

IOWA DEPARTMENT OF NATURAL RESOURCES

CONSTRUCTION DRAWINGS

FOR

RANGE RENOVATION PHASE I

AT


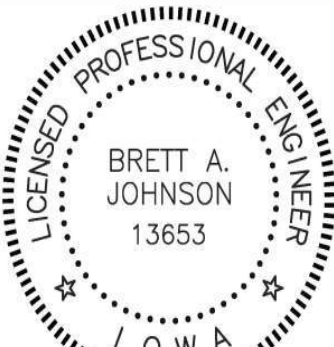
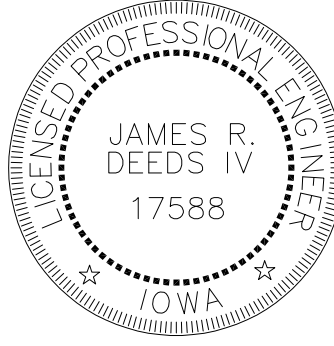
DLS SHOOTING RANGE

SCOTT COUNTY, IOWA

PROJECT # 23-06-82-01

PLANS PREPARED BY
 LAND AND WATERS BUREAU
 CONSERVATION AND RECREATION DIVISION



 <p>RYAN E. RICHEY</p> <p>DATE _____</p> <p>My license renewal date is June 30, 2025.</p> <p>Pages or sheets covered by this seal: A-001 - A-600</p>	I hereby certify that this architectural document was prepared by me or under my direct personal supervision and that I am a duly Licensed Professional Architect under the laws of the State of Iowa.
 <p>BRETT A. JOHNSON</p> <p>DATE June 20, 2023</p> <p>My license renewal date is December 31, 2023.</p> <p>PAGES OR SHEETS COVERED BY THIS SEAL: SHEETS C1-C4</p>	I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.
 <p>JAMES R. DEEDS IV</p> <p>DATE _____</p> <p>My license renewal date is DECEMBER 31, 2024.</p> <p>Pages or sheets covered by this seal: E-000 - E-300</p>	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly LICENSED Professional ENGINEER under the laws of the State of Iowa.

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IOWA DEPARTMENT OF
 NATURAL RESOURCES
 ENGINEERING SERVICES - WALLACE BUILDING
 502 E. 9TH ST., DES MOINES, IA 50319-0034
 P: 515.725.8200
 F: 515.725.8202



BID ITEMS		
ITEM #	ITEM DESCRIPTION	ESTIMATED QUANTITY
1	DEMOLITION	1 LS
2	CLEARING AND GRUBBING	1 LS
3	GRADING	1 LS
4	8" FILTER SOCK	185 LF
5	SEEDING, FERTILIZING, AND MULCHING	5 AC
6	CLASS "A" CRUSHED STONE	1865.4 TONS
7	TYPE 1, CLASS "A" SUBDRAIN WITH PERFORATED SDR 35 PIPE	714 LF
8	12" RCP CLASS III	351 LF
9	SW-512 CIRCULAR AREA INTAKE W/TYPE SW-604 TYPE 4A CASTING	7 EA
10	BLACK PVC COATED CHAIN LINK FENCING	1030 LF
11	BLACK PVC COATED CHAIN LINK FENCING 12" SWING GATE	4 EA
12	BLACK PVC COATED CHAIN LINK FENCING 28" DOUBLE SWING GATE	1 EA
13	6" REINFORCED PCC PAVEMENT	91.2 SY
14	5" REINFORCED PCC SIDEWALK	944.6 SY
15	PRECAST CONCRETE PARKING WHEEL STOPS	3 EA
16	PARKING SPACE CROSS HATCH PAINT STRIPING	1 LS
17	HANDICAP SIGNAGE	1 LS
18	EXISTING STORAGE BUILDING SIDING REPAIR	1 LS
19	STORAGE BUILDING AND CONCRETE	1 LS
20	LE RANGE BAFFLES	1 LS
21	100 YARD SHOOTING STRUCTURE AND BAFFLES	1 LS
22	30 YARD SHOOTING STRUCTURE AND BAFFLES	1 LS
23	CONCRETE RANGE SIDEWALLS	875 LF
24	BACKSTOP EYEBROWS	280 LF
25	LE RANGE POLE AND FLOOD LIGHTS	1 LS
26	ELECTRICAL SERVICE AND DISTRIBUTION	1 LS
27	NPDES GENERAL PERMIT #2	1 LS
28	CONSTRUCTION STAKING	1 LS
29	MOBILIZATION	1 LS

PROJECT DATA - OFFICE BUILDING	
OCCUPANT LOAD:	MEANS OF EGRESS:
GROUP S - STORAGE / ACCESSORY GARAGE AREAS - 400 SF GARAGE - STORAGE 400 SF / 300 = 1.33 = 2 OCCUPANTS TOTAL OCCUPANT LOAD = 2 OCCUPANTS	MIN. REQUIRED # EXITS = 1 EXITS PER LEVEL (IBC TABLE 1021.1) MAX TRAVEL DISTANCE = 200' (IBC 1016.1) DEAD-END CORRIDOR WIDTH = 20" MAX. (IBC 1018.4) MIN. CORRIDOR WIDTH = 36" CLEAR MIN. CLEAR OPENINGS FOR EXIT DOORS = 34" (ACTUAL 32") FIRE EXTINGUISHERS: THE NUMBER AND LOCATION OF FIRE EXTINGUISHERS TO BE DETERMINED BY THE FIRE MARSHAL PRIOR TO CERTIFICATE OF OCCUPANCY. BUILDING: ADDRESS: DLS SHOOTING RANGE 30245 220TH AVENUE LONG GROVE, IA 52756 SCOTT COUNTY USE - STORAGE BUILDING CONSTRUCTION - TYPE V-B (WITHOUT SPRINKLER SYSTEM) NUMBER OF STORIES - 1 STORY BUILDING HEIGHT - 14'-0" BUILDING AREA - 400 NSF BUILDING OCCUPANCY - GROUP S-1, STORAGE

PROJECT DESCRIPTION

The DLS Shooting Range has been around since the 1960s as a private trap and skeet club. This facility was donated to the State a few years ago and upgrades to turn the facility into a pistol and rifle range have been in the plans ever since. This phase I range renovation shall remove all existing, non-functioning buildings on the site and clear the ground of all skeet and trap facilities. The range upgrade will build new backstops, sidewalk, shooting structures, and a storage garage. Two existing storage buildings shall remain on site and protected in place as this facility is upgraded.

AUTHORIZATION TO BID

_____ DATE _____

ENGINEERING BUREAU CHIEF

AUTHORIZED - PARKS | WILDLIFE | FISHERIES | LAW ENFORCEMENT

DIRECTORY			
OWNER		DISTRICT INSPECTOR	
COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES	COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES
ADDRESS	502 E. 9TH. ST.	ADDRESS	
CITY,STATE,ZIP	DES MOINES, IA 50319	CITY,STATE,ZIP	WASHINGTON, IA
CONTACT	N/A	CONTACT	MARK MOELLER
TELEPHONE	515.725.8200	TELEPHONE	515.214.9532
FAX	515.725.8202	FAX	-
EMAIL	N/A	EMAIL	MARK.MOELLER@DNR.IOWA.GOV
ARCHITECT		ELECTRICAL DESIGNER	
COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES	COMPANY	KCL ENGINEERING
ADDRESS	502 E. 9TH. ST.	ADDRESS	300 4TH STREET
CITY,STATE,ZIP	DES MOINES, IA 50319	CITY,STATE,ZIP	WEST DES MOINES, IA 50265
CONTACT	RYAN RICHEY	CONTACT	JON LACROIX
TELEPHONE	515.979.0107	TELEPHONE	515-344-2960
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EMAIL	RYAN.RICHEY@DNR.IOWA.GOV	EMAIL	JLACROIX@KCLENGINEERING.COM
CIVIL ENGINEER		ELECTRICAL ENGINEER	
COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES	COMPANY	KCL ENGINEERING
ADDRESS	502 E. 9TH. ST.	ADDRESS	300 4TH STREET
CITY,STATE,ZIP	DES MOINES, IA 50319	CITY,STATE,ZIP	WEST DES MOINES, IA 50265
CONTACT	BRETT JOHNSON	CONTACT	JAMES DEEDS
TELEPHONE	515.250.3711	TELEPHONE	515-371-9970
FAX	-	FAX	-
EMAIL	BRETT.JOHNSON@DNR.IOWA.GOV	EMAIL	JDEEDS@KCLENGINEERING.COM

COVER SHEET
 RANGE RENOVATION PHASE I FOR:
 DLS SHOOTING RANGE
 Long Grove, IA 52756
 30245 220th Ave.

NO.	BY	DATE	REVISION
DRAWN BY:	PROJECT NUMBER: 23-06-82-01		
CHECK'D BY:	DATE: 06.20.2023		
SHEET NO:		A-001	

DIMENSION NOTES

1. IN INTERIOR SPACES THE ACTUAL DIMENSIONS MAY BE LESS IMPORTANT THAN IF AT TWO ELEMENTS IN THE BUILDING WERE TO BE EQUAL. IN THESE CASES, THE WORD "EQUAL OR EQ" IS USED IN LIEU OF THE ACTUAL DIMENSIONS.
2. WHEN A ROOM CENTERLINE IS INDICATED ONLY ONE SIDE OF THE ROOMS ELEMENTS MAY BE DIMENSIONED.
3. COLUMN IDENTIFICATION: DETAILS WILL GOVERN ALL DIMENSIONS AND NO DIMENSIONS WILL BE SHOWN ON SMALL SCALE PLANS.
4. PARTITION CENTERED ON COLUMN OR GRID LINES WILL NOT BE DIMENSIONED ON SMALL SCALE PLANS.
5. PARTITION WITH A FINISHED FACE FLUSH WITH FINISH FACE OF COLUMN WILL NOT BE DIMENSIONED ON SMALL SCALE PLANS.
6. PARTITION FINISH FACE ON COLUMN OR GRID LINE WILL NOT BE DIMENSIONED ON SMALL SCALE PLANS.
7. WHEN ONE JAMB OCCURS AT A COLUMN OR GRID LINE NO DIMENSIONS WILL BE SHOWN ON THE SMALL SCALE PLANS. THE OPENING WIDTH WILL BE GOVERNED BY CRITERIA OR SCHEDULES.
8. WHEN NEITHER JAMB OCCURS AT A COLUMN OR GRID LINE ONE JAMB WILL BE DIMENSIONED.
9. DOOR LOCATIONS ARE TO BE LOCATED BY ONE OF FOLLOWING:
 - a. ONE JAMB FACE LOCATED BY A PARTITION AT RIGHT ANGLE. 4" TYPICAL UNLESS INDICATED ON PLAN.
 - b. OR AS DIMENSIONED ON PLAN.
10. PARTITIONS ARE DIMENSIONED TO FACE OF CMU OR FACE OF STUD UNLESS OTHERWISE NOTED.
11. DIMENSIONS ARE INDICATED IN THE DOCUMENTS. THE DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS.

MATERIAL LEGEND

	EARTH		CONCRETE MASONRY UNIT		GYPSUM / STUCCO		MASONRY
	COMPACTED EARTH		METAL STUD		GROUT		CONCRETE
	GRASS		PARTICLE BOARD		TURF		CRUSHED STONE/SAND
	GRAVEL		PLYWOOD		FOAM INSULATION		CAST STONE/STONE
	CLAY		BATT INSULATION		RIGID INSULATION		STONE
	FENCE		ACOUSTICAL CEILING TILE		ALUMINUM		GLASS
	TURF BLOCK		PLASTIC		STEEL		WOOD BLOCKING
	PAVERS		CARPET		FINISHED WOOD		CONTINUOUS WOOD

SYMBOL LEGEND

	NORTH ARROW		ROOM /SPACE IDENTIFICATION
	DRAWING / DETAIL IDENTIFICATION SCALE: 0 = 0'-0"		DOOR TAG
	SECTION REFERENCE		WINDOW TAG
	DETAIL REFERENCE		WALL TYPE REFERENCE KEYNOTE NUMBER -NEW C.S.I. DIVISION/KEY
	EXTERIOR ELEVATION		KEYNOTE - DEMOLITION
	INTERIOR ELEVATION		KEYNOTE - NEW/RENOVATION
	ELEVATION TARGET ELEVATION : 0'-0" DESCRIPTION		KEYNOTE - FINISH/ACCESSORY
	COLUMN GRID		PROPERTY LINE REFERENCE
	MATCH LINES		CENTER LINE REFERENCE
			LEVEL CHANGE REFERENCE
			DETAIL CUT LINE
			REVISION NUMBER AND CLOUD

GENERAL NOTES

- THE FOLLOWING GENERAL NOTES SHALL PERTAIN TO THE ENTIRE SET OF CONTRACT DOCUMENTS
1. A GENERAL CONTRACTOR SHALL NOTE THAT THE ARCHITECTURAL DRAWINGS ARE ESTABLISHING A MINIMUM MATERIAL OR CONSTRUCTION METHOD STANDARD. THE GENERAL CONTRACTOR SHALL PROVIDE A BID PRICE BASED ON THE SPECIFIC MATERIALS NOTED.
 2. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ARCHITECT BEFORE CONTINUING WITH CONSTRUCTION.
 3. GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL PERFORM THEIR WORK IN ACCORDANCE WITH ALL APPLICABLE CODES GOVERNING EACH TRADE.
 4. THE CONTRACTOR SHALL MAINTAIN A CLEAN AND ORGANIZED JOB SITE, ACCEPTABLE TO THE OWNER.
 5. THE CONTRACTOR SHALL COORDINATE THE SEQUENCE OF WORK WITH THE OWNER REPRESENTATIVE.
 6. THERE SHALL BE NO DEVIATION BY THE GENERAL CONTRACTOR FROM THE CONSTRUCTION DOCUMENTS UNLESS APPROVED IN WRITING BY THE ARCHITECT.
 7. EACH CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN THE FIELD PRIOR TO THE INITIATION OF WORK AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR CONDITIONS INTERFERING WITH THE ABILITY OF THE CONTRACTOR TO COMPLETE WORK AS OUTLINED ON THE CONSTRUCTION DRAWINGS.
 8. ALL CONTRACTORS ARE REQUIRED TO COORDINATE THEIR WORK WITH OTHER TRADES. LACK OF THIS COORDINATION RESULTING IN ADDED COST TO THE CONTRACT WILL BE BORNE BY THE CONTRACTOR.
 9. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE EXISTING BUILDING WATER TIGHT DURING CONSTRUCTION.
 10. THE CONTRACTOR WILL VERIFY THAT EXIT EGRESS IS MAINTAINED FOR ALL OCCUPIED AREAS OF THE BUILDING THROUGHOUT ALL PHASES OF CONSTRUCTION.
 11. PLAN DIMENSIONS ARE GIVEN TO FACE OF STUD OR BLOCK WALL. "CLEAR" DIMENSIONS ARE GIVEN TO THE FACE THE OWNER WILL ASSUME ALL LIABILITY AND SHALL TAKE PERSONAL RESPONSIBILITY FOR ANY DECISIONS THAT THEY MAKE TO CHANGE OR ALTER THE CONSTRUCTION DOCUMENTS WITHOUT THE ARCHITECT'S WRITTEN APPROVAL.
 12. PROTECT ALL EXISTING FINISHES AND MATERIALS TO REMAIN, IN ACCORDANCE WITH ACCEPTABLE TRADE PRACTICES, MANUFACTURER, RECOMMENDATIONS, OR AS DIRECTED BY THE ARCHITECT.
 13. CUTTING OF EXISTING CONSTRUCTION FOR THE INSTALLATION OF ALL NEW WORK BY ALL TRADES, AND THE SUBSEQUENT PATCHING THEREOF, SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR, WHETHER THE WORK IS DONE BY HIS OWN FORCES OR NOT. GRINDING OF MATERIALS FOR REMOVAL SHALL NOT BE PERMITTED. CUTTING SHALL BE TO STRAIGHT LINE UNWORKMAN-LIKE CUTTING, DAMAGE RESULTING THEREFROM AND UNACCEPTABLE PATCHING SHALL BE REPAIRED AND/OR REPLACED TO AN ACCEPTABLE CONDITION APPROVED BY THE ARCHITECT. A OWNER PROJECT REPRESENTATIVE SHALL BE NOTIFIED PRIOR TO CUTTING OF ANY STRUCTURAL ITEM (I.E. CONCRETE FLOOR, MASONRY, WALL, ETC.) WITHIN THE EXISTING BUILDING. METHOD OF CUTTING SHALL BE APPROVED BY THE OWNER PROJECT REPRESENTATIVE.
 14. PATCHING MATERIAL SHALL MATCH EXISTING ADJACENT MATERIALS AS CLOSELY AS POSSIBLE IN COLOR, PATTERNS, AND/OR TEXTURES.
 15. ALL SALVAGE MATERIALS REMOVED SHALL REMAIN THE PROPERTY OF THE OWNER. ALL NON-SALVAGE CONSTRUCTION MATERIALS AND DEBRIS FROM DEMOLITION WORK SHALL BE REMOVED FROM THE SITE AS WORK PROGRESSES, UNLESS OTHERWISE NOTED.
 16. ISOLATE ALL DISSIMILAR METALS. G SHALL REQUEST APPROVAL BY THE ARCHITECT FOR MATERIALS USED FOR THIS PURPOSE, PRIOR TO INSTALLATION.
 17. SEALANTS SHALL BE COMPATIBLE WITH ADJACENT SURFACE(S) THAT ARE IN CONTACT. REFER TO SPECIFICATIONS FOR APPROVED MANUFACTURERS AND PROCEDURES.
 18. CAULK JOINTS OF DISSIMILAR EXPOSED TO VIEW MATERIALS AS REQUIRED BY THE ARCHITECT.
 19. ALL DOOR HARDWARE TO BE FULL ADA COMPLIANT.
 20. ALL EXTERIOR WALLS, DOORS AND WINDOWS ARE EXISTING U.N.O.
 21. ALL FINISHES TO BE PER CLASS INDICATED ON A-004
 22. NO CONSTRUCTION SHALL OCCUR WITHOUT SHOP DRAWING APPROVAL. SHOP DRAWINGS TO BE PROVIDED TO ARCHITECT FOR REVIEW UPON BEING REVIEWED AND SIGNED/DATED BY THE GENERAL CONTRACTOR AND SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING ITEMS:
 - CABINERY MILLWORK
 - RUNNING TRIM AND CASING PROFILES
 - PAINT/LAMINATE COLOR SAMPLES
 - ACOUSTICAL CEILING AND GRID
 - TOILET ACCESSORIES
 - KITCHEN EQUIPMENT
 - ROOF PENETRATIONS
 - HVAC EQUIPMENT
 - PLUMBING EQUIPMENT AND FIXTURES
 - ELECTRICAL EQUIPMENT AND FIXTURES
 23. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL SUBMIT (2) COPIES OF MATERIAL SAFETY DATA SHEETS (MSDS) FOR ALL PRODUCTS USED TO PERFORM THE WORK.

VERIFY ACTUAL LOCATIONS AND ELEVATIONS WITH DNR ENGINEER.

ALL WORK SHALL CONFORM TO AND BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES.

THE CONTRACTOR SHALL VISIT THE SITE AND INSPECT THE PROJECT AREA AND THOROUGHLY FAMILIARIZE THEMSELVES WITH THE ACTUAL JOB CONDITIONS PRIOR TO BIDDING AND THE START OF WORK. FAILURE TO VISIT THE PROJECT SITE SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING THE WORK IN ACCORDANCE TO THE PLANS, SPECIFICATION, SPECIAL PROVISIONS AND CONTRACT.

THE CONTRACTOR SHALL VERIFY, AT THE SITE, ALL DIMENSIONS AND CONDITIONS SHOWN ON THE PLANS AND SHALL NOTIFY THE DNR ENGINEER OF ANY DISCREPANCIES, OMISSIONS, AND/OR CONFLICTS PRIOR TO PROCEEDING WITH THE WORK.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE WASTE AREAS OR DISPOSAL SITES FOR EXCESS MATERIAL (EXCAVATED MATERIAL OR BROKEN CONCRETE) WHICH IS NOT DESIRABLE TO BE INCORPORATED INTO THE WORK INVOLVED ON THIS PROJECT. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES. NO MATERIAL SHALL BE PLACED WITHIN THE RIGHT-OF-WAY, UNLESS SPECIFICALLY STATED IN THE PLANS OR APPROVED BY THE DNR ENGINEER.

THE CONTRACTOR SHALL NOT DISTURB DESIRABLE GRASS AREAS AND DESIRABLE TREES OUTSIDE THE CONSTRUCTION LIMITS. THE CONTRACTOR WILL NOT BE PERMITTED TO PARK OR SERVICE VEHICLES AND EQUIPMENT OR USE THESE AREAS FOR STORAGE OF MATERIALS. STORAGE, PARKING AND SERVICE AREAS WILL BE SUBJECT TO THE APPROVAL OF THE DNR ENGINEER.

WHERE UTILITIES AND FIXTURES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE DNR ENGINEER OF THOSE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL BE AFFORDED ACCESS TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY UNKNOWN OR SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION AND TO AVOID DAMAGE THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.

THE CONTRACTOR SHALL SHAPE GRADED AREA TO MAINTAIN SURFACE DRAINAGE. ALL ELEVATIONS ARE TO FINISH GRADE.

THE CONTRACTOR IS EXPECTED TO HAVE MATERIALS, EQUIPMENT, AND LABOR AVAILABLE ON A DAILY BASIS TO INSTALL AND MAINTAIN EROSION CONTROL FEATURES ON THE PROJECT. THIS MAY INVOLVE SEEDING, SILT FENCE, ROCK DITCH CHECKS, SILT BASINS OR SILT DIKES.

*DIVISIONS 20-41 OF THE STANDARD SPECIFICATIONS FOR BRIDGE AND HIGHWAY CONSTRUCTION, CURRENT EDITION WITH GS-15011 SHALL APPLY TO THIS PROJECT.

PROJECT NARRATIVE

The contractor shall be responsible for providing and installing all items within this narrative, the drawings, and project manual unless specifically noted. This narrative is not meant to be a comprehensive account of all items to be covered by the contract, review all documents. The contractor is responsible for field verifying all dimensions and establishing all quantities that are dictated as "lump sum".

This project, DLS Shooting Range – Phase I, shall commence after the contract is executed and shall be completed no later than June 30, 2024.

The contractor shall demolish all trap and sket fields, electrical back to pole mounted transformer, and buildings shown in the demolition plans. Buildings that are to be demolished contain some asbestos and shall be properly abated prior to complete demolition. Contractor shall then make the two remaining cold storage buildings water-tight with steel and flashing as required.

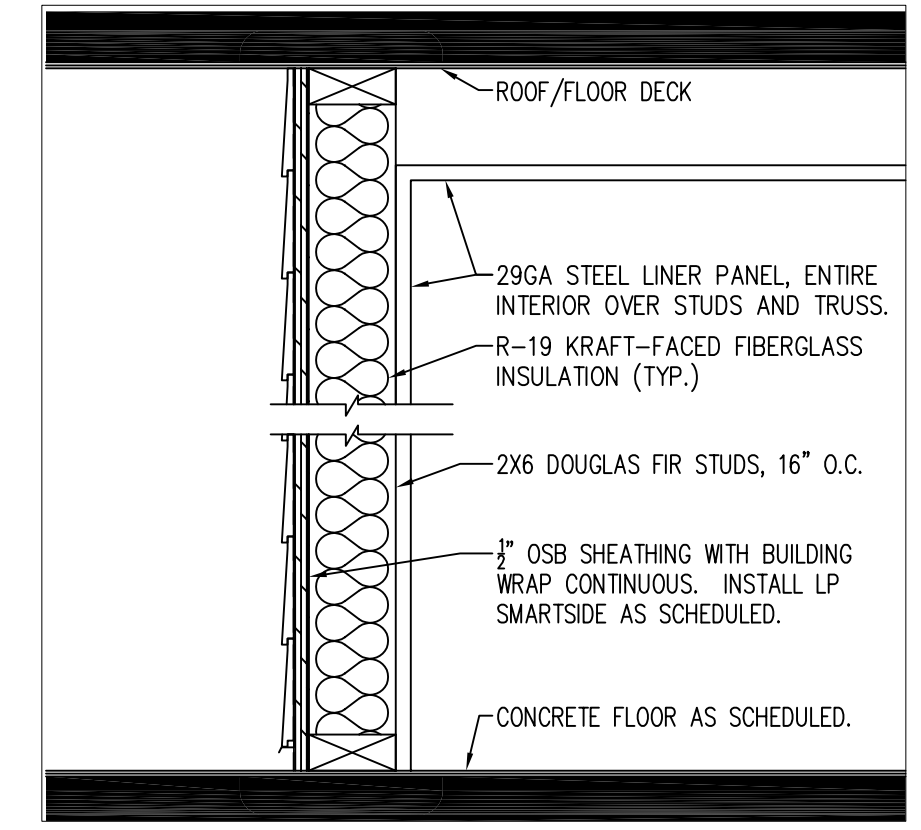
The contractor shall then grade the site, install the sub-grade drainage system, and build earthen backstop and side berms as shown on the civil drawings. The contractor shall install a new electrical service from the existing pole mounted transformer per electrical plans and back-feed the two remaining buildings.

The contractor shall build a new 20x20 storage garage, as shown on sheet A-100. The contractor shall install steel shooting and baffling structures as shown. The contractor shall then run electrical to the shooting structures and law enforcement area for lighting controls and pour concrete around the structures as shown. The contractor shall build backstop eyebrows on top of the berms as shown and build concrete sidewalls as shown.

The contractor shall then gravel the parking area and install new ADA parking spaces, and install concrete sidewalks. The contractor shall restore the entire area with grass seeding when finished.

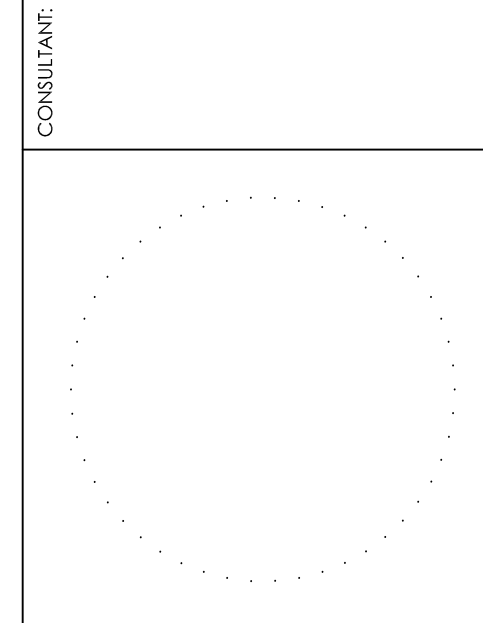
Contractor may utilize the previous steel fabricator if they choose Shooting Structure Steel Fabricator:
 Anthony Minnehan
 515-370-4456
 aminnehan@hotmail.com

WALL TYPES



02 NOT USED

01 NON-RATED/BEARING
 2X6 EXT. STRUCTURAL STUD WALL



IOWA DEPARTMENT OF NATURAL RESOURCES
 ENGINEERING SERVICES - WALLACE BUILDING
 502 E. 9TH ST., DES MOINES, IA 50319-0034
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WALL TYPES & NARRATIVE

RANGE RENOVATION PHASE I FOR:
DLS SHOOTING RANGE

Long Grove, IA 52756
 30245 220th Ave.

NO.	BY DATE	REVISION

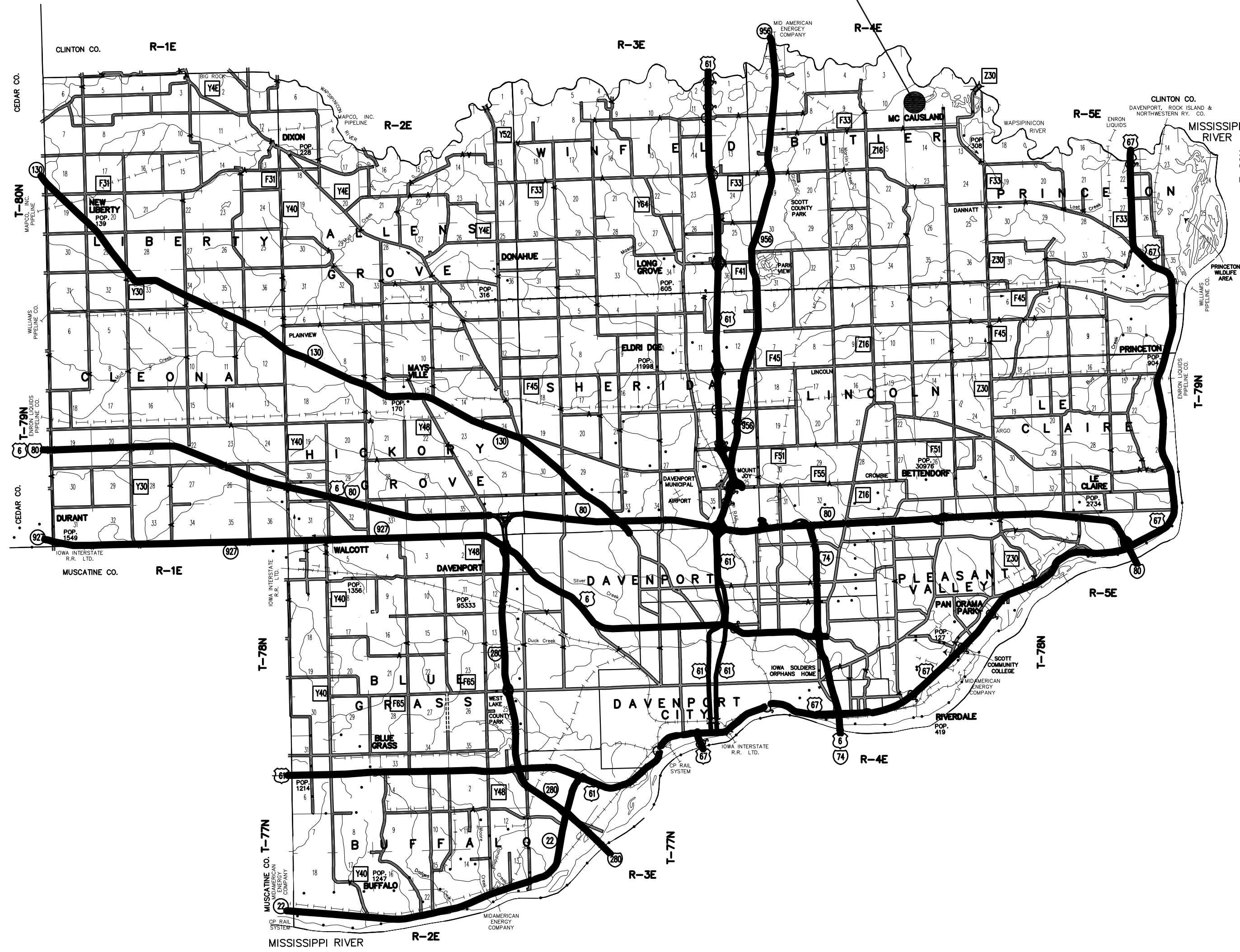
DRAWN BY: PROJECT NUMBER:
 23-06-82-01

CHK'D BY: DATE:
 06.20.2023

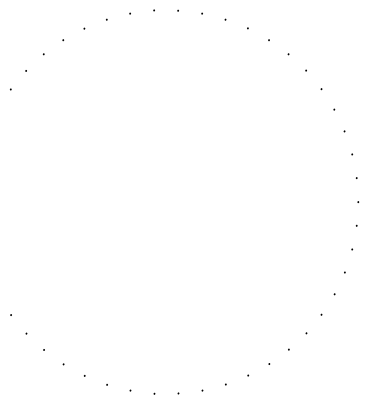
SHEET NO:

A-002

PROJECT LOCATION



CONSULTANT:



**IOWA DEPARTMENT OF
NATURAL RESOURCES**
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034
P: 515.725.8200
F: 515.725.8202



PROJECT LOCATION

RANGE RENOVATION PHASE I FOR:
DLS SHOOTING RANGE

Long Grove, IA 52756

30245 220th Ave.

