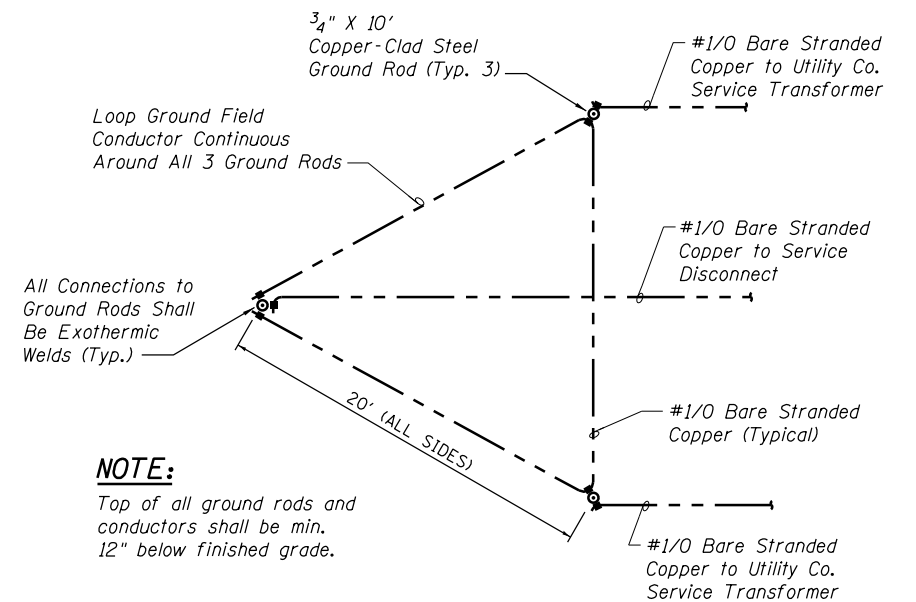
FEEDER SCHEDULE						
MARK	MINIMUM AMPACITY	NO. OF SETS	CONDUCTORS AND CONDUIT / SET (AWG or kcmil)			
			PHASE	NEUTRAL	GROUND	CONDUIT
20LN	20	1	1 # 12	1 # 12	1 # 12	3/4"
20LL	20	1	2 # 12	-	1 # 12	3/4"
20M-VFD	20	1	3 # 12	-	1 # 12	1"
20MLL	20	1	2 # 12	-	1 # 12	3/4"
30S	30	1	2 # 10	1 # 10	1 # 10	3/4"
30LL	30	1	2 # 10	-	1 # 10	3/4"
30M-VFD	30	1	3 # 10	-	1 # 10	1-1/4"
50MLL	50	1	2 # 8	-	1 # 10	3/4"
100S	100	1	2 # 2	1 # 2	1 # 6	1-1/2"
125S	125	1	2 # 1	1 # 1	1 # 6	1-1/2"
125S-EC	125	1	2 # 4/0	1 # 4/0	1 # 2	3"
150S	150	1	2 # 1/0	1 # 1/0	1 # 6	1-1/2"
200S	200	1	2 # 3/0	1 # 3/0	1 # 6	2"
250S	250	1	2 # 250	1 # 250	1 # 2	3"
250S-EC	250	1	2 # 250	1 # 250	1 # 2	2-1/2"
300S-EC	300	1	2 # 350	1 # 350	1 # 2	2-1/2"
400S	400	1	2 # 500	1 # 500	1 # 2	3-1/2"
400SU	400	1	2 # 500	1 # 500	-	3-1/2"



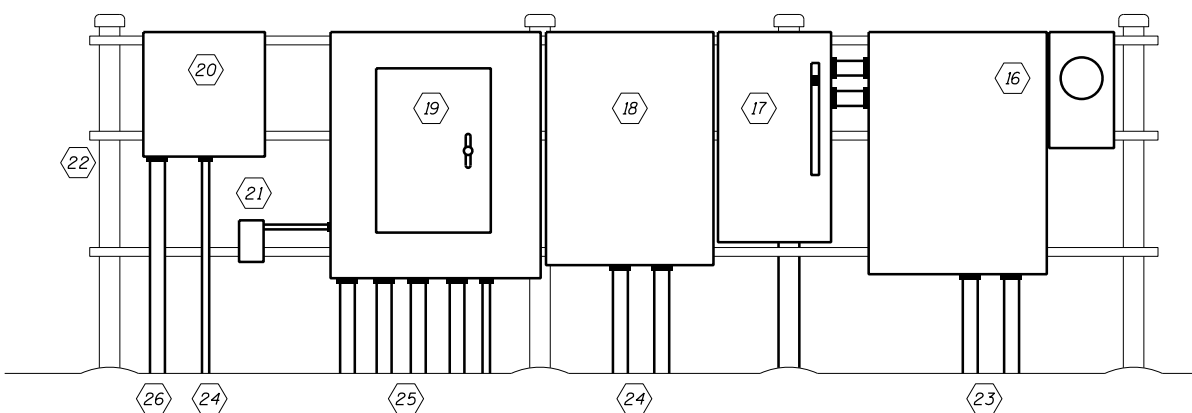
- KEYED NOTES**
- 1 Manufacturer's Neutral-To-Ground Bond.
 - 2 Existing Building Ground Field.
 - 3 Do not Bond Neutral-To-Ground at this Point.
 - 4 Neutral shall not Be Bonded to Ground at the Panelboard; Remove Neutral-To-Ground Bond if Present.
 - 5 Three Pole (Switched Neutral) Transfer Switch.
 - 6 Manufacturer's Ground Connection.
 - 7 See One Line Diagrams 2/76 and Sheet 145 for Conductor Sizes.
 - 8 #2 Bare Stranded Ground Electrode Conductor to Structural Steel.
 - 9 #2 Bare Stranded Ground Electrode Conductor to Concrete Reinforcement.
 - 10 #1/0 Bare Stranded Ground Electrode Conductor in 1" Sch. 80 PVC Conduit.
 - 11 #2 Bare Stranded Ground Electrode Conductor in 1" Sch. 80 PVC Conduit.
 - 12 Ground Field. See Detail 2/78.
 - 13 #1/0 Bare Stranded Ground Electrode Conductor to Generator Pad Concrete Reinforcement.
 - 14 3/4" x 10' Copper-Clad Ground Steel Ground Rod.
 - 15 #6 AWG Solid Copper from Medium Voltage Cable Shield and Surge Arrester.
 - 16 Utility Co. Service Meter and CT Cabinet
 - 17 Service Disconnect
 - 18 Automatic Transfer Switch
 - 19 Panel MDP
 - 20 Dam Control System Terminal/Junction Box
 - 21 20A, 120V GFCI Duplex Receptacle in Cast Box with WPI Coverplate
 - 22 See Detail 3/20 for Equipment Support Structure.
 - 23 To Utility Co. Service Transformer
 - 24 To Generator
 - 25 To Site Electrical Loads
 - 26 To DCP-SB in Service Building

GROUNDING DIAGRAM - BASIS OF PAYMENT

1. All Work at DP-GS and LP-GS in the New Gate Structure Shall Be Included Under Gate Structure-Electrical Work Pay Item.
2. All Work at LP-LH in Lockhouse Shall Be Included Under Lockhouse Electrical Pay Item.
3. All Other Work Shall Be Included Under Site Electrical System Pay Item.



NOTE:
Top of all ground rods and conductors shall be min. 12" below finished grade.



GENERAL NOTES

1. All Concrete Required for Service and Distribution Equipment Support Structure Post Bases Shall Be Included Under Site Electrical System Pay Item.
2. Work Noted in Keyed Notes 20, 24, and 26 to Be Included Under Dam Control System Pay Item. All Other Work Shown in Detail 3/78 Shall Be Included Under Site Electrical System Pay Item.

STATE OF ILLINOIS
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WILLIAM G. STRATTON LOCK & DAM
PLANS FOR FLOOD CONTROL GATE STRUCTURE
VOLUME 2 OF 5

Mc HENRY COUNTY
FR-435
2014

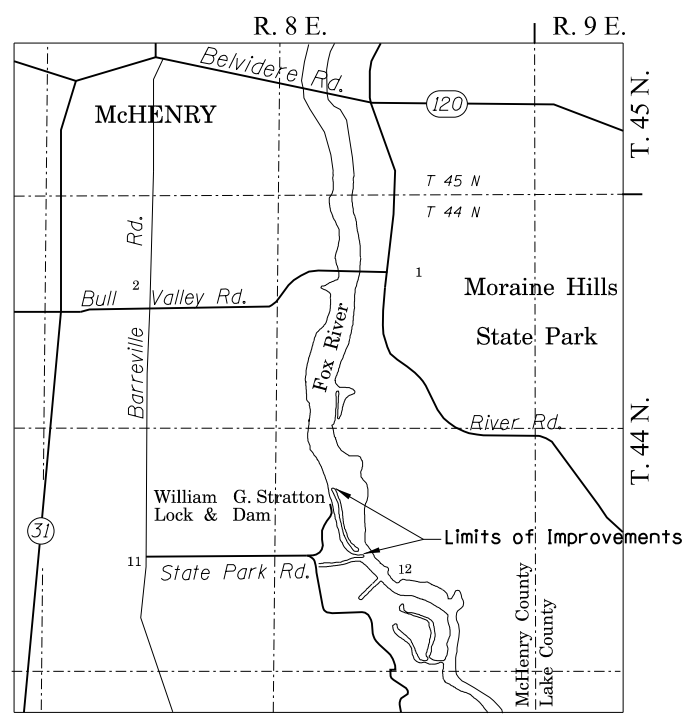


REGIONAL MAP

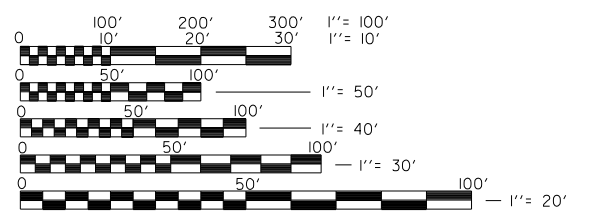
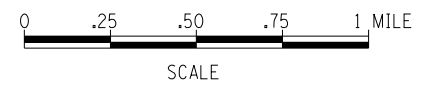
LEGEND

ITEM	EXISTING	PROPOSED
Manhole		
Catch Basin		
Sign		
Water Meter		
Water Surface Indicator		
GuyWire		
Deciduous Tree		
Bush or Shrub		
Evergreen Tree		
Vegetation Line		
Woods & Bush Line		
Baseline		
Centerline		
Channel		
Culvert Line		
Storm Sewer		
Sanitary Sewer		
Fence		
Fiber Optic		
Gas Pipe		
Water Pipe		
Riprap		

Note: Electrical Legend Items Can Be Found On Electrical Symbols Sheet.



LOCATION MAP



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.

STANDARDS

664001 CHAIN LINK FENCE

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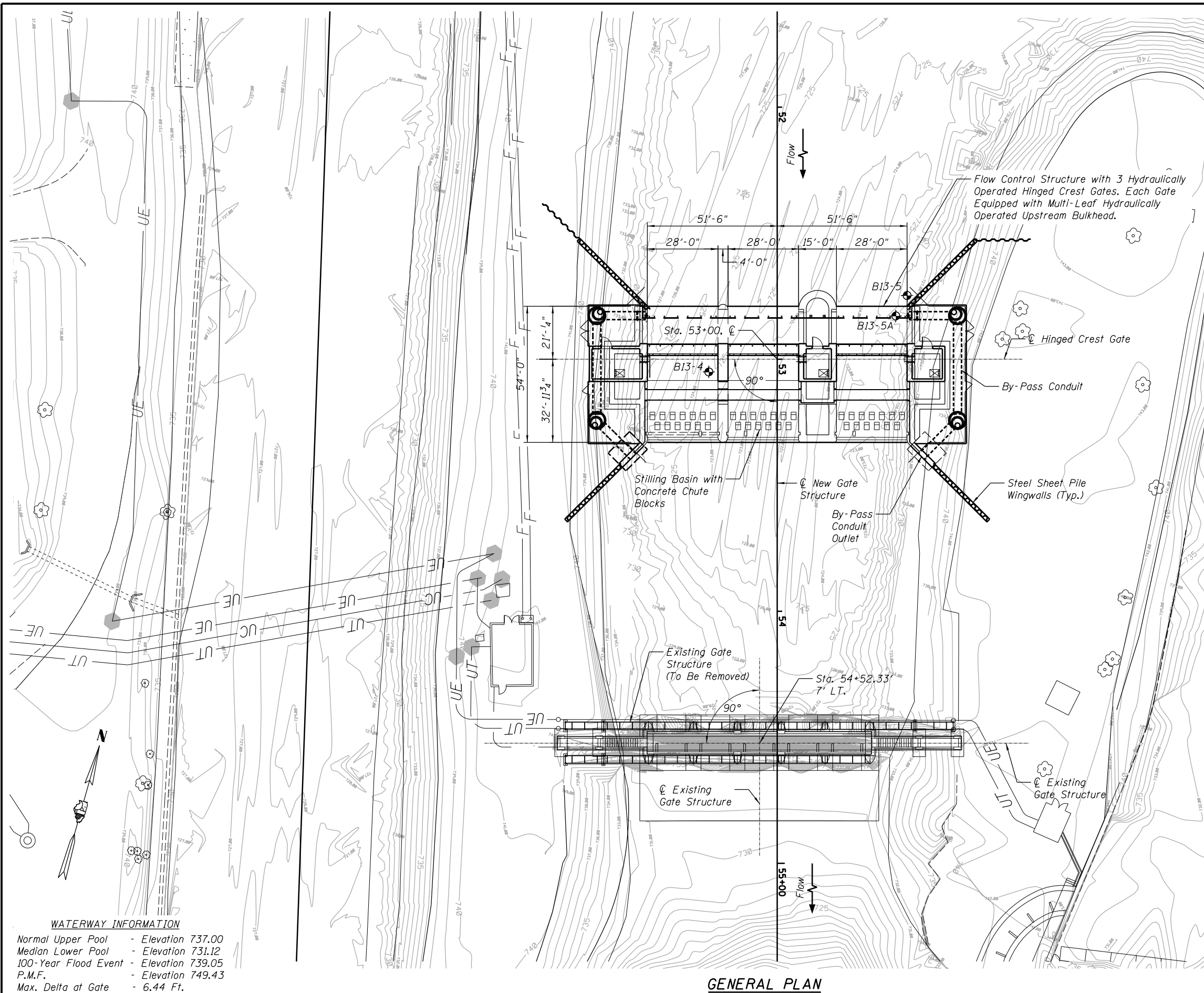
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FILE NAME = G-00028-GATE.dgn  © Copyright Hanson Professional Services Inc. 2013	USER NAME =	DESIGNED - EJM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF NATURAL RESOURCES	INDEX OF SHEETS STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS	ILLINOIS DEPARTMENT OF NATURAL RESOURCES OFFICE OF WATER RESOURCES	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	CHECKED - JJT	REVISED -				McHENRY	238	80
	PLOT DATE = SEPTEMBER 18, 2013	DRAWN - EJM	REVISED -				PROJECT FR-435		
		CHECKED - SLM	REVISED -						



Flow Control Structure with 3 Hydraulically Operated Hinged Crest Gates. Each Gate Equipped with Multi-Leaf Hydraulically Operated Upstream Bulkhead.

By-Pass Conduit

Steel Sheet Pile Wingwalls (Typ.)

Existing Gate Structure (To Be Removed)

Existing Gate Structure

Existing Gate Structure

WATERWAY INFORMATION

Normal Upper Pool	- Elevation 737.00
Median Lower Pool	- Elevation 731.12
100-Year Flood Event P.M.F.	- Elevation 739.05
Max. Delta at Gate	- 6.44 Ft.

GATE STRUCTURE BILL OF MATERIALS		
PAY ITEM	UNIT	QUANTITY
Tree Removal (over 15 units diameter)	Unit	150
Earth Excavation	Cu Yd	90
Removal and Disposal of Unsuitable Material	Cu Yd	6,600
Channel Excavation	Cu Yd	1,025
Furnished Excavation	Cu Yd	1,180
Porous Granular Embankment	Cu Yd	7,478
Topsoil Excavation and Placement	Cu Yd	170
Topsoil Furnish and Place, 4"	Sq Yd	45
Seeding, Class 1	Acre	1.25
Mulch, Method 2	Acre	1.25
Stone Riprap, Class A1	Ton	1,800
Stone Riprap, Class A4	Ton	545
Stone Riprap, Class A5	Ton	3,240
Filter Fabric	Sq Yd	3,710
Aggregate Base Course, Type A	Ton	983
Portland Cement Concrete Sidewalk 6 inch	Sq Ft	1,801
Removal of Existing Structures No. 2	Each	1
Cofferdam Excavation	Cu Yd	624
Concrete Structures	Cu Yd	1,757.6
Furnishing and Erecting Structural Steel	Pound	182,680
Stud Shear Connectors	Each	54
Reinforcement Bars	Pound	216,500
Bar Splicers	Each	120
Pipe Handrail	Foot	267
Furnishing Metal Shell Piles 12" x 0.250"	Foot	5,215
Driving Piles	Foot	5,215
Test Pile Metal Shells	Each	3
Pile Shoes	Each	151
Controlled Low-Strength Material	Cu Yd	126
Manholes, Type A, 6'-Diameter, Type 1 Frame, Closed Lid	Each	4
Chain Link Fence, 4'	Foot	141
Permanent Steel Sheet Piling	Sq Ft	11,231
Steel Railing (Special)	Foot	196.5
Cofferdam - Location 4	Each	1
Cofferdam - Location 5	Each	1
Cofferdam Restoration - Location 4	Each	1
Cofferdam Restoration - Location 5	Each	1
Fixed Access Ladder	Each	3
Gate Structure - Doors	L Sum	1
Gate Structure - Electrical Work	L Sum	1
Gate Structure - Fire Extinguishers	L Sum	1
Gate Structure - Floor Access Doors and Frames	Each	3
Gate Structure - Insulation	L Sum	1
Gate Structure - Mechanical Work (HVAC)	L Sum	1
Gate Structure - Painting	L Sum	1
Gate Structure - Plumbing Work	L Sum	1
Gate Structure - Roof	L Sum	1
Gate Structure - Rough Carpentry	L Sum	1
Gate Structure - Windows	Each	3
HDPE Pipe, SDR 32.5, 36"	Foot	133
Hinged Crest Gates	L Sum	1
Riprap Removal	Sq Yd	1,645
Security Fence Gate, 6'x10' Double Swing	Each	2
Security Fence Gate, 6'x4' Single	Each	2
Security Fence, 6'	Foot	170
Sluice Gate, Heavy, 36" x 36"	Each	2
Stone Riprap, Special	Ton	1,820
Stop Logs - Gate Structure	L Sum	1

Items Listed for Information Only as Quantities Related to Gate Structure.