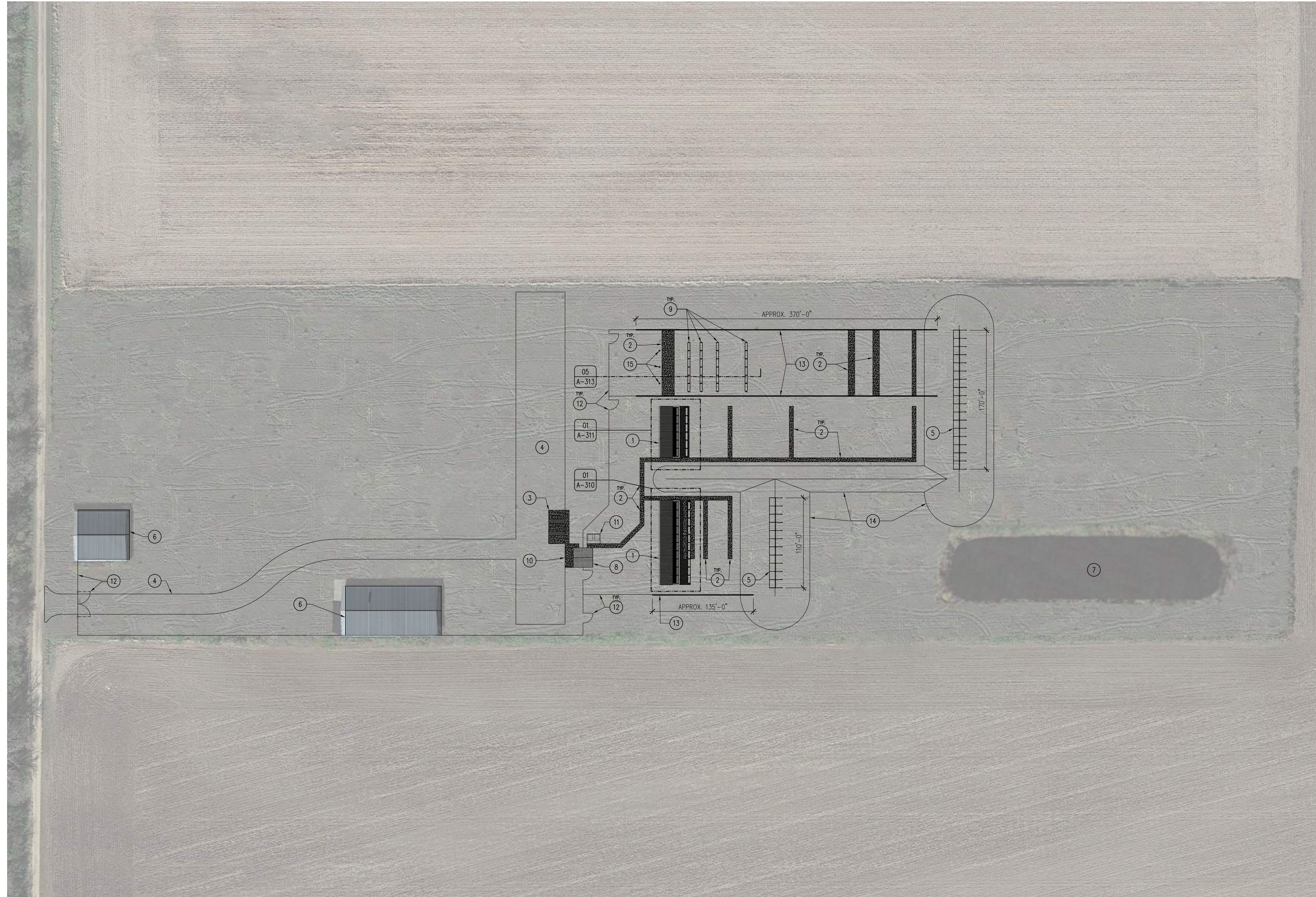
NO.	BY DATE	REVISION

DRAWN BY: PROJECT NUMBER:
23-06-82-01

CHK'D BY: DATE:
06.20.2023

SHEET No:

A-003



01 ARCHITECTURAL SITE PLAN
SCALE: 1/64" = 1'-0"

KEYNOTES

1. STEEL SHOOTING STRUCTURE AND CONCRETE SLAB, REFER TO SHEETS A-310 & A-311.
2. CONCRETE SIDEWALK, REFER TO CIVIL DRAWINGS.
3. ADA COMPLIANT PARKING AREA, REFER TO CIVIL DRAWINGS.
4. ROCK PARKING/DRIVE AREA, REFER TO CIVIL DRAWINGS.
5. SHOOTING BERM EYEBROW, CONCRETE PIER SPACING 10'-0" O.C., REFER TO SHEET A-315.
6. EXISTING POST-FRAME STRUCTURE TO REMAIN, PATCH OPENING WHERE EXISTING ADDITION WAS DEMOLISHED, MAKE WATER-TIGHT WITH STEEL SIDING.
7. EXISTING RETENTION POND TO REMAIN, SHOOTING AREA DRAINAGE TO UTILIZE POND FOR RUNOFF, REFER TO CIVIL DRAWINGS.
8. STORAGE GARAGE, REFER TO SHEET A-100.
9. STEEL SHOOTING BAFFLES.
10. 6" THICK X 20'-0" WIDE X 10'-0" LONG CONCRETE APRON WITH #4 REBAR 24" O.C., OVER 6" SUBBASE, REFER TO A-100.
11. 6" THICK X 16'-0" WIDE X 12'-0" LONG CONCRETE PORTA-POTTY SLAB WITH #4 REBAR 24" O.C., OVER 6" SUBBASE.
12. BLACK VINYL FENCING AND GATES, REFER TO CIVIL DRAWINGS.
13. 8" THICK X 8'-0" TALL CONCRETE SEPARATION WALL, REFER TO SHEET A-315.
14. EARTHEN SIDE AND BACKSTOP BERMS, REFER TO CIVIL DRAWINGS.
15. POLE LIGHTS, REFER TO ELECTRICAL DRAWINGS.

GENERAL NOTES

- A. CONTRACTOR TO FIELD VERIFY ALL UTILITY LOCATIONS PRIOR TO WORK COMMENCING.
- B. FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
- C. REFER TO ASBESTOS REPORT PRIOR TO DEMOLITION, CONTRACTOR SHALL ABATE ALL ASBESTOS IN ACCORDANCE WITH STATE LAW AND LOCAL ORDINANCES.

ARCHITECTURAL SITE PLAN

**RANGE RENOVATION PHASE I FOR:
DLS SHOOTING RANGE**

30245 220th Ave. Long Grove, IA 52756

NO. BY DATE REVISION

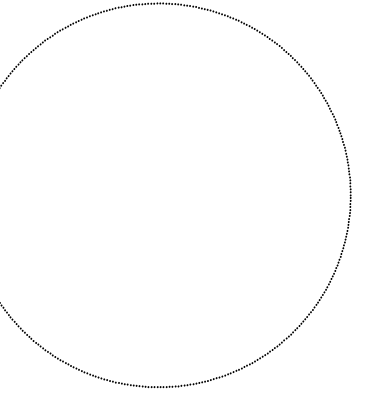
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23-06-82-01

CHK'D BY: DATE:
06.20.2023

SHEET NO:

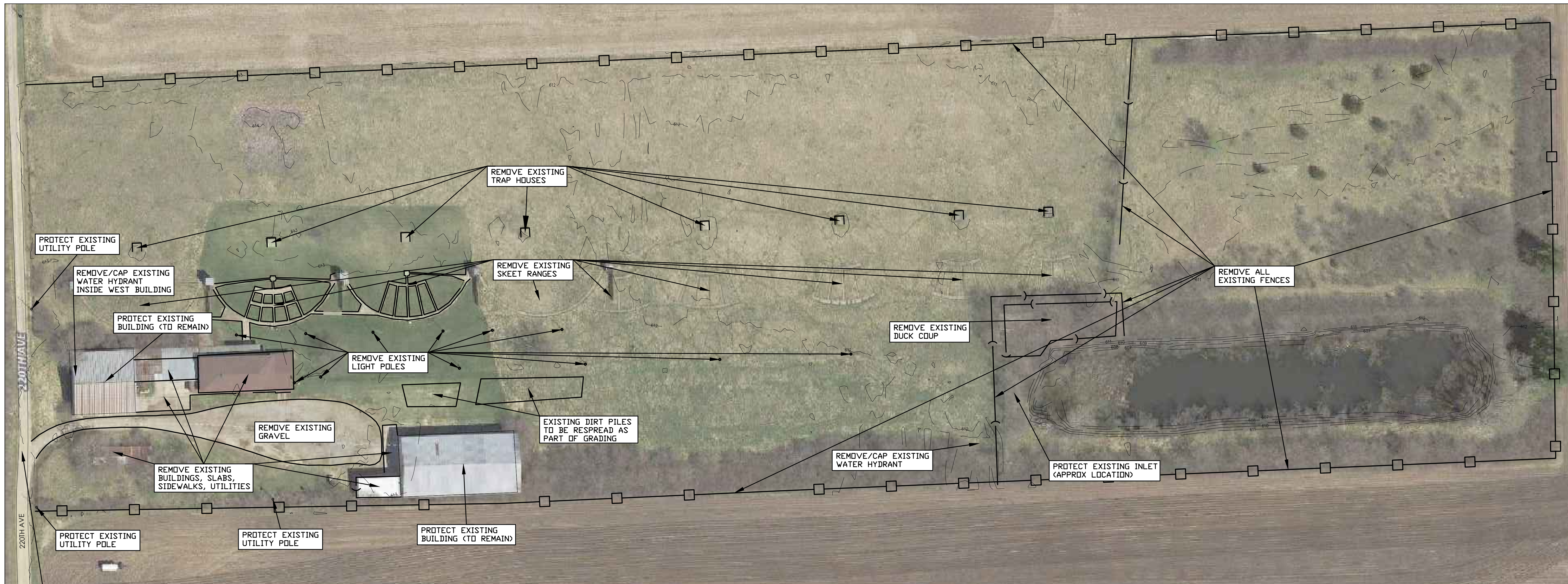
A-010

CONSULTANT:



**IOWA DEPARTMENT OF
NATURAL RESOURCES**
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034
P: 515.725.8200
F: 515.725.8202





SURVEY CONTROL NOTES

1. THE DNR WILL STAKE CONTROL POINTS FOR THE CONTRACTOR. COORDINATE WITH THE DNR INSPECTOR.

DEMOLITION NOTES

- CONTRACTOR TO REMOVE EXISTING BUILDING STRUCTURES WHERE DETAILED. REMOVAL SHALL INCLUDE THE ENTIRE BUILDING STRUCTURE, ROOF, FLOORS, WALLS, FOOTINGS IN THEIR ENTIRETY, REMOVE ALL PAVEMENT, SIDEWALKS AND ANY UTILITY SERVICE LINES. REMOVE ALL BUILDING CONTENTS, DEBRIS, ETC. WITHIN BUILDINGS. CONTRACTOR TO DISPOSE OF PROPERLY IN ACCORDANCE WITH ALL RULES AND REGULATIONS.
- CONTRACTOR TO REMOVE EXISTING GRAVEL IN AREAS DETAILED (ASSUMED 4 INCH DEPTH). GRAVEL CAN BE USED IN BERM LOCATIONS (COMPACT TO 95% MINIMUM).
- CONTRACTOR TO REMOVE EXISTING CONCRETE SIDEWALKS AND PCC PAVEMENT AS SHOWN. CONCRETE FROM DEMOLITION AREAS (SIDEWALKS, SLABS, ETC) CAN BE USED IN BERM LOCATIONS (MINIMIZE VOIDS AND COMPACT TO AVOID SETTLEMENT).
- CONTRACTOR TO PROTECT THE 2 BUILDINGS THAT ARE TO REMAIN, PROTECT THE UTILITY POWER POLE AND TRANSFORMER ALONG THE SOUTH PROPERTY LINE AND PROTECT THE EXISTING INLET LOCATED WEST OF THE POND (IF POSSIBLE).
- THE EXISTING BUILDINGS HAVE ASBESTOS ITEMS IN THEIR CONSTRUCTION (REPORT AVAILABLE UPON REQUEST). CONTRACTOR TO REMOVE AND DISPOSE OF ASBESTOS ITEMS IN ACCORDANCE WITH ALL RULES AND REGULATIONS.

CLEARING & GRUBBING NOTES

1. CONTRACTOR TO CLEAR AND GRUB THE PROJECT SITE CONSISTING OF, BUT NOT LIMITED TO: THE PERIMETER FENCE AND ALL INTERIOR FENCES, ANY VEGETATION INSIDE OF THE FENCE LINES IS TO BE REMOVED, INTERIOR POWER POLES ARE TO BE REMOVED ALONG WITH ALL OTHER ITEMS AS DESCRIBED IN THE PLANS. ALL ITEMS BEING CLEARED/REMOVED SHALL BE DISPOSED OF PROPERLY OFF-SITE IN ACCORDANCE WITH ALL RULES AND REGULATIONS.

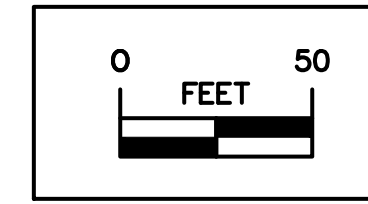
GENERAL NOTES

- TWO WEEKS PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY:
 - IOWA DNR PROJECT MANAGER: RYAN RICHEY 515-979-0107
 - DISTRICT INSPECTOR: MARK MOHLER 515-214-9532
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH STATEWIDE URBAN STANDARD DESIGN SPECIFICATIONS FOR PUBLIC IMPROVEMENTS (SUDAS). ALL CONSTRUCTION TESTING TO BE IN ACCORDANCE WITH SUDAS AND IS THE EXPENSE OF THE CONTRACTORS.
- THE CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS PRIOR TO THE START OF CONSTRUCTION AND NOTIFY THE ABOVE MENTIONED CONTACTS OF ANY DISCREPANCIES.
- THE LOCATIONS AND DIMENSIONS SHOWN ON THE PLANS FOR EXISTING FACILITIES ARE IN ACCORDANCE WITH AVAILABLE INFORMATION WITHOUT UNCOVERING AND MEASURING. THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF THIS INFORMATION OR THAT ALL EXISTING UNDERGROUND FACILITIES ARE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL PUBLIC AND/OR PRIVATE UTILITIES SERVING THE AREA TO DETERMINE THE PRESENT EXTENT AND LOCATION OF THEIR FACILITIES BEFORE BEGINNING WORK.
- THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROPER UTILITY IMMEDIATELY UPON BREAKING OR DAMAGE TO ANY UTILITY LINE OR APPURTENANCE, OR THE INTERRUPTION OF THEIR SERVICE. HE SHALL NOTIFY THE PROPER UTILITY INVOLVED. IF EXISTING UTILITY LINES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED.
- CONTRACTOR TO PROTECT ALL UTILITY, PAVING, BUILDINGS, ETC. OUTSIDE OF LIMITS OF PROPOSED CONSTRUCTION.
- IN THE EVENT THAT THERE IS A DISCREPANCY BETWEEN THE QUANTITIES AND THE PLANS, THE DETAILED PLANS SHALL GOVERN.
- CONTRACTOR SHALL SEED/MULCH ALL DISTURBED AREAS (APPROXIMATELY 5 ACRES TOTAL). USE TYPE 1 (PERMANENT LAWN MIXTURE) SEED MIX FOR ALL FLAT AREAS (APPROXIMATELY 3.8 ACRES) AND USE TYPE 2 (PERMANENT COOL SEASON MIXTURE FOR SLOPES AND DITCHES FOR THE BERMS (APPROXIMATELY 1.2 ACRES).
- MAINTAIN ACCESS ALONG 220TH AVENUE FOR THE NEIGHBOR LIVING TO THE NORTH OF THE PROJECT SITE.

LEGEND

EXISTING/PROPOSED

- ST^{8"} --- STORM SEWER
- E --- ELECTRICAL LINE
- 990 990 ELEVATION
- 882.67 884.50 SPOT ELEVATION



SEE ADJACENT FOR CONTINUATION

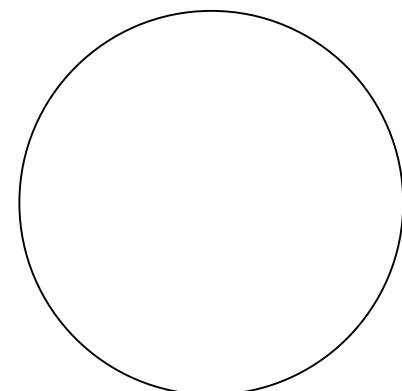


SCALE: 1:100

NOTE: THIS ACCESS (220TH AVE) IS ALSO USED BY THE PROPERTY OWNER TO THE NORTH. MAINTAIN ACCESS TO THIS OWNER AT ALL TIMES. INSTALL 300 TONS OF CLASS 'A' CRUSHED STONE TO THE EXISTING ACCESS TO FIRM IT UP FOR ALL THE TRUCKS ENTERING AND EXITING THE SITE. IF ANY RUTTING OR SOFT AREAS ARE ENCOUNTERED, ADD ADDITIONAL ROCK TO MAINTAIN A DRIVABLE ACCESS.

SEE ADJACENT FOR CONTINUATION

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SURVEY/DEMOLITION PLAN

NEW SHOOTING RANGE
PRINCETON SHOOTING RANGE

PRINCETON, IA 52768

286TH AVENUE

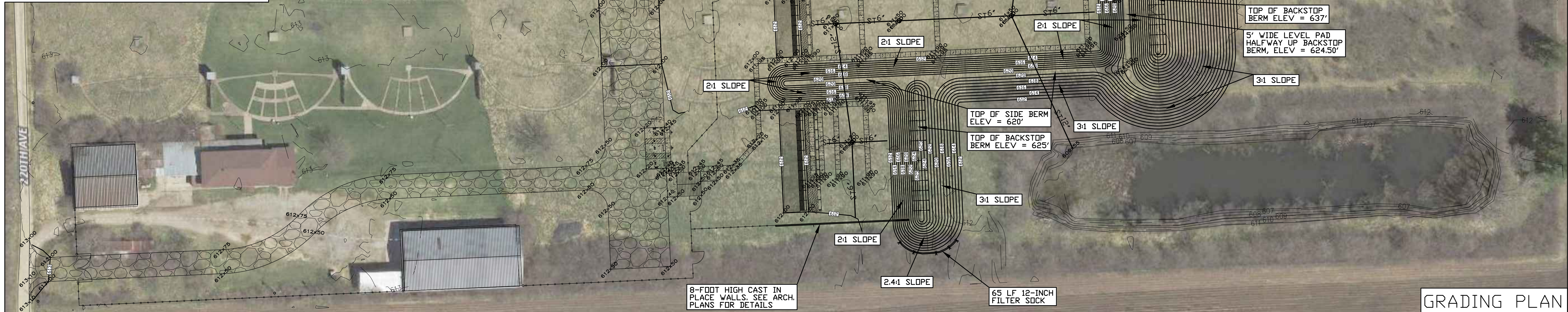
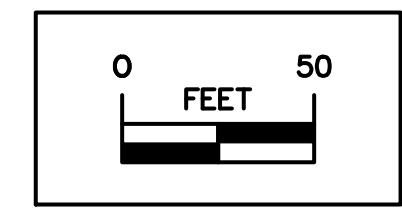
NO.	BY DATE	REVISION

DRAWN BY: PROJECT NUMBER:
 23-06-82-01
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 06.28.2023

SHEET NO:

C1

- LEGEND**
EXISTING/PROPOSED
- ST 8" STORM SEWER
 - E ELECTRICAL LINE
 - 990 ELEVATION
 - 882.67 884.50 SPOT ELEVATION
 - 8" FILTER SOCK



GRADING PLAN

GENERAL NOTES

- TWO WEEKS PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY:
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 - DISTRICT INSPECTOR MARK MUEHLER 515-214-9532
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- THE CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS PRIOR TO THE START OF CONSTRUCTION AND NOTIFY THE ABOVE MENTIONED CONTACTS OF ANY DISCREPANCIES.
- THE LOCATIONS AND DIMENSIONS SHOWN ON THE PLANS FOR EXISTING FACILITIES ARE IN ACCORDANCE WITH AVAILABLE INFORMATION WITHOUT UNCOVERING AND MEASURING. THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF THIS INFORMATION OR THAT ALL EXISTING UNDERGROUND FACILITIES ARE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL PUBLIC AND/OR PRIVATE UTILITIES SERVING THE AREA TO DETERMINE THE PRESENT EXTENT AND LOCATION OF THEIR FACILITIES BEFORE BEGINNING WORK.
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- CONTRACTOR TO PROTECT ALL UTILITY, PAVING, BUILDINGS, ETC. OUTSIDE OF LIMITS OF PROPOSED CONSTRUCTION.
- IN THE EVENT THAT THERE IS A DISCREPANCY BETWEEN THE QUANTITIES AND THE PLANS, THE DETAILED PLANS SHALL GOVERN.
- CONTRACTOR SHALL SEED/MULCH ALL DISTURBED AREAS (APPROXIMATELY 5 ACRES TOTAL). USE TYPE 1 (PERMANENT LAWN MIXTURE) SEED MIX FOR ALL FLAT AREAS (APPROXIMATELY 3.8 ACRES) AND USE TYPE 2 (PERMANENT COOL SEASON MIXTURE FOR SLOPES AND DITCHES FOR THE BERMS (APPROXIMATELY 1.2 ACRES)).
- MAINTAIN ACCESS ALONG 220TH AVENUE FOR THE NEIGHBOR LIVING TO THE NORTH OF THE PROJECT SITE.

GRADING NOTES

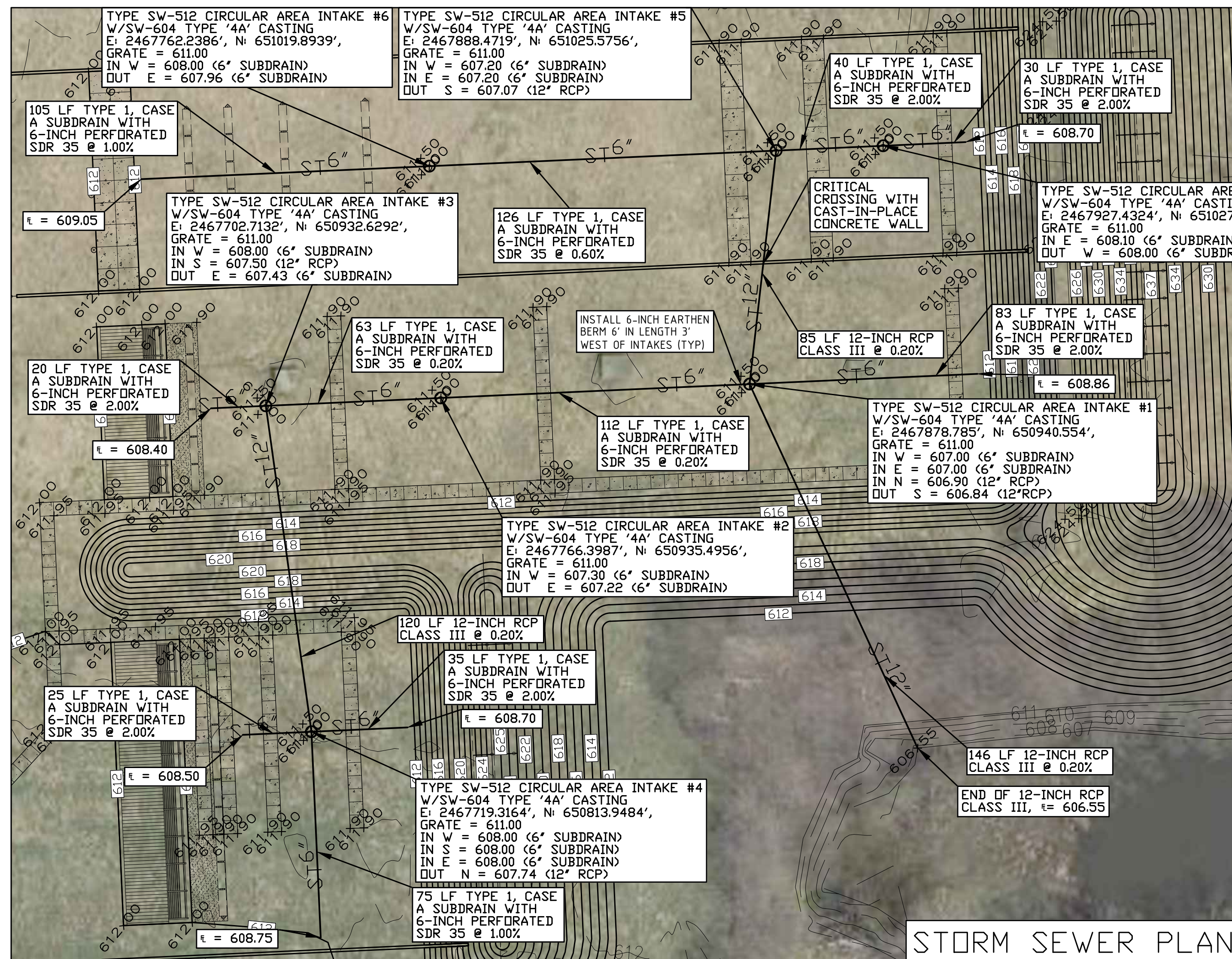
- THE GRADING CUT/FILL QUANTITY IS A LITTLE UNDER 30,000 CY (ASSUMING A 30% SHRINK. THIS 30,000 CY WILL BE PREDOMINANTLY ALL IMPORT. THE IMPORT QUANTITY IS APPROXIMATELY 28,500 CY (ASSUMING A 30% SHRINK FACTOR). THERE IS A BORROW SITE THAT HAS 30,000+ CUBIC YARDS OF CLAY FILL AVAILABLE 3.6 MILES AWAY (SEE BORROW MAP LOCATION BELOW). BORROW SITE CONTACT INFORMATION: GLENDA SCHOENING, AGGREGATE SALES, RIVERSTONE GROUP, INC, 4640 EAST 56TH ST, DAVENPORT, IA 52807. PHONE DIRECT: 309-757-8264 CELL: 309-236-4016
- THE TYPE 1, CLASS 'A' SUBDRAIN SHALL INCLUDE THE 6-INCH PERFORATED SDR 35 PIPE, THE PORDUS BACKFILL MATERIAL AND THE ENGINEERING FABRIC IN THE LINEAL FOOT BID ITEM. REFERENCE SUDAS 4040.231 DRAWING.
- CONTRACTOR SHALL INSTALL 6-INCH EARTHEN BERMS (MOUNDS) 6 FEET IN LENGTH LOCATED 3 FEET WEST IN INTAKES TO SHIELD THE GRATES FROM THE FIRING RANGE. THERE ARE 7 LOCATIONS FOR THESE 6-INCH EARTHEN MOUNDS.

STORM SEWER NOTES

- THE 12-INCH STORM SEWER BETWEEN INTAKES #1 AND #5 WILL BE GOING THROUGH THE CAST-IN-PLACE CONCRETE WALL AND WILL MOST LIKELY BE IN CONFLICT WITH THE FOOTING DEPTH OF THE WALL. A CONCRETE SADDLE SUPPORT MAY BE NECESSARY ON EITHER SIDE OF THE WALL TO HELP SUPPORT THE PIPING AND NOT ADVERSELY AFFECT THE INTEGRITY OF THE WALL. THIS CONCRETE SADDLE IS CONSIDERED INCIDENTAL TO THE STORM SEWER CONSTRUCTION.

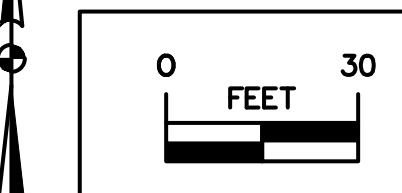


BORROW LOCATION MAP

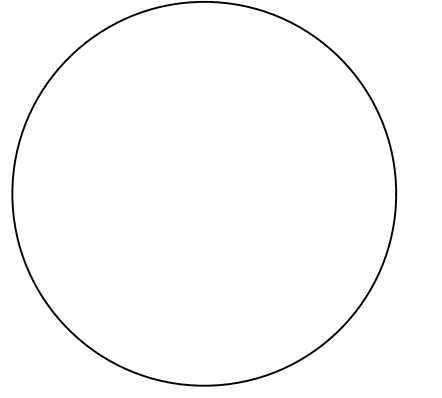


STORM SEWER PLAN

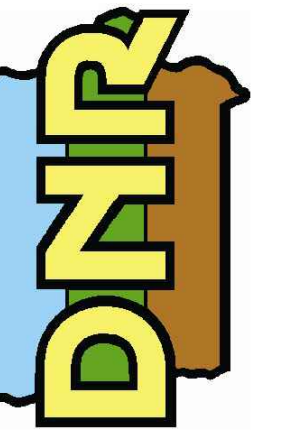
- LEGEND**
EXISTING/PROPOSED
- ST 8" STORM SEWER
 - E ELECTRICAL LINE
 - 990 ELEVATION
 - 882.67 884.50 SPOT ELEVATION
 - 8" FILTER SOCK



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GRADING/STORM SEWER PLAN
NEW SHOOTING RANGE
PRINCETON SHOOTING RANGE

PRINCETON, IA 52768

286TH AVENUE

NO.	BY DATE	REVISION

DRAWN BY: PROJECT NUMBER:
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C4

CONSULTANT:

**IOWA DEPARTMENT OF
NATURAL RESOURCES**
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034
P: 515.725.8200
F: 515.725.8202



BUILDING FLOOR PLAN & ELEVATIONS

RANGE RENOVATION PHASE I FOR:
DLS SHOOTING RANGE

Long Grove, IA 52756

30245 220th Ave.

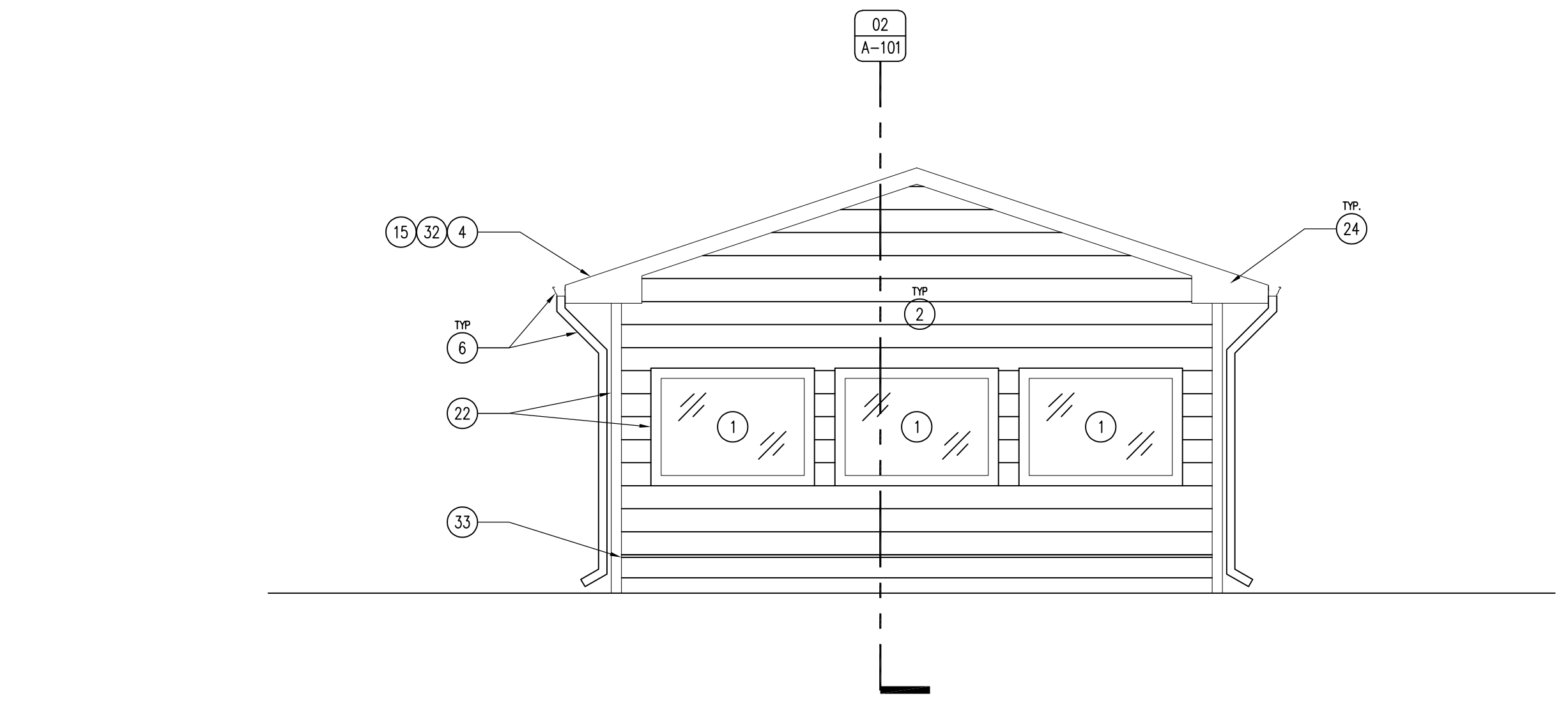
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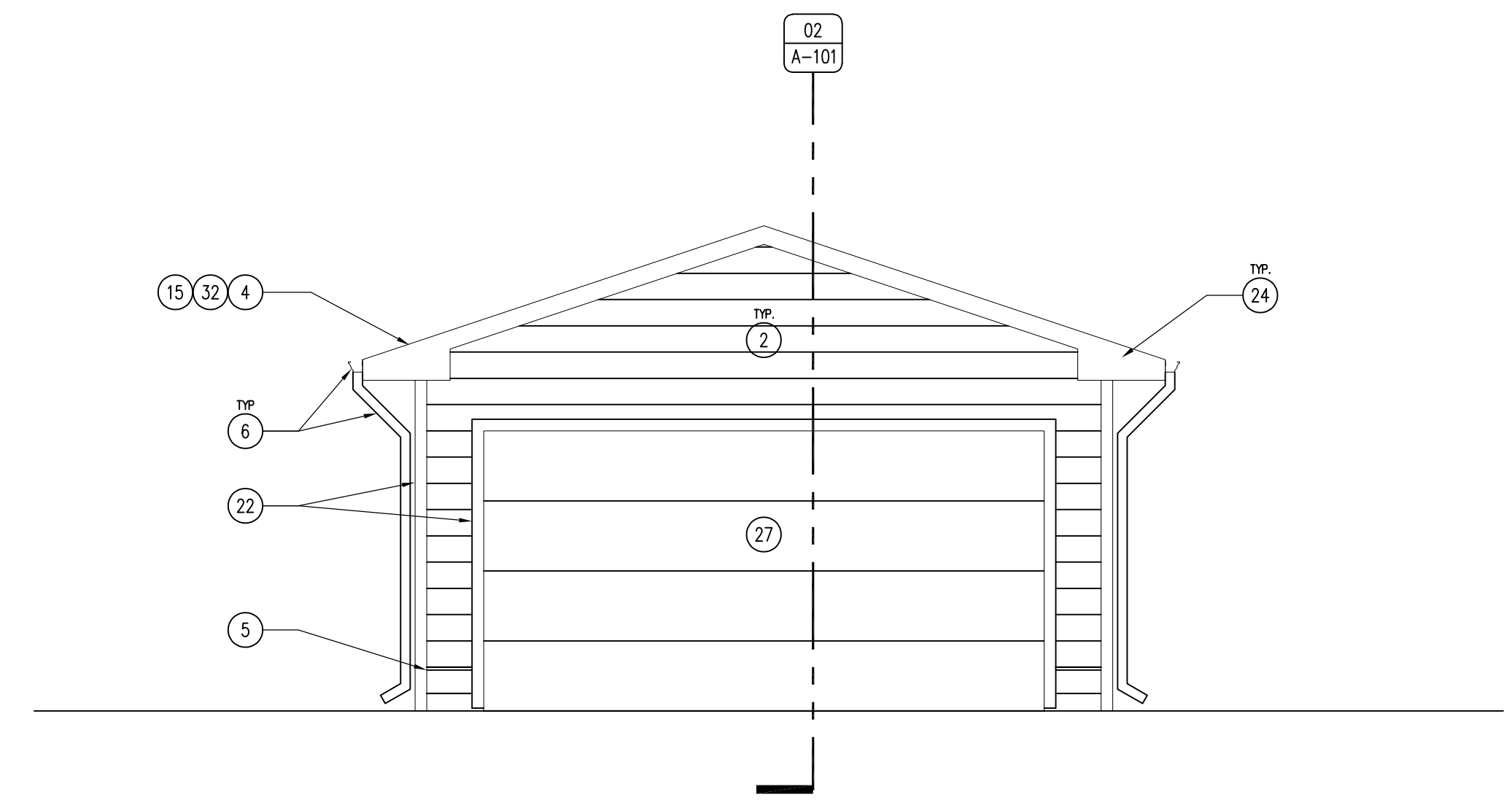
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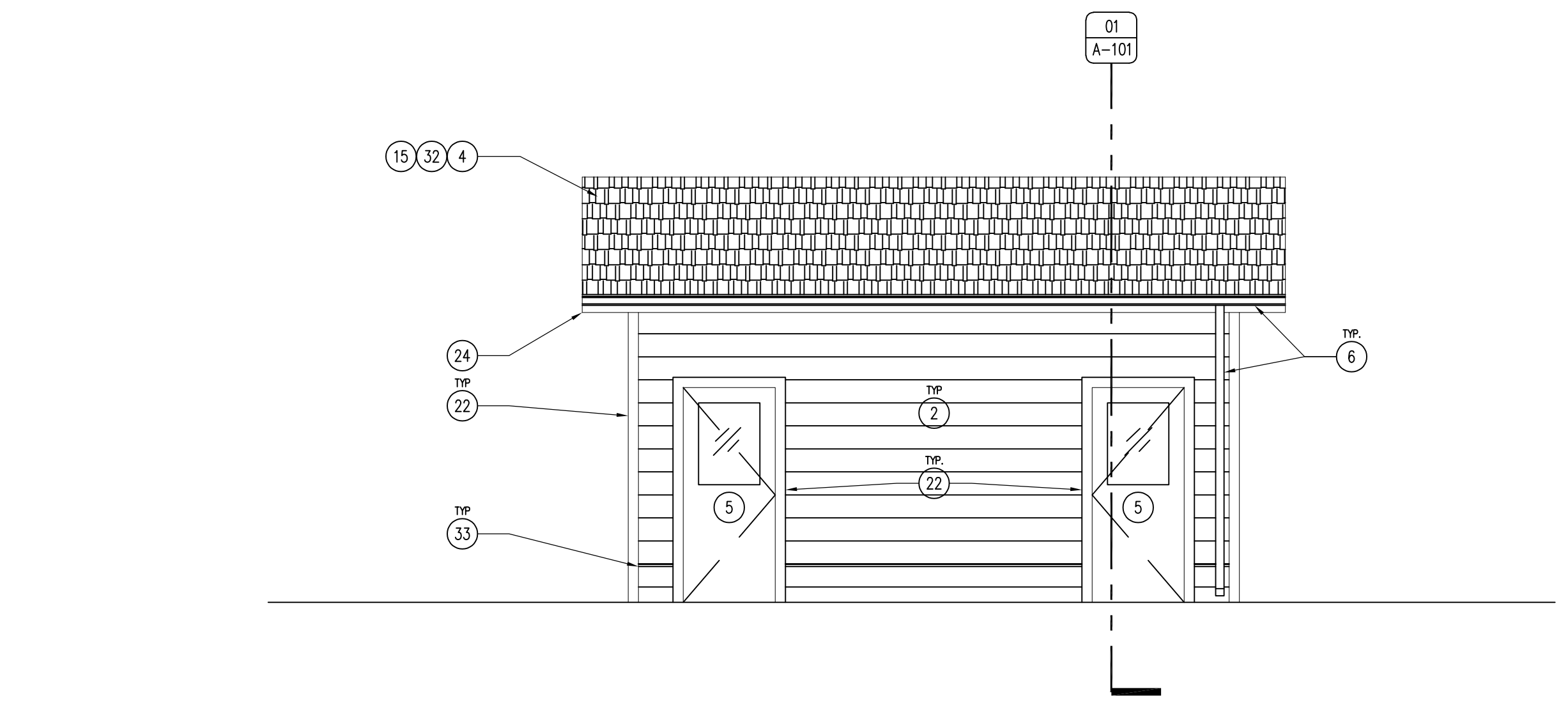
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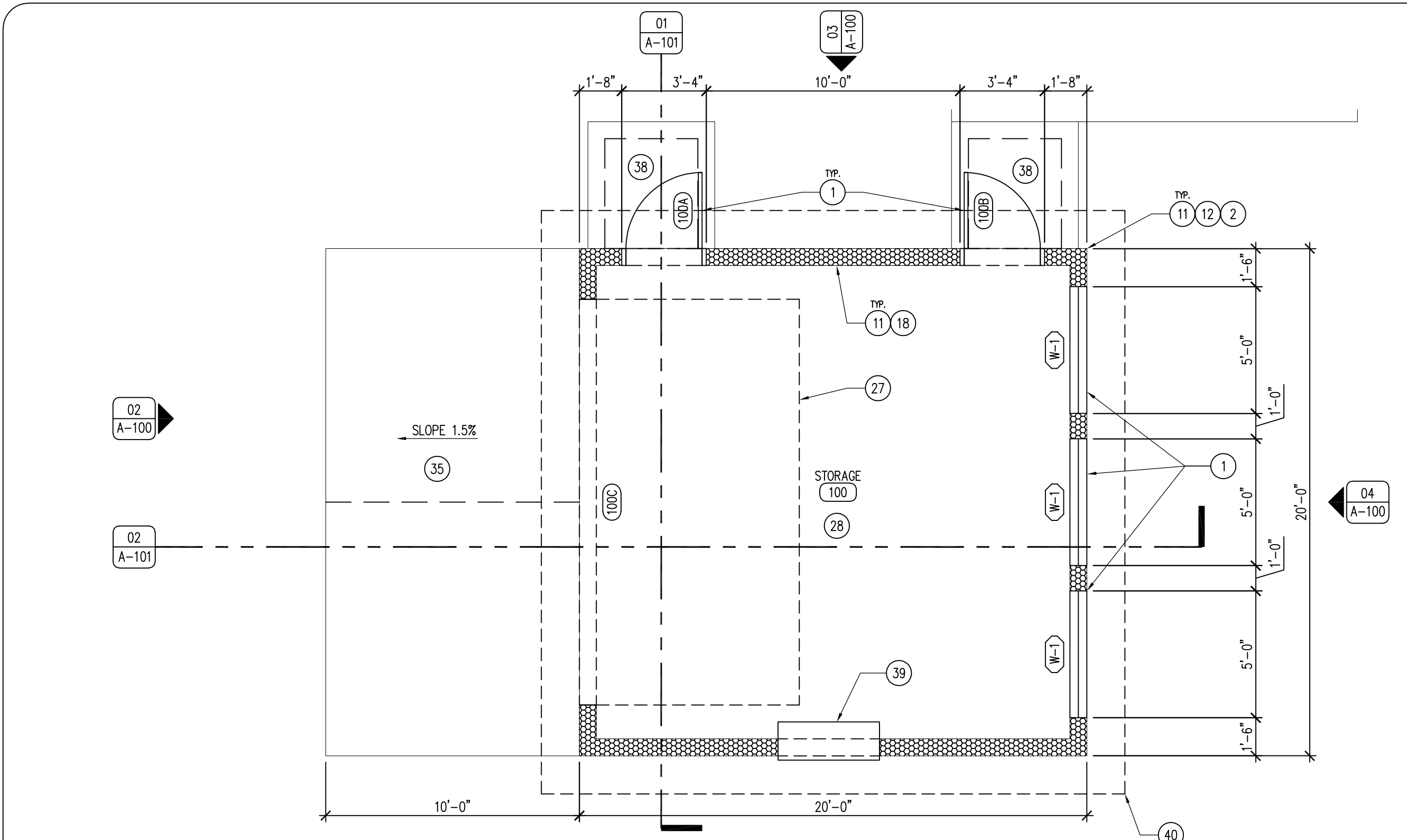
04 BUILDING ELEVATION - EAST
SCALE: 1/4" = 1'-0"



02 BUILDING ELEVATION - WEST
SCALE: 1/4" = 1'-0"



03 BUILDING ELEVATION - NORTH
SCALE: 1/4" = 1'-0"



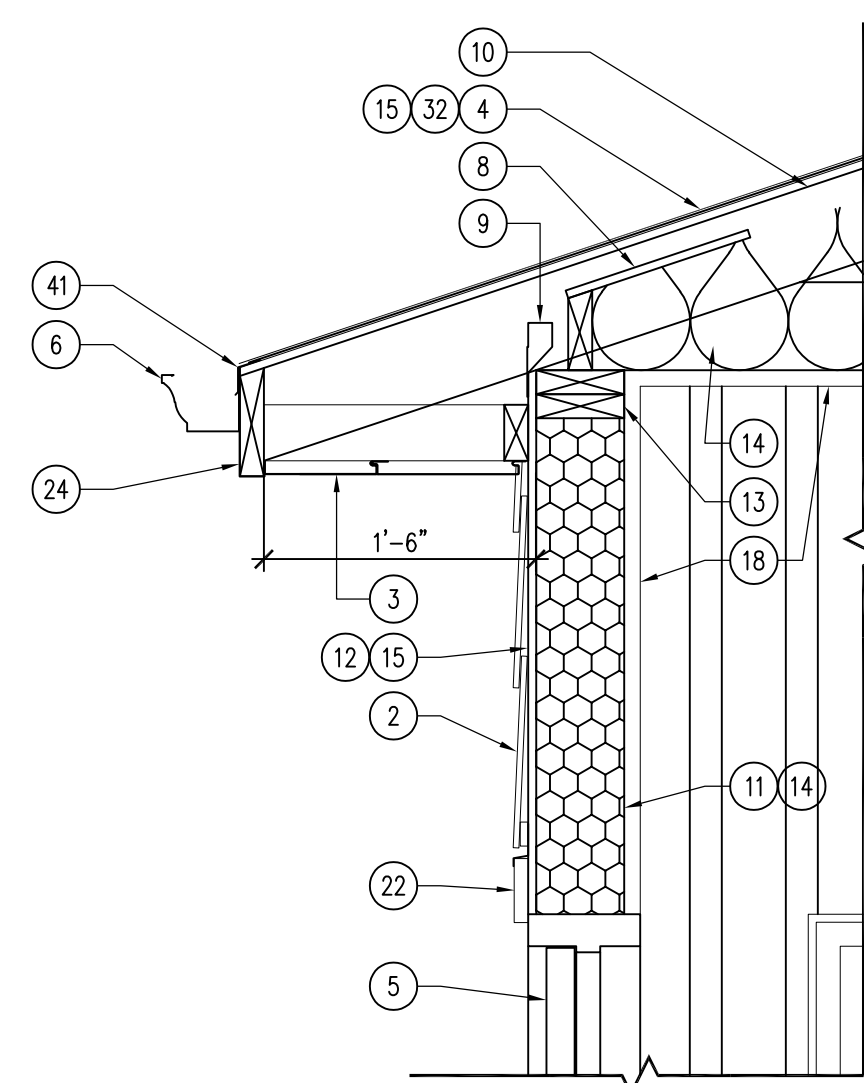
01 REFERENCE FLOOR PLAN
SCALE: 1/4" = 1'-0"

KEYNOTES

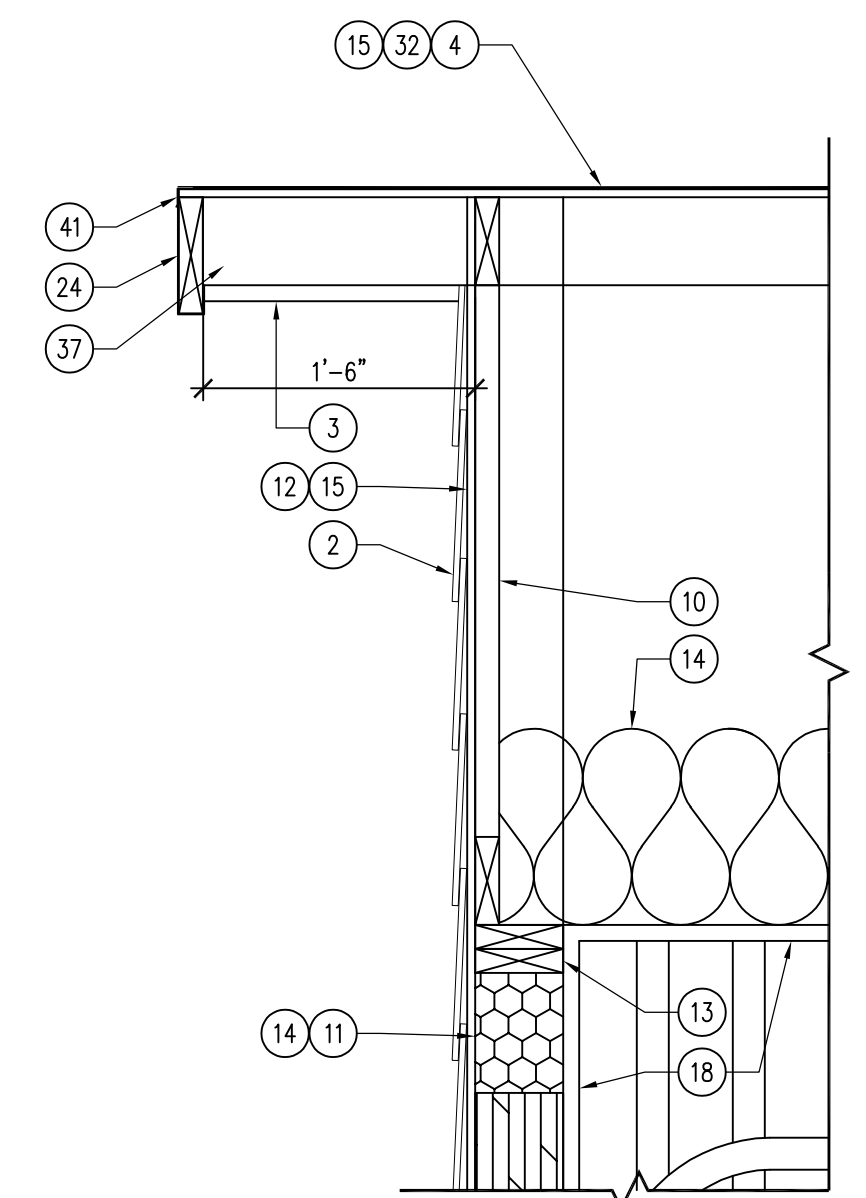
- WINDOW AS SCHEDULED, REFER TO SHEET A-600.
- LP SMARTSIDE CEDAR LAPSIDING, PAINT TWO (2) COATS PNT-2, REFER TO SHEET A-600.
- 26 GAUGE METAL VENTED V-SOFFIT PANEL. COLOR TO MATCH OVERHEAD DOOR.
- ROOF SHINGLES, REFER TO SHINGLE REQUIREMENTS ON SHEET A-600.
- DOOR AS SCHEDULED, REFER TO SHEET A-600.
- 5" SEAMLESS GUTTER AND DOWNSPOUT SYSTEM WITH SHUR-FLO GUTTER GUARDS. MATCH COLOR OF OVERHEAD DOOR. DOWNSPOUT EXTENSIONS TO GO TO ROCK PARKING AREA (+10'-0").
- 2X BLOCKING AS REQUIRED.
- INSULATION BATTLE: ALLOW FOR VENTING OF ATTIC SPACE.
- TRUSS HI HURRICANE CLIP.
- TRUSS (DESIGNED BY MANUFACTURER), FOR DEMONSTRATION PURPOSES ONLY.
- 2X6 STUD WALL WITH R-19 KRAFT FACE BATT INSULATION, REFER TO SHEET A-002.
- DUPONT TYVEK COMMERCIAL WRAP-D BUILDING WRAP, OR APPROVED EQUAL.
- DOUBLE TOP PLATE.
- R-49 KRAFT-FACED FIBER-GLASS BATT ATTIC INSULATION.
- 1" PLYWOOD/OSB SHEATHING.
- SHINGLE RIDGE VENT, BY SHINGLE MANUFACTURER, MATCH SHINGLE COLOR.
- CONCRETE SPREAD FOOTING WITH #5 REBAR, 12" O.C. ALL DIRECTIONS.
- 29 GAUGE STEEL LINER PANEL THROUGHOUT ENTIRE HEATED BAY AREA - WHITE.
- 2" R-10, 40PSI RIGID INSULATION UNDER ENTIRE SLAB, TAPE AND SEAL ALL JOINTS.
- 3/2" EXPANSION JOINT WITH CONTINUOUS POLYURETHANE SEALANT, COLOR CONCRETE GRAY.
- TREATED SIP SILL PLATE, PER MANUFACTURER'S RECOMMENDATIONS.
- 5.5" LP SMARTSIDE CEDAR TRIM, BUILDING CORNERS TO MATCH SIDING (PNT-2), WINDOW AND DOOR TRIM TO BE COLOR MATCH TO OVERHEAD DOOR (PNT-1), REFER TO SHEET A-600.
- ADA ACCESSIBLE DOOR THRESHOLD.
- 2X FASCIA, WRAP IN BREAK METAL TO MATCH OVERHEAD DOOR COLOR.
- METAL SILL/STEM-WALL PROTECTION FLASHING, DARK BRONZE.
- 15 MIL PLASTIC VAPOR BARRIER, UNDER ENTIRE SLAB, TAPE AND SEAL ALL SEAMS.
- OVERHEAD GARAGE DOOR, REFER TO SHEET A-600.
- 6" CONCRETE SLAB WITH #4 REBAR 24" O.C. BOTH DIRECTIONS OVER 6" SUBBASE, TROWEL FINISH SMOOTH.
- METAL FLASHING, MATCH OVERHEAD DOOR COLOR.
- BACKER ROD AND POLYURETHANE SEALANT.
- MAPLE EXTENSION JAMB AND TRIM (WD-1), TWO (2) COATS OF SATIN POLYURETHANE.
- SYNTHETIC, NON-WOVEN, TEXTURED ROOF UNDERLAYMENT OVER ENTIRE ROOF DECK.
- 9.21" LP SMARTSIDE TRIM WITH FLASHING, PAINT TO MATCH SIDING (PNT-2) REFER TO SHEET A-600.
- CONTINUOUS FOAM SILL GASKET.
- 6" CONCRETE APRON (20'-0" X 10'-0") WITH #4 REBAR 24" O.C. BOTH DIRECTIONS OVER 6" SUBBASE, LIGHT BROOM FINISH.
- SILL ANCHOR, EMBED 6" MINIMUM, 24" O.C. MAXIMUM.
- 2X OUTRIGGER EAVE, EXTEND 1'-6".
- 5'-0" X 5'-0" X 6" THICK CONCRETE STOOP FOOTING WITH #4 REBAR 12" O.C. AND 8" STEM WALLS THREE SIDES 48" DEEP OVER 6" SUBBASE.
- FRIEDRICH FRESH-AIRE PWH12K3FB PTAC UNIT, OR APPROVED EQUAL, WITH WALL SLEEVE AND WALL-MOUNTED THERMOSTAT.
- ROOF OVERHANG ABOVE, EXTEND 1'-6".

GENERAL NOTES

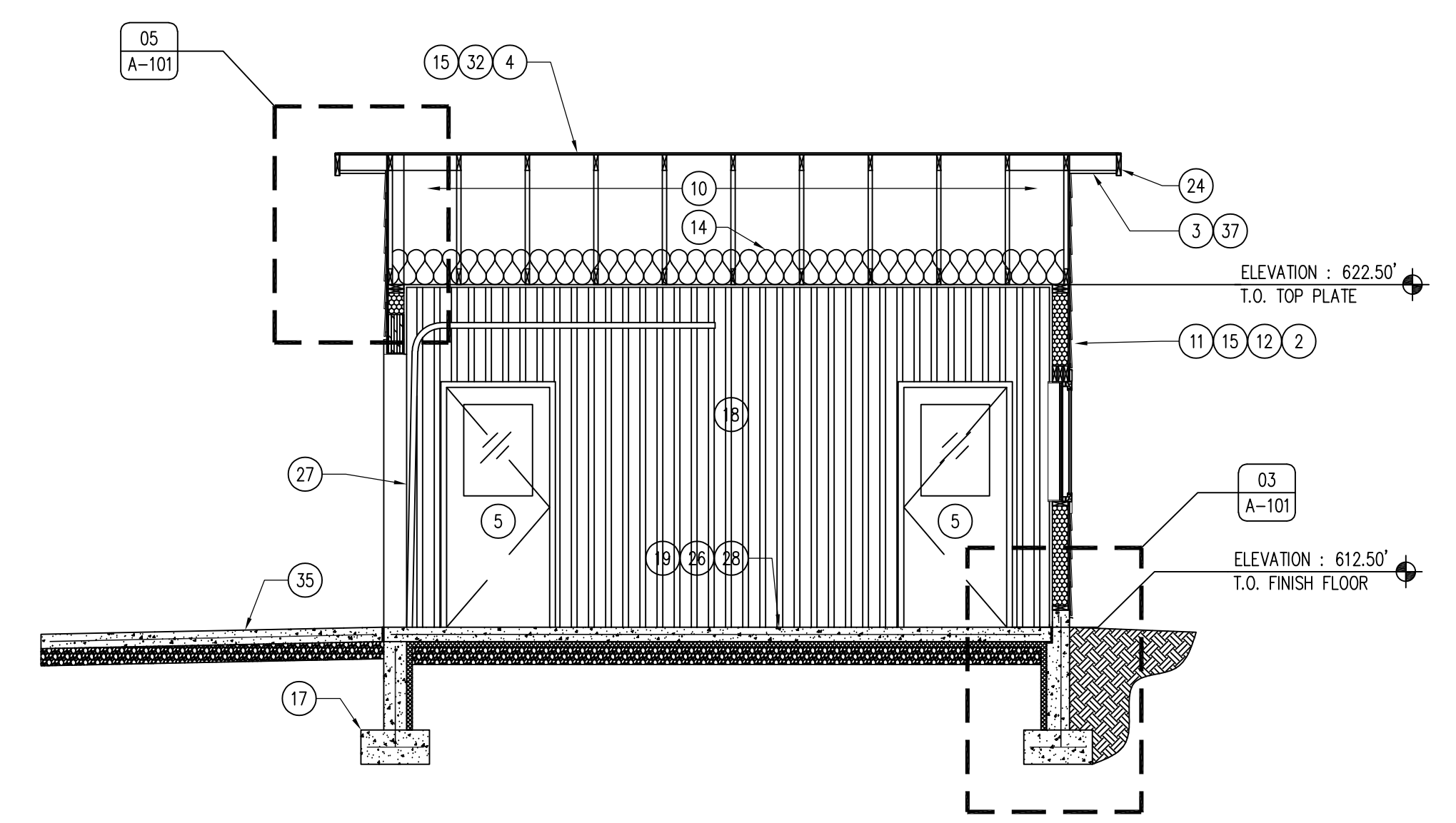
- REFER TO FINISH, DOOR & WINDOW SCHEDULE, SHEET A-600.
- REFER TO INDEX SHEET FOR WALL TYPES, SHEET A-002.
- FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
- FIELD VERIFY ALL EQUIPMENT LOCATIONS FOR ELECTRICAL OUTLET LOCATIONS, REFER TO ELECTRICAL PLAN.
- CONTRACTOR SHALL CAULK ALL CONCRETE SAW-CUT JOINTS AND EXPANSION JOINTS WITH FLOWABLE URETHANE SEALANT, COLOR TO BE GRAY.
- ALL LP SMARTSIDE PRODUCTS TO BE FIELD PAINTED TWO (2) COATS OF EXTERIOR LATEX ACRYLIC PAINT (SHERWIN WILLIAMS - DURATION OR APPROVED EQUAL), COLOR TBD.