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	CHECKED - JJT	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF NATURAL RESOURCES

GATE STRUCTURE GENERAL PLAN
 STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS

ILLINOIS DEPARTMENT OF NATURAL RESOURCES OFFICE OF WATER RESOURCES	COUNTY	TOTAL SHEETS	SHEET NO.
	McHENRY	238	81
PROJECT FR-435			

General:

- G-1. Governing Code:
2009 International Building Code
- G-2. Snow Load Parameters:
Ground Snow Load - $P_g = 25$ PSF
Snow Exposure Factor - $C_e = 0.9$
Snow Load Importance Factor - $I_s = 1.2$
Thermal Factor - $C_t = 1.1$
Flat Roof Snow Load - $P_f = 25$ PSF Min.
- G-3. Wind Load Parameters:
Basic Wind Speed - $V = 90$ MPH
Wind Importance Factor - $I_w = 1.0$
Wind Exposure Category - Exposure = C
- G-4. Live Loads:
Vault Roof = 150 PSF
Upstream Machine Bridge = 175 PSF Backhoe Vehicle (Equiv. Uniform Load)
Downstream Pedestrian Bridge = 60 PSF
Upper Vault Floor = 100 PSF
- G-5. The Contractor Shall Field Verify All Dimensions, Coordinates and Existing Conditions Prior to Construction. Notify the Owner's Representative of Any Discrepancy Immediately.
- G-6. Coordinate Structural Sheets with All Other Sheets for Pipe Sizes and Locations, Beam Pockets, Grating Ledges, Block Outs, Electrical Requirements and Anchor Bolted Attachments.
- G-7. Structural System is Designed to Work as a Completed System. Any Temporary Shoring, or Bracing Needed During Construction Shall Be the Responsibility of the General Contractor; Contractor is Responsible for Adequacy of Temporary Shoring. Contractor Responsible for Design, Construction, & Removal of Cofferdam.
- G-8. See Architectural, Civil, Mechanical, Electrical and Plumbing Plans for Additional Sleeves, Inserts, etc.
- G-9. No Pipes or Sleeves for Mechanical Trades Shall Pass Through Structural Members Without Approval of the Structural Engineer.
- G-10. All Sections, Details and Notes Shown on the Drawings are Intended to Be Typical and Shall Apply to Similar Situations Elsewhere Unless Otherwise Shown.

Concrete:

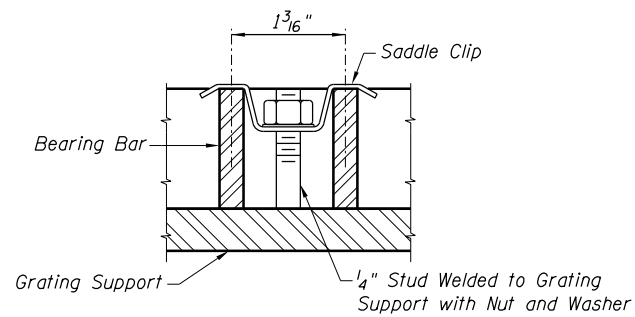
- C-1. Material Properties (U.N.O.)
Compressive Strength
Footings and Foundation Walls - $f'c = 4,000$ psi
Frame Members, Building Walls, and Suspended Slabs - $f'c = 4,000$ psi
Concrete Reinforcement - $F_y = 60$ ksi (A706)
- C-2. Protective Covering for Reinforcement Bars Shall Be as Follows Unless Otherwise Noted on the Plans:
Footings:
Bottom and Sides = 3"
Top = 3"
Walls:
Exterior Exposure = 3"
Interior Exposure = 2"
Beams - Over Ties/Stirrups = 1/2"
Slabs - Interior = 1/2"
Slabs - Exterior = 2"
Around Embedded Items = 1"
- C-3. Continuous Top and Bottom Bars, When Shown in Section Only, Shall Be Lapped as Follows: Top Bars Near Midspans, Bottom Bars Directly over Supports.
- C-4. A 3/4" x 3/4" Chamfer Shall Be Provided at the Edge of All Finished Walls, Beams and Columns.
- C-5. Two #5 Bars Each Face Shall Be Provided Diagonally at All Corners of Wall and Slab Openings and at All Reentrant Corners of Slabs. Bars Shall Be Extended 24" Minimum Beyond Corners of the Openings.
- C-6. All Control Joints Shall Be Tooled or Sawn.
- C-7. Non-Metallic Water Seals Shall Be Provided in Horizontal and Vertical Joints Below Elev. 744'-6" According to Article 503.12 of the Standard Specifications.
- C-8. Lap All Bars as Follows U.N.O. (Class B):
#4=2'-1" #5=2'-7" #6=3'-1"
#7=4'-6" #8=5'-2" #9=5'-10"
#10=6'-6" #11=7'-1"
For Horizontal Bars with More than 12" of Concrete Cast Below, Provide an Additional 1.3 Times the Indicated Lap Length.
- C-9. All Poured Horizontal and Sloped Surfaces Shall Receive a Broom or Brush Finish According to Article 503.16(b) of the Standard Specifications. All Exterior Formed Surfaces Shall Receive a Rubbed Finish, and All Interior Formed Surfaces Shall Receive a Normal Finish According to Article 503.15 of the Standard Specifications.
- C-10. Coupler and Structural Connectors, Where Specified, Shall be According to Article 508.06 of the Standard Specifications.
- C-11. Grouting of Anchor Rods and/or Reinforcement Bars Shall be According to Article 584 of the Standard Specifications. Minimum Embedment Shall be Sufficient to Obtain 1.25 Times the Yield Strength of the Reinforcing Bar.
- C-12. The Back Side of All Concrete Walls Exposed to Earth Shall Receive Waterproofing According to Article 503.18 of the Standard Specifications, to Within One Foot of Finished Grade.
- C-13. The Concrete Walls in the Area of the Seal Plate Block Outs Shall Be Constructed to a Tolerance of $\pm 1/8$ " Horizontally & Vertically.
- C-14. Contractor Shall Submit Reinforcement Bar Shop Drawings According to Section 105.04 of the Standard Specifications.

Structural Steel:

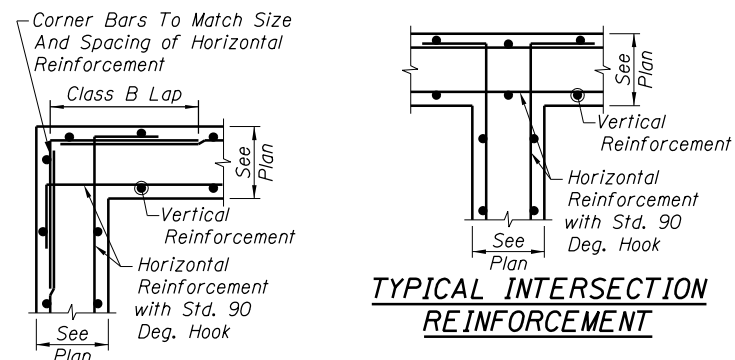
- S-1. All Detailing, Fabrication, and Erection of Structural Steel Members Shall Be in Accordance with Section 505 of the Standard Specifications.
- S-2. Openings Required in Structural Steel Members Shall Be Shown on the Drawings. Field Cutting of Holes in Structural Steel Members Shall Not Be Allowed Without Written Permission of the Engineer.
- S-3. Contractor Shall Field Verify Existing Conditions and Dimensions Prior to Structural Steel Fabrication.
- S-4. The Contractor Shall Furnish and Install Miscellaneous Steel (Curbs, Hangers, Bracing, etc.) as Called for or as Necessary per Architectural and Mechanical / Electrical Drawings.
- S-5. Beam and Lintel Bearing Plates to Be Fully Grouted with 1/2" Minimum Thickness Non-Shrink Grout.
- S-6. Whenever Construction Scheduling Requires the Erection of Structural Members Which by Themselves Would Be Considered Laterally Unstable, Adequate Temporary Bracing Shall be Provided.
- S-7. Contractor Shall Submit Shop Drawings for Structural Steel and Other Metal Fabrications According to Section 105.04 of the Standard Specifications.

Metal Grating:

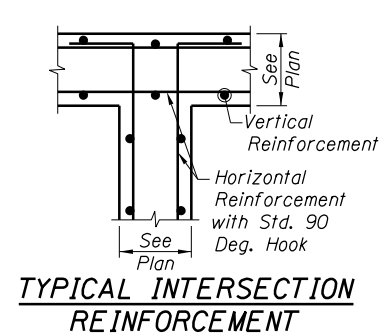
- GT-1. Fabrication and Installation of Metal Grating Shall Be in Accordance with NAAMM Metal Bar Grating Manual (MBG 531-09) or Heavy Duty Metal Bar Grating Manual (MBG 532-09), as Applicable. Metal Grating Shall Be Measured and Paid for as Structural Steel.
- GT-2. All Machine Bridge Grating Shall Be W-19-4 (3/2"x3/8") Steel.
- GT-3. All Access Bridge Grating Shall Be W-19-4 (1/2"x3/16") Steel.
- GT-4. All Bar Grating Edges Shall Be Banded.
- GT-5. All Grating and Associated Hardware Shall Be Galvanized.
- GT-6. Butt Grating of Adjacent Spans at Beam Centerlines.
- GT-7. Attach Grating Sections to Each Support with Saddle Clip and 1/4" Diameter Fastener. Minimum 4 Connections per Panel at Each Support.



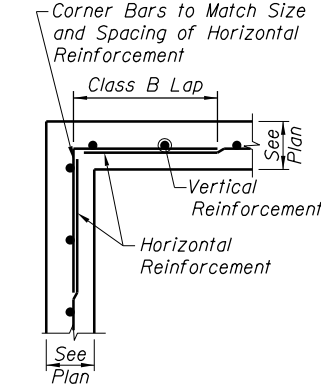
TYPICAL GRATING ATTACHMENT



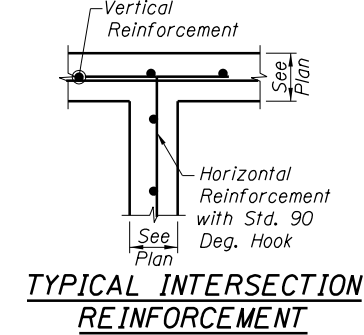
TYPICAL CORNER REINFORCEMENT



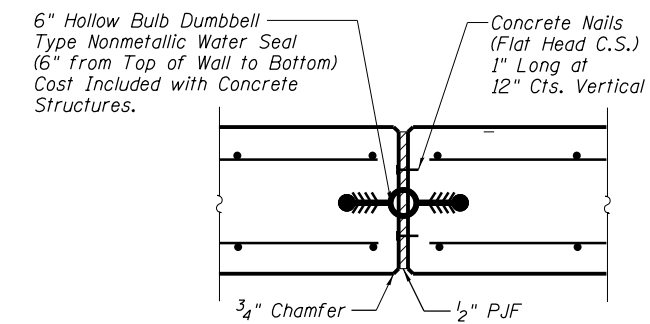
TYPICAL INTERSECTION REINFORCEMENT



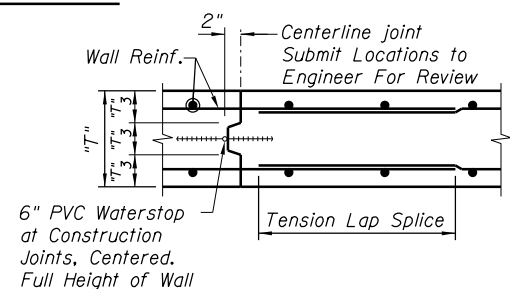
TYPICAL CORNER REINFORCEMENT



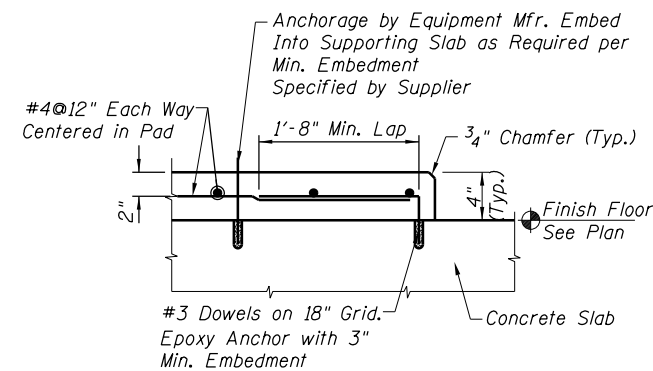
TYPICAL INTERSECTION REINFORCEMENT



TYPICAL WALL EXPANSION JOINT DETAIL

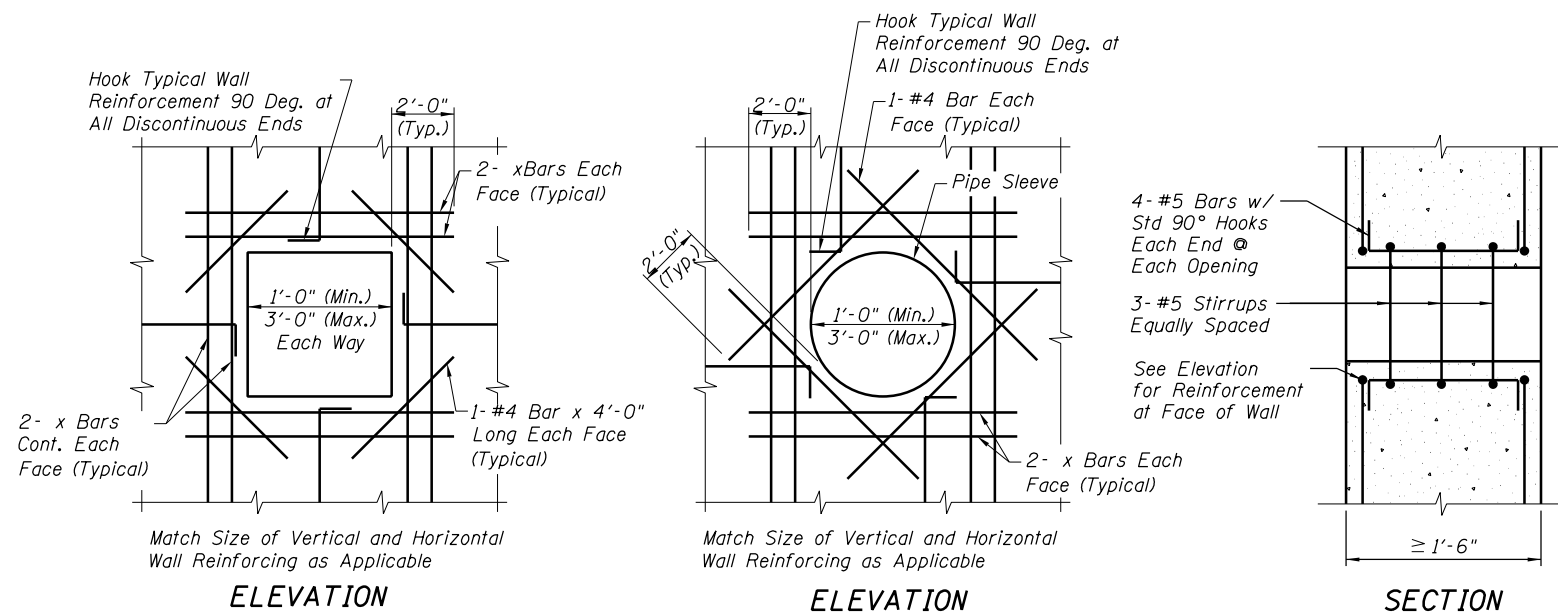


TYPICAL WALL CONSTRUCTION JOINT DETAIL



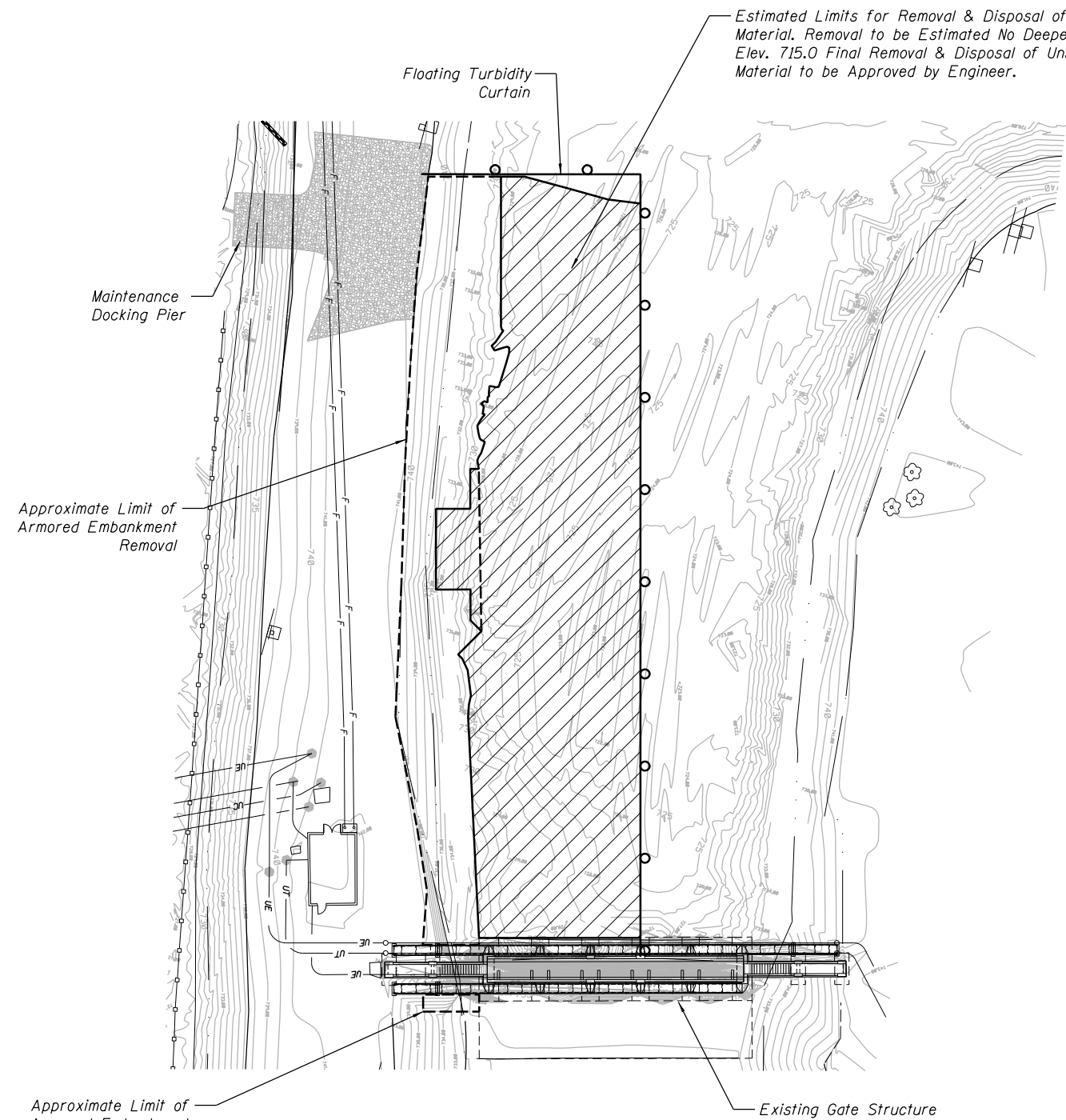
TYPICAL EQUIPMENT BASE AND HOUSEKEEPING PAD REINFORCEMENT DETAIL

Note: Equipment Base and Housekeeping Pads To Be Furnished and Installed by Respective Contractors Installing Equipment. See Mechanical and Electrical Drawings for Equipment Base / Housekeeping Pad Sizes, Thicknesses and Locations.