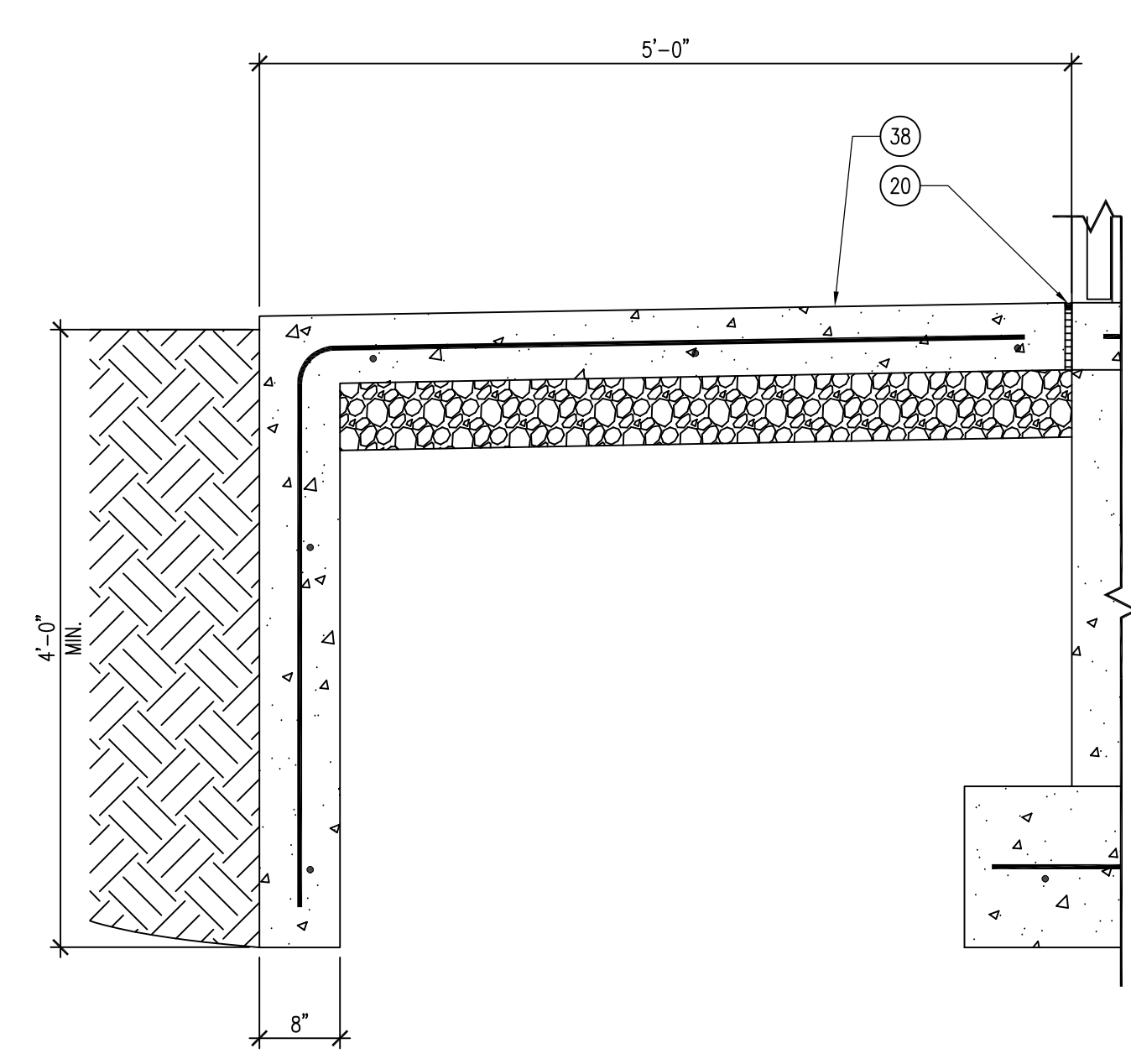
06 DETAIL - ROOF EAVE
SCALE: 1" = 1'-0"



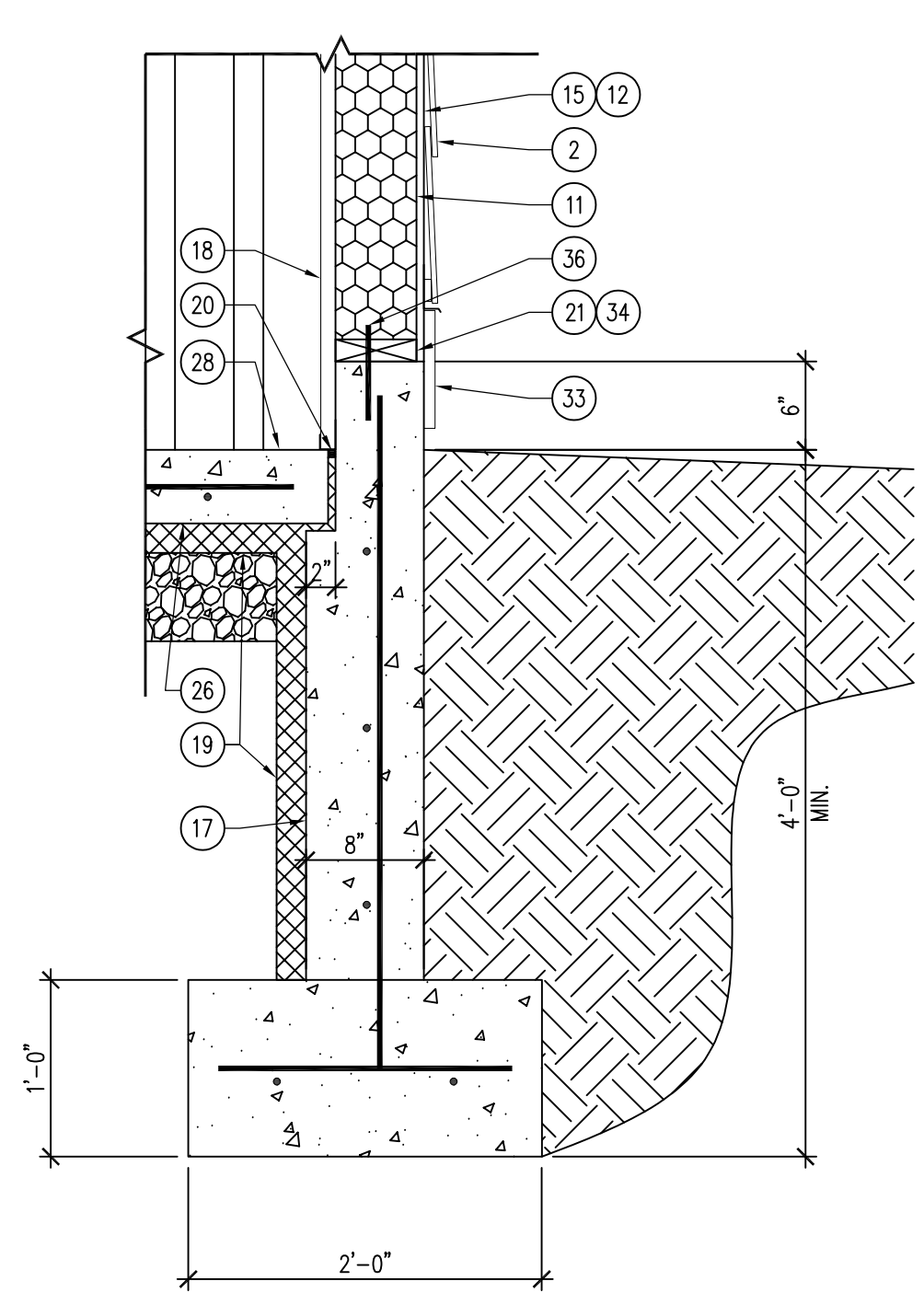
05 DETAIL - ROOF RAKE
SCALE: 1" = 1'-0"



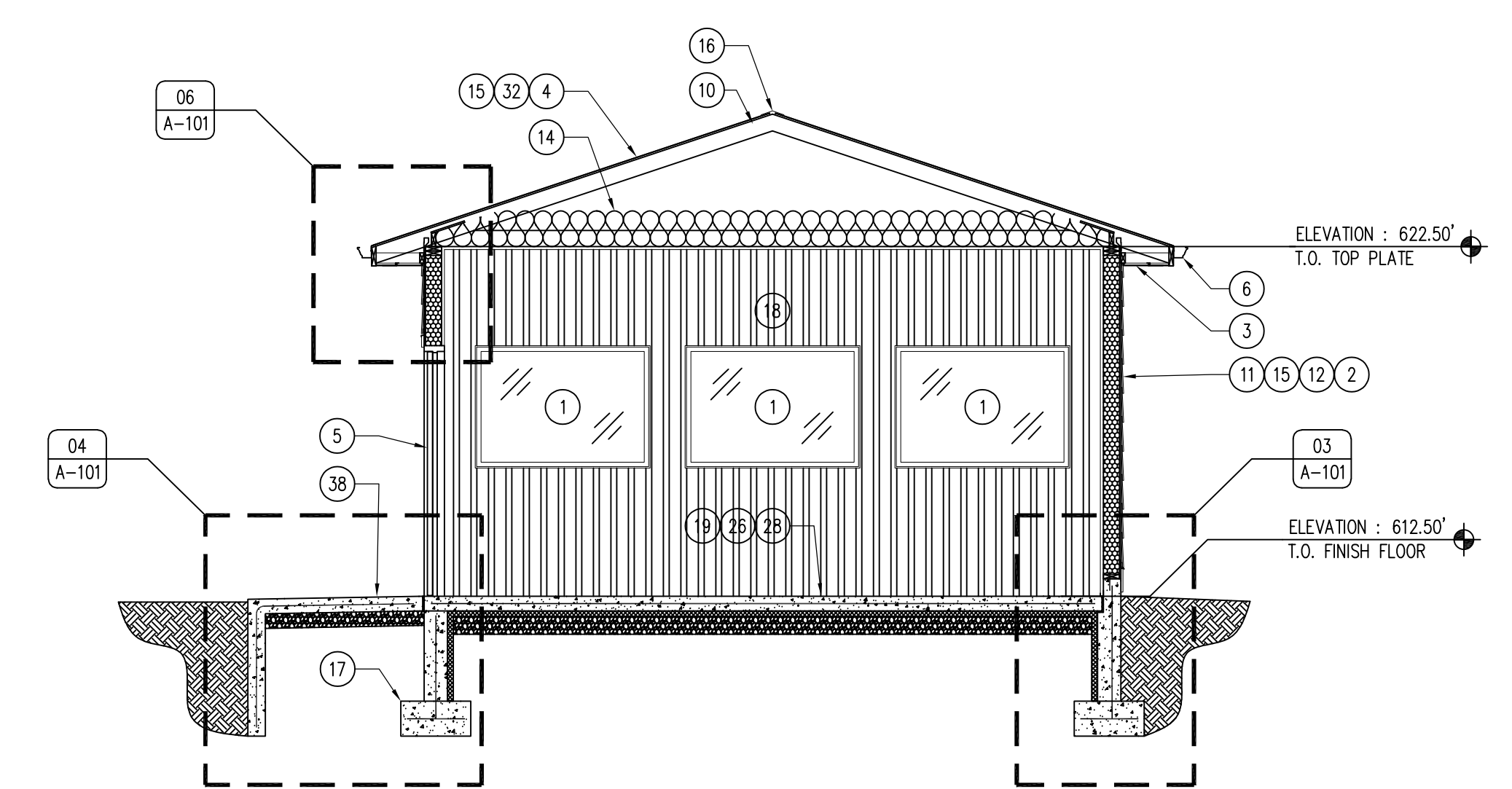
02 BUILDING SECTION
SCALE: 1/4" = 1'-0"



04 DETAIL - STOOP FOOTING
SCALE: 1" = 1'-0"



03 DETAIL - BUILDING FOOTING
SCALE: 1" = 1'-0"



01 BUILDING SECTION
SCALE: 1/4" = 1'-0"

KEYNOTES

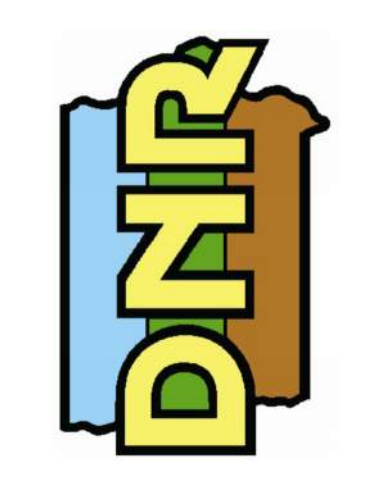
1. WINDOW AS SCHEDULED, REFER TO SHEET A-600.
2. LP SMARTSIDE CEDAR LAPSIDING, PAINT TWO (2) COATS PNT-2, REFER TO SHEET A-600.
3. 26 GAUGE METAL VENTED V-SOFFIT PANEL. COLOR TO MATCH OVERHEAD DOOR.
4. ROOF SHINGLES, REFER TO SHINGLE REQUIREMENTS ON SHEET A-600.
5. DOOR AS SCHEDULED, REFER TO SHEET A-600.
6. 5" SEAMLESS GUTTER AND DOWNSPOUT SYSTEM WITH SHUR-FLO GUTTER GUARDS. MATCH COLOR OF OVERHEAD DOOR. DOWNSPOUT EXTENSIONS TO GO TO ROCK PARKING AREA (+10'-0").
7. 2X BLOCKING AS REQUIRED.
8. INSULATION BATTLE, ALLOW FOR VENTING OF ATTIC SPACE.
9. TRUSS HI HURRICANE CLIP.
10. TRUSS (DESIGNED BY MANUFACTURER), FOR DEMONSTRATION PURPOSES ONLY.
11. 2X6 STUD WALL WITH R-19 KRAFT FACE BATT INSULATION, REFER TO SHEET A-002.
12. DUPONT TYEK COMMERCIAL WRAP-D BUILDING WRAP, OR APPROVED EQUAL.
13. DOUBLE TOP PLATE.
14. R-49 KRAFT-FACED FIBER-GLASS BATT ATTIC INSULATION.
15. 1" PLYWOOD/OSB SHEATHING.
16. SHINGLE RIDGE VENT, BY SHINGLE MANUFACTURER, MATCH SHINGLE COLOR.
17. CONCRETE SPREAD FOOTING WITH #5 REBAR, 12" O.C. ALL DIRECTIONS.
18. 29 GAUGE STEEL LINER PANEL THROUGHOUT ENTIRE HEATED BAY AREA - WHITE.
19. 2" R-10, 40PSI RIGID INSULATION UNDER ENTIRE SLAB, TAPE AND SEAL ALL JOINTS.
20. 3/2" EXPANSION JOINT WITH CONTINUOUS POLYURETHANE SEALANT, COLOR CONCRETE GRAY.
21. TREATED SILL PLATE.
22. 5.5" LP SMARTSIDE CEDAR TRIM, BUILDING CORNERS TO MATCH SIDING (PNT-2), WINDOW AND DOOR TRIM TO BE COLOR MATCH TO OVERHEAD DOOR (PNT-1), REFER TO SHEET A-600.
23. ADA ACCESSIBLE DOOR THRESHOLD.
24. 2X FASCIA, WRAP IN BREAK METAL TO MATCH OVERHEAD DOOR COLOR.
25. METAL SILL/STEM-WALL PROTECTION FLASHING, DARK BRONZE.
26. 15 MIL PLASTIC VAPOR BARRIER, UNDER ENTIRE SLAB, TAPE AND SEAL ALL SEAMS.
27. OVERHEAD GARAGE DOOR, REFER TO SHEET A-600.
28. 6" CONCRETE SLAB WITH #4 REBAR 24" O.C. BOTH DIRECTIONS OVER 6" SUBBASE, TROWEL FINISH SMOOTH.
29. METAL FLASHING, MATCH OVERHEAD DOOR COLOR.
30. BACKER ROD AND POLYURETHANE SEALANT.
31. MAPLE EXTENSION JAMB AND TRIM (WD-1), TWO (2) COATS OF SATIN POLYURETHANE.
32. SYNTHETIC, NON-WOVEN, TEXTURED ROOF UNDERLAYMENT OVER ENTIRE ROOF DECK.
33. 9.2" LP SMARTSIDE TRIM WITH FLASHING, PAINT TO MATCH SIDING (PNT-2) REFER TO SHEET A-600.
34. CONTINUOUS FOAM SILL GASKET.
35. 6" CONCRETE APRON (20'-0" X 10'-0") WITH #4 REBAR 24" O.C. BOTH DIRECTIONS OVER 6" SUBBASE, LIGHT BROOM FINISH.
36. SILL ANCHOR, EMBED 6" MINIMUM, 24" O.C. MAXIMUM.
37. 2X OUTRIGGER EAVE, EXTEND 1'-6".
38. 5'-0" X 5'-0" X 6" THICK CONCRETE STOOP FOOTING WITH #4 REBAR 12" O.C. AND 8" STEM WALLS THREE SIDES 48" DEEP OVER 6" SUBBASE.
39. FRIEDRICH FRESH-AIRE PWH12K3FB PTAC UNIT, OR APPROVED EQUAL, WITH WALL SLEEVE AND WALL-MOUNTED THERMOSTAT.
40. ROOF OVERHANG ABOVE, EXTEND 1'-6".
41. METAL ROOF DRIP EDGE, MATCH OVERHEAD DOOR COLOR.

GENERAL NOTES

- A. REFER TO FINISH, DOOR & WINDOW SCHEDULE, SHEET A-600.
- B. REFER TO INDEX SHEET FOR WALL TYPES, SHEET A-002.
- C. FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
- D. FIELD VERIFY ALL EQUIPMENT LOCATIONS FOR ELECTRICAL OUTLET LOCATIONS, REFER TO ELECTRICAL PLAN.
- E. CONTRACTOR SHALL CAULK ALL CONCRETE SAW-CUT JOINTS AND EXPANSION JOINTS WITH FLOWABLE URETHANE SEALANT, COLOR TO BE GRAY.
- F. ALL LP SMARTSIDE PRODUCTS TO BE FIELD PAINTED TWO (2) COATS OF EXTERIOR LATEX ACRYLIC PAINT (SHERWIN WILLIAMS - DURATION OR APPROVED EQUAL), COLOR TBD.

CONSULTANT:

**IOWA DEPARTMENT OF
NATURAL RESOURCES**
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034
P: 515.725.8200
F: 515.725.8202



BUILDING SECTIONS AND DETAILS

RANGE RENOVATION PHASE I FOR:
DLS SHOOTING RANGE

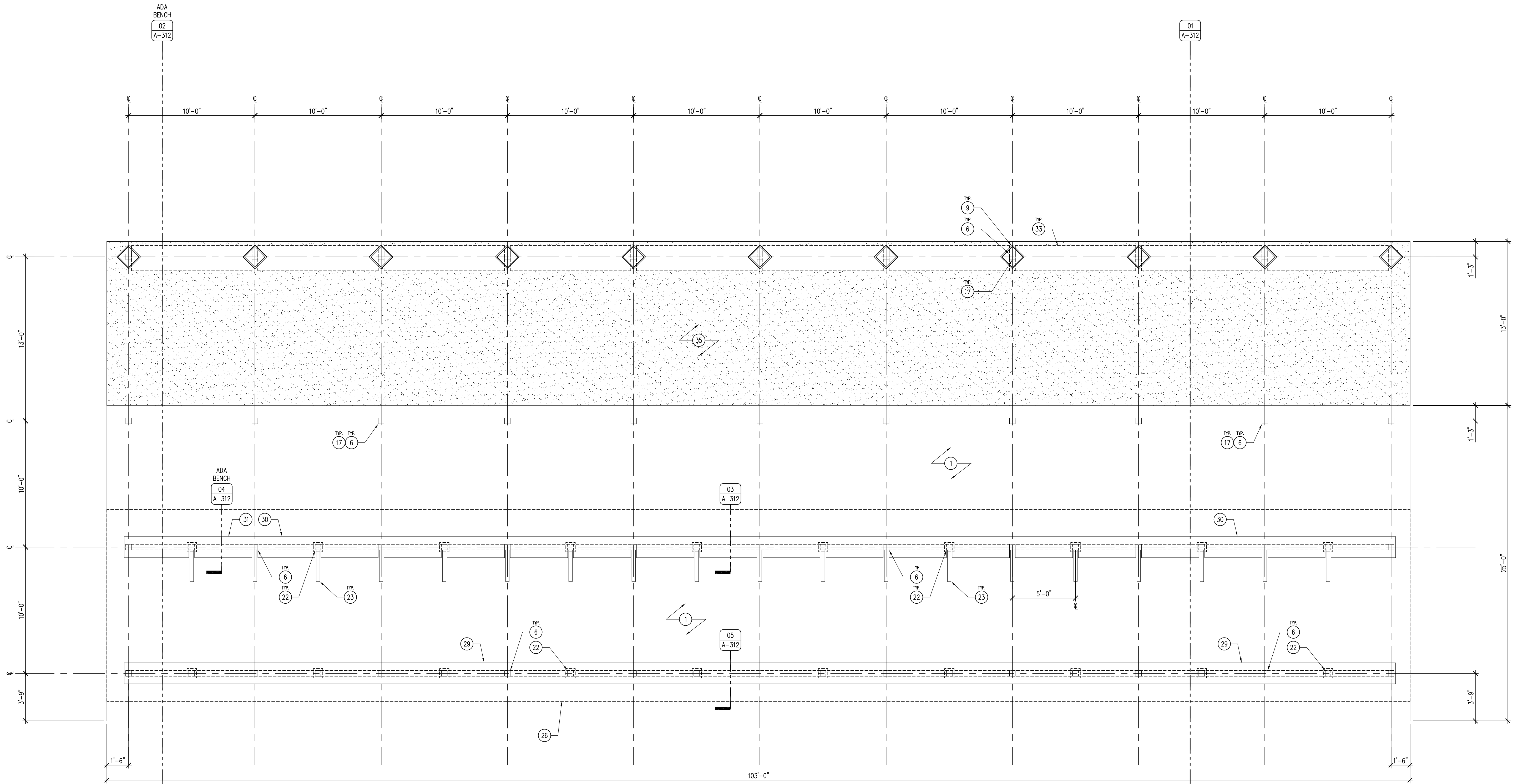
Long Grove, IA 52756

30245 220th Ave.

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DRAWN BY: PROJECT NUMBER:
23-06-82-01
CHK'D BY: DATE:
06.20.2023
SHEET NO:

A-101



01 REFERENCE PLAN - 100 YARD RANGE
SCALE: 1/4" = 1'-0"

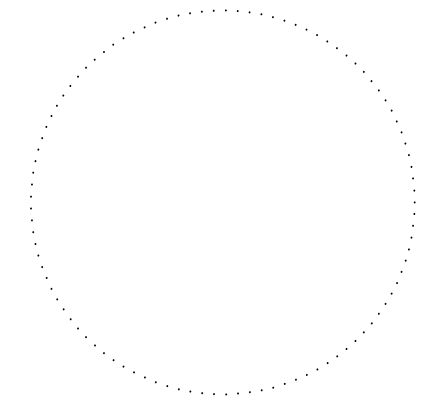
KEYNOTES

- 6" CONCRETE SLAB OVER 6" SUBBASE WITH #4 REBAR 24" O.C. BOTH DIRECTIONS, SLOPE 1% AWAY FROM SHOOTING LINE.
- CONCRETE SHOOTING BENCH (SUPPLIED BY OWNER), INSTALLED 5'-0" O.C. BY CONTRACTOR.
- MCELROY MAX-RIB ULTRA ROOFING WITH ALL TRIM, OR APPROVED EQUAL, COLOR TBD.
- HSS 3X3X1/2" 24" O.C.
- HSS 6X4X3/8" BEAM, ATTACHED 3/8" END PLATE BOTH SIDES, WELD AND GRIND SMOOTH.
- HSS 4X4X3/8" COLUMN.
- HSS 8X4X3/8" BEAM, REMOVABLE. ADJUST ANGLE AND MOUNTING HEIGHT IN FIELD WITH DNR STAFF.
- 3/4" CAP PLATE, WELD & GRIND SMOOTH.
- 16"x16" SQUARE FORMED CONCRETE PIER CAP EXTENSION 12" TALL, CHAMFER OR TOOL TOP EDGE.
- 3/8" DIAMETER CONCRETE FOOTING WITH #4 REBAR 12" O.C. ALL DIRECTIONS, 48" DEEP MINIMUM. POUR FIRST 12" FOOTING FOR COLUMN BASE PLATE ATTACHMENT, THEN POUR REMAINDER OF THE FOOTING ONCE ALL COLUMNS HAVE BEEN SET.
- COLUMN BASE PLATE 1/2"x9x9 WITH 4 - 3/8" WEDGE ANCHORS, FOR ERECTION ONLY. LEVEL AND INSERT NON-SHRINK GROUT UNDER PLATE.
- 3/8" END PLATE WELDED AND GROUND SMOOTH WITH 3/8" KNIFE PLATE TO CONNECT TO 3/8" SHEAR TAB WITH 2 - 3/4" DIAMETER M.B., TYPICAL EACH END.
- 2 - 2X8 TREATED BAFFLES SCREWED TOGETHER WITH 2 - 2X4 LONG #10 STAINLESS DECK SCREWS, 24" O.C. ENTIRE LENGTH. SET IN A HSS 8X4X3/8"x4" LONG CUT IN HALF TO MAKE A "U" HANGER. PROVIDE HOLE FOR #10 SCREW ON BOTH SIDES.
- 3/8"x6" END PLATE WITH EXTENSIONS TO CARRY PLATE ASSEMBLY AND 2-1/2" M.B., TYPICAL.
- 1/2"x6X6 PLATES, WELD TO PURLIN/B.EAM. BOLT WITH 4 - 1/2" STAINLESS BOLTS, NUTS, WASHERS.
- REMOVABLE ASSEMBLY OF 3/8"x10'-0"x3'-0" AR400 STEEL PLATE WELDED TO C6X8.2 CHANNELS THAT ARE BOLTED TO THE SHEAR TABS ON THE BEAMS, STIFFEN ASSEMBLY WITH STEEL ANGLES AS NECESSARY. ADJUST MOUNTING PLACEMENT WITH DNR STAFF FOR PROPER ANGLES AND HEIGHTS.
- 4X4X3/8" STEEL ANGLE, TACK WELD ANGLE TO FACE OF COLUMN.
- TREATED 2X8 BENCH LUMBER, ATTACH AT EACH SUPPORT WITH 3 - 3" #10 STAINLESS SCREWS.
- TREATED 2X4 BENCH LUMBER, ATTACH AT EACH SUPPORT WITH 2 - 3" #10 STAINLESS SCREWS.
- TREATED 2X4 BENCH LUMBER, ATTACH AT EACH SUPPORT WITH 2 - 3" #10 STAINLESS SCREWS.
- TREATED 2X6 BOTH SIDES OF STEEL COLUMN, ATTACHED WITH 2 - 3/4" DIAMETER HDG HEX-HEAD BOLTS AND NUTS, WITH FENDER AND LOCK WASHERS BOTH SIDES.
- INTERMEDIATE HSS 4X4X3/8" POST WITH 9X9X1/2" BASE SUPPORT FLANGE, 10'-0" O.C. EQUALLY SPACED BETWEEN STEEL STRUCTURAL COLUMNS TO SUPPORT WOOD SHOOTING BENCHES AND SITTING BENCHES. ATTACH POSTS TO SLAB WITH FOUR 3/8" DIAMETER EXPANSION ANCHORS ON EACH CORNER OF SUPPORT FLANGE.
- SHOOTING LANE DIVIDER (7'-0" TALL X 3'-0" WIDE), TWO LAYERS SQUARE WEAVE GALVANIZED WIRE MESH (#4), 1/4" SQUARE OPENING MAXIMUM. FRAME TO BE 1X2 TUBE STEEL MITERED, WELDED AND GROUND SMOOTH. TACK WELD MESH TO TUBE FRAME AND THEN ADD A 1" X 1" X 14 GA ANGLE TO OUTSIDE OF ASSEMBLY TO HEM MESH. CLAMP WITH TWO 1" PLATES AS SHOWN. EXTEND OUTSIDE LEG 6" AND ADD 1" PLATE FOR 3/8" WEDGE ANCHORS TO CONCRETE.
- 2 - 1/2"x9X12 SLOTTED PLATE, WELD ONE TO LANE DIVIDER. BOLT-CLAMP TO OVERHEAD BEAM WITH 4 - 1/2" STAINLESS BOLTS, NUTS, WASHERS AND SLEEVES.
- 1" KEYS WALL EXPANSION JOINT WITH EXPANSION MATERIAL AND CONTINUOUS EXTERIOR POLYURETHANE CAULK.
- ROOF LINE OVERHEAD.
- END PLATE 3/8" WELDED AND GROUND SMOOTH WITH 3/8" KNIFE PLATE TO CONNECT TO 3/8" SHEAR TAB WITH 2 - 3/4" DIAMETER HDG BOLTS, TYPICAL EACH END.
- 1/2"x9x2 PLATE, WELD ON TO LANE DIVIDER. BOLT-CLAMP WITH 2 - 1/2" STAINLESS BOLTS, NUTS, WASHERS AND SLEEVES.
- TREATED WOOD SEATING BENCH, MOUNT 1'-6" A.F.F., REFER TO DETAIL 05/A-311.
- TREATED WOOD SHOOTING BENCH, MOUNT 3'-2" A.F.F., REFER TO DETAIL 03/A-311.
- TREATED WOOD ADA SHOOTING BENCH, MOUNT 2'-6" A.F.F., REFER TO DETAIL 04/A-311.
- 1/2" EXPANSION MATERIAL WITH CONTINUOUS EXTERIOR POLYURETHANE SEALANT.
- REMOVABLE ASSEMBLY OF 3/8"x10'-0"x2'-4" AR400 STEEL PLATE BOLTED TO 3/8"x3"x3" ANGLES THAT ARE WELDED TO VERTICAL FACE OF COLUMN, STIFFEN ASSEMBLY WITH STEEL ANGLES AS NECESSARY. ADJUST MOUNTING PLACEMENT WITH DNR STAFF FOR PROPER ANGLES AND HEIGHTS.
- CONCRETE SIDEWALK, REFER TO CIVIL DRAWINGS.
- 3/8"- X 4" DEEP CRUSHED STONE SURFACE.
- 6" THICK X 8'-0" HIGH, ABOVE GROUND, CONCRETE SIDEWALL RANGE DIVIDER WITH #5 REBAR 24" O.C. BOTH DIRECTIONS.
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- DOUBLE 2 X 10 X 16'-0" LONG GROUND TREATED BEAMS, LAMINATE WITH ROWS OF FOUR (4) 10D RING-SHANK NAILS 12" O.C. ALTERNATE SIDES FOR NAILING.
- 2 X 6 X 20'-0" GROUND TREATED COVER BOARDS, OVERLAP ON THREE BEAMS TO REDUCE SAG, GAP 1/2" BETWEEN BOARDS. SCREW TO BEAMS WITH TWO (2) 3/8" X 5" LONG WASHER-HEAD EXTERIOR SCREWS AT ALL BEAMS.
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- 12" DIAMETER CONCRETE PIER, PIER TO EXTEND 4'-0" DEEP MINIMUM, EXTEND ABOVE GRADE A MINIMUM OF 6", MAINTAIN 5 DEGREE ANGLE FOR EYEBROW BEAM.

GENERAL NOTES

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- ALL STEEL TO BE POWDER COATED, COLOR TBD.
- ALL STRUCTURAL HARDWARE TO BE HOT-DIPPED GALVANIZED (HDG), ALL ACCESSORY HARDWARE AND SCREWS TO BE STAINLESS STEEL.

CONSULTANT:



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SHOOTING STRUCTURE PLANS

RANGE RENOVATION PHASE I FOR:
DLS SHOOTING RANGE

Long Grove, IA 52756

30245 220th Ave.

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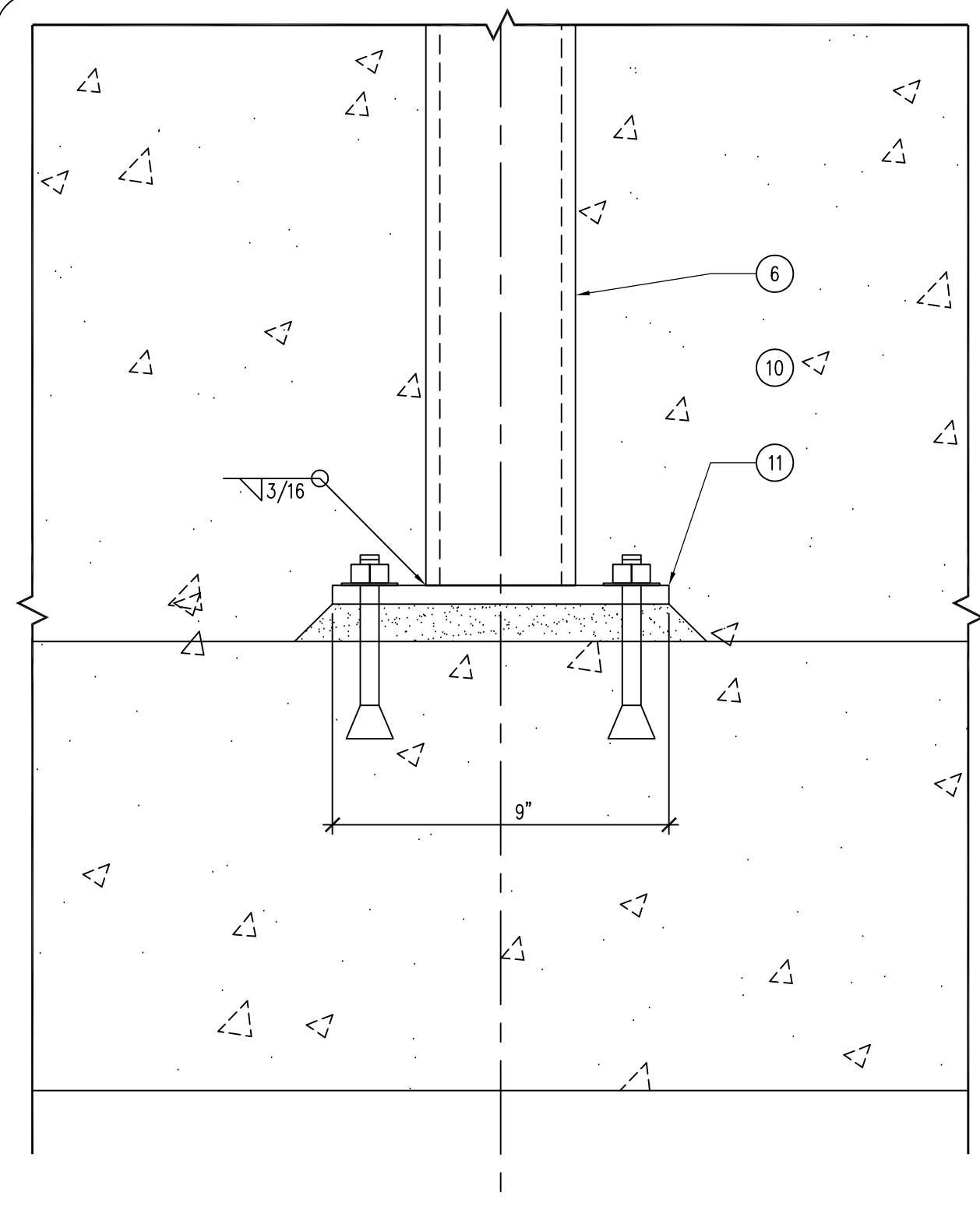
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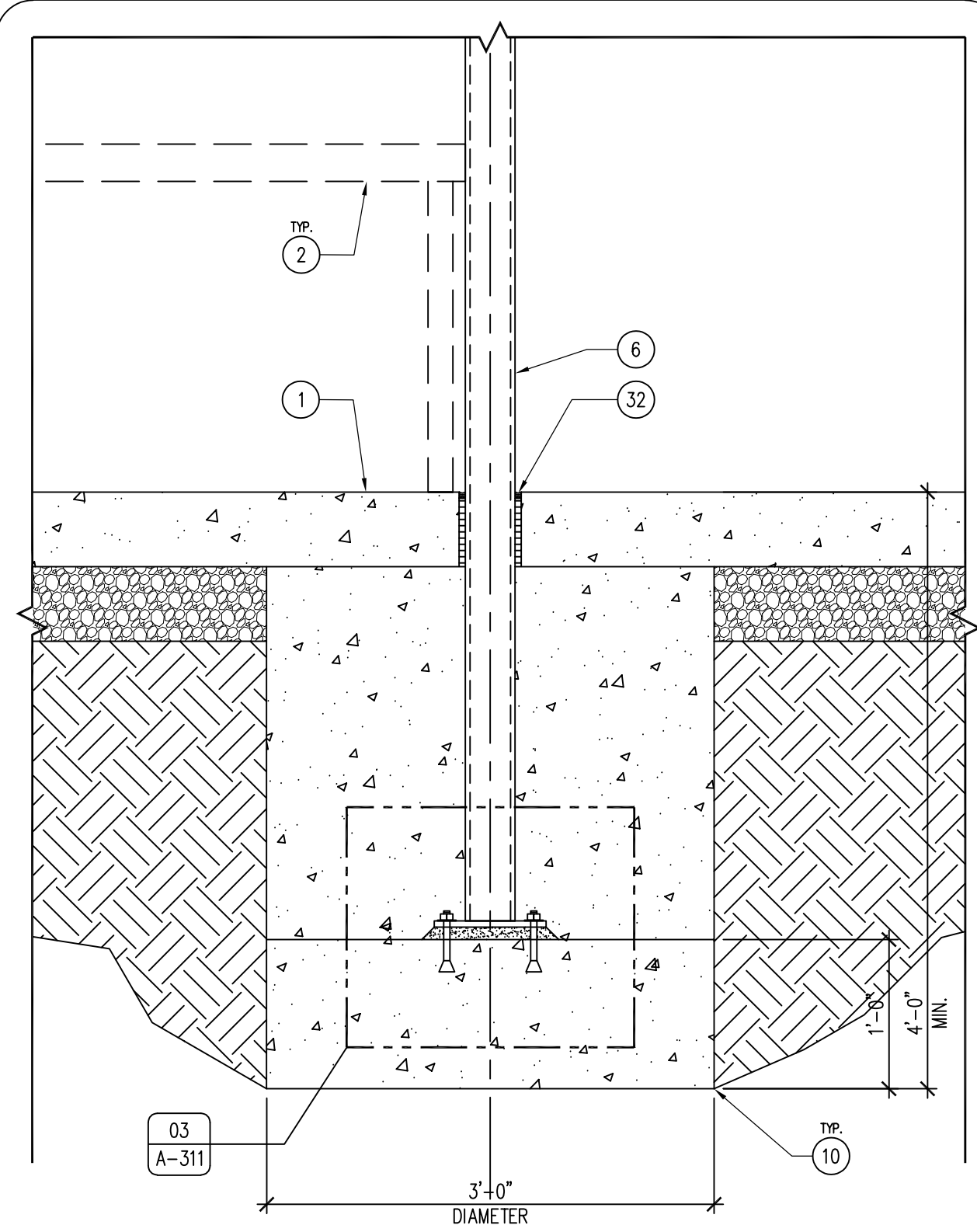
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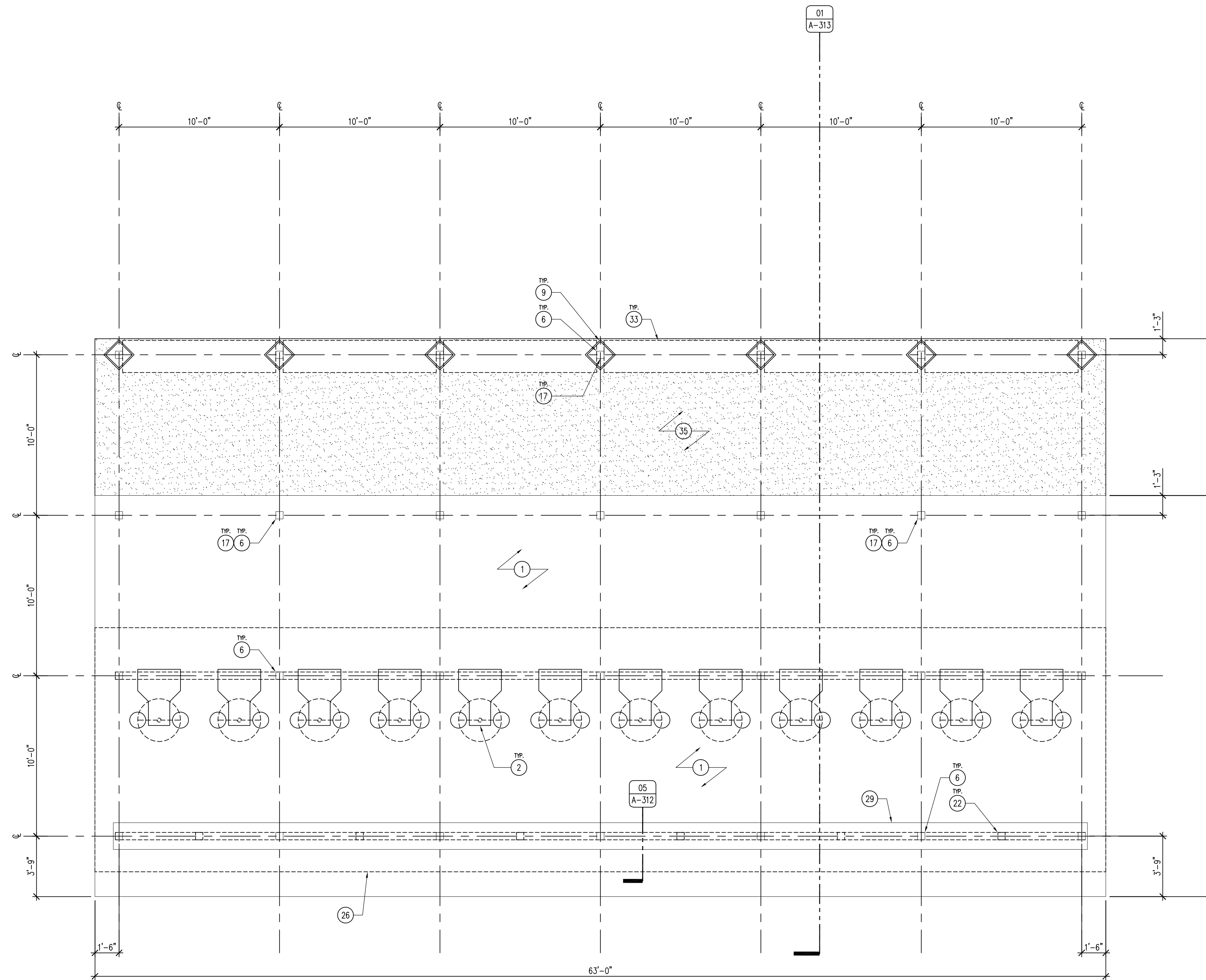
A-310



03 DETAIL - COLUMN LEVELING PLATE
SCALE: 3" = 1'-0"



02 DETAIL - STRUCTURE COLUMN FOOTING
SCALE: 1" = 1'-0"



01 REFERENCE PLAN - 30 YARD RANGE
SCALE: 1/4" = 1'-0"

KEYNOTES

- 6" CONCRETE SLAB OVER 6" SUBBASE WITH #4 REBAR 24" O.C. BOTH DIRECTIONS, SLOPE 1% AWAY FROM SHOOTING LINE.
- CONCRETE SHOOTING BENCH (SUPPLIED BY OWNER), INSTALLED 5'-0" O.C. BY CONTRACTOR.
- MCLEROY MAX-RIB ULTRA ROOFING WITH ALL TRIM, OR APPROVED EQUAL, COLOR TBD.
- HSS 3X3X2" 24" O.C.
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- HSS 8X4X3/8" BEAM, REMOVABLE. ADJUST ANGLE AND MOUNTING HEIGHT IN FIELD WITH DNR STAFF.
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- COLUMN BASE PLATE 2X9X9 WITH 4 - 1/2" WEDGE ANCHORS, FOR ERECTION ONLY. LEVEL AND INSERT NON-SHRINK GROUT UNDER PLATE.
- 3/8" END PLATE WELDED AND GROUND SMOOTH WITH 3/8" KNIFE PLATE TO CONNECT TO 3/8" SHEAR TAB WITH 2 - 3/4" DIAMETER M.B., TYPICAL EACH END.
- 2 - 2X8 TREATED BAFFLES SCREWED TOGETHER WITH 2 - 2 1/2" LONG #10 STAINLESS DECK SCREWS, 24" O.C. ENTIRE LENGTH. SET IN A HSS 8X4X3/8"X4" LONG CUT IN HALF TO MAKE A "U" HANGER. PROVIDE HOLE FOR #10 SCREW ON BOTH SIDES.

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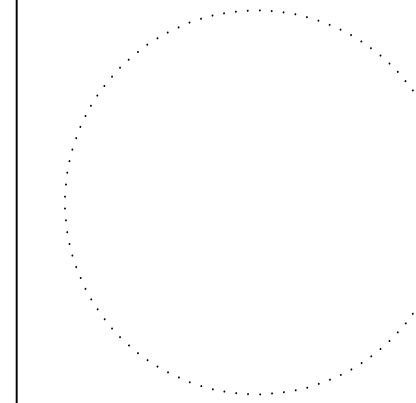
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- 1" KEYED WALL EXPANSION JOINT WITH EXPANSION MATERIAL AND CONTINUOUS EXTERIOR POLYURETHANE CAULK.
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- 6" THICK X 8'-0" HIGH, ABOVE GROUND, CONCRETE SIDEWALL RANGE DIVIDER WITH #5 REBAR 24" O.C. BOTH DIRECTIONS.

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GENERAL NOTES

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CONSULTANT:



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SHOOTING STRUCTURE PLANS

RANGE RENOVATION PHASE I FOR:
DLS SHOOTING RANGE

Long Grove, IA 52756

30245 220th Ave.

NO. BY DATE REVISION

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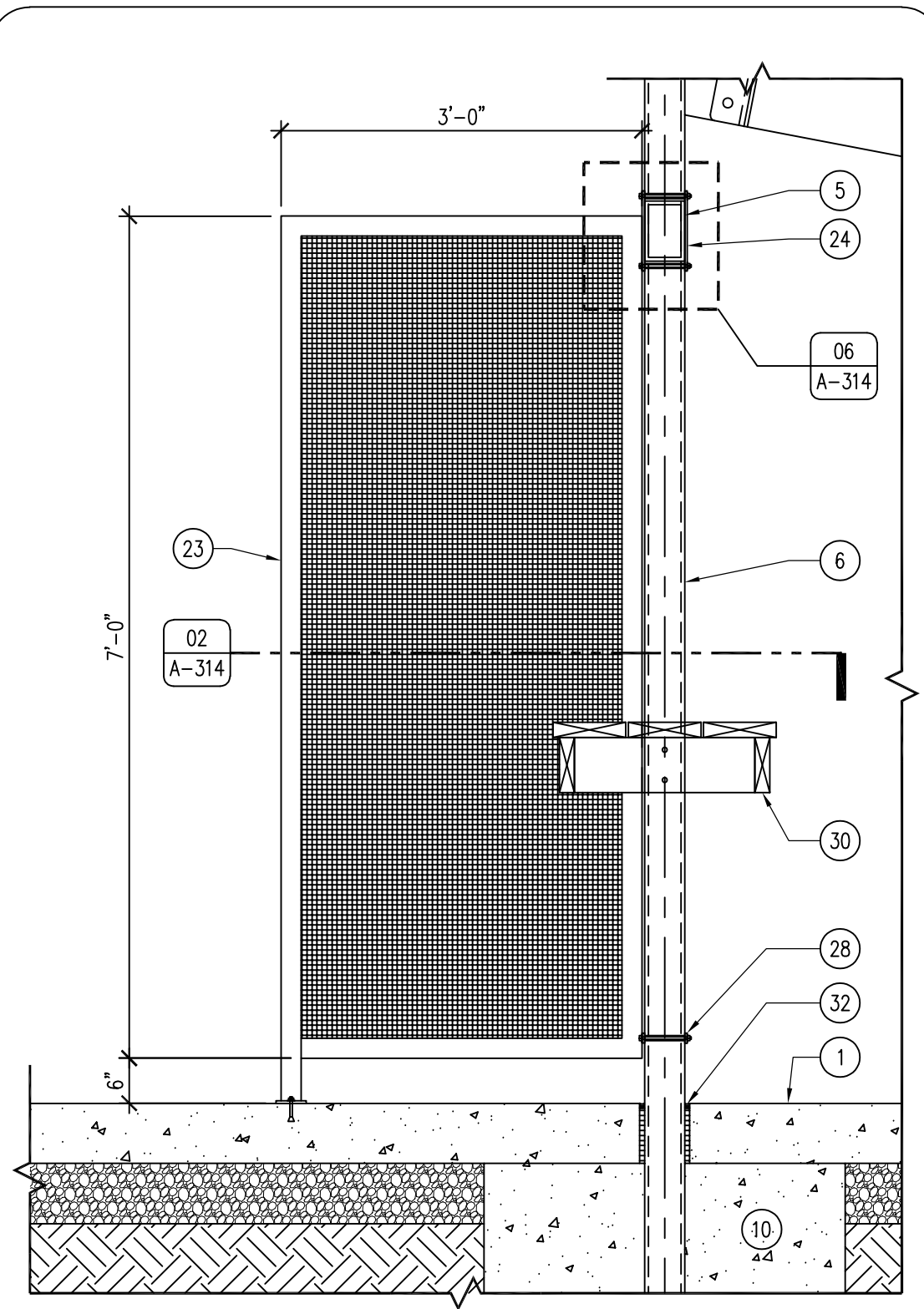
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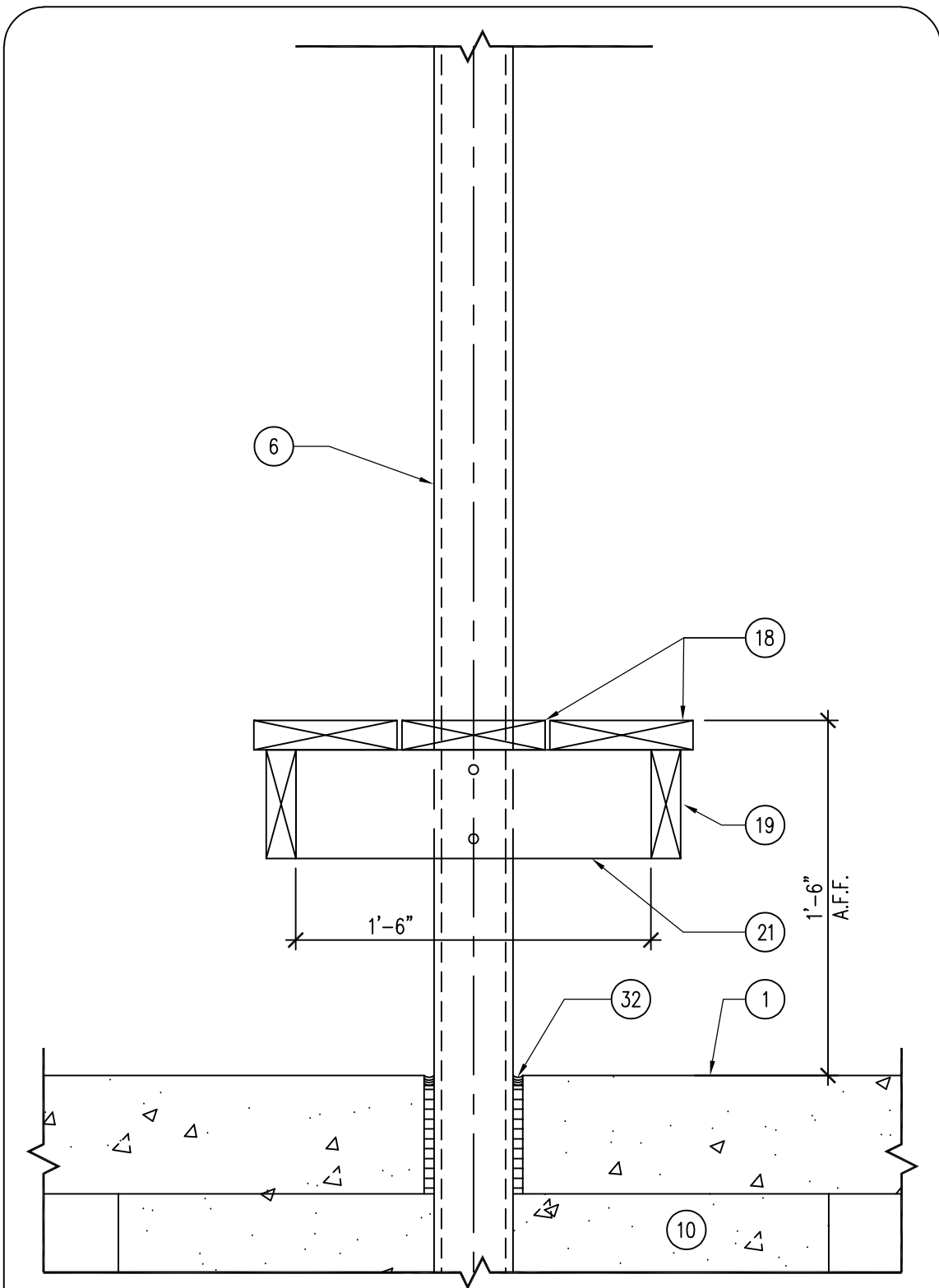
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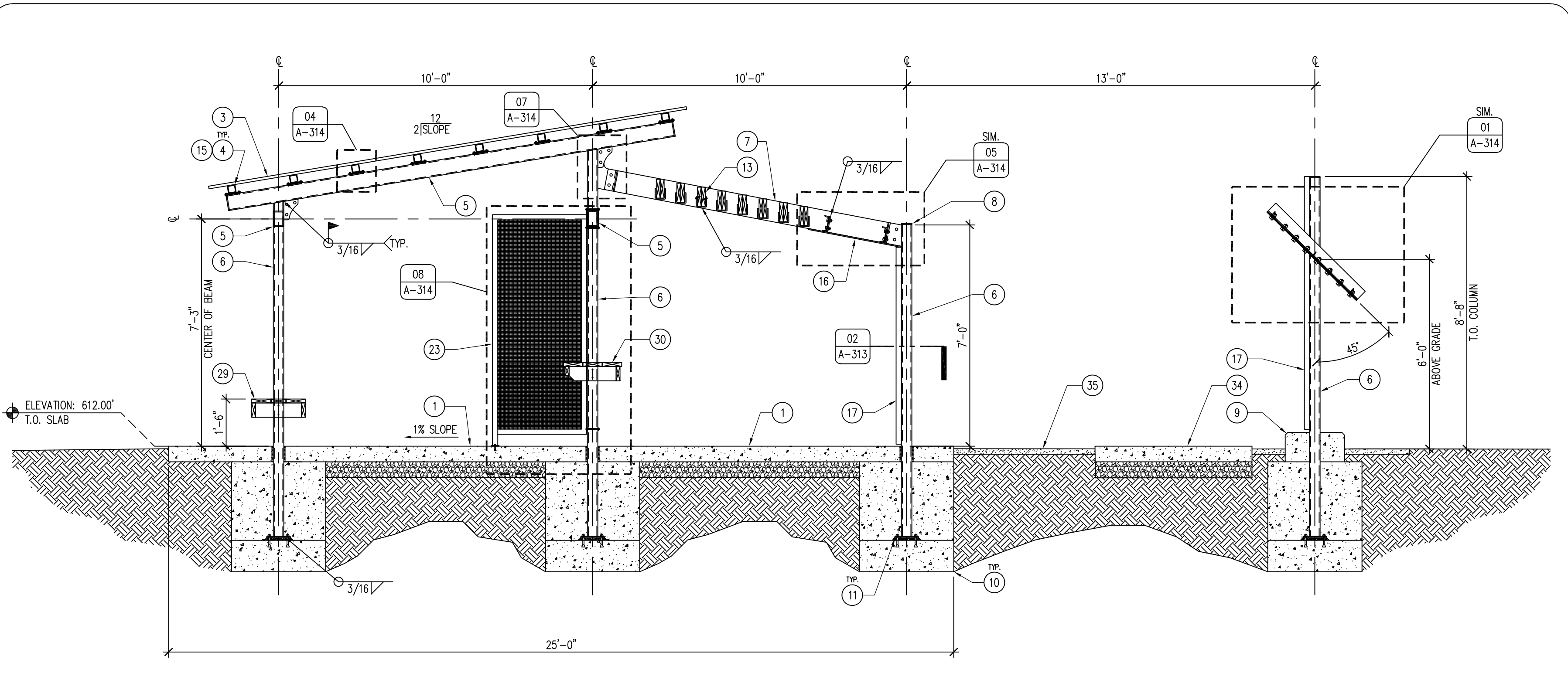
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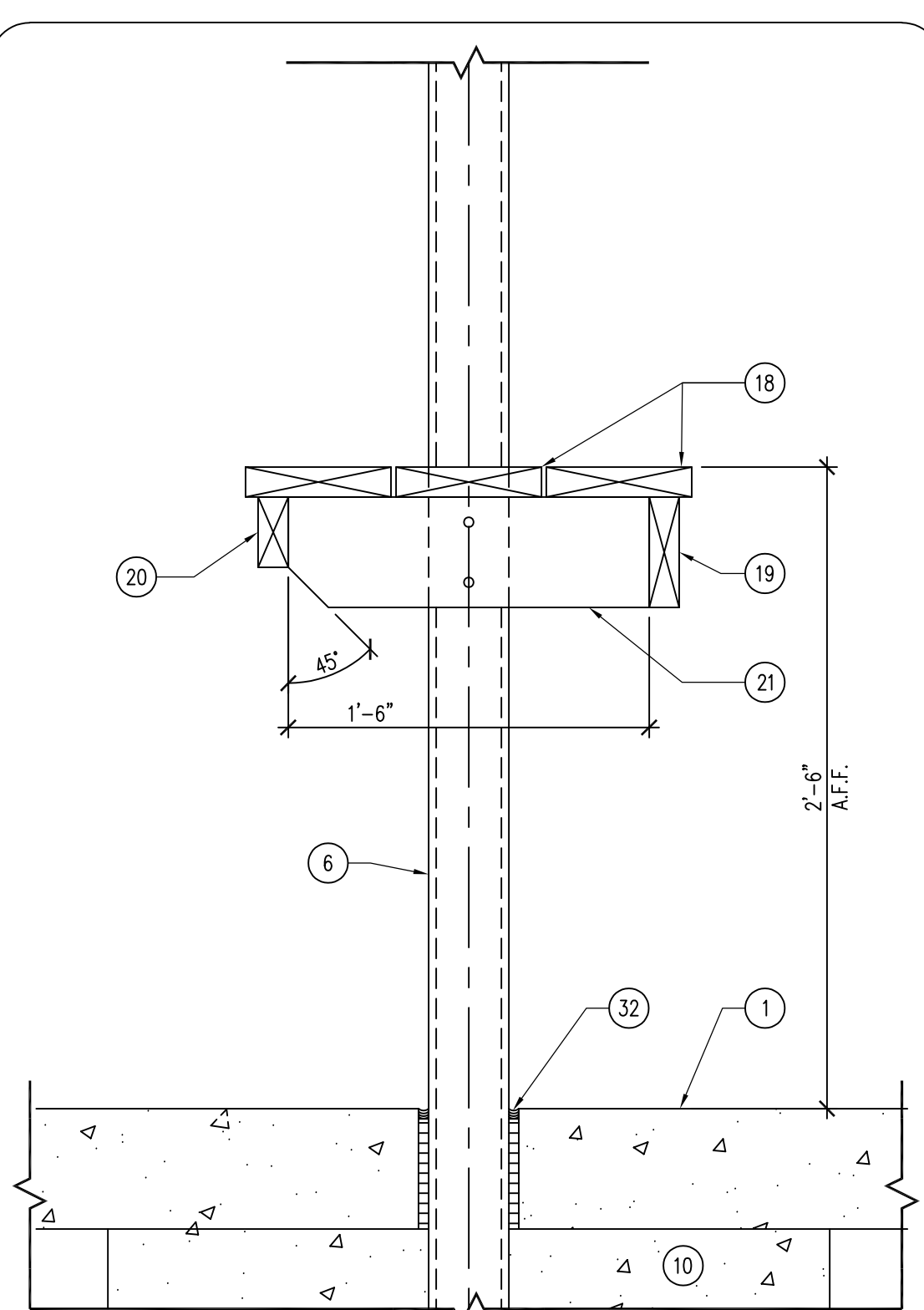
06 DETAIL - LANE DIVIDER
SCALE: 3/4" = 1'-0"



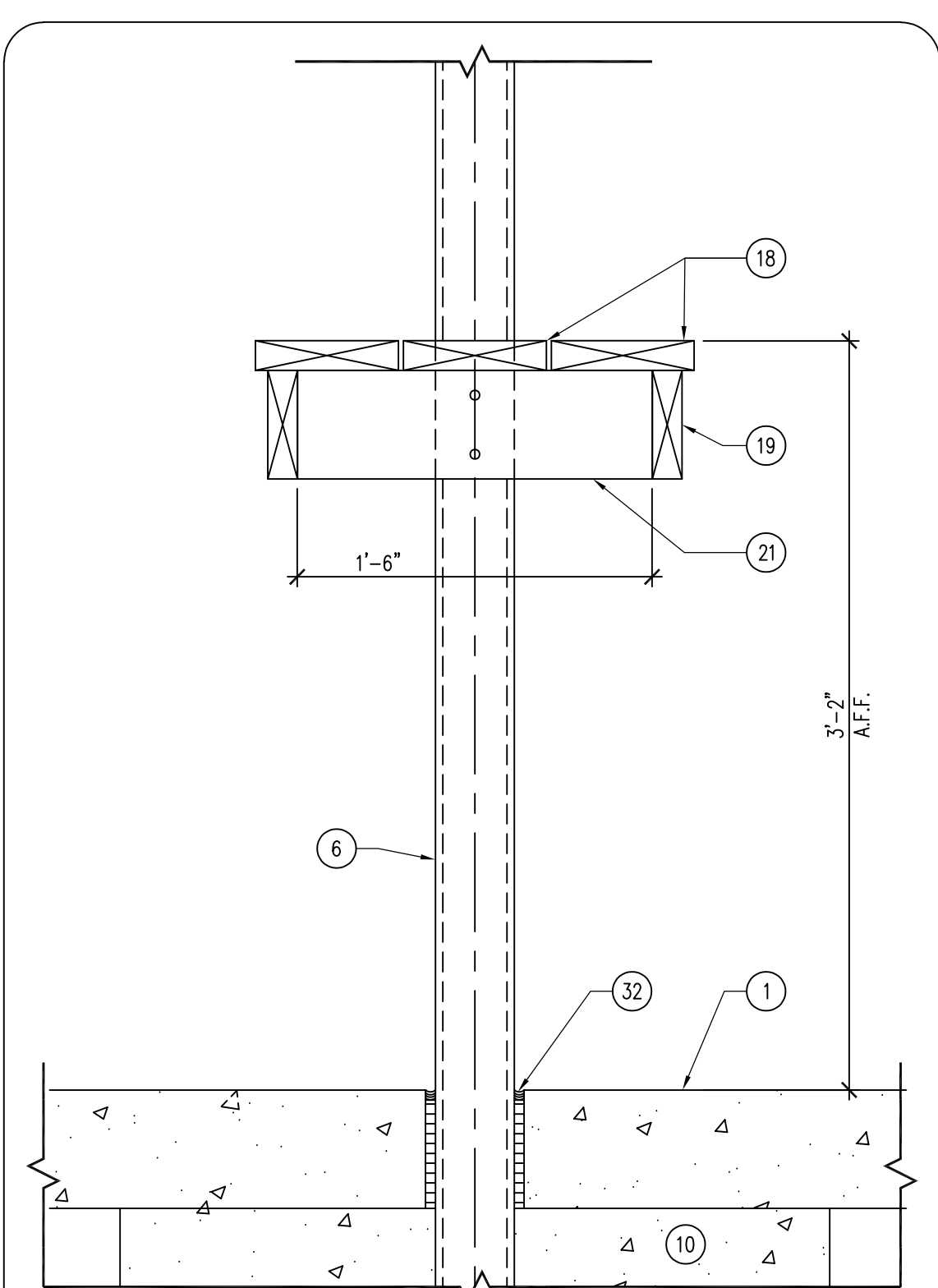
05 DETAIL - SITTING BENCH
SCALE: 1 1/2" = 1'-0"