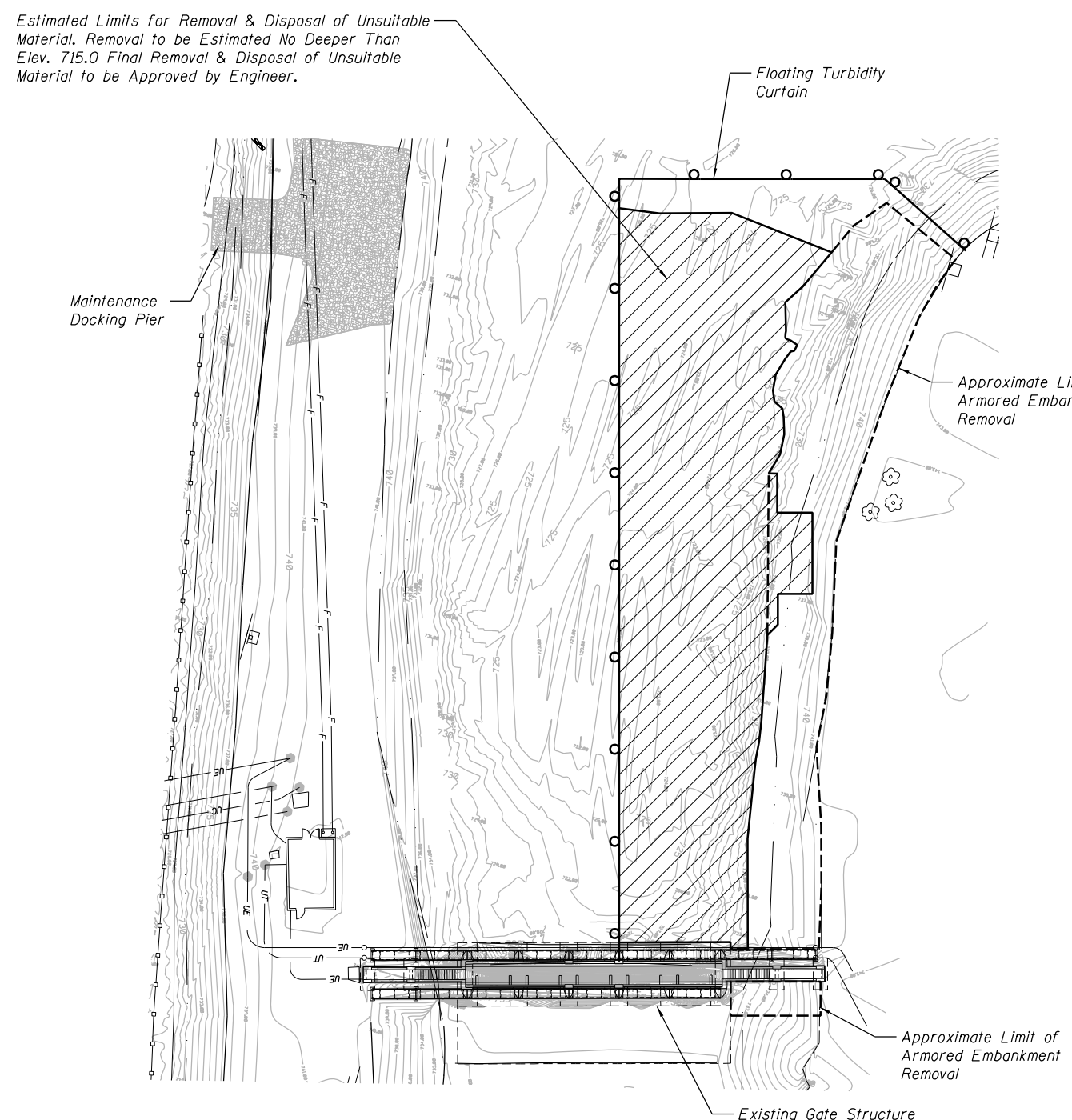


TYPICAL WALL OPENING REINFORCEMENT DETAILS

Note:
The Implied Presence Or Absence Of Utilities Is Not To Be Construed By The Owner, Engineer, Or Contractor, To Be An Accurate And Complete Representation Of Utilities That May Or May Not Exist On The Construction Site. Buried And Aboveground Utility Location, Identification, And Marking Are The Sole Responsibility Of The Subcontractor. Rerouting, Disconnection, Protection, Etc. Of Any Utilities Must Be Coordinated Between The Subcontractor, Utility Company, And The Construction Coordinator. Site Safety, Including The Avoidance Of Hazards Associated With Buried And Aboveground Utilities, Remains The Responsibility Of The Subcontractor.



1 PHASE 1 OVER EXCAVATION
84A



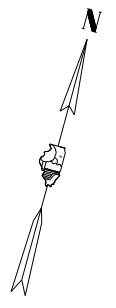
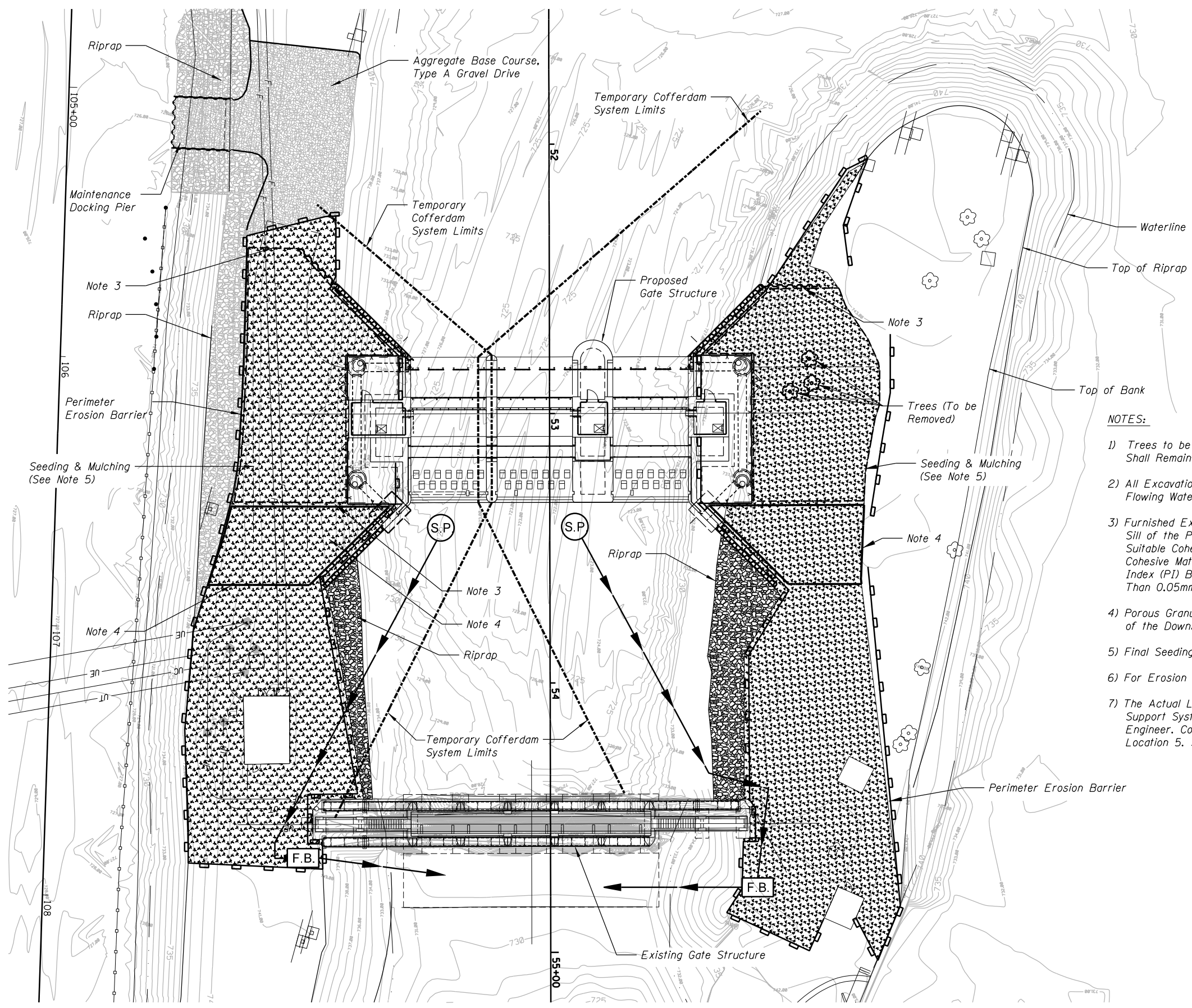
2 PHASE 2 OVER EXCAVATION
84A

LEGEND

○—○ Turbidity Curtain

GENERAL NOTES (Apply to both Phases):

- 1) Contractor Shall Coordinate Removal & Disposal of Unsuitable Material with the Engineer to Select a Low Flow Period When the Majority of the Gates Can be Closed.
- 2) The Turbidity Curtain Shall be Considered a Part of the Erosion Control System.
- 3) Removal of Unsuitable Material Activities in the Wet Shall Occur Only Within the Turbidity Curtain.
- 4) Existing Gates Within Turbidity Curtain to Remain Closed While Turbidity Curtain is in Place.
- 5) Existing Gates Not Within Turbidity Curtain Shall Remain in Operation.
- 6) Turbidity Curtain Shall be Able to be Removed When Needed in Times of High Flows. No Additional Compensation will be Provided if the Turbidity Curtain has to be Removed and Reset Due to High River Flows.
- 7) All Unsuitable Material Shall be Disposed of at Locations Provided by the Contractor. The Disposal Sites Shall be Inspected and Approved by the Engineer.
- 8) For Erosion Control System Notes & Typical Details See Sheets 11 & 13.



NOTES:

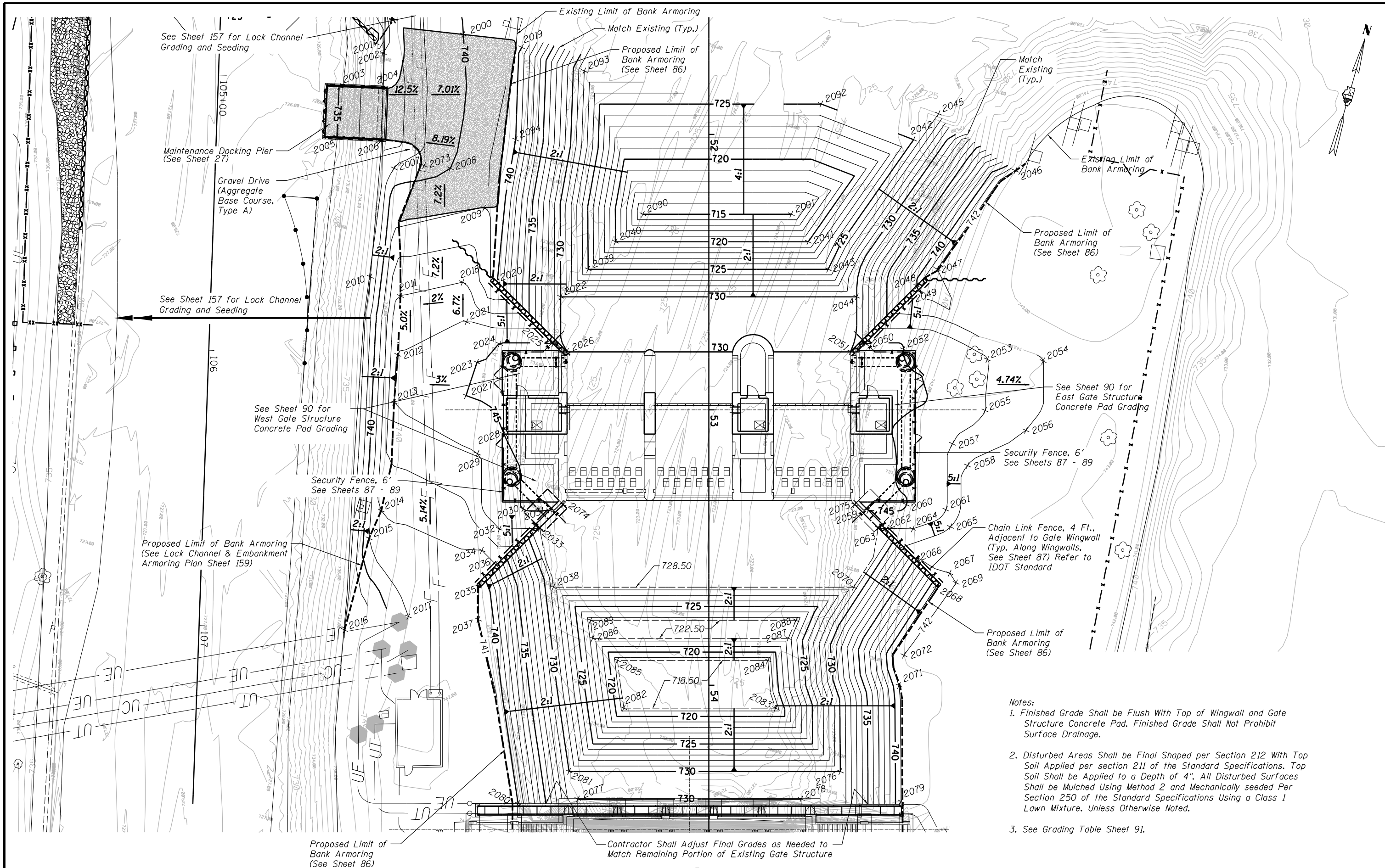
- 1) Trees to be Removed Shall be Disposed of Off Site. No Stockpile of Landscaping Materials Shall Remain on Site After Construction.
- 2) All Excavation Shall be Coordinated With the Engineer. Any Seeps or the Appearance of Flowing Water Through an Island Should be Reported Immediately.
- 3) Furnished Excavation Outside the Footprint of the Gate Structure, From the Downstream Sill of the Proposed Gate Structure to the Inside Face of the Upstream Wingwall Shall be a Suitable Cohesive Material Placed and Compacted in the Dry. Suitable Material Shall Consist of Cohesive Materials With 30 Percent or More Passing the No. 200 Sieve, and Have a Plasticity Index (PI) Between 3 and 35. Materials Having 85 Percent Fines by Weight That are Smaller Than 0.05mm Shall not be Acceptable. Contractor Shall Bench the Existing Ground Prior to Backfill.
- 4) Porous Granular Embankment Shall be Placed from Furnished Excavation to the Inside Face of the Downstream Wingwall outside the Footprint of the Proposed Gate Structure.
- 5) Final Seeding & Mulching Shall be Seeding, Class 1 & Mulching, Method 2. (See Sheet 85)
- 6) For Erosion Control System Notes & Typical Details See Sheets 11 & 13.
- 7) The Actual Layout, Design, Construction, and Maintenance of All Temporary Excavation and Ground Support Systems Shall be the Responsibility of the Contractor and Subject to Approval of the Engineer. Cost of This Work Shall be Included in the Items, Cofferdam-Location 4 and Cofferdam-Location 5. See Special Provisions.

LEGEND

- Seeding & Mulching
- Perimeter Erosion Barrier
- Filter Bag
- Sump Pit
- Riprap
- Aggregate Base Course, Type A

PLAN

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	PLOT SCALE =	CHECKED - TMF	REVISED -				McHENRY	238	84B
	PLOT DATE = SEPTEMBER 18, 2013	DRAWN - EJM/SKB	REVISED -				PROJECT FR-435		
		CHECKED - LBJ	REVISED -						



- Notes:
1. Finished Grade Shall be Flush With Top of Wingwall and Gate Structure Concrete Pad. Finished Grade Shall Not Prohibit Surface Drainage.
 2. Disturbed Areas Shall be Final Shaped per Section 212 With Top Soil Applied per section 211 of the Standard Specifications. Top Soil Shall be Applied to a Depth of 4". All Disturbed Surfaces Shall be Mulched Using Method 2 and Mechanically seeded Per Section 250 of the Standard Specifications Using a Class 1 Lawn Mixture. Unless Otherwise Noted.
 3. See Grading Table Sheet 91.

PLAN

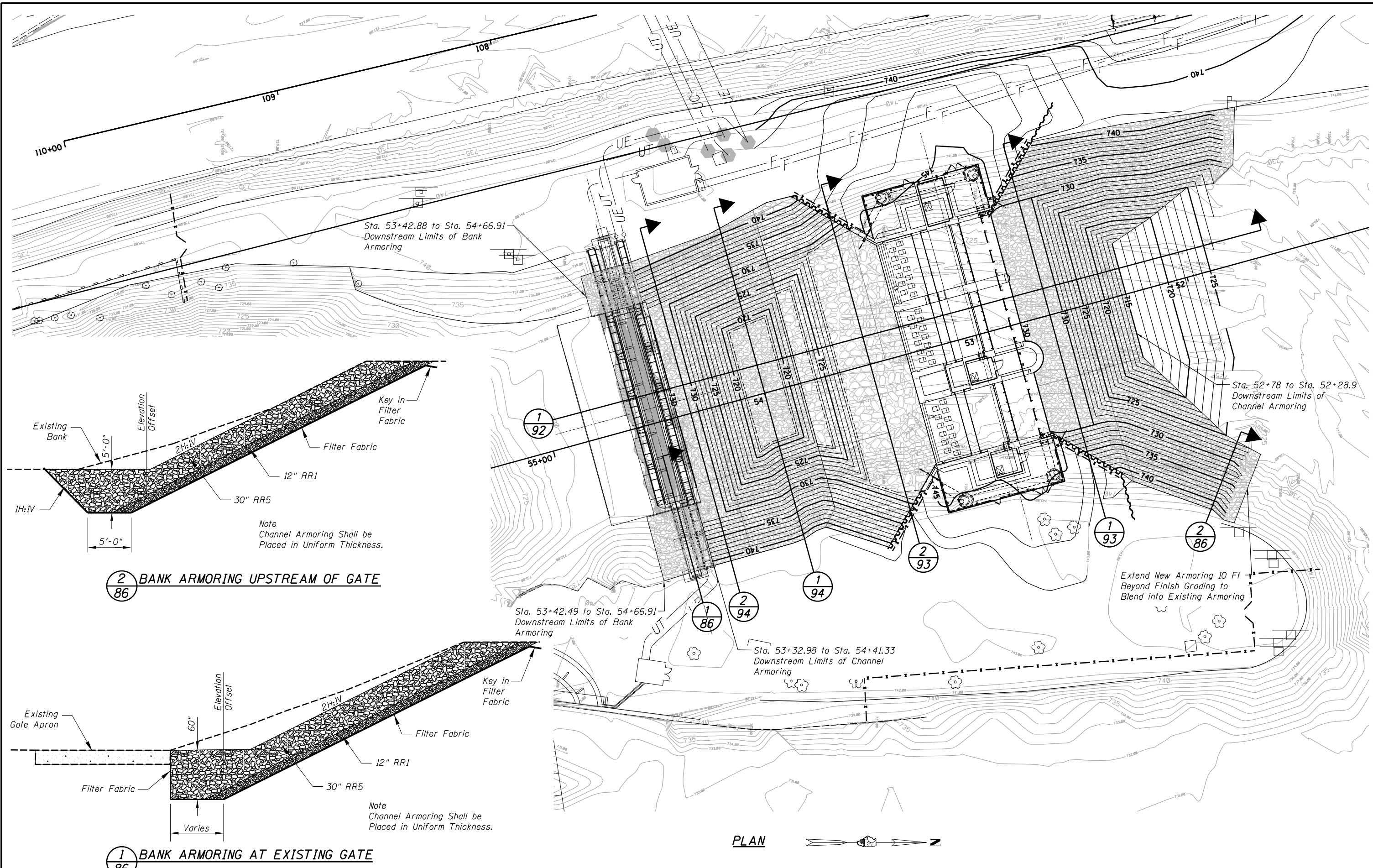
STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

GATE STRUCTURE GRADING
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS

ILLINOIS DEPARTMENT
OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES

COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	85
PROJECT FR-435		

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	PLOT DATE = SEPTEMBER 18, 2013	CHECKED - LJB	REVISED -



2 BANK ARMORING UPSTREAM OF GATE
86

1 BANK ARMORING AT EXISTING GATE
86

PLAN

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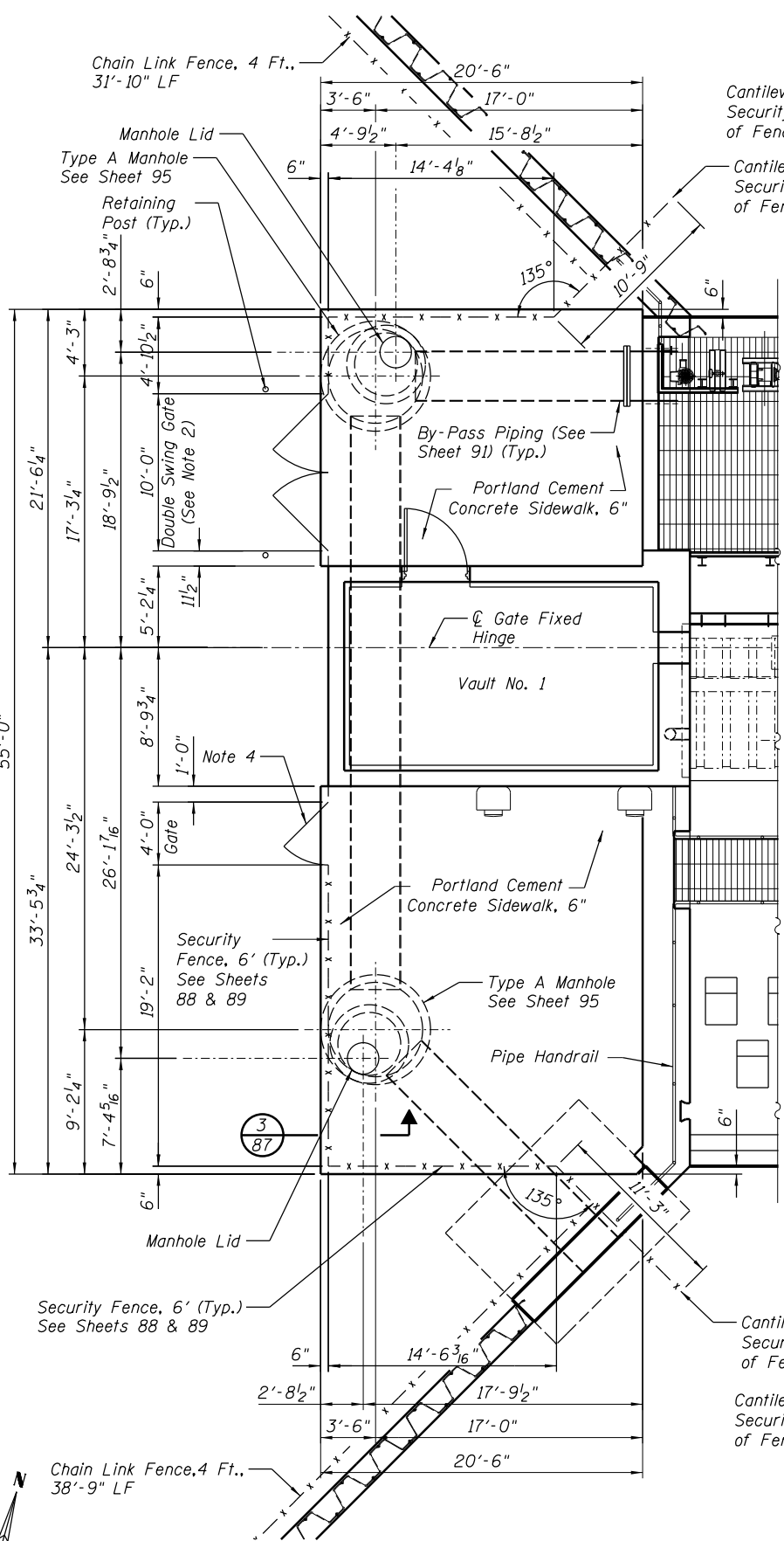
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STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

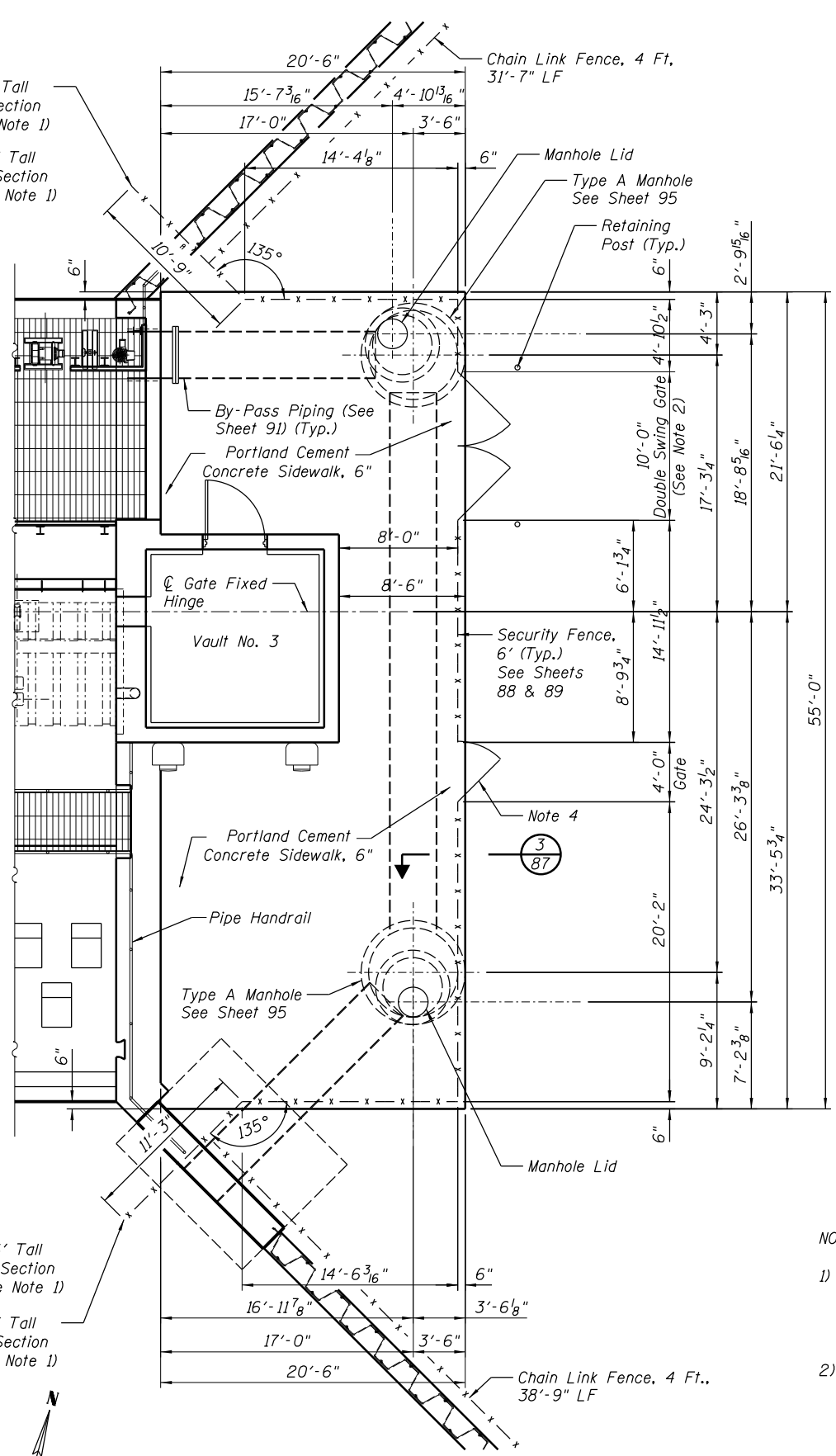
GATE STRUCTURE CHANNEL & EMBANKMENT ARMORING PLAN
STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS

ILLINOIS DEPARTMENT
OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES

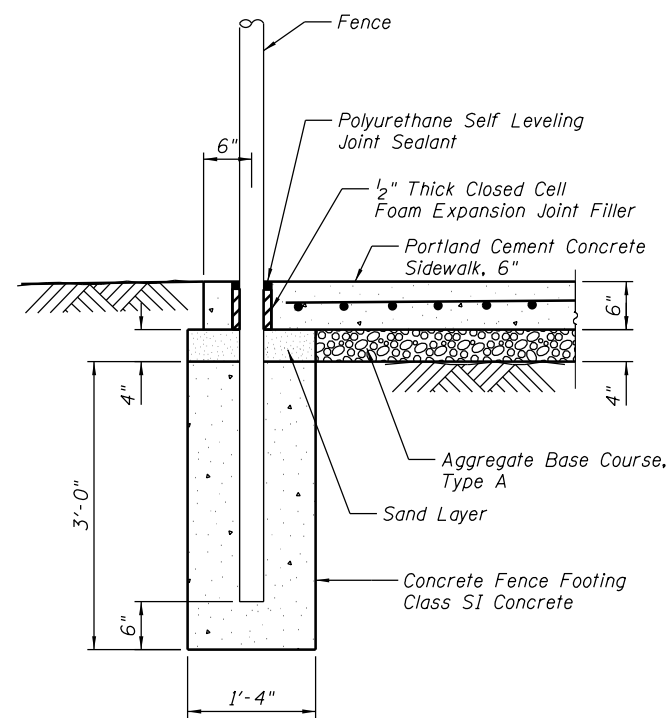
COUNTY	TOTAL SHEETS	SHEET NO.
McHENRY	238	86
PROJECT FR-435		



1 WEST ABUTMENT CONCRETE PAD & FENCING
87

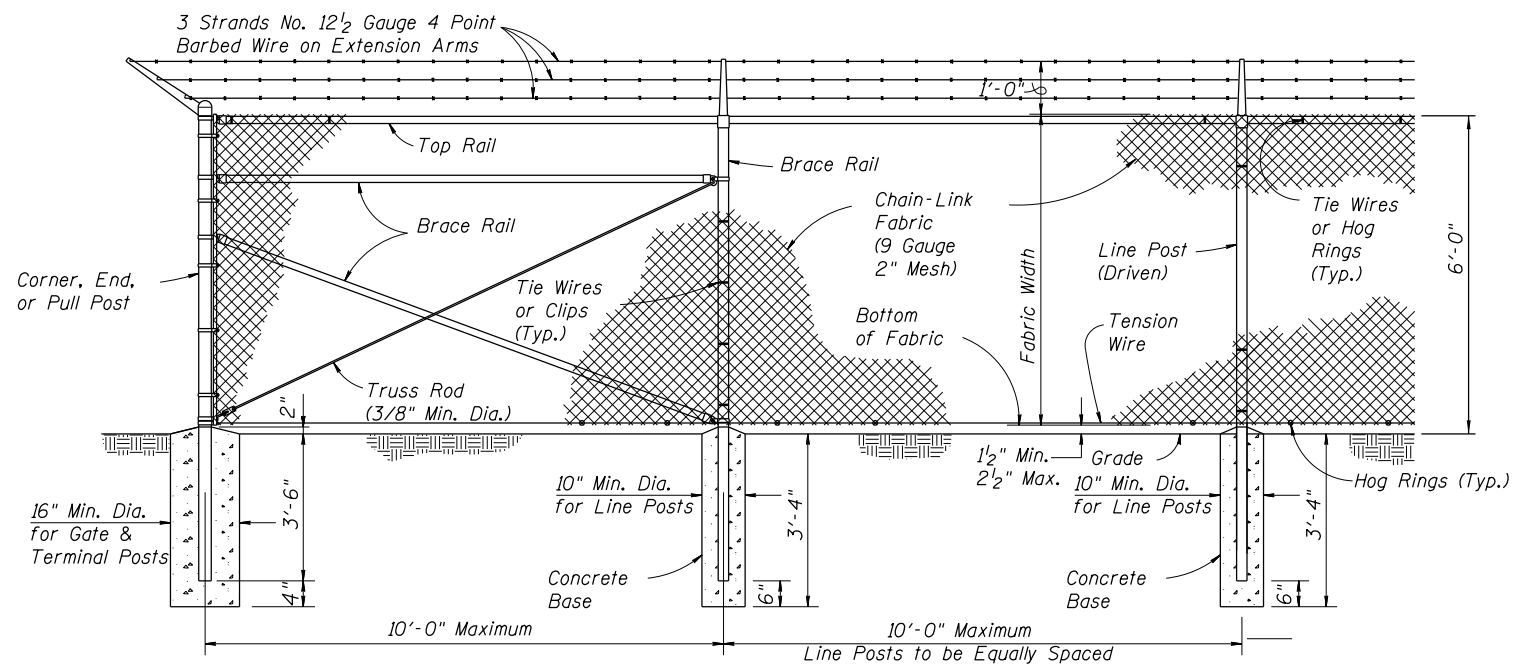


2 EAST ABUTMENT CONCRETE PAD & FENCING
87

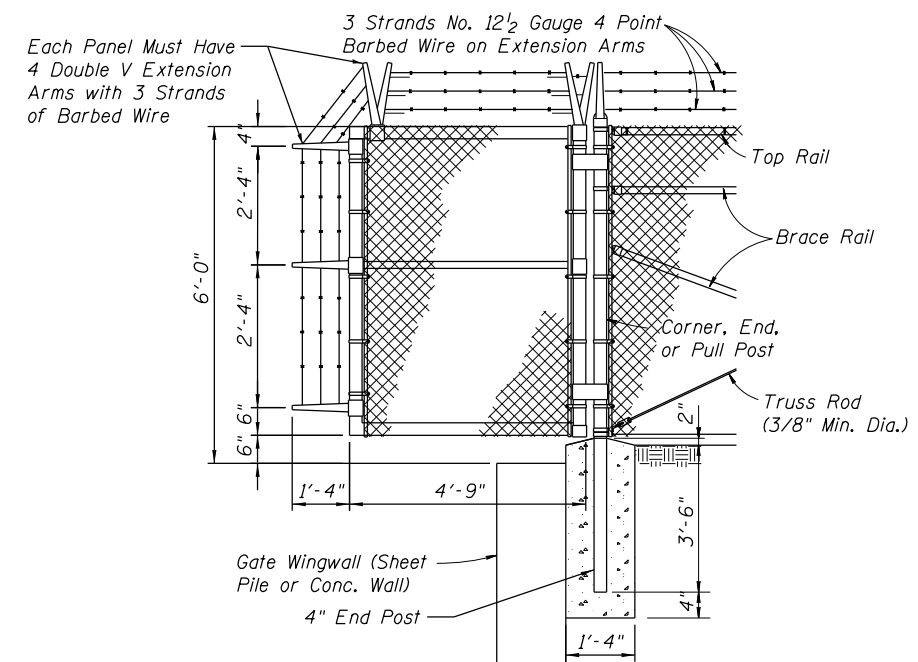


3 FENCE ANCHORAGE DETAIL
87

- NOTES:**
- 1) Vertically Suspend 6' Security End Sections of Fence Over Wingwalls. See Sheet 88 for Details. Fence Posts Shall be Set in Concrete Footing Adjacent to Wingwall.
 - 2) When Security Fence Gate, 6'x10' Double Swing is in the Open Position, the Gate Arms Shall be Secured to the Retaining Posts with a Suitable Hook & Eye Connector.
 - 3) LF = Linear Feet
 - 4) Security Fence Gate, 6'x4' Single.

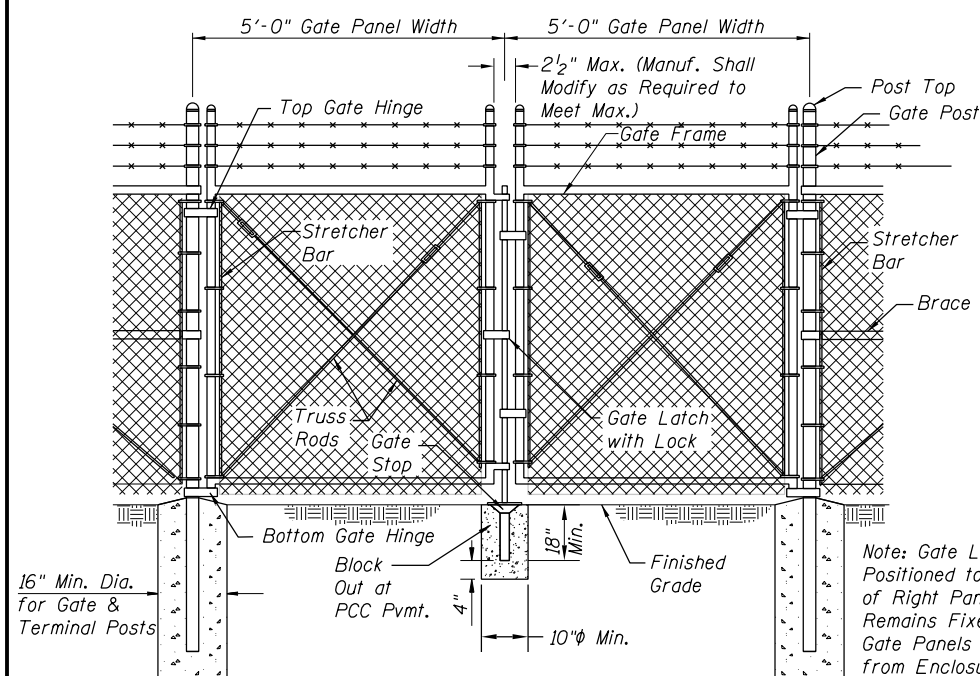


1 SECURITY FENCE, 6' DETAIL
88



2 CANTILEVERED 6' TALL SECURITY END SECTION OF FENCE
88

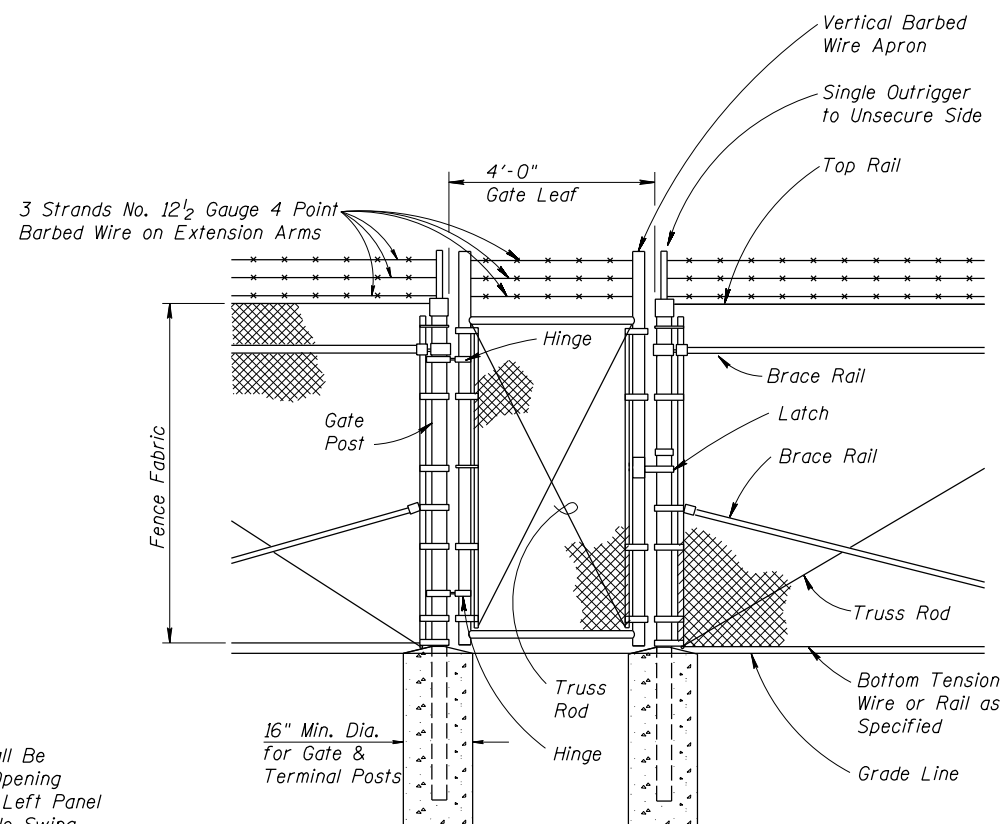
Notes:
1. Fence Posts Shall be Set in Concrete Footing Adjacent to Wingwall.