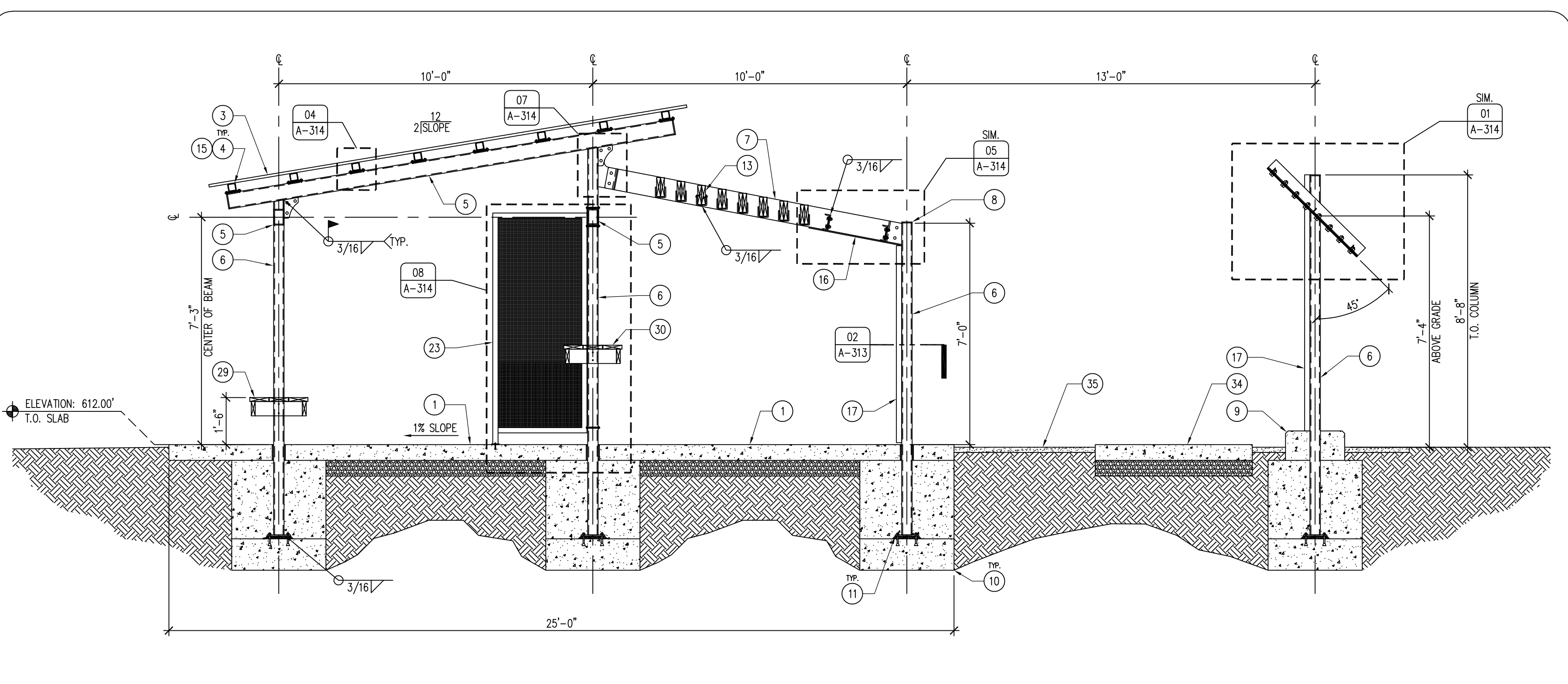
02 SECTION - 30 YARD RANGE SHOOTING STRUCTURE - ADA / SEATED LANES
SCALE: 3/8" = 1'-0"



04 DETAIL - 30 YARD ADA / SEATED BENCH
SCALE: 1 1/2" = 1'-0"



03 DETAIL - 30 YARD STANDING BENCH
SCALE: 1 1/2" = 1'-0"



01 SECTION - 30 YARD RANGE SHOOTING STRUCTURE - STANDING LANES
SCALE: 1 1/2" = 1'-0"

KEYNOTES

1. 6" CONCRETE SLAB OVER 6" SUBBASE WITH #4 REBAR 24" O.C. BOTH DIRECTIONS, SLOPE 1% AWAY FROM SHOOTING LINE.
2. CONCRETE SHOOTING BENCH (SUPPLIED BY OWNER), INSTALLED 5'-0" O.C. BY CONTRACTOR.
3. MCELROY MAX-RIB ULTRA ROOFING WITH ALL TRIM, OR APPROVED EQUAL, COLOR TBD.
4. HSS 3X3X3/8" 24" O.C.
5. HSS 6X4X3/8" BEAM, ATTACHED 3/8" END PLATE BOTH SIDES, WELD AND GRIND SMOOTH.
6. HSS 4X4X3/8" COLUMN.
7. HSS 8X4X3/8" BEAM, REMOVABLE. ADJUST ANGLE AND MOUNTING HEIGHT IN FIELD WITH DNR STAFF.
8. 3/4" CAP PLATE, WELD & GRIND SMOOTH.
9. 16"X16" SQUARE FORMED CONCRETE PIER CAP EXTENSION 12" TALL, CHAMFER OR TOOL TOP EDGE.
10. 36" DIAMETER CONCRETE FOOTING WITH #4 REBAR 12" O.C. ALL DIRECTIONS, 48" DEEP MINIMUM. POUR FIRST 12" FOOTING FOR COLUMN BASE PLATE ATTACHMENT, THEN POUR REMAINDER OF THE FOOTING ONCE ALL COLUMNS HAVE BEEN SET.
11. COLUMN BASE PLATE 1/2"X9X9 WITH 4 - 1/2" WEDGE ANCHORS, FOR ERECTION ONLY. LEVEL AND INSERT NON-SHRINK GROUT UNDER PLATE.
12. 3/8" END PLATE WELDED AND GROUND SMOOTH WITH 3/8" KNIFE PLATE TO CONNECT TO 3/8" SHEAR TAB WITH 2 - 3/4" DIAMETER M.B., TYPICAL EACH END.
13. 2 - 2X8 TREATED BAFFLES SCREWED TOGETHER WITH 2 - 2X2" LONG #10 STAINLESS DECK SCREWS, 24" O.C. ENTIRE LENGTH. SET IN A HSS 8X4X3/8"X4" LONG CUT IN HALF TO MAKE A "U" HANGER. PROVIDE HOLE FOR #10 SCREW ON BOTH SIDES.

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20. TREATED 2X4 BENCH LUMBER, ATTACH AT EACH SUPPORT WITH 2 - 3" #10 STAINLESS SCREWS.
21. TREATED 2X6 BOTH SIDES OF STEEL COLUMN, ATTACHED WITH 2 - 3/8" DIAMETER HDG HEX-HEAD BOLTS AND NUTS, WITH FENDER AND LOCK WASHERS BOTH SIDES.
22. INTERMEDIATE HSS 4X4X3/8" POST WITH 9X9X1" BASE SUPPORT FLANGE, 10'-0" O.C. EQUALLY SPACED BETWEEN STEEL STRUCTURAL COLUMNS TO SUPPORT WOOD SHOOTING BENCHES AND SITTING BENCHES. ATTACH POSTS TO SLAB WITH FOUR 3/8" DIAMETER EXPANSION ANCHORS ON EACH CORNER OF SUPPORT FLANGE.
23. SHOOTING LANE DIVIDER (7'-0" TALL X 3'-0" WIDE), TWO LAYERS SQUARE WEAVE GALVANIZED WIRE MESH (#4), 1/2" SQUARE OPENING MAXIMUM. FRAME TO BE 1X2 TUBE STEEL MITERED, WELDED AND GROUND SMOOTH. TACK WELD MESH TO TUBE FRAME AND THEN ADD A 1" X 1" X 14 GA ANGLE TO OUTSIDE OF ASSEMBLY TO HEM MESH. CLAMP WITH TWO 1/2" PLATES AS SHOWN. EXTEND OUTSIDE LEG 6" AND ADD 1/2" PLATE FOR 1/2" WEDGE ANCHORS TO CONCRETE.

24. 2 - 1/2"X9X12 SLOTTED PLATE, WELD ONE TO LANE DIVIDER. BOLT-CLAMP TO OVERHEAD BEAM WITH 4 - 1/2" STAINLESS BOLTS, NUTS, WASHERS AND SLEEVES.
25. 1" KEYED WALL EXPANSION JOINT WITH EXPANSION MATERIAL AND CONTINUOUS EXTERIOR POLYURETHANE CAULK.
26. ROOF LINE OVERHEAD.
27. END PLATE 3/8" WELDED AND GROUND SMOOTH WITH 3/8" KNIFE PLATE TO CONNECT TO 3/8" SHEAR TAB WITH 2 - 3/4" DIAMETER HDG BOLTS, TYPICAL EACH END.
28. 1/2"X9X2 PLATE, WELD ON TO LANE DIVIDER. BOLT-CLAMP WITH 2 - 1/2" STAINLESS BOLTS, NUTS, WASHERS AND SLEEVES.
29. TREATED WOOD SEATING BENCH, MOUNT 1'-6" A.F.F., REFER TO DETAIL 05/A-311.
30. TREATED WOOD SHOOTING BENCH, MOUNT 3'-2" A.F.F., REFER TO DETAIL 03/A-311.
31. TREATED WOOD ADA SHOOTING BENCH, MOUNT 2'-6" A.F.F., REFER TO DETAIL 04/A-311.
32. 1/2" EXPANSION MATERIAL WITH CONTINUOUS EXTERIOR POLYURETHANE SEALANT.
33. REMOVABLE ASSEMBLY OF 3/8"X10'-0"X2'-4" AR400 STEEL PLATE BOLTED TO 3/8"X3"X3" ANGLES THAT ARE WELDED TO VERTICAL FACE OF COLUMN, STIFFEN ASSEMBLY WITH STEEL ANGLES AS NECESSARY. ADJUST MOUNTING PLACEMENT WITH DNR STAFF FOR PROPER ANGLES AND HEIGHTS.
34. CONCRETE SIDEWALK, REFER TO CIVIL DRAWINGS.
35. 3/8" - X 4" DEEP CRUSHED STONE SURFACE.
36. 8" THICK X 8'-0" HIGH, ABOVE GROUND, CONCRETE SIDEWALL RANGE DIVIDER WITH #5 REBAR 24" O.C. BOTH DIRECTIONS.

37. 16" WIDE X 4'-0" DEEP CONCRETE WALL FOOTING WITH #5 REBAR 12" O.C., EXTEND VERTICALS THROUGH WALL.
38. 24" LONG SMOOTH #4 DOWEL 24" O.C., EMBED 12" ON BOTH SECTIONS OF WALL.
39. BACKSTOP BERM, REFER TO CIVIL DRAWINGS.
40. 40MIL 12" WIDE SELF-ADHERED EPDM FLASHING, ENTIRE LENGTH OF WALL.
41. 8" WIDE CONTINUOUS STEEL SNAP-IN COPING WITH CLEATS, ENTIRE LENGTH OF WALL.
42. DOUBLE 2 X 10 X 16'-0" LONG GROUND TREATED BEAMS, LAMINATE WITH ROWS OF FOUR (4) 10D RING-SHANK NAILS 12" O.C. ALTERNATE SIDES FOR NAILING.
43. 2 X 6 X 20'-0" GROUND TREATED COVER BOARDS, OVERLAP ON THREE BEAMS TO REDUCE SAG, GAP 1/2" BETWEEN BOARDS. SCREW TO BEAMS WITH TWO (2) 3/8" X 5" LONG WASHER-HEAD EXTERIOR SCREWS AT ALL BEAMS.
44. SIMPSON CBS4HDG, OR APPROVED EQUAL. EMBED IN CONCRETE FOOTING AS REQUIRED BY MANUFACTURER. ATTACH BEAMS WITH TWO (2) 3/8" DIAMETER X 5" LONG HDG, HEX-HEAD BOLT WITH FENDER AND LOCK WASHERS AND NUTS.
45. 12" DIAMETER CONCRETE PIER, PIER TO EXTEND 4'-0" DEEP MINIMUM, EXTEND ABOVE GRADE A MINIMUM OF 6", MAINTAIN 5 DEGREE ANGLE FOR EYEBROW BEAM.

GENERAL NOTES

- A. FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. ALL DIMENSIONS AND ANGLES FOR BAFFLING SYSTEM ARE APPROXIMATE AND SHALL BE FIELD VERIFIED WITH OWNER PRIOR TO PERMANENT INSTALLATION.
- B. ALL STEEL TO BE POWDER COATED, COLOR TBD.
- C. ALL STRUCTURAL HARDWARE TO BE HOT-DIPPED GALVANIZED (HDG), ALL ACCESSORY HARDWARE AND SCREWS TO BE STAINLESS STEEL.

IOWA DEPARTMENT OF
NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
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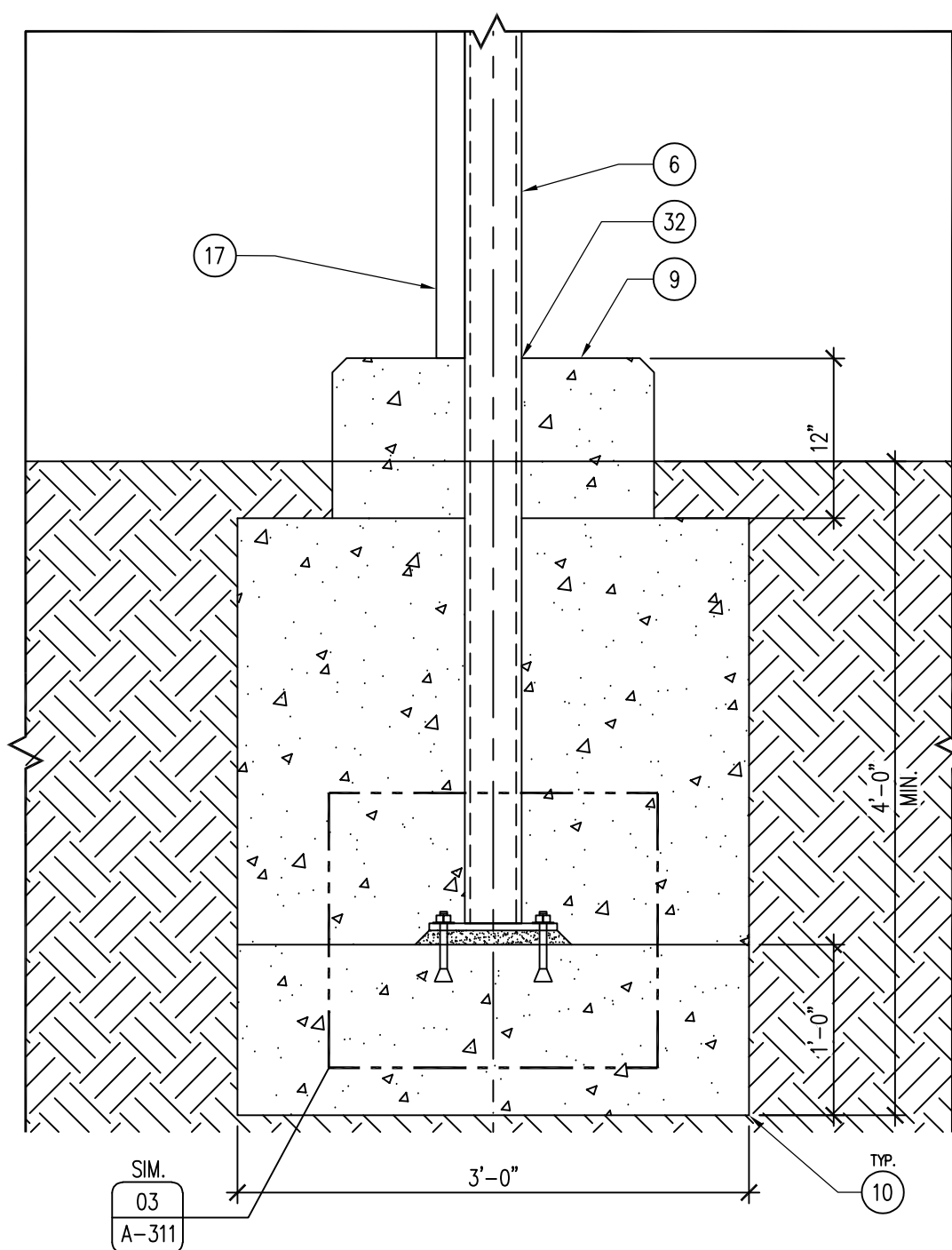
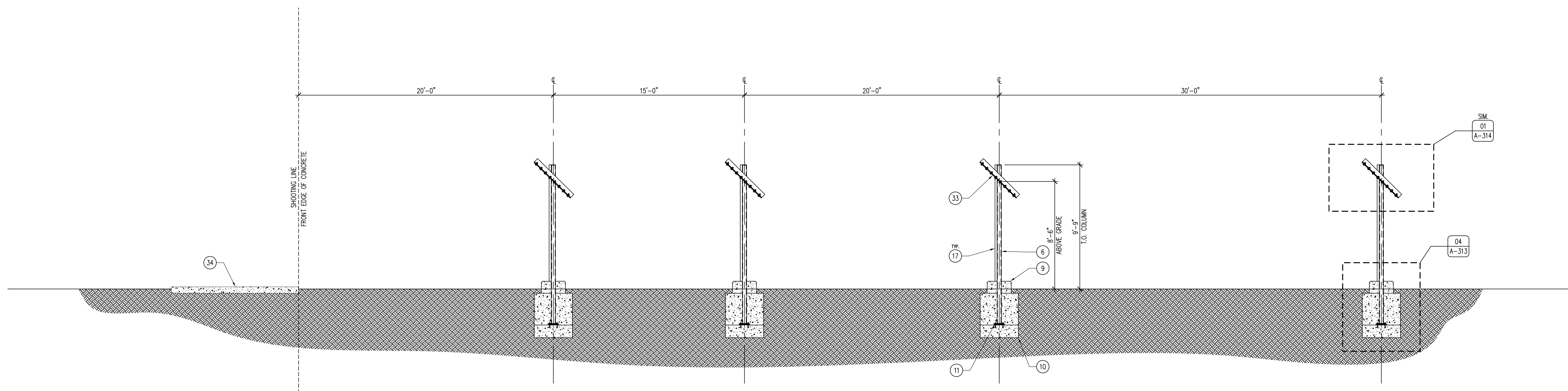


SHOOTING STRUCTURE SECTIONS
RANGE RENOVATION PHASE I FOR:
DLS SHOOTING RANGE
30245 220th Ave.
Long Grove, IA 52756

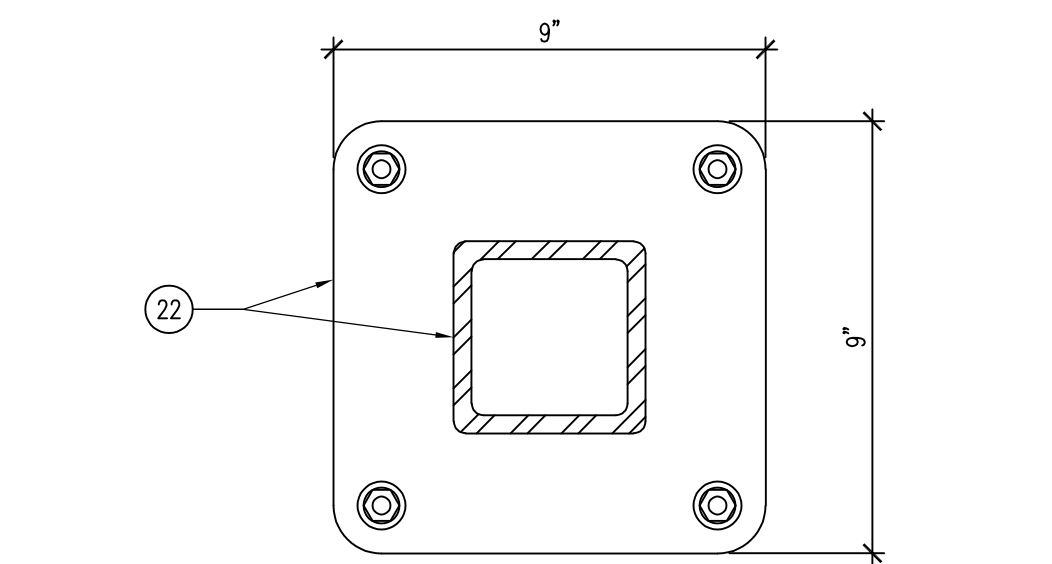
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CHK'D BY: DATE:
06.20.2023
SHEET NO:
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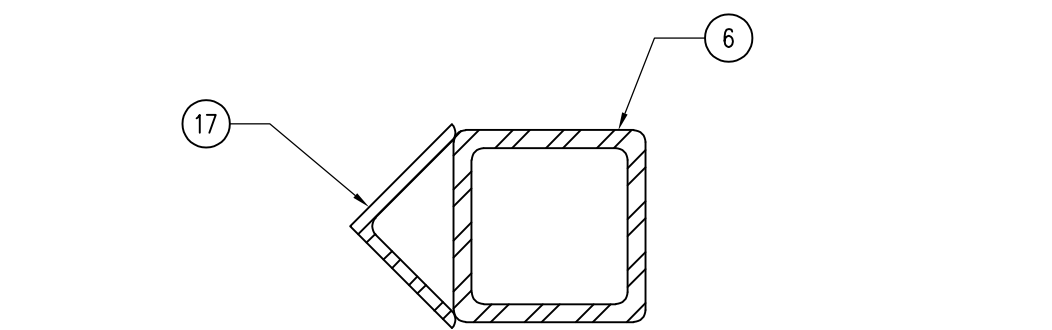
05 SECTION - LAW ENFORCEMENT RANGE BAFFLE LOCATION
SCALE: 1/4" = 1'-0"



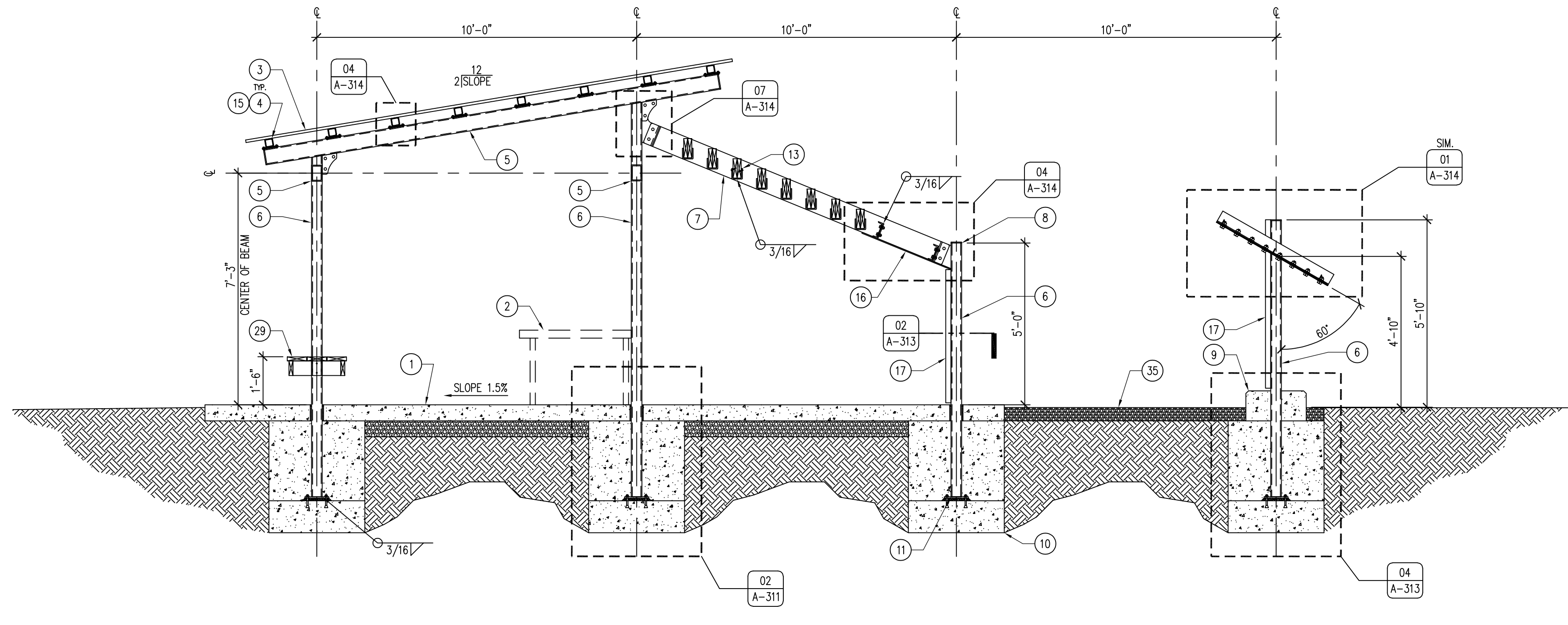
04 DETAIL - BAFFLE COLUMN FOOTING
SCALE: 1" = 1'-0"



03 DETAIL - INTERMEDIATE COLUMN FLANGE
SCALE: 3" = 1'-0"



02 DETAIL - BAFFLE COLUMN ANGLE ARMOR
SCALE: 3" = 1'-0"



01 SECTION - 100 YARD RANGE SHOOTING STRUCTURE
SCALE: 3/8" = 1'-0"

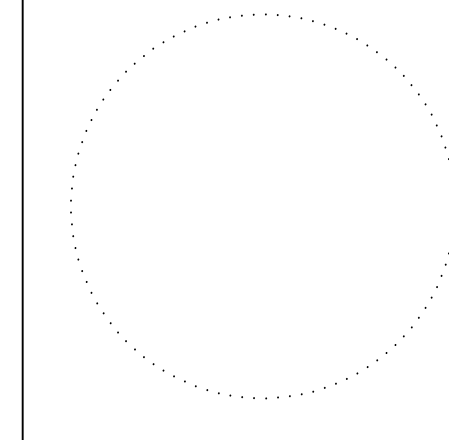
KEYNOTES

- 6" CONCRETE SLAB OVER 6" SUBBASE WITH #4 REBAR 24" O.C. BOTH DIRECTIONS, SLOPE 1% AWAY FROM SHOOTING LINE.
- CONCRETE SHOOTING BENCH (SUPPLIED BY OWNER), INSTALLED 5'-0" O.C. BY CONTRACTOR.
- MCLEROY MAX-RIB ULTRA ROOFING WITH ALL TRIM, OR APPROVED EQUAL, COLOR TBD.
- HSS 3X3X2" 24" O.C.
- HSS 6X4X3/8" BEAM, ATTACHED 3/8" END PLATE BOTH SIDES, WELD AND GRIND SMOOTH.
- HSS 4X4X3/8" COLUMN.
- HSS 8X4X3/8" BEAM, REMOVABLE. ADJUST ANGLE AND MOUNTING HEIGHT IN FIELD WITH DNR STAFF.
- 3/8" CAP PLATE, WELD & GRIND SMOOTH.
- 16"X16" SQUARE FORMED CONCRETE PIER CAP EXTENSION 12" TALL, CHAMFER OR TOOL TOP EDGE.
- 36" DIAMETER CONCRETE FOOTING WITH #4 REBAR 12" O.C. ALL DIRECTIONS, 48" DEEP MINIMUM. POUR FIRST 12" FOOTING FOR COLUMN BASE PLATE ATTACHMENT, THEN POUR REMAINDER OF THE FOOTING ONCE ALL COLUMNS HAVE BEEN SET.
- COLUMN BASE PLATE 3/2"X9X9 WITH 4 - 3/2" WEDGE ANCHORS, FOR ERECTION ONLY. LEVEL AND INSERT NON-SHRINK GROUT UNDER PLATE.
- 3/8" END PLATE WELDED AND GROUND SMOOTH WITH 3/8" KNIFE PLATE TO CONNECT TO 3/8" SHEAR TAB WITH 2 - 3/4" DIAMETER M.B., TYPICAL EACH END.
- 2 - 2X8 TREATED BAFFLES SCREWED TOGETHER WITH 2 - 2 1/2" LONG #10 STAINLESS DECK SCREWS, 24" O.C. ENTIRE LENGTH. SET IN A HSS 8X4X3/8"X4" LONG CUT IN HALF TO MAKE A "U" HANGER. PROVIDE HOLE FOR #10 SCREW ON BOTH SIDES.
- 3/8"X6 END PLATE WITH PURLIN/TO CARRY PLATE ASSEMBLY AND 2-1/2" M.B., TYPICAL.
- 3/2"X6X6 PLATES, WELD TO PURLIN/BENCH. BOLT WITH 4 - 3/4" STAINLESS BOLTS, NUTS, WASHERS.
- REMOVABLE ASSEMBLY OF 3/8"X10'-0"X3'-0" AR400 STEEL PLATE WELDED TO C6X8.2 CHANNELS THAT ARE BOLTED TO THE SHEAR TABS ON THE BEAMS, STIFFEN ASSEMBLY WITH STEEL ANGLES AS NECESSARY. ADJUST MOUNTING PLACEMENT WITH DNR STAFF FOR PROPER ANGLES AND HEIGHTS.
- 4X4X3/8" STEEL ANGLE, TACK WELD ANGLE TO FACE OF COLUMN.
- TREATED 2X8 BENCH LUMBER, ATTACH AT EACH SUPPORT WITH 3 - 3" #10 STAINLESS SCREWS.
- TREATED 2X6 BENCH LUMBER, ATTACH AT EACH SUPPORT WITH 2 - 3" #10 STAINLESS SCREWS.
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- 1" KEYED WALL EXPANSION JOINT WITH EXPANSION MATERIAL AND CONTINUOUS EXTERIOR POLYURETHANE CAULK.
- ROOF LINE OVERHEAD.
- END PLATE 3/8" WELDED AND GROUND SMOOTH WITH 3/8" KNIFE PLATE TO CONNECT TO 3/8" SHEAR TAB WITH 2 - 3/4" DIAMETER HDG BOLTS, TYPICAL EACH END.
- 3/8"X2 PLATE, WELD ON TO LANE DIVIDER. BOLT-CLAMP WITH 2 - 3/4" STAINLESS BOLTS, NUTS, WASHERS AND SLEEVES.
- TREATED WOOD SEATING BENCH, MOUNT 1'-6" A.F.F., REFER TO DETAIL 05/A-311.
- TREATED WOOD SHOOTING BENCH, MOUNT 3'-2" A.F.F., REFER TO DETAIL 03/A-311.
- TREATED WOOD ADA SHOOTING BENCH, MOUNT 2'-6" A.F.F., REFER TO DETAIL 04/A-311.
- 3/8" EXPANSION ASSEMBLY WITH CONTINUOUS EXTERIOR POLYURETHANE SEALANT.
- REMOVABLE ASSEMBLY OF 3/8"X10'-0"X2'-4" AR400 STEEL PLATE BOLTED TO 3/8"X3"X3" ANGLES THAT ARE WELDED TO VERTICAL FACE OF COLUMN, STIFFEN ASSEMBLY WITH STEEL ANGLES AS NECESSARY. ADJUST MOUNTING PLACEMENT WITH DNR STAFF FOR PROPER ANGLES AND HEIGHTS.
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- 24" LONG SMOOTH #4 DOWEL 24" O.C., EMBED 12" ON BOTH SECTIONS OF WALL.
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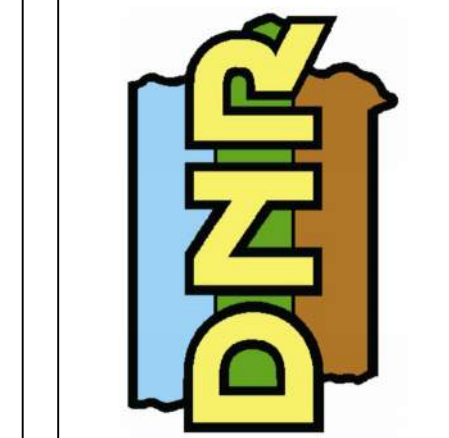
GENERAL NOTES