3 DOUBLE SWING GATE ARRANGEMENT
88

View Towards Exterior of Enclosure

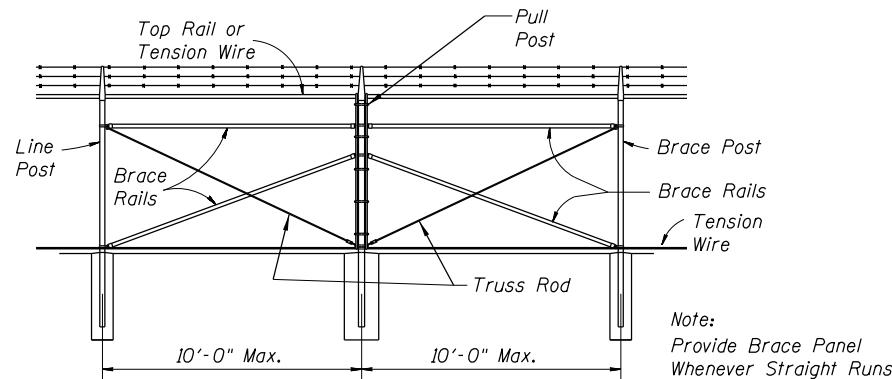
Note: Gate Latch Shall Be Positioned to Allow Opening of Right Panel While Left Panel Remains Fixed. Double Swing Gate Panels Shall Swing Away from Enclosure. When Gates Are in Open Position, the Gate Arms Shall be Secured to the Retaining Posts With a Suitable Hook & Eye Connector.



4 PERSONNEL GATE TYPE FE-6 FENCE
88

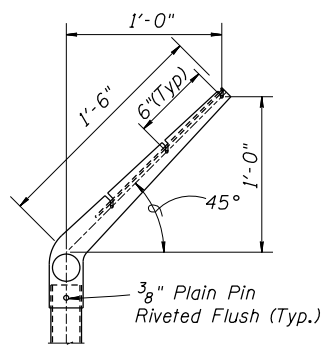
General Notes:

1. Details Shown are to Clarify Requirements and are Not Intended to Limit Other Types of Fence Sections and Methods of Installation that Comply with the Specifications.
2. Wire Ties, Rails, Posts, and Braces Shall be Constructed on the Secure Side of the Fence Alignment. Chain-Link Fabric Shall be Placed on the Side Opposite the Secure Area.
3. Detailed Views Show only General Dimensions and Typical Requirements.
4. All Materials, Including Hardware and Miscellaneous Incidentals to be Incorporated in the Fence.
5. Gates to be Equipped with Approved Stop and Latching Device. Each Gate to Swing 100°.
6. Bases Shall be Class "SI" Concrete. Exposed Portion of Base to be Trowel Finished.
7. Corner Sections and Terminal Sections to be Braced in Same Manner.
8. All Materials Incorporated in the Fence Shall be Items of Standard Manufacture, Intended for Use in Fence Construction.
9. All Fence Corners to be 90° Unless Otherwise Specified.
10. 1/4" Dia. Weep Holes to be Drilled in all Tubular Posts 1/2" above Crown of Bases.
11. Spring Type Expansion Couplings Shall be Incorporated in Top Rail at Intervals not Exceeding 100 Feet.



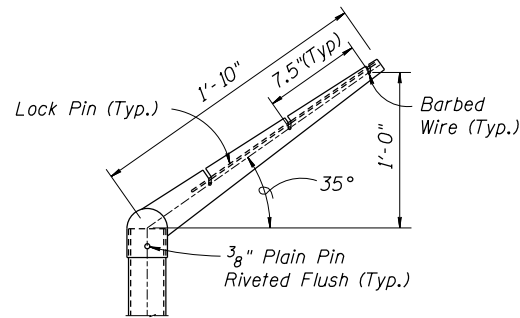
1
89 BRACE PANEL DETAIL

Note:
Provide Brace Panel
Whenever Straight Runs
Exceed 500 feet.

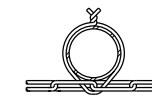


LINE POST

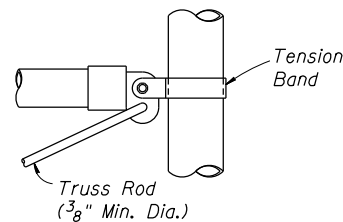
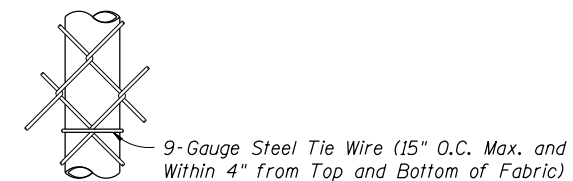
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89 EXTENSION ARM DETAILS



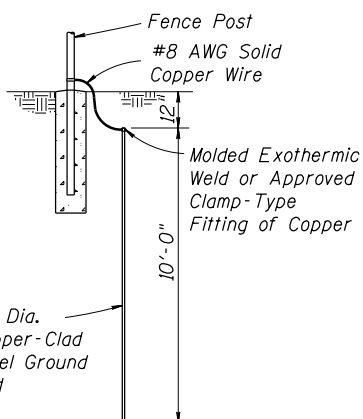
CORNER POST



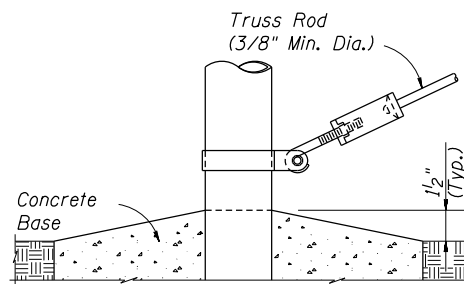
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89 ROUND LINE POST ATTACHMENT



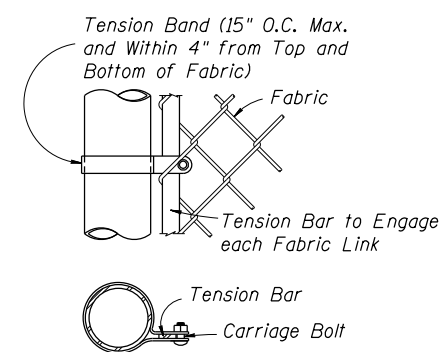
ROUND POST



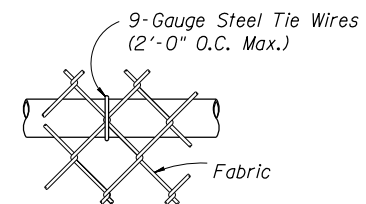
GROUNDING DETAIL



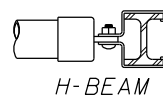
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89 TRUSS ROD AND BAND



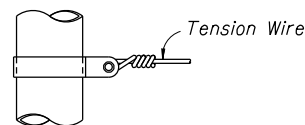
6
89 END OR GATE POST DETAIL



7
89 TOP OR BRACE RAIL ATTACHMENT

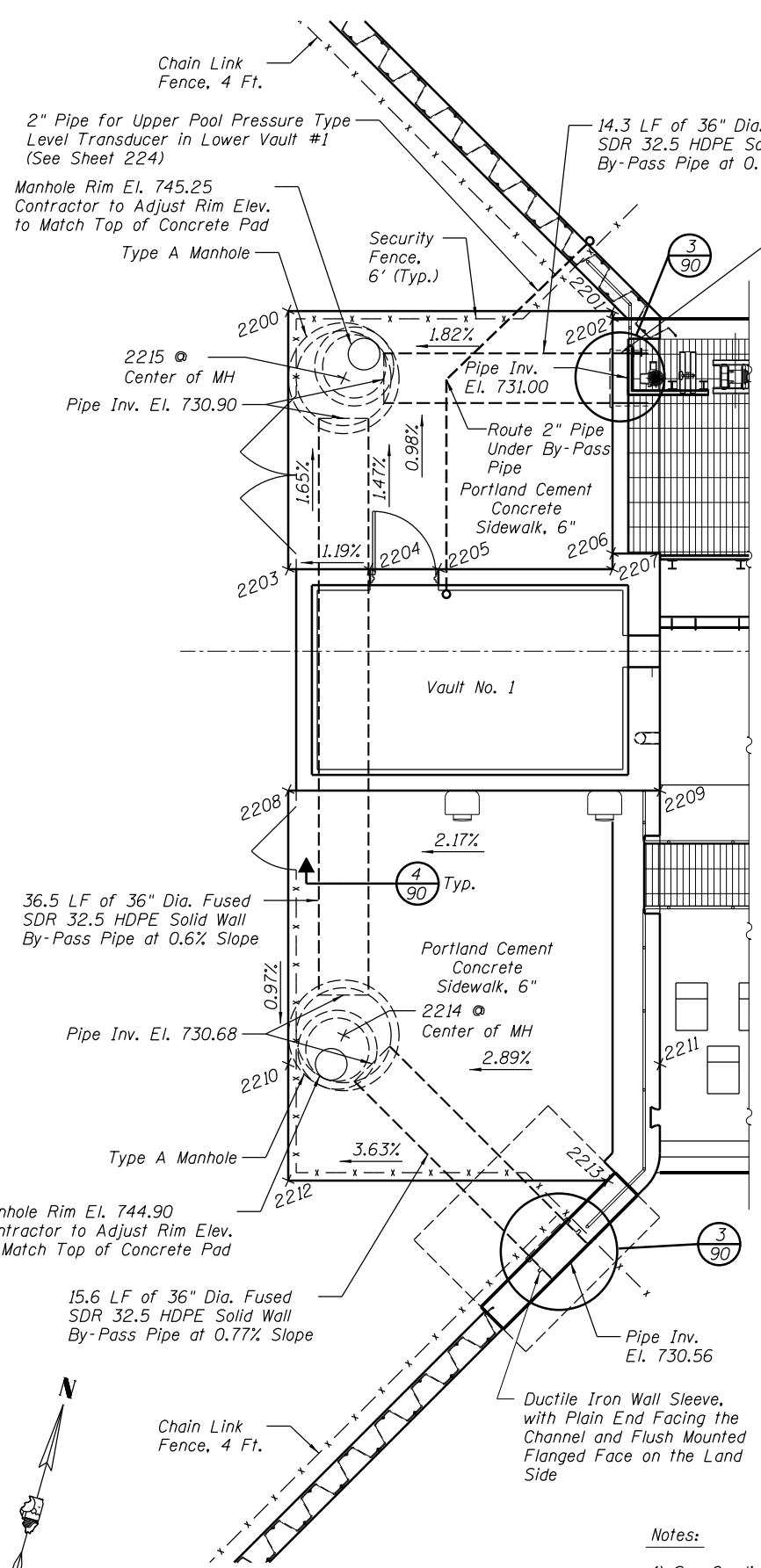


BRACE RAIL CLAMP DETAILS

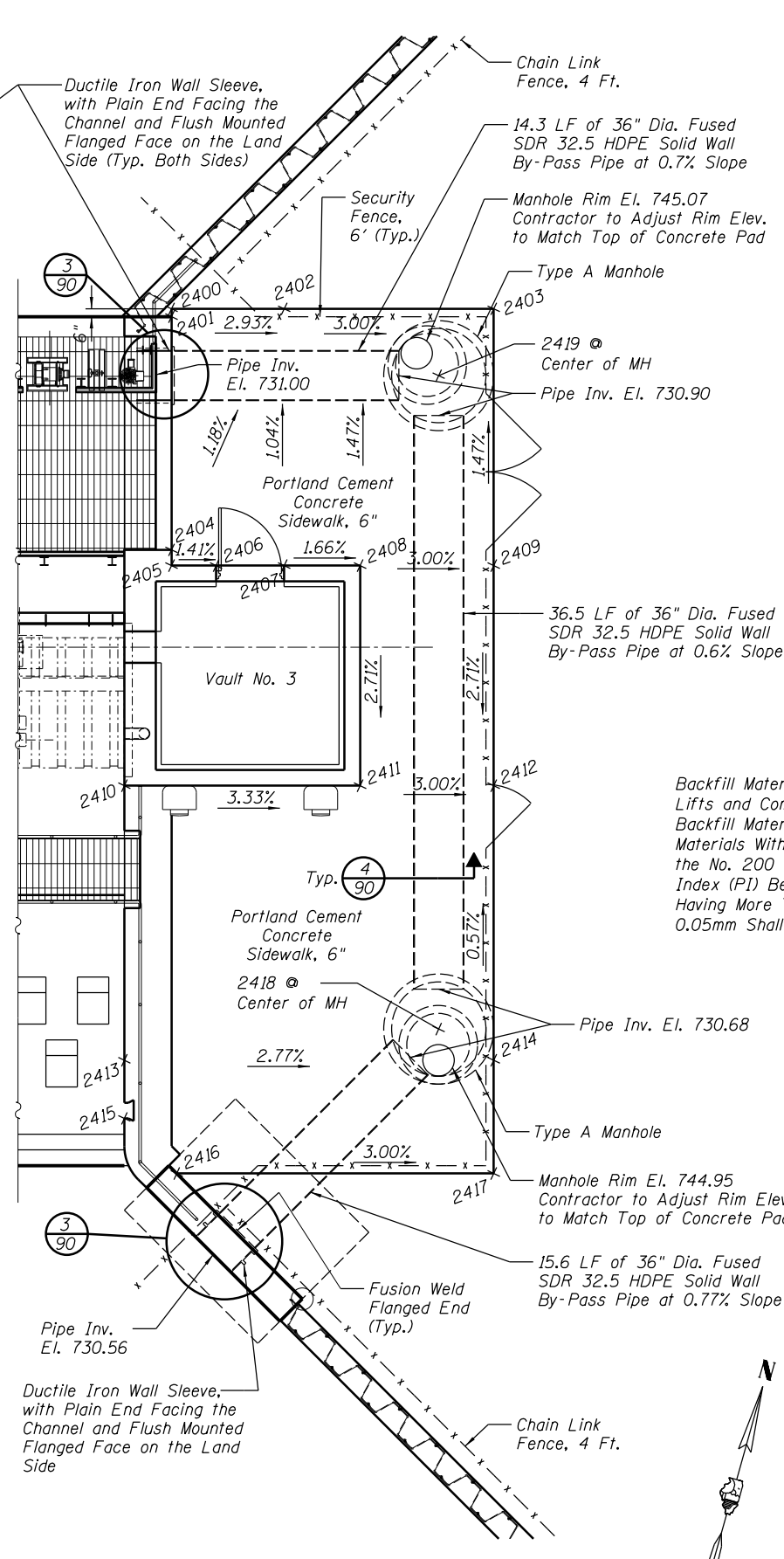


TENSION BAND DETAIL

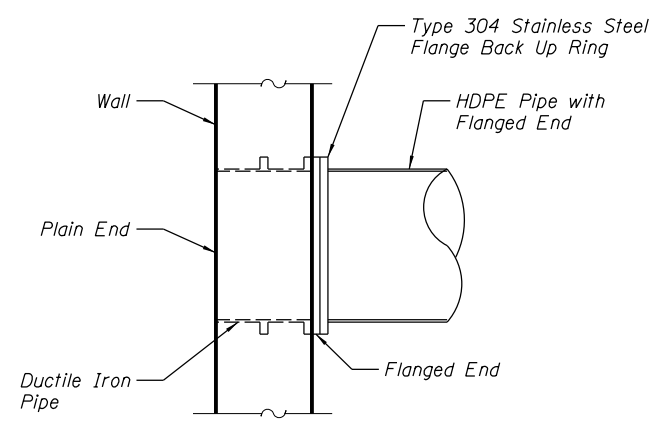
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89 FASTENING DETAILS



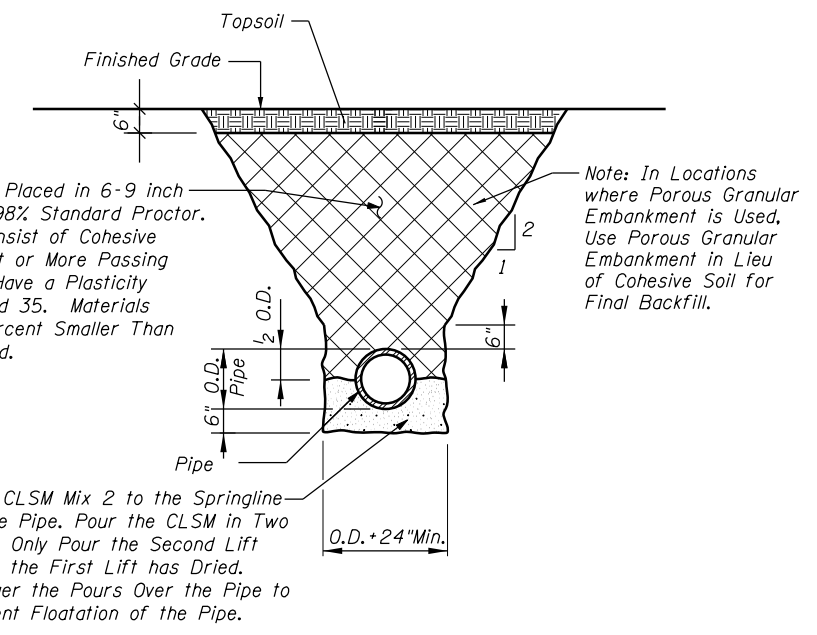
1 WEST GATE STRUCTURE GRADING
90



2 EAST GATE STRUCTURE GRADING
90



3 BY-PASS PIPE WALL SLEEVE DETAIL
90
Note: Wall Sleeve Shall be Included With the cost of HDPE Piping.



4 BY-PASS PIPE TRENCH DETAIL
90

- Notes:
1) See Grading Tables on Sheet 91.
2) LF = Linear Foot.

GATE STRUCTURE GRADING (See Sheet 85)

Point	North	East	Elevation	Description
2000	2055582.08	1006133.07	740.00	Finished Grade
2001	2055570.62	1006103.41	735.00	Finished Grade
2002	2055567.88	1006106.83	737.00	Finished Grade
2003	2055551.88	1006084.62	735.00	Finished Grade at Top of Wingwall
2004	2055555.23	1006110.31	737.00	Finished Grade at Wingwall
2005	2055534.07	1006098.66	735.00	Finished Grade at Top of Wingwall
2006	2055537.30	1006114.21	737.00	Finished Grade at Wingwall
2007	2055528.58	1006121.62	739.00	Finished Grade
2008	2055533.98	1006141.38	740.00	Finished Grade
2009	2055523.24	1006157.00	741.00	Finished Grade
2010	2055488.27	1006123.80	738.00	Finished Grade
2011	2055484.45	1006136.19	743.00	Finished Grade
2012	2055463.61	1006140.87	744.00	Finished Grade
2013	2055446.64	1006144.13	744.00	Finished Grade
2014	2055407.50	1006150.04	742.00	Finished Grade
2015	2055396.59	1006148.41	741.00	Finished Grade
2016	2055362.14	1006148.62	738.00	Finished Grade/Match Existing
2017	2055372.99	1006169.72	741.00	Finished Grade/Match Existing
2018	2055495.26	1006156.58	743.00	Finished Grade
2019	2055583.17	1006154.75	740.00	Finished Grade/Match Existing
2020	2055498.79	1006168.72	740.00	Finished Grade at Wingwall
2021	2055481.74	1006161.74	744.00	Finished Grade
2022	2055499.55	1006192.32	730.00	Finished Grade
2023	2055468.54	1006169.33	745.00	Finished Grade
2024	2055477.18	1006175.46	745.00	Finished Grade
2025	2055482.38	1006194.23	745.00	Finished Grade at Top of Wingwall
2026	2055481.02	1006199.78	730.00	Finished Grade at Wingwall
2027	2055455.91	1006168.64	745.00	Finished Grade
2028	2055446.02	1006185.53	745.00	Finished Grade/Top of Concrete Pad
2029	2055436.65	1006178.23	744.00	Finished Grade
2030	2055421.70	1006199.52	745.00	Finished Grade
2031	2055423.69	1006208.89	745.00	Finished Grade at Top of Wingwall
2032	2055412.38	1006193.23	744.00	Finished Grade
2033	2055416.45	1006207.19	728.50	Finished Grade at Wingwall
2034	2055403.21	1006189.09	742.00	Finished Grade
2035	2055390.20	1006191.50	741.00	Finished Grade at Wingwall
2036	2055399.59	1006195.31	742.00	Finished Grade at Top of Wingwall
2037	2055378.62	1006194.49	741.00	Finished Grade
2038	2055397.17	1006217.63	728.50	Finished Grade
2039	2055511.83	1006199.30	725.00	Finished Grade
2040	2055524.10	1006206.24	720.00	Finished Grade
2041	2055542.60	1006273.70	720.00	Finished Grade
2042	2055588.44	1006300.76	725.00	Finished Grade
2043	2055534.86	1006283.31	725.00	Finished Grade
2044	2055527.96	1006295.97	730.00	Finished Grade
2045	2055599.93	1006307.00	726.00	Finished Grade/Match Existing
2046	2055587.35	1006339.37	742.00	Finished Grade/Match Existing
2047	2055545.40	1006321.44	742.00	Finished Grade at Wingwall
2048	2055537.57	1006315.95	740.00	Finished Grade
2049	2055532.55	1006314.62	742.00	Finished Grade at Top of Wingwall
2050	2055512.31	1006303.39	745.00	Finished Grade at Top of Wingwall
2051	2055508.25	1006299.12	730.00	Finished Grade at Wingwall
2052	2055514.05	1006317.35	745.00	Finished Grade
2053	2055518.56	1006347.69	744.00	Finished Grade
2054	2055523.35	1006367.34	743.00	Finished Grade
2055	2055500.47	1006351.75	744.00	Finished Grade
2056	2055497.43	1006367.98	743.00	Finished Grade
2057	2055485.65	1006343.57	744.00	Finished Grade
2058	2055479.49	1006350.94	743.00	Finished Grade
2059	2055454.28	1006320.52	745.00	Finished Grade at Top of Wingwall
2060	2055459.93	1006333.30	745.00	Finished Grade
2061	2055461.99	1006347.57	744.00	Finished Grade
2062	2055449.74	1006328.79	744.00	Finished Grade at Top of Wingwall
2063	2055449.13	1006325.62	728.50	Finished Grade at Wingwall
2064	2055452.08	1006337.84	744.00	Finished Grade
2065	2055456.38	1006350.83	743.00	Finished Grade
2066	2055441.67	1006341.88	742.00	Finished Grade at Top of Wingwall
2067	2055440.10	1006355.00	742.00	Finished Grade
2068	2055434.29	1006351.68	741.00	Finished Grade at Wingwall
2069	2055437.31	1006358.18	742.00	Finished Grade
2070	2055425.99	1006322.76	728.50	Finished Grade
2071	2055395.88	1006348.03	741.00	Finished Grade
2072	2055407.00	1006346.87	742.00	Finished Grade
2073	2055532.40	1006131.93	739.55	Finished Grade
2074	2055427.05	1006213.11	728.50	Finished Grade at Wingwall
2075	2055455.03	1006315.17	728.50	Finished Grade at Wingwall

GATE STRUCTURE GRADING (CONT'D)

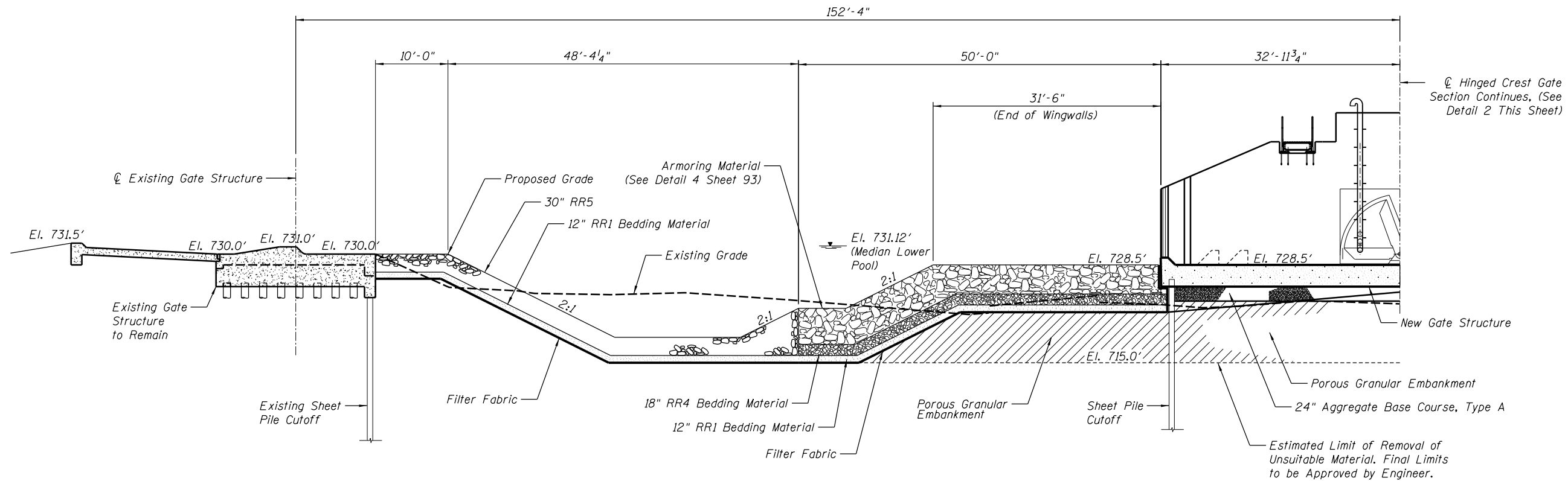
Point	North	East	Elevation	Description
2076	2055360.16	1006335.77	730.00	Finished Grade
2077	2055325.34	1006246.56	730.00	Finished Grade, Exist. Top of Concrete
2078	2055346.77	1006324.76	730.00	Finished Grade, Exist. Top of Concrete
2079	2055355.47	1006359.89	741.00	Finished Grade/Match Existing
2080	2055318.02	1006226.03	740.00	Finished Grade/Match Existing
2081	2055334.13	1006240.81	730.00	Finished Grade
2082	2055361.57	1006253.91	718.50	Finished Grade
2083	2055376.13	1006307.03	718.50	Finished Grade
2084	2055392.13	1006299.76	718.50	Finished Grade
2085	2055377.70	1006247.09	718.50	Finished Grade
2086	2055383.03	1006236.30	722.50	Finished Grade
2087	2055401.81	1006304.80	722.50	Finished Grade
2088	2055408.87	1006305.72	722.50	Finished Grade
2089	2055389.17	1006233.82	722.50	Finished Grade
2090	2055536.38	1006213.18	715.00	Finished Grade
2091	2055550.61	1006265.11	715.00	Finished Grade
2092	2055592.07	1006265.06	725.00	Finished Grade
2093	2055580.90	1006178.91	728.00	Finished Grade
2094	2055550.29	1006161.49	740.00	Finished Grade

WEST GATE STRUCTURE GRADING ELEVATIONS (See Detail 1 Sheet 90)

Point	North	East	Elevation	Description
2200	2055475.14	1006177.03	745.13	Top of Concrete
2201	2055480.56	1006196.80	745.50	Top of Concrete at Top of Wingwall
2202	2055480.08	1006196.93	745.50	Top of Concrete/Gate Structure
2203	2055459.39	1006181.34	745.40	Top of Concrete
2204	2055460.75	1006186.33	745.46	Top of Concrete
2205	2055461.90	1006190.51	745.46	Top of Concrete
2206	2055465.77	1006200.85	745.50	Top of Concrete/Gate Structure
2207	2055464.81	1006201.11	745.50	Top of Concrete/Gate Structure
2208	2055445.89	1006185.04	744.99	Top of Concrete
2209	2055452.10	1006207.71	745.50	Top of Concrete/Gate Structure
2210	2055429.20	1006189.62	744.82	Top of Concrete/Gate Structure
2211	2055435.41	1006212.28	745.50	Top of Concrete/Gate Structure
2212	2055422.10	1006191.56	744.75	Top of Concrete
2213	2055427.43	1006211.02	745.50	Top of Concrete/Gate Structure
2214	2055431.8823	1006192.5116	-	Center of Manhole
2215	2055471.9674	1006181.5246	-	Center of Manhole

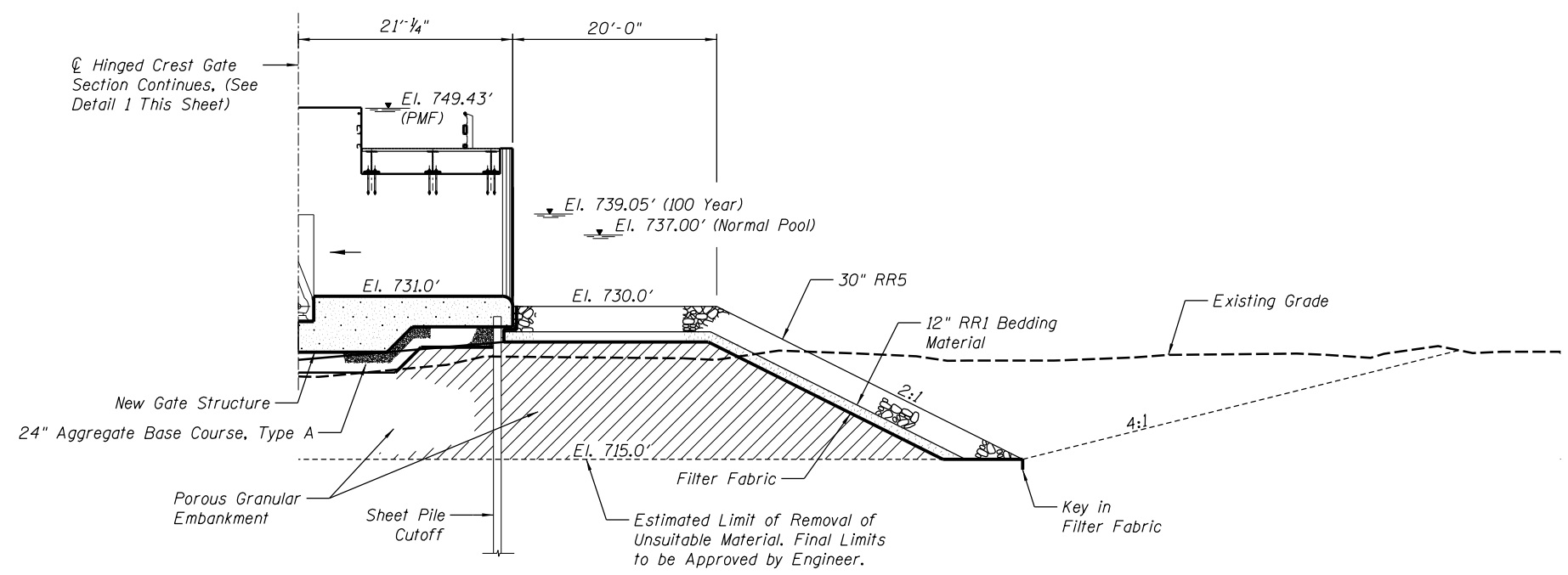
EAST GATE STRUCTURE GRADING ELEVATIONS (See Detail 2 Sheet 90)

Point	North	East	Elevation	Description
2400	2055509.37	1006301.92	745.50	Top of Concrete
2401	2055508.89	1006302.05	745.50	Top of Concrete/Gate Structure
2402	2055511.27	1006308.83	745.29	Top of Concrete
2403	2055514.79	1006321.69	744.89	Top of Concrete
2404	2055494.59	1006305.97	745.50	Top of Concrete/Gate Structure
2405	2055493.62	1006306.24	745.50	Top of Concrete/Gate Structure
2406	2055494.37	1006308.97	745.46	Top of Concrete
2407	2055495.52	1006313.15	745.46	Top of Concrete
2408	2055496.79	1006317.81	745.38	Top of Concrete
2409	2055499.04	1006326.01	745.13	Top of Concrete
2410	2055479.33	1006307.04	745.50	Top of Concrete/Gate Structure
2411	2055483.29	1006321.51	745.00	Top of Concrete
2412	2055485.54	1006329.71	744.75	Top of Concrete
2413	2055462.48	1006311.66	745.50	Top of Concrete/Gate Structure
2414	2055468.69	1006334.33	744.85	Top of Concrete
2415	2055458.91	1006312.64	745.50	Top of Concrete/Gate Structure
2416	2055456.42	1006316.77	745.50	Top of Concrete at Top of Wingwall
2417	2055461.75	1006336.23	744.89	Top of Concrete
2418	2055469.6835	1006330.4249	-	Center of Manhole
2419	2055509.7685	1006319.4378	-	Center of Manhole

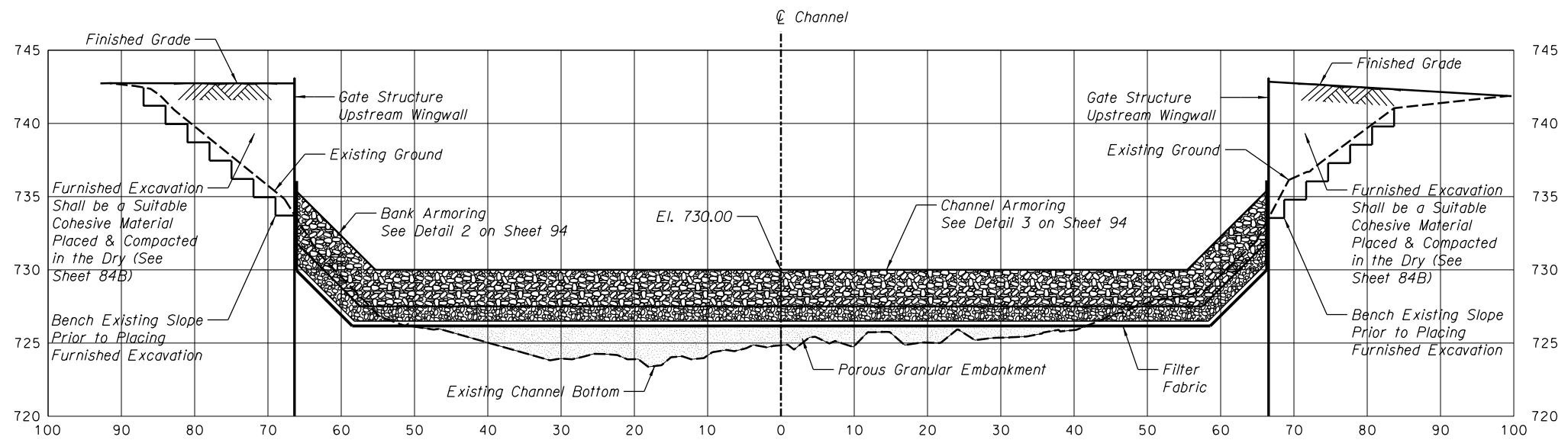


1 SECTION THROUGH STRUCTURES
92

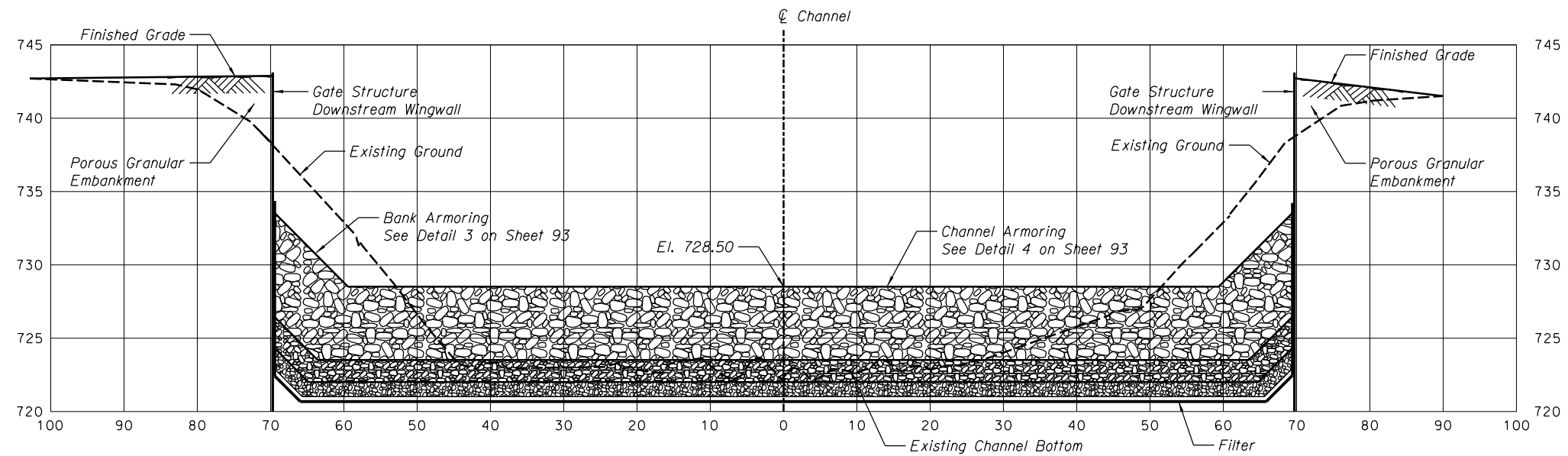
Notes:
1. Channel Armoring Material to be placed in uniform thickness.