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CONSULTANT:



IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
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F: 515.725.8202

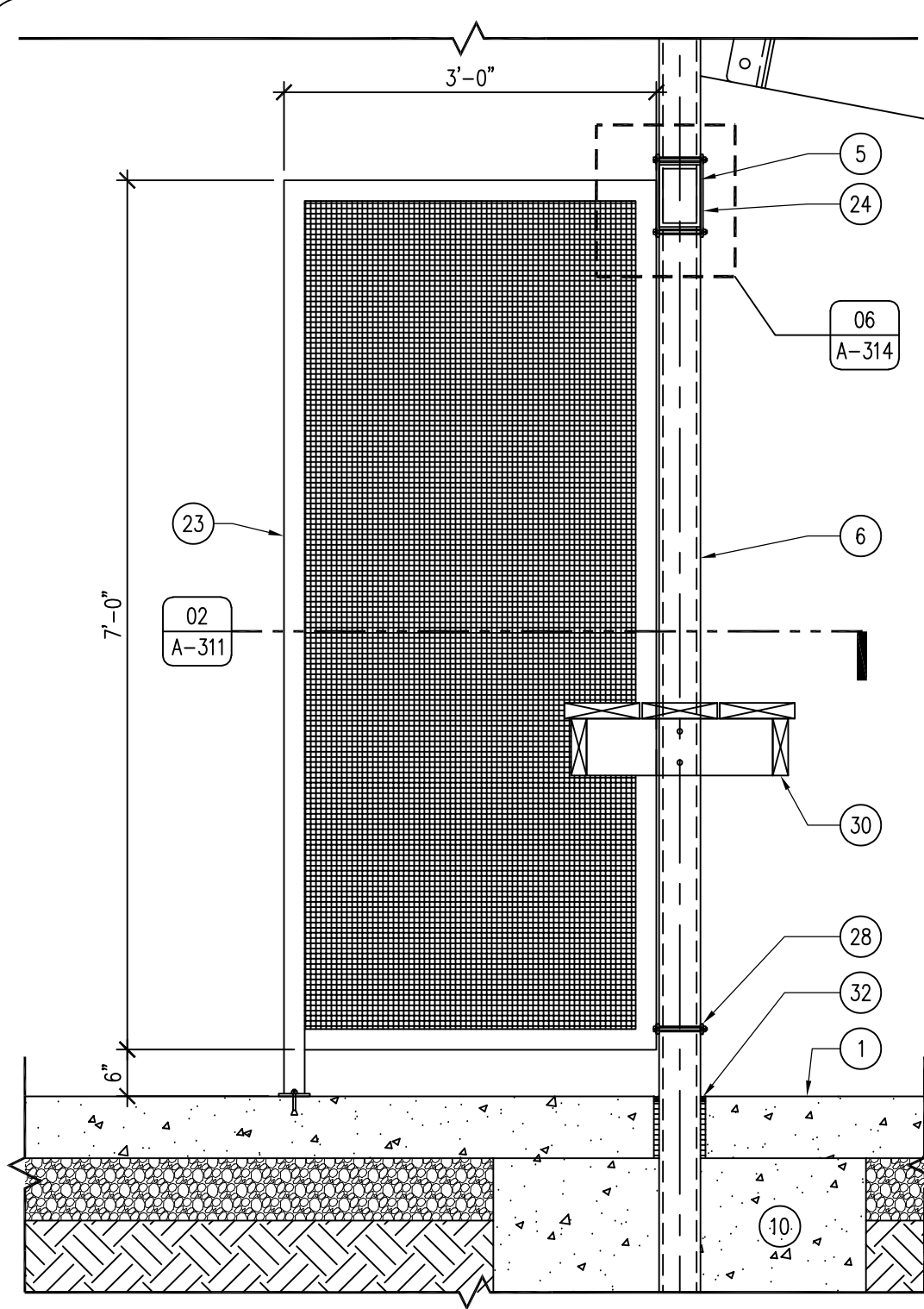


SHOOTING STRUCTURE SECTIONS
RANGE RENOVATION PHASE FOR:
DLS SHOOTING RANGE
Long Grove, IA 52756
30245 220th Ave.

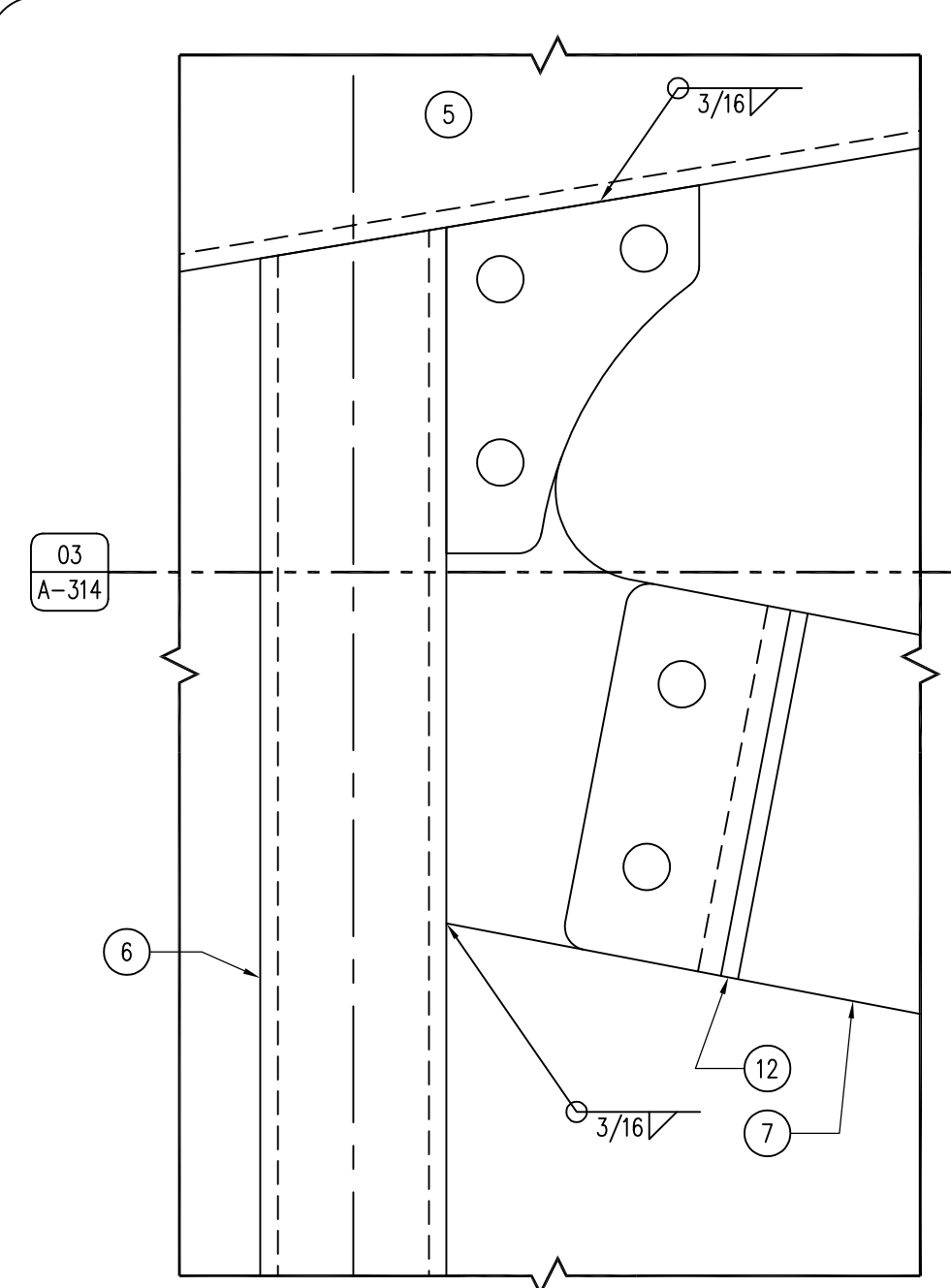
NO.	BY	DATE	REVISION

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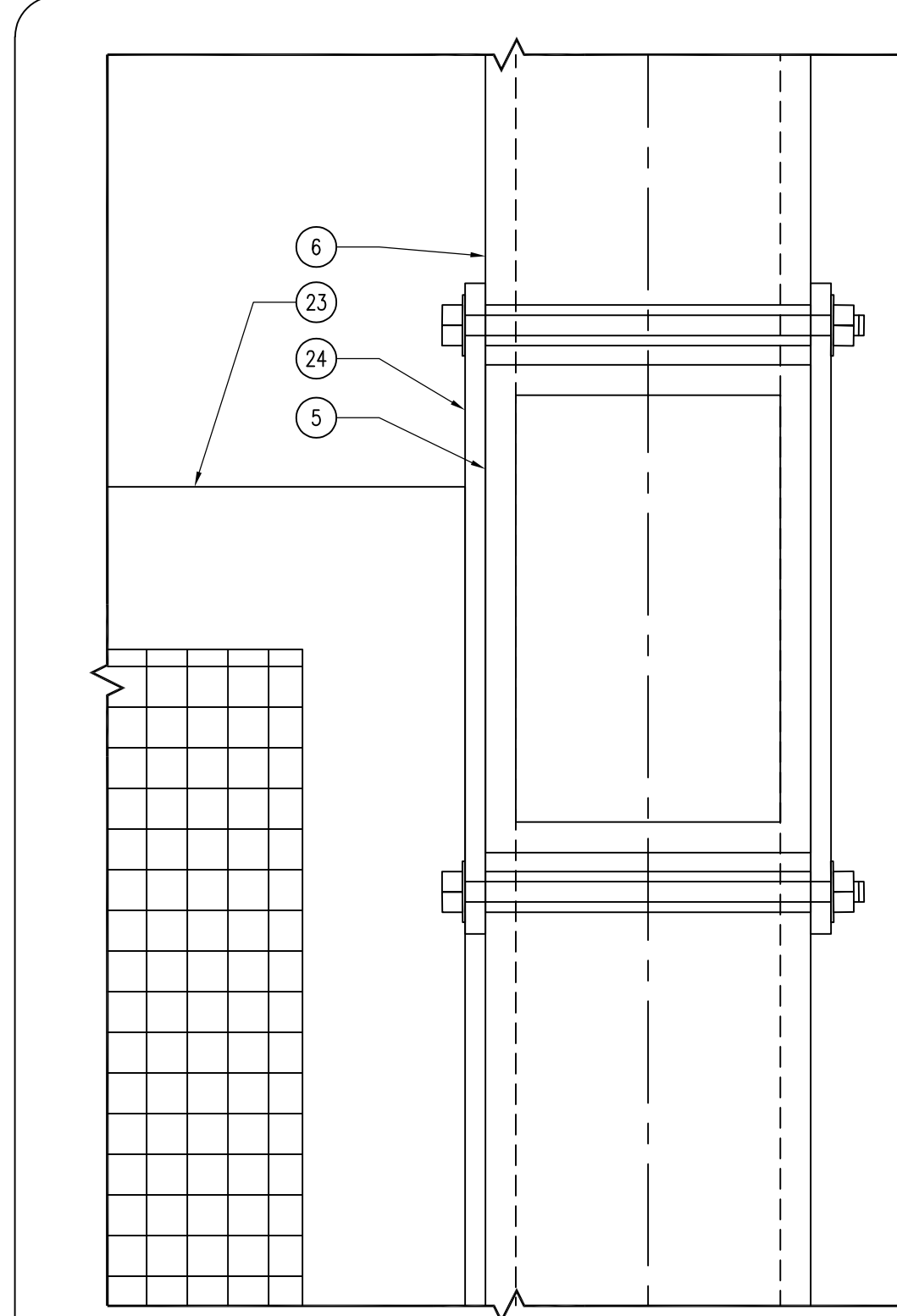
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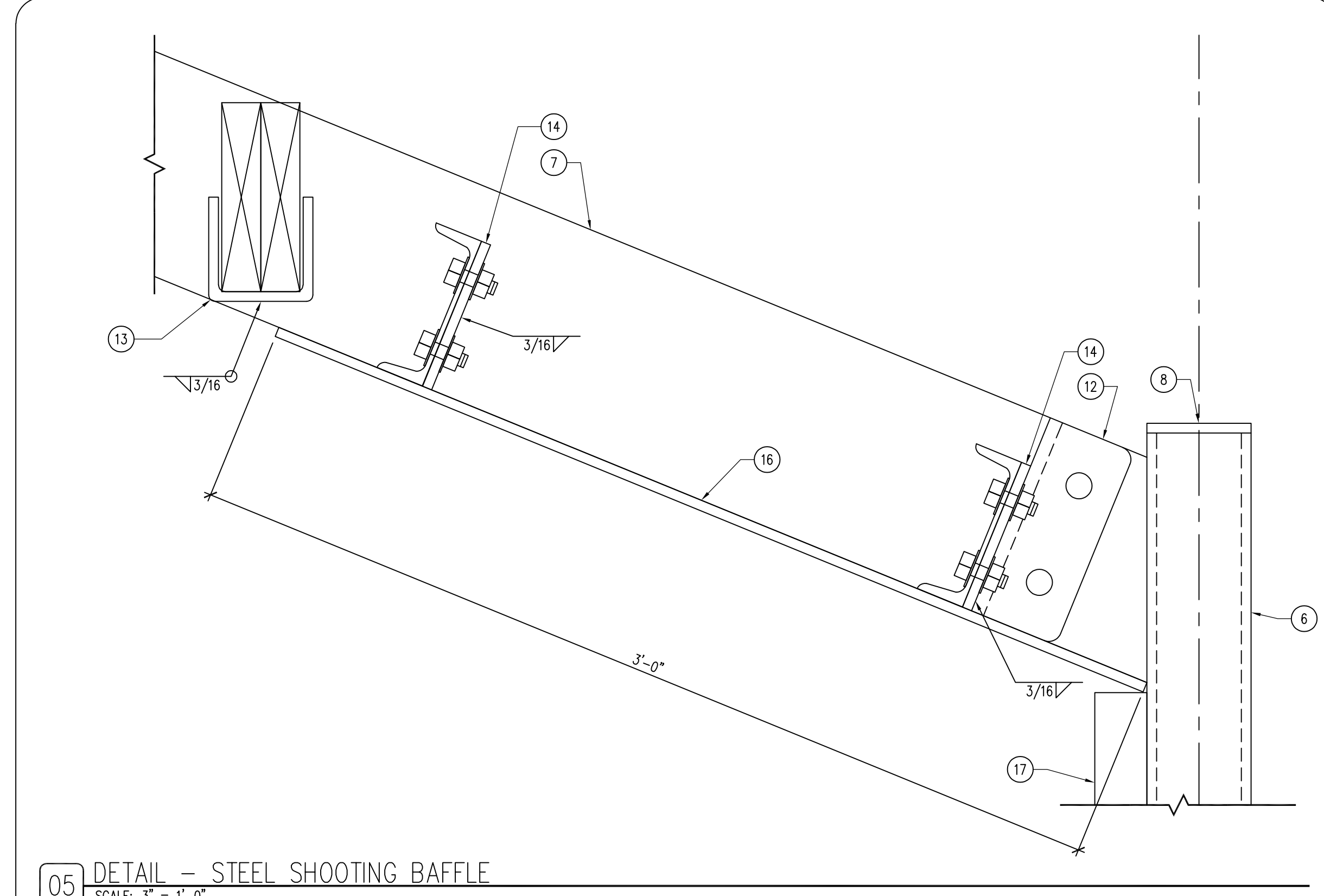
08 DETAIL - SHOOTING LANE DIVIDERS
SCALE: 3/4" = 1'-0"



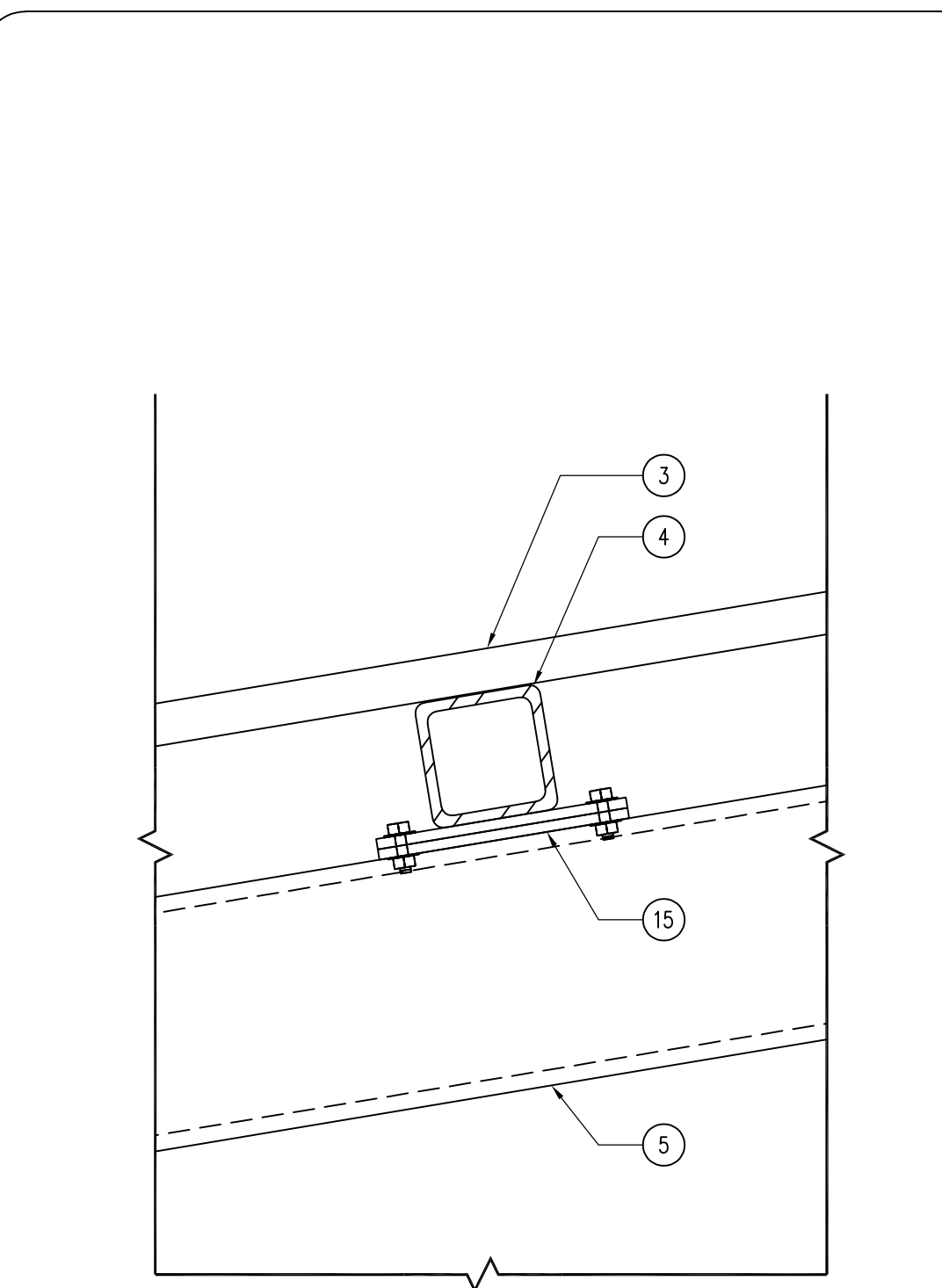
07 DETAIL - COLUMN TO BEAM CONNECTION
SCALE: 3" = 1'-0"



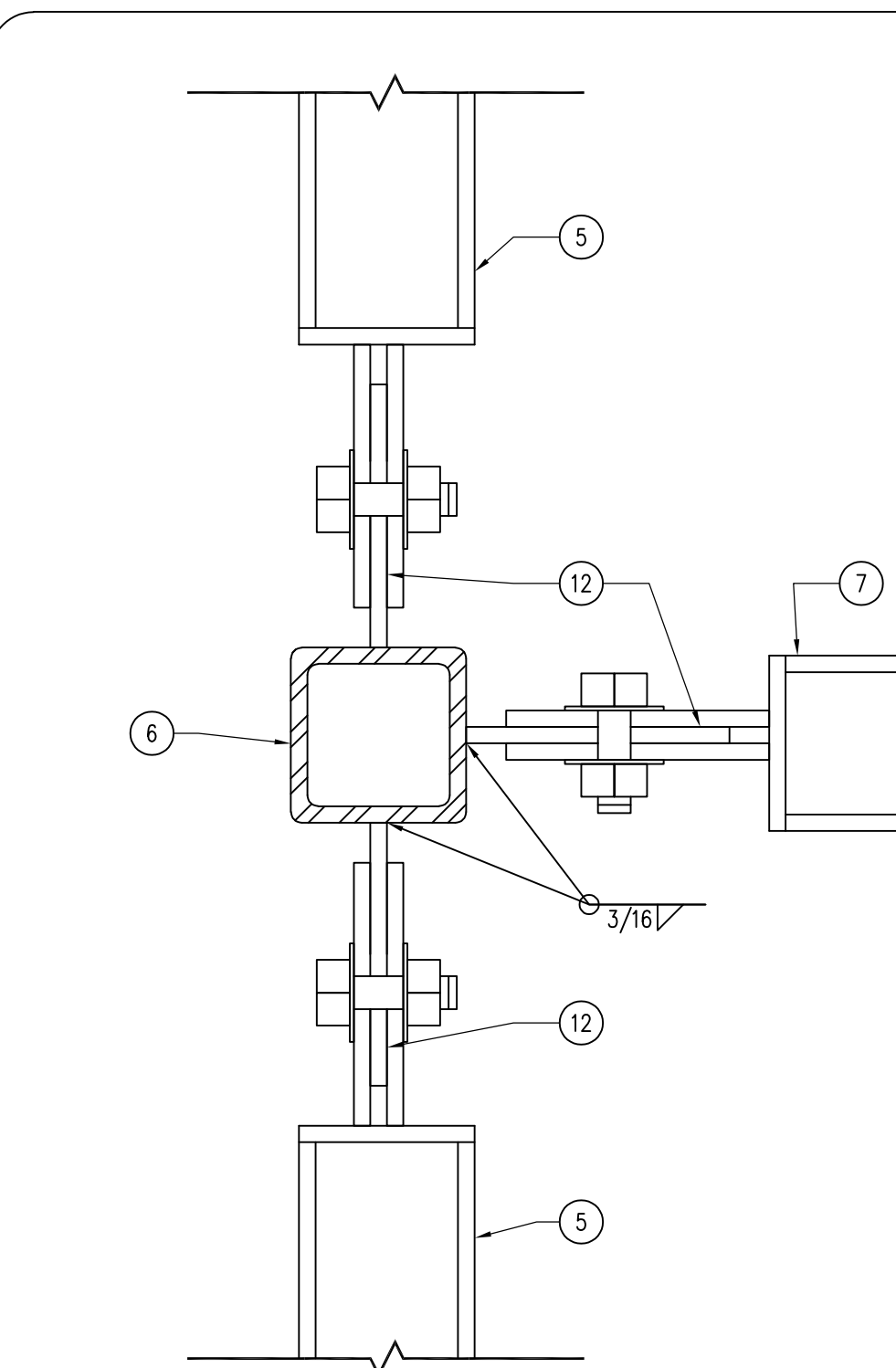
06 DETAIL - LANE DIVIDER / BEAM ATTACH.
SCALE: 6" = 1'-0"



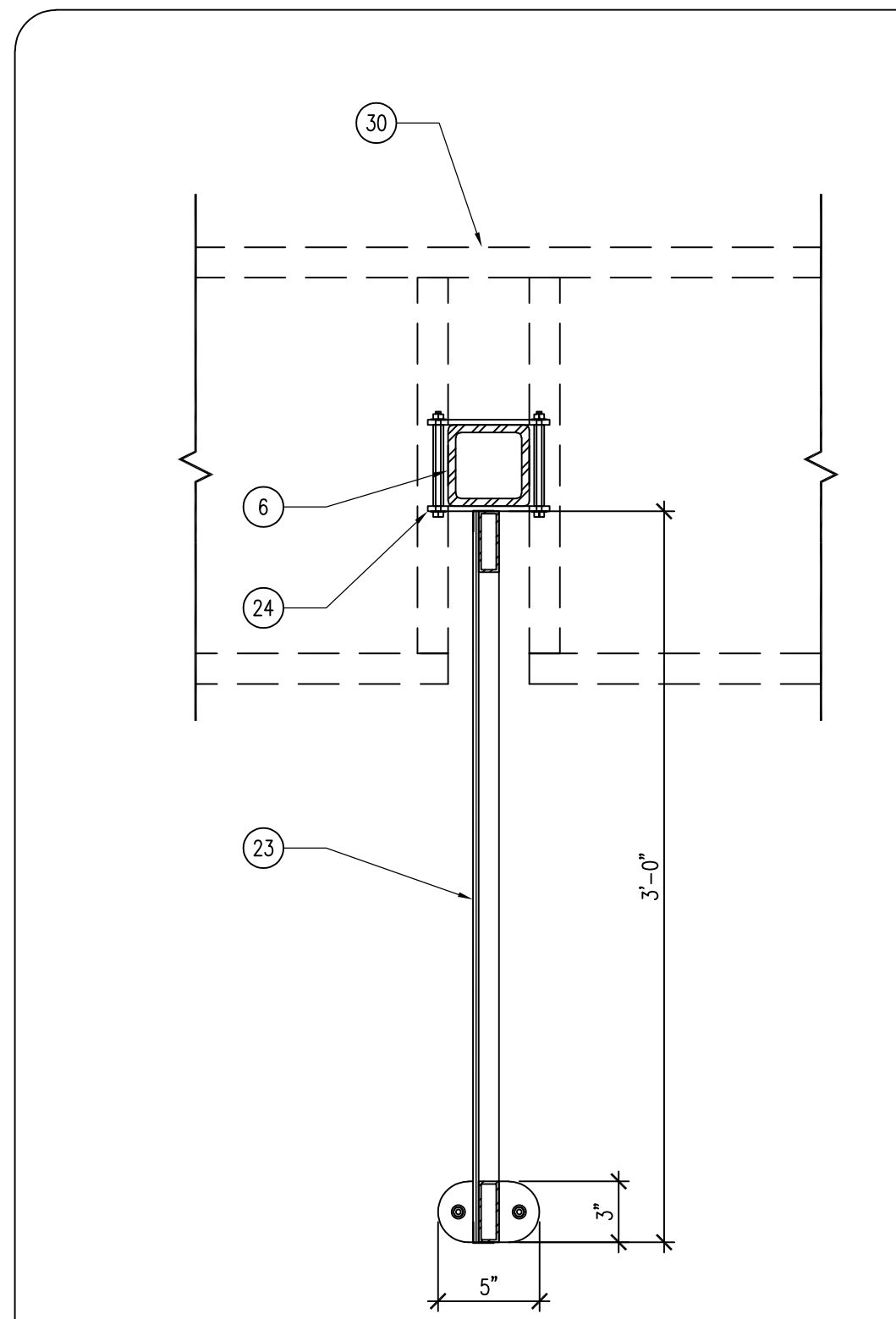
05 DETAIL - STEEL SHOOTING BAFFLE
SCALE: 3" = 1'-0"