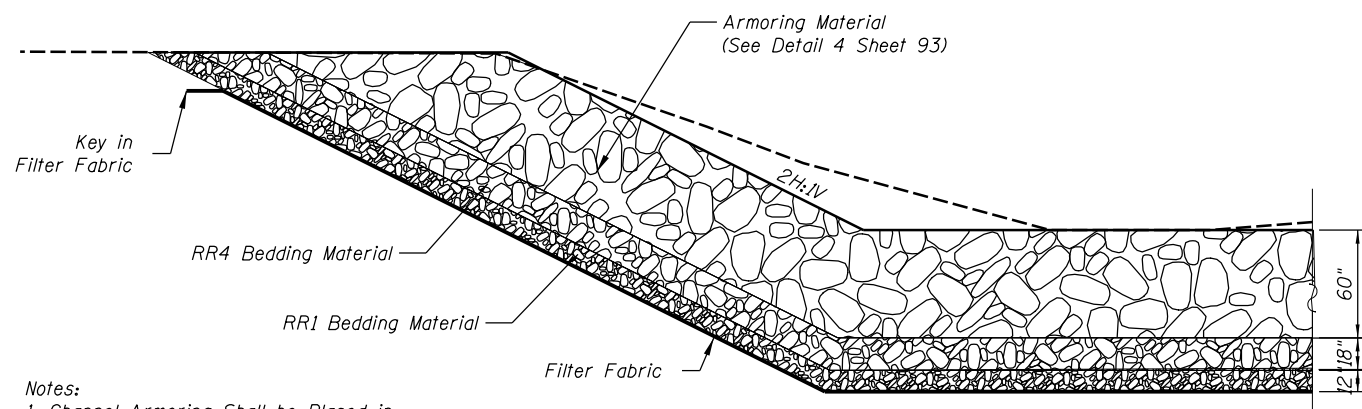
2 SECTION THROUGH STRUCTURES
92



1 CHANNEL SECTION STA. 52+65
93

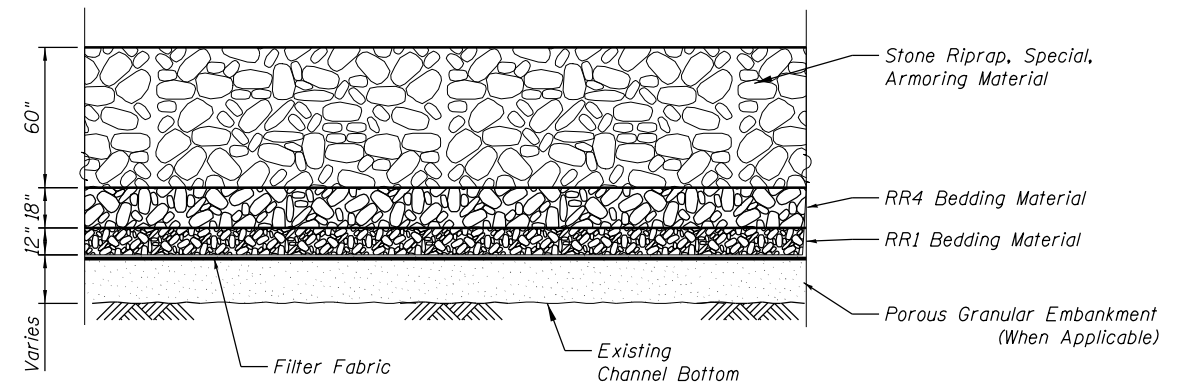


2 CHANNEL SECTION STA. 53+50
93



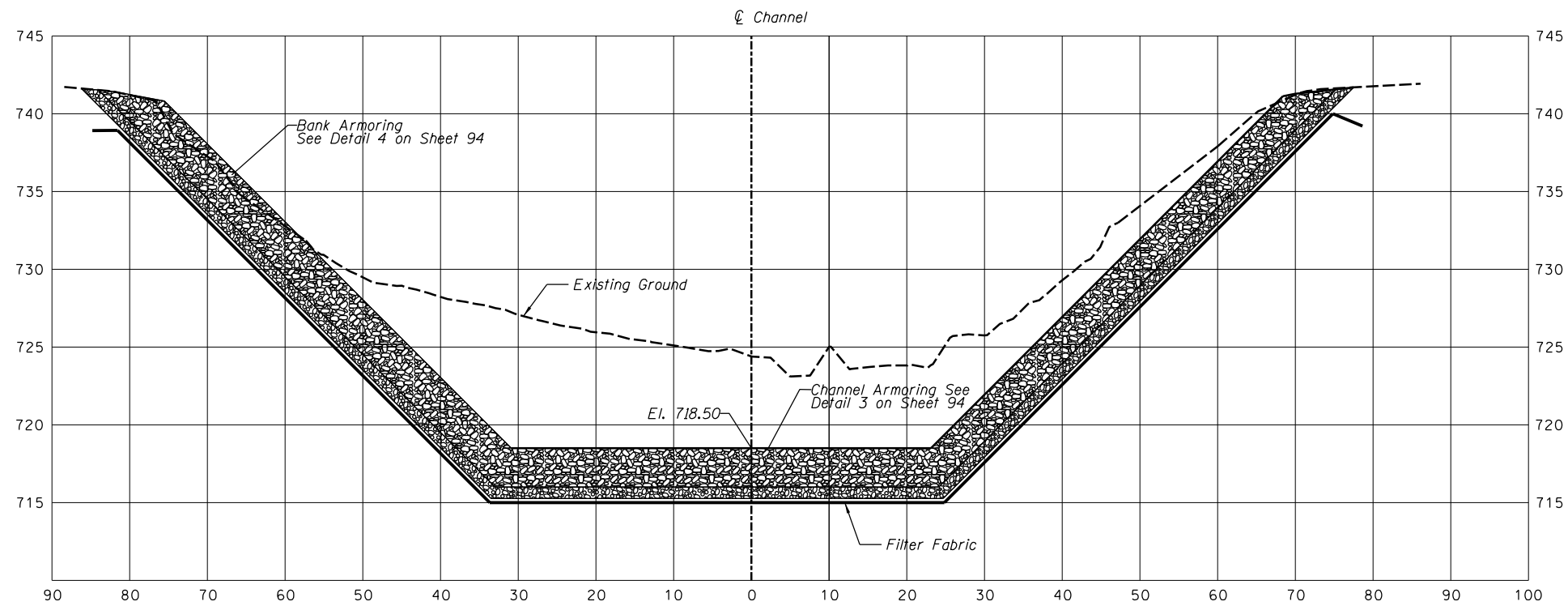
Notes:
1. Channel Armoring Shall be Placed in Uniform Thickness.

3 BANK ARMORING TYPICAL SECTION
93

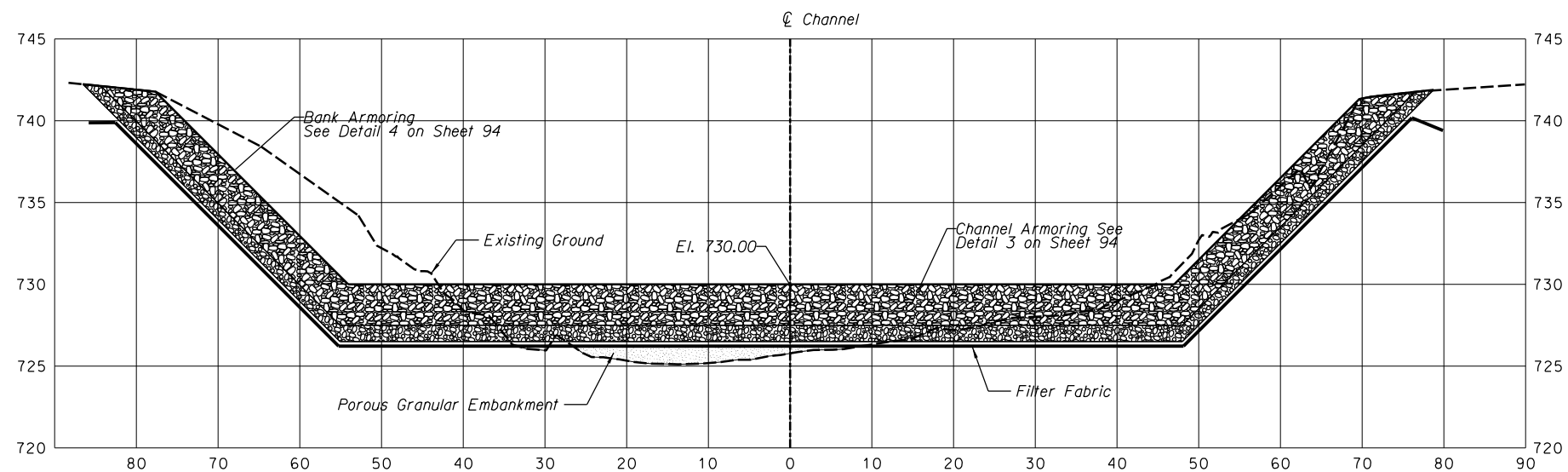


Notes:
1. Channel Armoring Shall be Placed in Uniform Thickness.

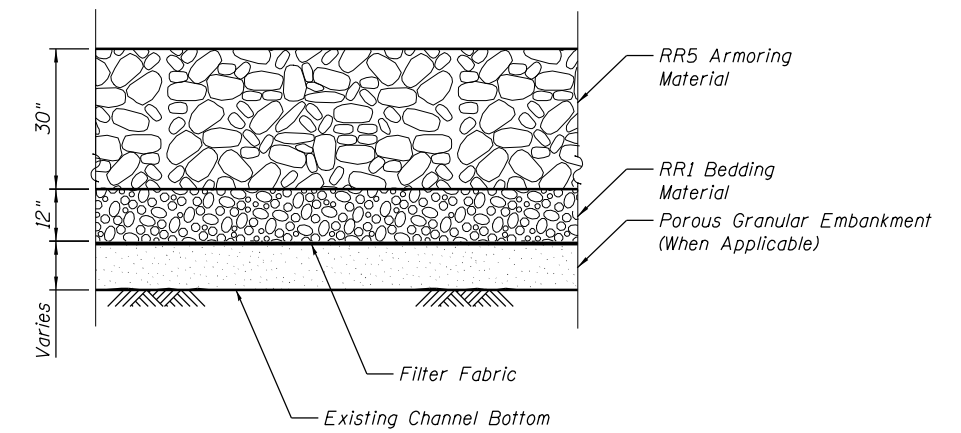
4 CHANNEL ARMORING TYPICAL SECTION
93



1
94 CHANNEL SECTION STA. 54+00

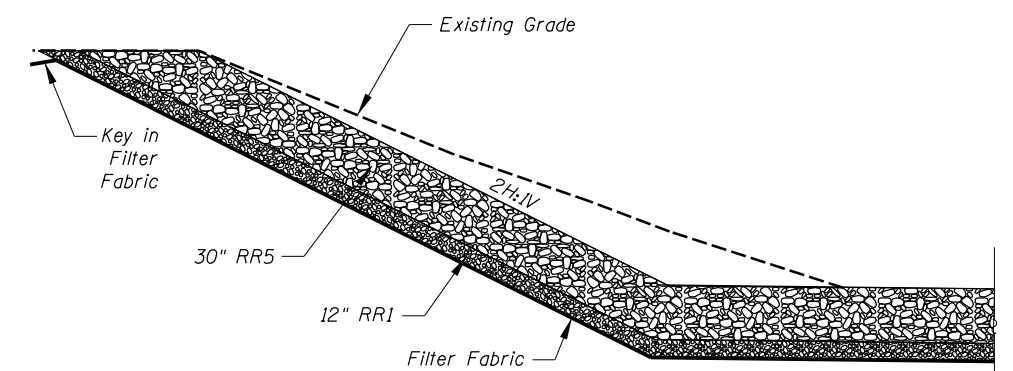


2
94 CHANNEL SECTION STA. 54+35



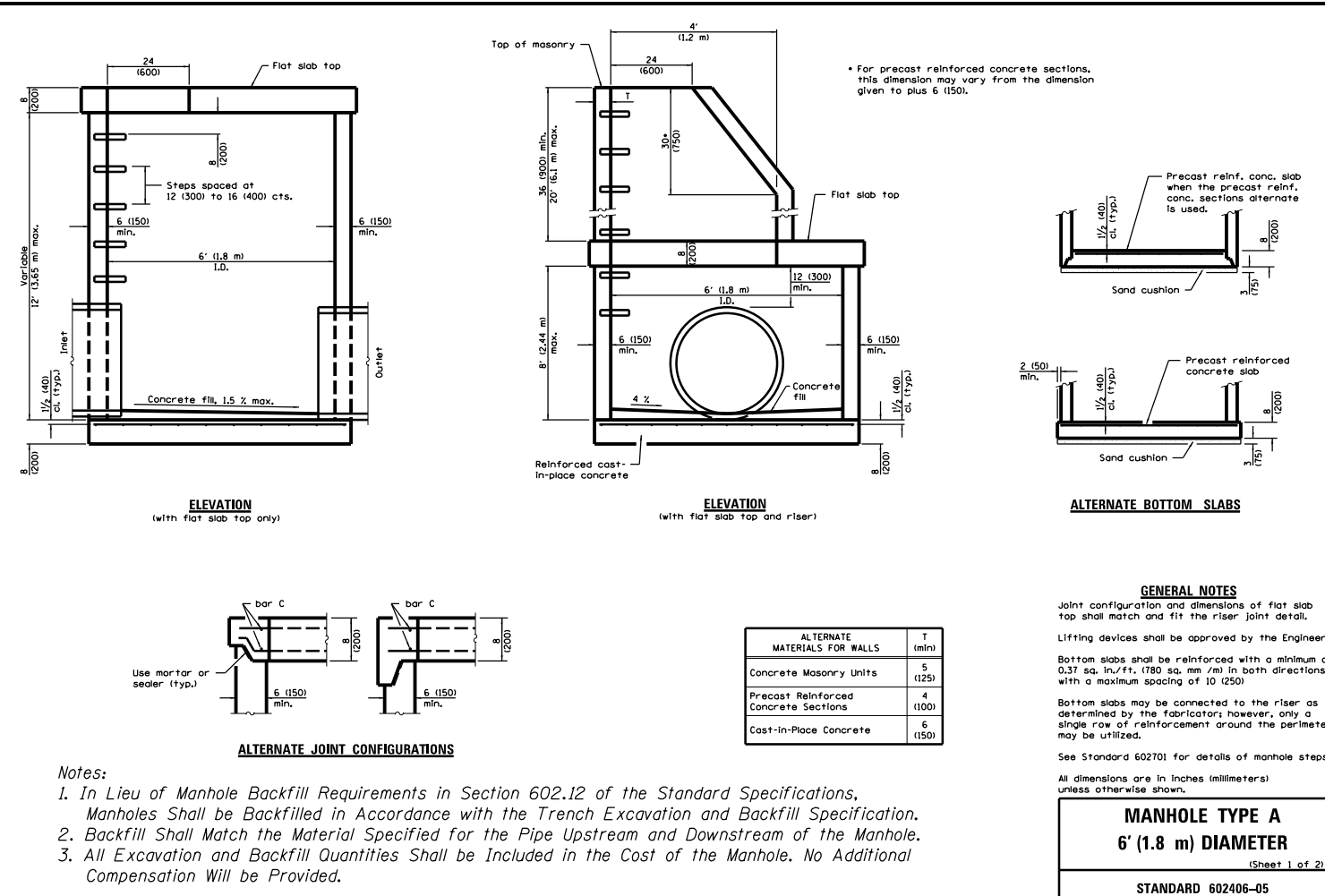
3
94 CHANNEL ARMORING TYPICAL SECTION

Notes:
1. Channel Armoring Shall be Placed in Uniform Thickness.

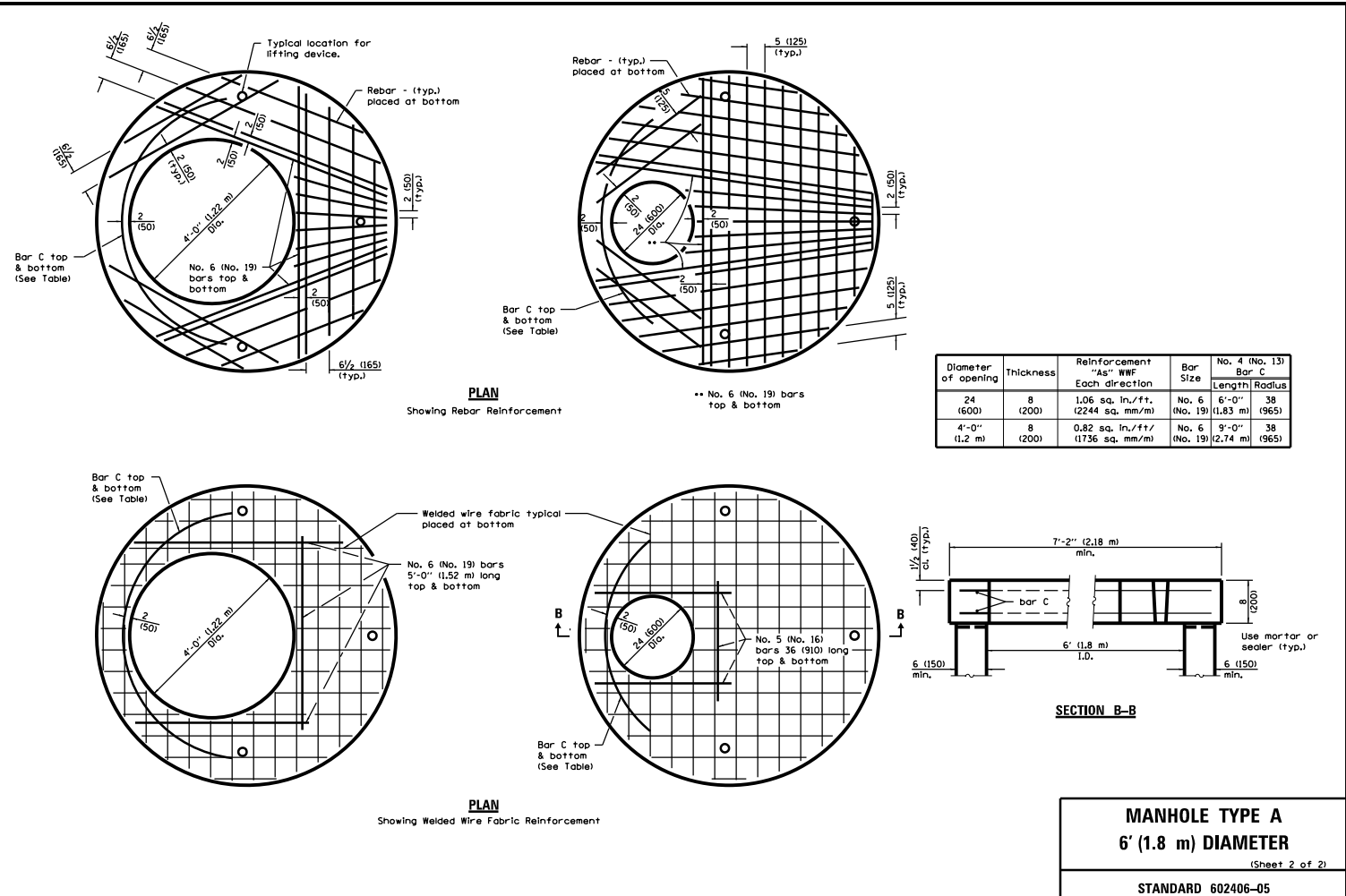


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94 BANK ARMORING TYPICAL SECTION

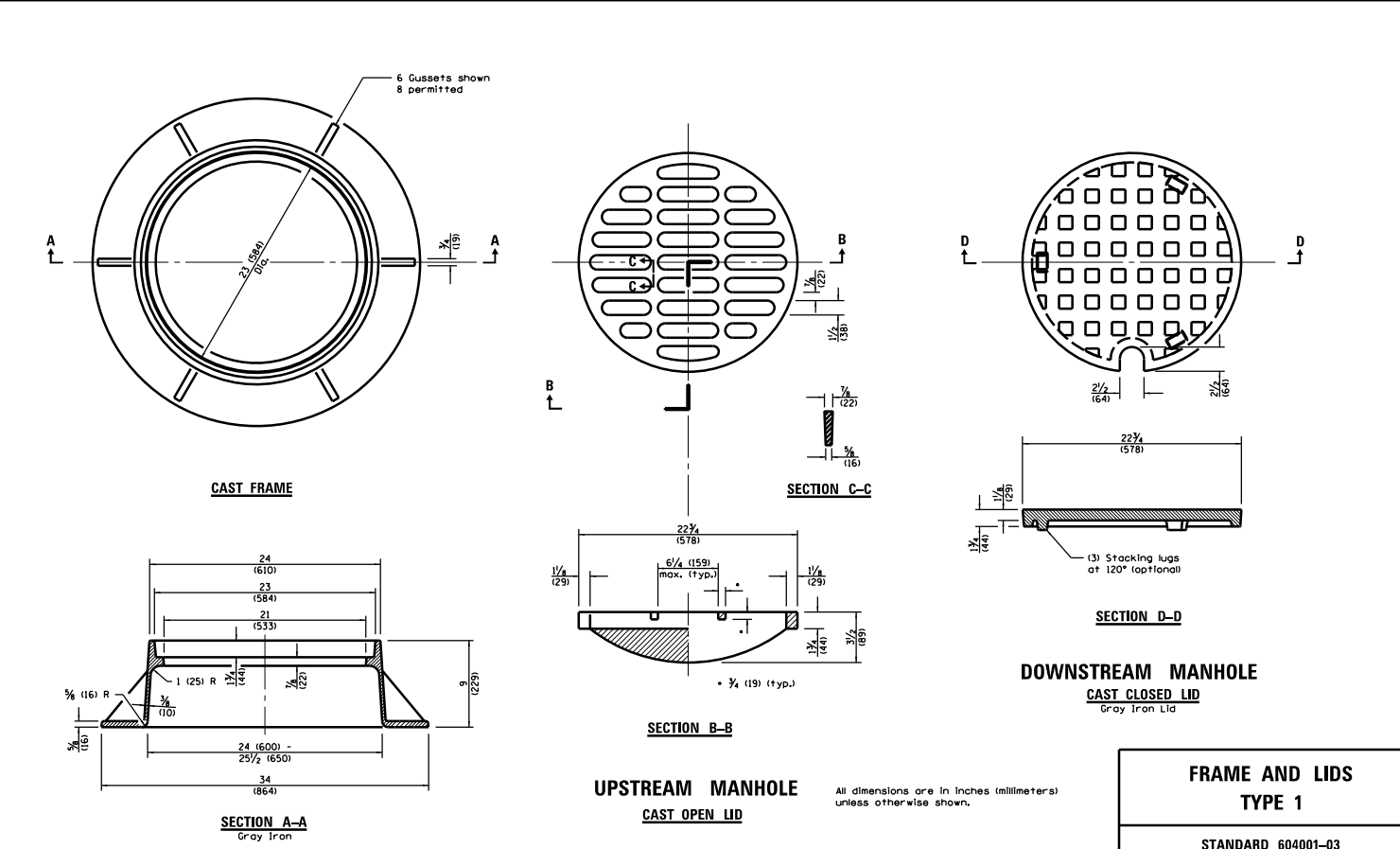
Notes:
1. Channel Armoring Shall be Placed in Uniform Thickness.



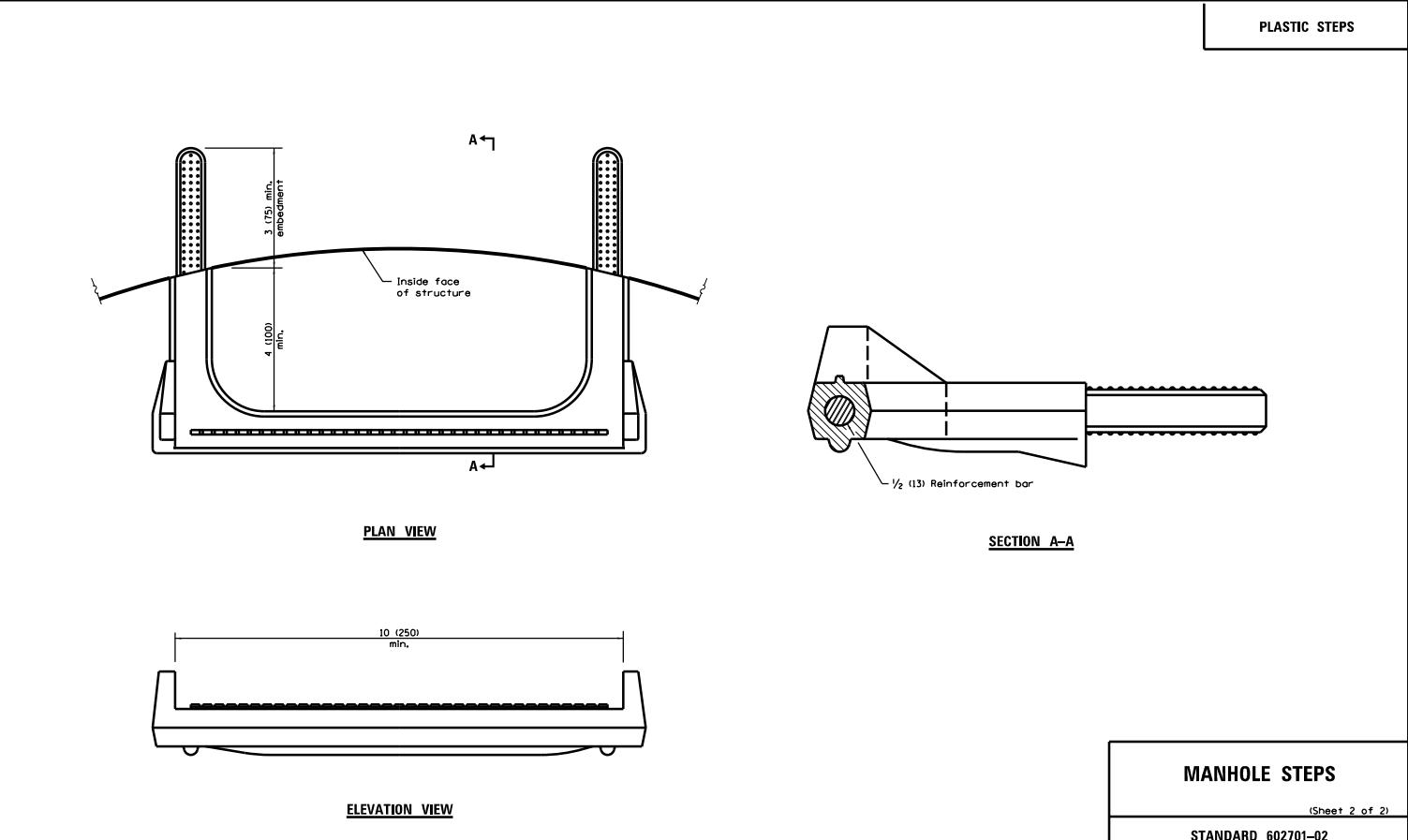
MANHOLE TYPE A
6' (1.8 m) DIAMETER
(Sheet 1 of 2)
STANDARD 602406-05



MANHOLE TYPE A
6' (1.8 m) DIAMETER
(Sheet 2 of 2)
STANDARD 602406-05



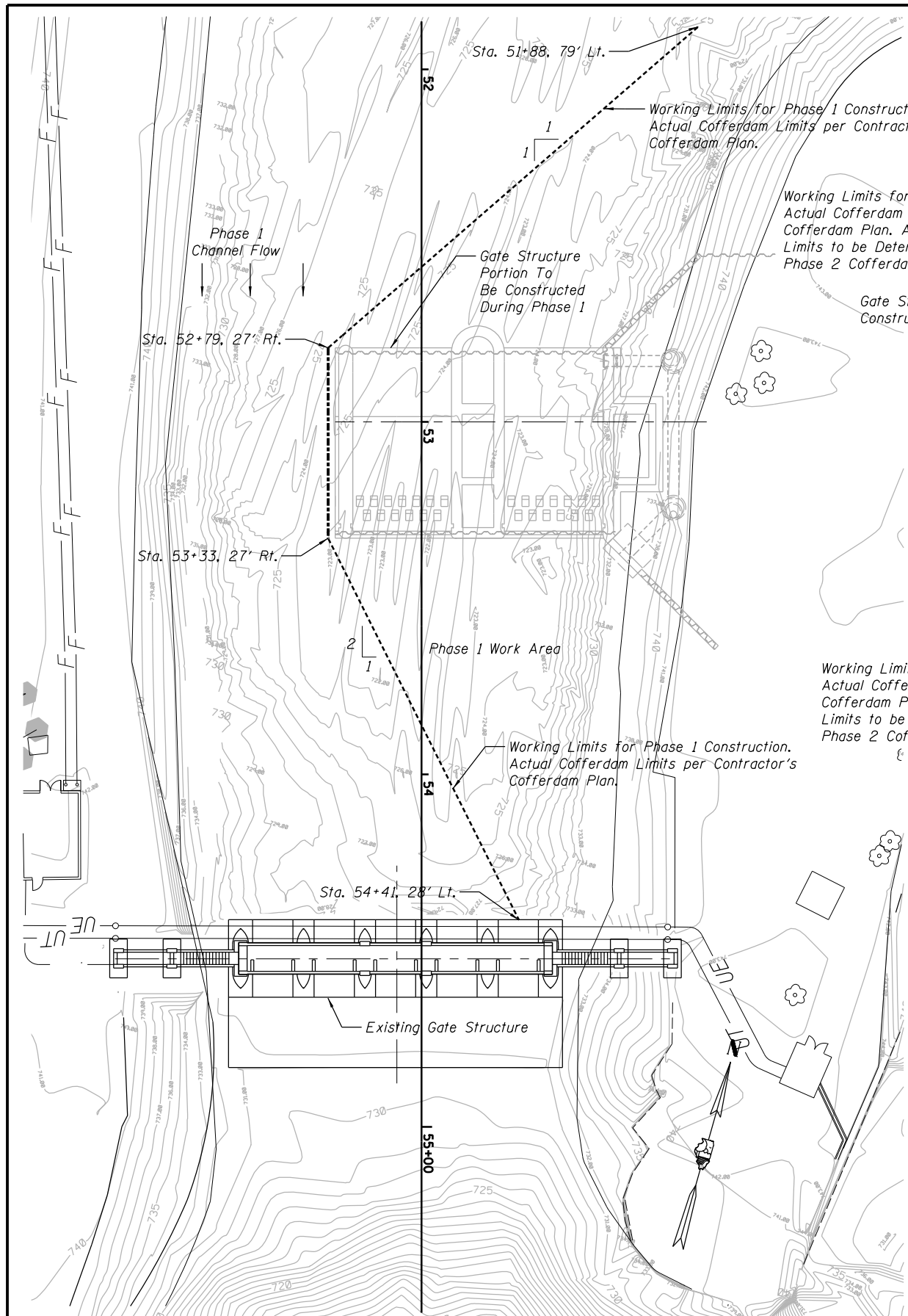
FRAME AND LIDS
TYPE 1
STANDARD 604001-03



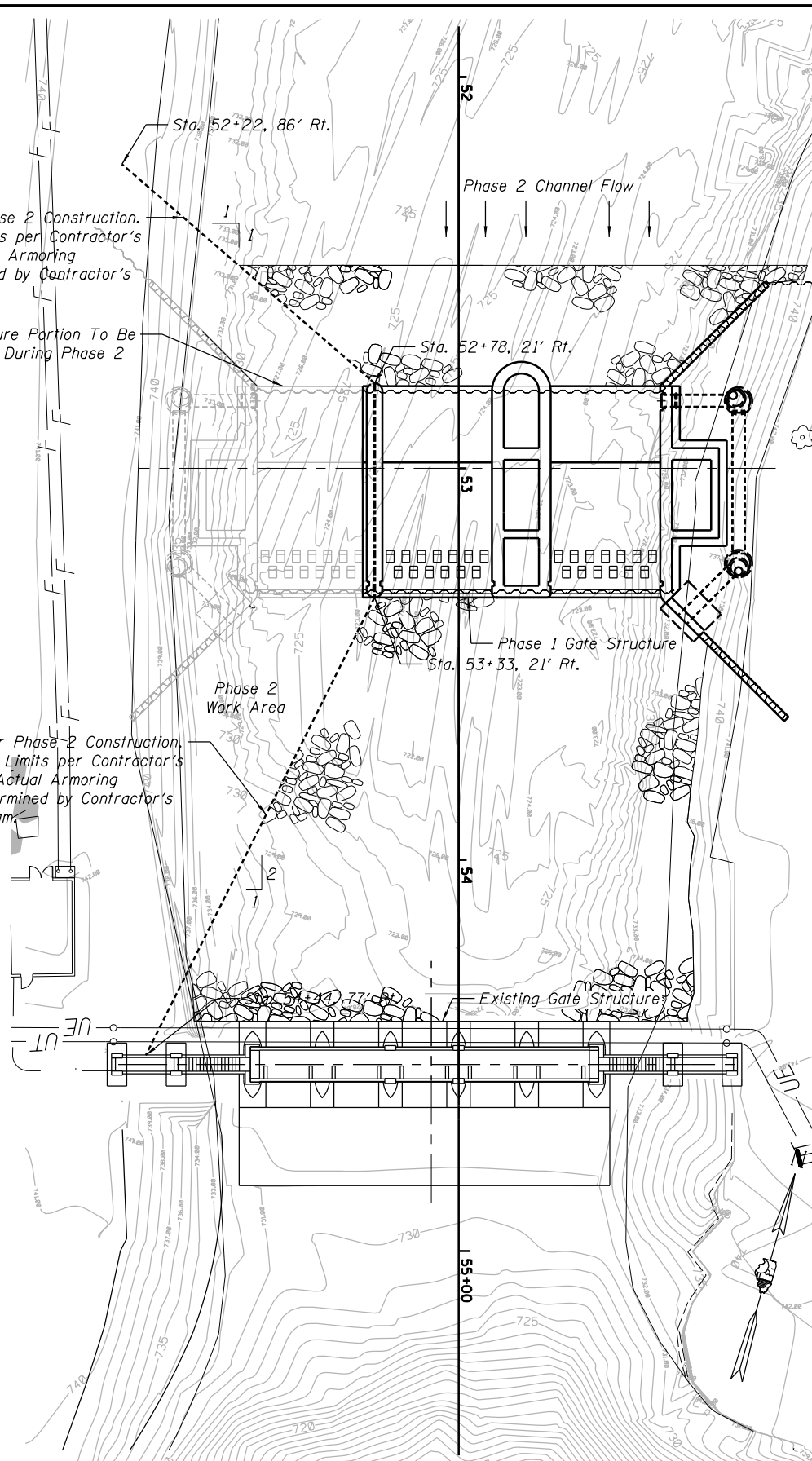
MANHOLE STEPS
(Sheet 2 of 2)
STANDARD 602701-02

FILE NAME = S-8005-GATE.dgn	USER NAME =	DESIGNED - LJB	REVISED -
	PLOT SCALE =	CHECKED - TMF	REVISED -
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		CHECKED - LJB	REVISED -

STATE OF ILLINOIS DEPARTMENT OF NATURAL RESOURCES	GATE STRUCTURE CIVIL TYPICAL DETAILS		ILLINOIS DEPARTMENT OF NATURAL RESOURCES OFFICE OF WATER RESOURCES
	STRATTON LOCK & DAM - LOCK & GATE STRUCTURE IMPROVEMENTS		
	COUNTY	TOTAL SHEETS	SHEET NO.
	McHENRY	238	95
			PROJECT FR-435



PHASE 1 PLAN



PHASE 2 PLAN

NOTES:

1. The Existing Gate Structure Functions as the Spillway for the Stratton Dam. The Capacity of the Spillway Shall be Maintained at all Times. The Construction Phasing Shown on this Drawing is a Requirement of the Floodway Construction Permit Issued by IDNR-OWR. If the Contractor Desires to Alter the Phasing, He Shall Obtain a Revised Permit and Comply with all Requirements of that Permit. No Additional Compensation or Extension of Contract Time will be Provided.

2. Construction Activities Shall Be Sequenced and Scheduled by the Contractor to Allow Full and Safe Operation of the Existing Gate Structure by Owner's Site Personnel Until the Proposed Gate Structure is Fully Operational. Prepare and Submit a Detailed Schedule Listing Key Milestones to be Completed in Each Phase of Construction for Acceptance by the Engineer.

Construction Phasing

Phase 1 - East Section, Gates 2 and 3

1. Excavation of Unsuitable Material and Backfill Shall Occur Prior to Dewatering of the Work Area. The Contractor Shall Submit a Plan for Conducting This Work to the Engineer for Acceptance Prior to Commencement of Dewatering.

2. Placement of Fill or Cofferdam is Prohibited Outside the Phase 1 Working Limits.

3. Provide Temporary Power for Full Performance Testing of Gates 2 & 3, East By-Pass Piping & Drop Leaf Bulkheads.

Phase 2 - West Section, Gate 1

1. Hinged Crest Gates and Bulkheads on Partially Completed Structure to Remain Fully Open.

2. Remove Phase 1 Cofferdam and Complete Channel Work and Armoring Except as Needed to Construct Phase 2 Cofferdam.

3. Placement of Cofferdam, Equipment, or Fill Above Proposed Grades is Prohibited Outside Phase 2 Working Limits.

Phase 3 - Existing Gate Structure Removal

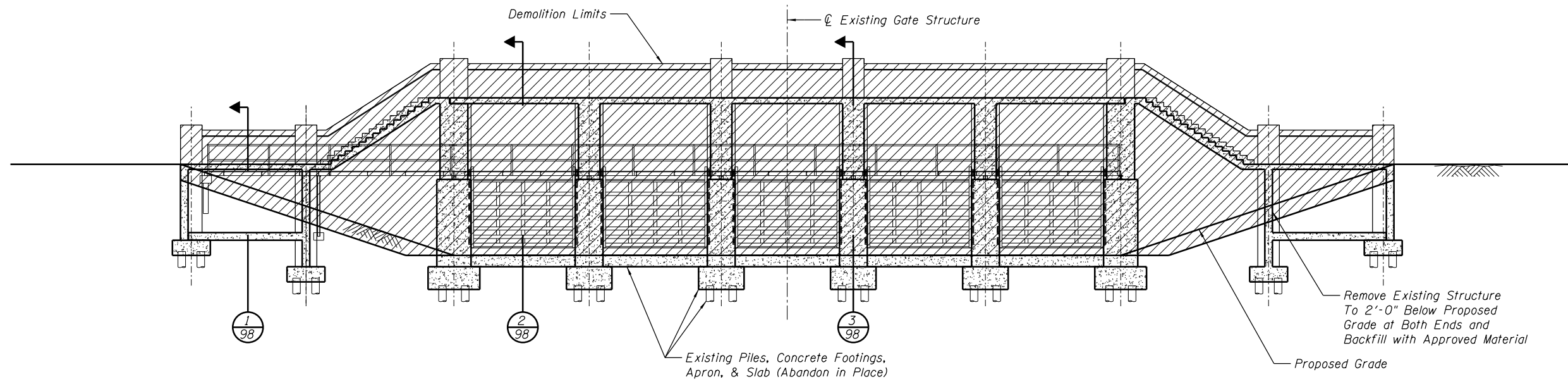
1. Transfer Control of New Gate Structure to IDNR. Hinged Crest Gates to be Fully Closed and By-Pass Gates to be Fully Open, Except as Needed to Regulate Water Level.

2. Remove Phase 2 Cofferdam Prior to Starting Existing Gate Structure Removal.

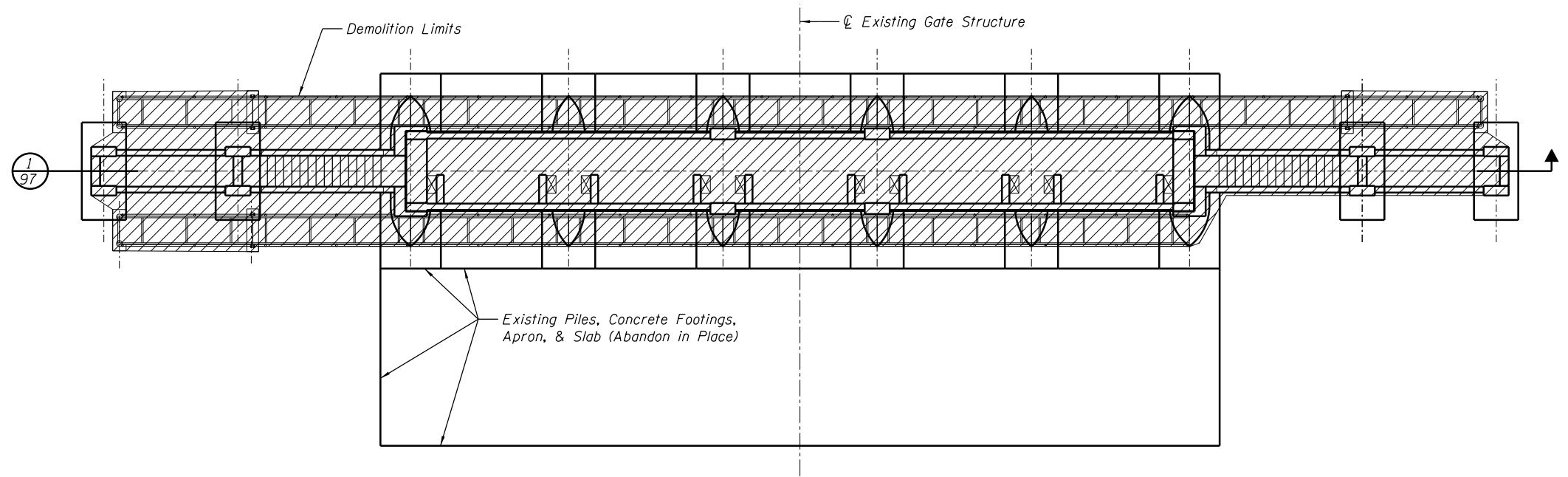
Cofferdam

1. No Portion of the Cofferdam Shall Extend Above Elev. 739.25 at Any Time.

2. The Working Limits Shown Represent the Maximum Permissible Amount That Channel Flow May Be Restricted. The Actual Layout, Design, Construction, and Maintenance of all Cofferdam and Dewatering Systems Shall be the Responsibility of the Contractor and Subject to Approval of the Engineer. Cost of this Work Shall Be Included in the Items, Cofferdam - Location 4 and Cofferdam - Location 5. See Special Provisions.



1
97 ELEVATION - EXISTING GATE STRUCTURE DEMOLITION



1-PLAN - EXISTING GATE STRUCTURE DEMOLITION