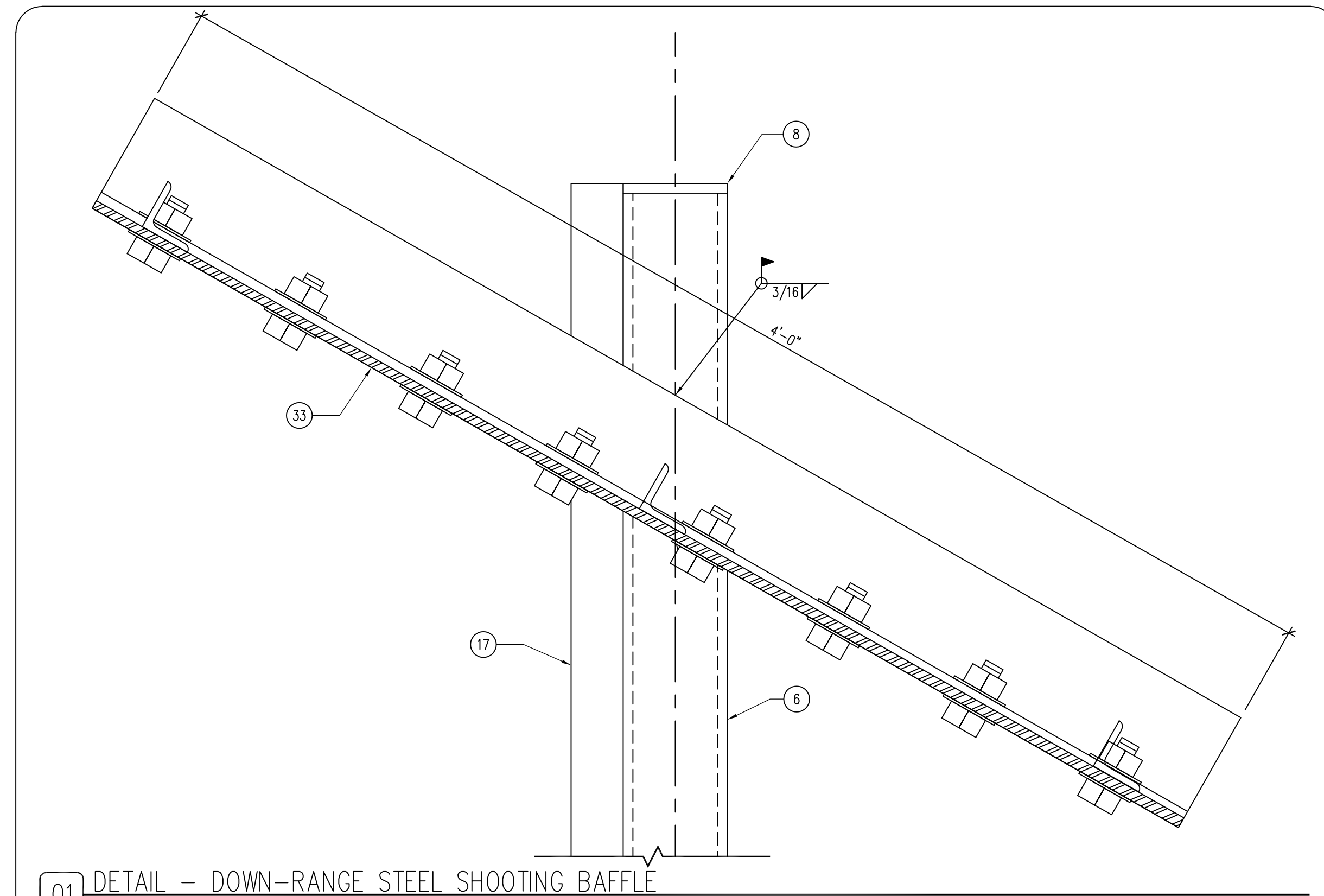
04 DETAIL - ROOF PURLIN
SCALE: 3" = 1'-0"



03 DETAIL - COLUMN TO BEAM CONNECTION
SCALE: 3" = 1'-0"



02 DETAIL - COLUMN & LANE DIVIDER
SCALE: 3" = 1'-0"



01 DETAIL - DOWN-RANGE STEEL SHOOTING BAFFLE
SCALE: 1 1/2" = 1'-0"

KEYNOTES

1. 6" CONCRETE SLAB OVER 6" SUBBASE WITH #4 REBAR 24" O.C. BOTH DIRECTIONS, SLOPE 1% AWAY FROM SHOOTING LINE.
2. CONCRETE SHOOTING BENCH (SUPPLIED BY OWNER), INSTALLED 5'-0" O.C. BY CONTRACTOR.
3. MCELROY MAX-RIB ULTRA ROOFING WITH ALL TRIM, OR APPROVED EQUAL, COLOR TBD.
4. HSS 3X3X1/2" 24" O.C.
5. HSS 6X4X3/8" BEAM, ATTACHED 3/8" END PLATE BOTH SIDES, WELD AND GRIND SMOOTH.
6. HSS 4X4X3/8" COLUMN.
7. HSS 8X4X3/8" BEAM, REMOVABLE. ADJUST ANGLE AND MOUNTING HEIGHT IN FIELD WITH DNR STAFF.
8. 3/4" CAP PLATE, WELD & GRIND SMOOTH.
9. 16"X16" SQUARE FORMED CONCRETE PIER CAP EXTENSION 12" TALL, CHAMFER OR TOOL TOP EDGE.
10. 36" DIAMETER CONCRETE FOOTING WITH #4 REBAR 12" O.C. ALL DIRECTIONS, 48" DEEP MINIMUM. POUR FIRST 12" FOOTING FOR COLUMN BASE PLATE ATTACHMENT, THEN POUR REMAINDER OF THE FOOTING ONCE ALL COLUMNS HAVE BEEN SET.
11. COLUMN BASE PLATE 1/2"X9X9 WITH 4 - 1/2" WEDGE ANCHORS, FOR ERECTION ONLY. LEVEL AND INSERT NON-SHRINK GROUT UNDER PLATE.
12. 3/8" END PLATE WELDED AND GROUND SMOOTH WITH 3/8" KNIFE PLATE TO CONNECT TO 3/8" SHEAR TAB WITH 2 - 3/4" DIAMETER M.B., TYPICAL EACH END.
13. 2 - 2X8 TREATED BAFFLES SCREWED TOGETHER WITH 2 - 2X12 LONG #10 STAINLESS DECK SCREWS, 24" O.C. ENTIRE LENGTH. SET IN A HSS 8X4X3/8"X4" LONG CUT IN HALF TO MAKE A "U" HANGER. PROVIDE HOLE FOR #10 SCREW ON BOTH SIDES.

14. 3/8"X6 END PLATE WITH EXTENSION TO CARRY PLATE ASSEMBLY AND 2-1/2" M.B., TYPICAL.
15. 1/2"X6X6 PLATES, WELD TO PURLIN/BEAM. BOLT WITH 4 - 1/2" STAINLESS BOLTS, NUTS, WASHERS.
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26. ROOF LINE OVERHEAD.
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28. 1/2"X9X2 PLATE, WELD ON TO LANE DIVIDER. BOLT-CLAMP WITH 2 - 1/2" STAINLESS BOLTS, NUTS, WASHERS AND SLEEVES.
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39. BACKSTOP BERM, REFER TO CIVIL DRAWINGS.
40. 40MIL 12" WIDE SELF-ADHERED EPDM FLASHING, ENTIRE LENGTH OF WALL.
41. 8" WIDE CONTINUOUS STEEL SNAP-IN COPING WITH CLEATS, ENTIRE LENGTH OF WALL.
42. DOUBLE 2 X 10 X 16'-0" LONG GROUND TREATED BEAMS, LAMINATE WITH ROWS OF FOUR (4) 10D RING-SHANK NAILS 12" O.C. ALTERNATE SIDES FOR NAILING.
43. 2 X 6 X 20'-0" GROUND TREATED COVER BOARDS, OVERLAP ON THREE BEAMS TO REDUCE SAG, GAP 1/2" BETWEEN BOARDS. SCREW TO BEAMS WITH TWO (2) 3/8" X 5" LONG WASHER-HEAD EXTERIOR SCREWS AT ALL BEAMS.
44. SIMPSON CBS4HDG, OR APPROVED EQUAL. EMBED IN CONCRETE FOOTING AS REQUIRED BY MANUFACTURER. ATTACH BEAMS WITH TWO (2) 1/2" DIAMETER X 5" LONG HDG, HEX-HEAD BOLT WITH FENDER AND LOCK WASHERS AND NUTS.
45. 12" DIAMETER CONCRETE PIER, PIER TO EXTEND 4'-0" DEEP MINIMUM, EXTEND ABOVE GRADE A MINIMUM OF 6", MAINTAIN 5 DEGREE ANGLE FOR EYEBROW BEAM.

GENERAL NOTES

- A. FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. ALL DIMENSIONS AND ANGLES FOR BAFFLING SYSTEM ARE APPROXIMATE AND SHALL BE FIELD VERIFIED WITH OWNER PRIOR TO PERMANENT INSTALLATION.
- B. ALL STEEL TO BE POWDER COATED, COLOR TBD.
- C. ALL STRUCTURAL HARDWARE TO BE HOT-DIPPED GALVANIZED (HDG), ALL ACCESSORY HARDWARE AND SCREWS TO BE STAINLESS STEEL.

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034
P: 515.725.8200
F: 515.725.8202



SHOOTING STRUCTURE DETAILS

RANGE RENOVATION PHASE I FOR:
DLS SHOOTING RANGE

Long Grove, IA 52756

30245 220th Ave.

NO.	BY DATE	REVISION

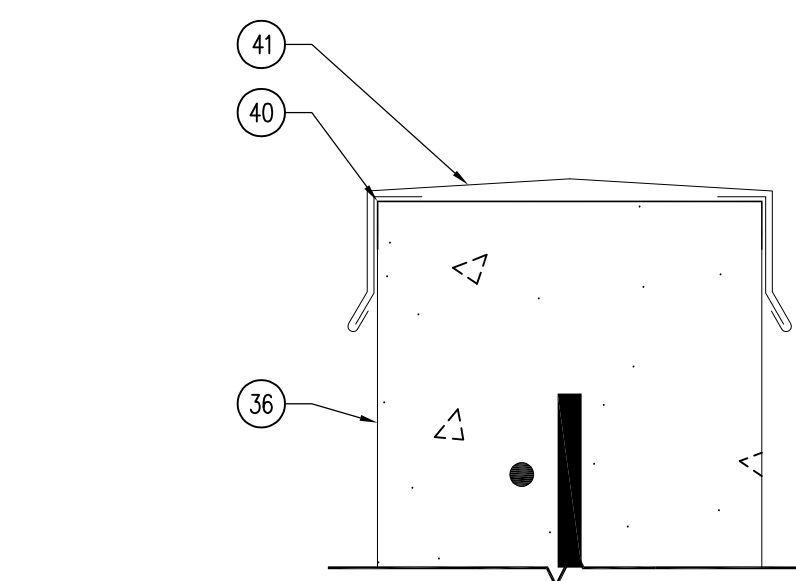
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23-06-82-01

CHK'D BY: DATE:
06.20.2023

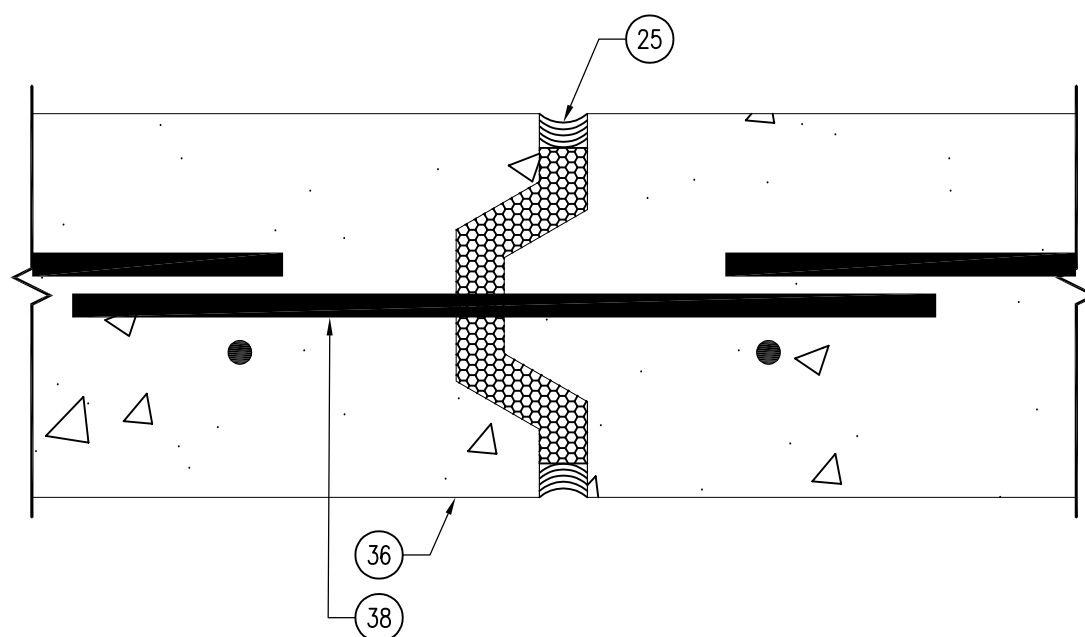
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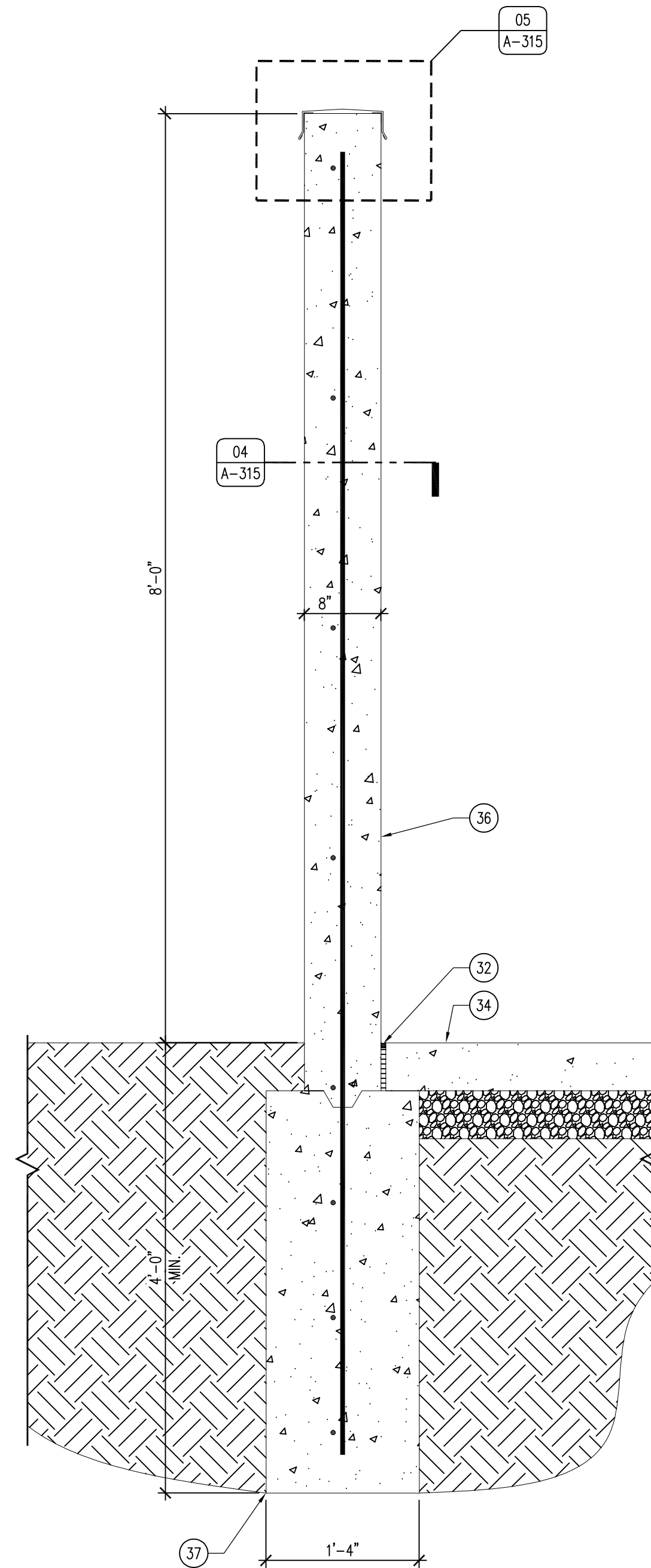
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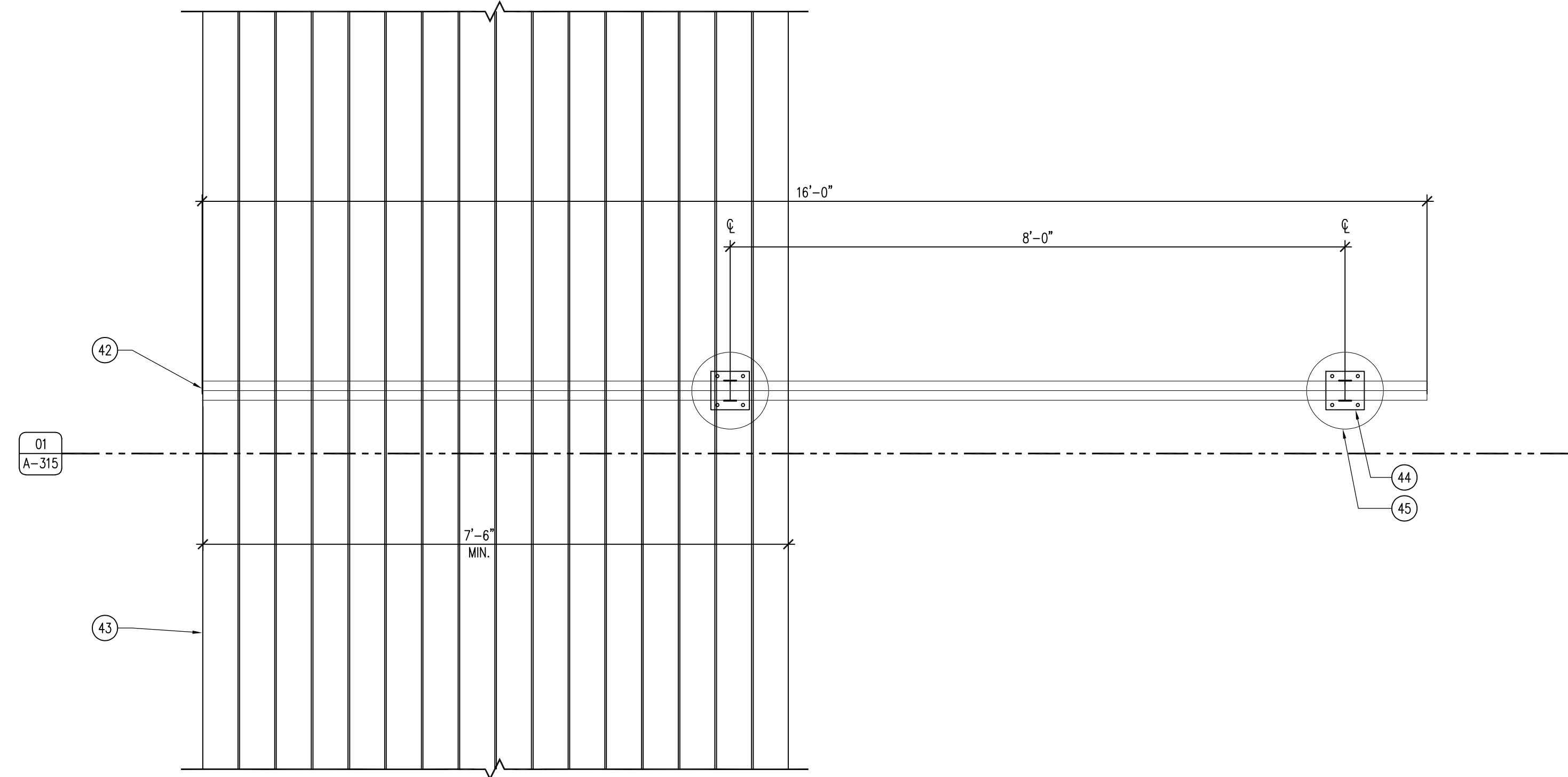
05 DETAIL - SIDEWALL COPING CAP
SCALE: 3" = 1'-0"



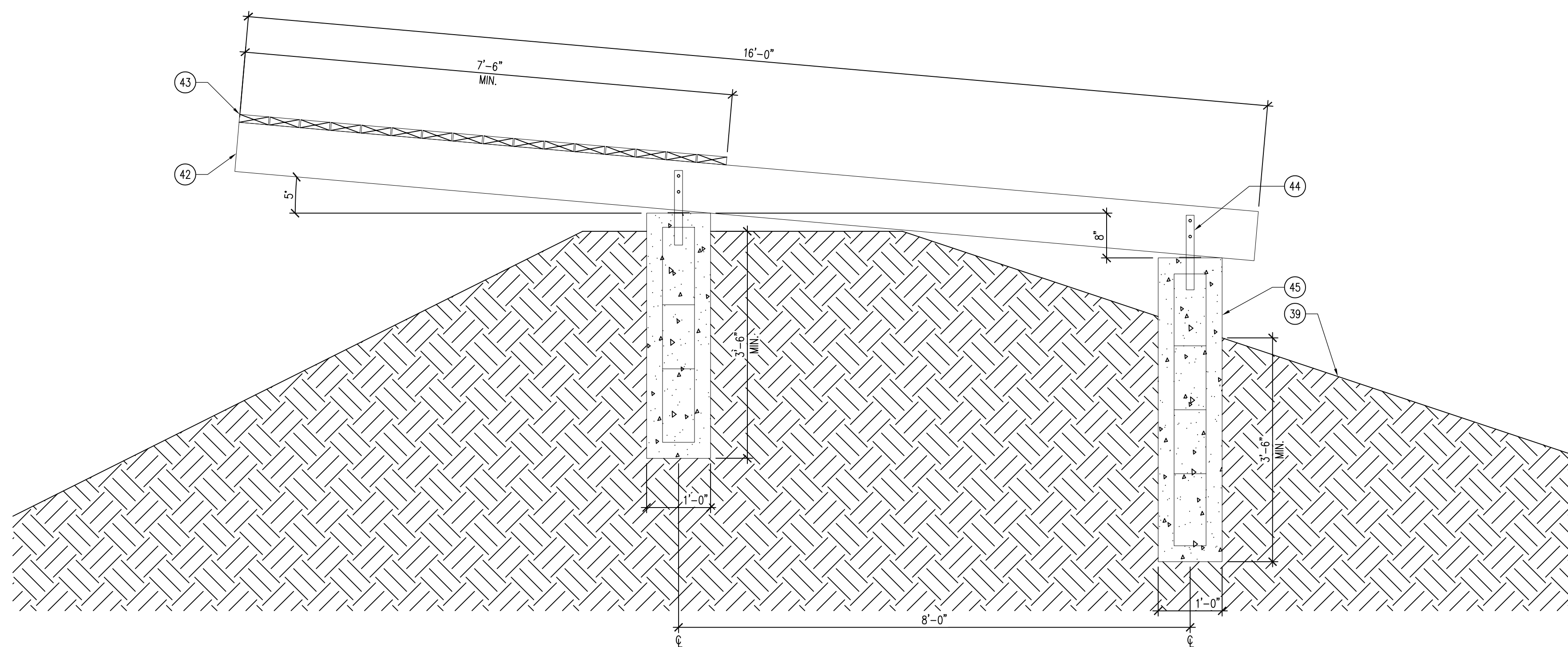
04 DETAIL - SIDEWALL EXPANSION JOINT
SCALE: 3" = 1'-0"



03 SECTION - SIDEWALL RANGE DIVIDER
SCALE: 1" = 1'-0"



02 PLAN - BERM EYEBROW STRUCTURE
SCALE: 3/4" = 1'-0"



01 SECTION - BERM EYEBROW STRUCTURE
SCALE: 3/4" = 1'-0"

KEYNOTES

- 6" CONCRETE SLAB OVER 6" SUBBASE WITH #4 REBAR 24" O.C. BOTH DIRECTIONS, SLOPE 1% AWAY FROM SHOOTING LINE.
- CONCRETE SHOOTING BENCH (SUPPLIED BY OWNER), INSTALLED 5'-0" O.C. BY CONTRACTOR.
- MCLEROY MAX-RIB ULTRA ROOFING WITH ALL TRIM, OR APPROVED EQUAL, COLOR TBD.
- HSS 3X3X1/4" 24" O.C.
- HSS 6X4X3/8" BEAM, ATTACHED 3/8" END PLATE BOTH SIDES, WELD AND GRIND SMOOTH.
- HSS 4X4X3/8" COLUMN.
- HSS 8X4X3/8" BEAM, REMOVABLE. ADJUST ANGLE AND MOUNTING HEIGHT IN FIELD WITH DNR STAFF.
- 3/8" CAP PLATE, WELD & GRIND SMOOTH.
- 16"X16" SQUARE FORMED CONCRETE PIER CAP EXTENSION 12" TALL, CHAMFER OR TOOL TOP EDGE.
- 36" DIAMETER CONCRETE FOOTING WITH #4 REBAR 12" O.C. ALL DIRECTIONS, 48" DEEP MINIMUM. POUR FIRST 12" FOOTING FOR COLUMN BASE PLATE ATTACHMENT, THEN POUR REMAINDER OF THE FOOTING ONCE ALL COLUMNS HAVE BEEN SET.
- COLUMN BASE PLATE 24"X9X9 WITH 4 - 3/8" WEDGE ANCHORS, FOR ERECTION ONLY. LEVEL AND INSERT NON-SHRINK GROUT UNDER PLATE.
- 3/8" END PLATE WELDED AND GROUND SMOOTH WITH 3/8" KNIFE PLATE TO CONNECT TO 3/8" SHEAR TAB WITH 2 - 3/4" DIAMETER M.B., TYPICAL EACH END.
- 2 - 2X8 TREATED BAFFLES SCREWED TOGETHER WITH 2 - 2 1/2" LONG #10 STAINLESS DECK SCREWS, 24" O.C. ENTIRE LENGTH. SET IN A HSS 8X4X3/8"X4" LONG CUT IN HALF TO MAKE A "U" HANGER. PROVIDE HOLE FOR #10 SCREW ON BOTH SIDES.

- 3/8"X6 END PLATE WITH EXTENSIONS TO CARRY PLATE ASSEMBLY AND 2-1/2" M.B., TYPICAL.
- 1/2"X6X6 PLATES, WELD TO PURLIN/BEAM. BOLT WITH 4 - 1/2" STAINLESS BOLTS, NUTS, WASHERS.
- REMOVABLE ASSEMBLY OF 3/8"X10'-0"X3'-0" AR400 STEEL PLATE WELDED TO C6X8.2 CHANNELS THAT ARE BOLTED TO THE SHEAR TABS ON THE BEAMS, STIFFEN ASSEMBLY WITH STEEL ANGLES AS NECESSARY. ADJUST MOUNTING PLACEMENT WITH DNR STAFF FOR PROPER ANGLES AND HEIGHTS.
- 4X4X3/8" STEEL ANGLE, TACK WELD ANGLE TO FACE OF COLUMN.
- TREATED 2X8 BENCH LUMBER, ATTACH AT EACH SUPPORT WITH 3 - 3" #10 STAINLESS SCREWS.
- TREATED 2X6 BENCH LUMBER, ATTACH AT EACH SUPPORT WITH 2 - 3" #10 STAINLESS SCREWS.
- TREATED 2X4 BENCH LUMBER, ATTACH AT EACH SUPPORT WITH 2 - 3" #10 STAINLESS SCREWS.
- TREATED 2X6 BOTH SIDES OF STEEL COLUMN, ATTACHED WITH 2 - 3/8" DIAMETER HDG HEX-HEAD BOLTS AND NUTS, WITH FENDER AND LOCK WASHERS BOTH SIDES.
- INTERMEDIATE HSS 4X4X3/8" POST WITH 9X9X1/4" BASE SUPPORT FLANGE, 10'-0" O.C. EQUALLY SPACED BETWEEN STEEL STRUCTURAL COLUMNS TO SUPPORT WOOD SHOOTING BENCHES AND SITTING BENCHES. ATTACH POSTS TO SLAB WITH FOUR 3/8" DIAMETER EXPANSION ANCHORS ON EACH CORNER OF SUPPORT FLANGE.
- SHOOTING LANE DIVIDER (7'-0" TALL X 3'-0" WIDE), TWO LAYERS SQUARE WEAVE GALVANIZED WIRE MESH (#4), 1/2" SQUARE OPENING MAXIMUM. FRAME TO BE 1X2 TUBE STEEL MITERED, WELDED AND GROUND SMOOTH. TACK WELD MESH TO TUBE FRAME AND THEN ADD A 1" X 1" X 14 GA ANGLE TO OUTSIDE OF ASSEMBLY TO HEM MESH. CLAMP WITH TWO 1/2" PLATES AS SHOWN. EXTEND OUTSIDE LEG 6" AND ADD 1/2" PLATE FOR 1/2" WEDGE ANCHORS TO CONCRETE.

- 2 - 1/2"X9X12 SLOTTED PLATE, WELD ONE TO LANE DIVIDER. BOLT-CLAMP TO OVERHEAD BEAM WITH 4 - 1/2" STAINLESS BOLTS, NUTS, WASHERS AND SLEEVES.
- 1" KEYED WALL EXPANSION JOINT WITH EXPANSION MATERIAL AND CONTINUOUS EXTERIOR POLYURETHANE CAULK.
- ROOF LINE OVERHEAD.
- END PLATE 3/8" WELDED AND GROUND SMOOTH WITH 3/8" KNIFE PLATE TO CONNECT TO 3/8" SHEAR TAB WITH 2 - 3/4" DIAMETER HDG BOLTS, TYPICAL EACH END.
- 1/2"X9X2 PLATE, WELD ON TO LANE DIVIDER. BOLT-CLAMP WITH 2 - 1/2" STAINLESS BOLTS, NUTS, WASHERS AND SLEEVES.
- TREATED WOOD SEATING BENCH, MOUNT 1'-6" A.F.F., REFER TO DETAIL 05/A-311.
- TREATED WOOD ADA SHOOTING BENCH, MOUNT 2'-6" A.F.F., REFER TO DETAIL 03/A-311.
- TREATED WOOD ADA SHOOTING BENCH, MOUNT 2'-6" A.F.F., REFER TO DETAIL 04/A-311.
- 1/2" EXPANSION MATERIAL WITH CONTINUOUS EXTERIOR POLYURETHANE SEALANT.
- REMOVABLE ASSEMBLY OF 3/8"X10'-0"X2'-4" AR400 STEEL PLATE BOLTED TO 3/8"X3"X3" ANGLES THAT ARE WELDED TO VERTICAL FACE OF COLUMN, STIFFEN ASSEMBLY WITH STEEL ANGLES AS NECESSARY. ADJUST MOUNTING PLACEMENT WITH DNR STAFF FOR PROPER ANGLES AND HEIGHTS.
- CONCRETE SIDEWALK, REFER TO CIVIL DRAWINGS.
- 3/8" - X 4" DEEP CRUSHED STONE SURFACE.
- 8" THICK X 8'-0" HIGH, ABOVE GROUND, CONCRETE SIDEWALL RANGE DIVIDER WITH #5 REBAR 24" O.C. BOTH DIRECTIONS.

- 16" WIDE X 4'-0" DEEP CONCRETE WALL FOOTING WITH #5 REBAR 12" O.C., EXTEND VERTICALS THROUGH WALL.
- 24" LONG SMOOTH #4 DOWEL 24" O.C., EMBED 12" ON BOTH SECTIONS OF WALL.
- BACKSTOP BERM, REFER TO CIVIL DRAWINGS.
- 40MIL 12" WIDE SELF-ADHERED EPDM FLASHING, ENTIRE LENGTH OF WALL.
- 8" WIDE CONTINUOUS STEEL SNAP-IN COPING WITH CLEATS, ENTIRE LENGTH OF WALL.
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- SIMPSON CBS44HDG, OR APPROVED EQUAL. EMBED IN CONCRETE FOOTING AS REQUIRED BY MANUFACTURER. ATTACH BEAMS WITH TWO (2) 3/8" DIAMETER X 5" LONG HEX-HEAD BOLT WITH FENDER AND LOCK WASHERS AND NUTS.
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SIDEWALL AND EYEBROW DETAILS

RANGE RENOVATION PHASE I FOR:
DLS SHOOTING RANGE

Long Grove, IA 52756

30245 220th Ave.

NO. BY DATE REVISION

DRAWN BY: PROJECT NUMBER:

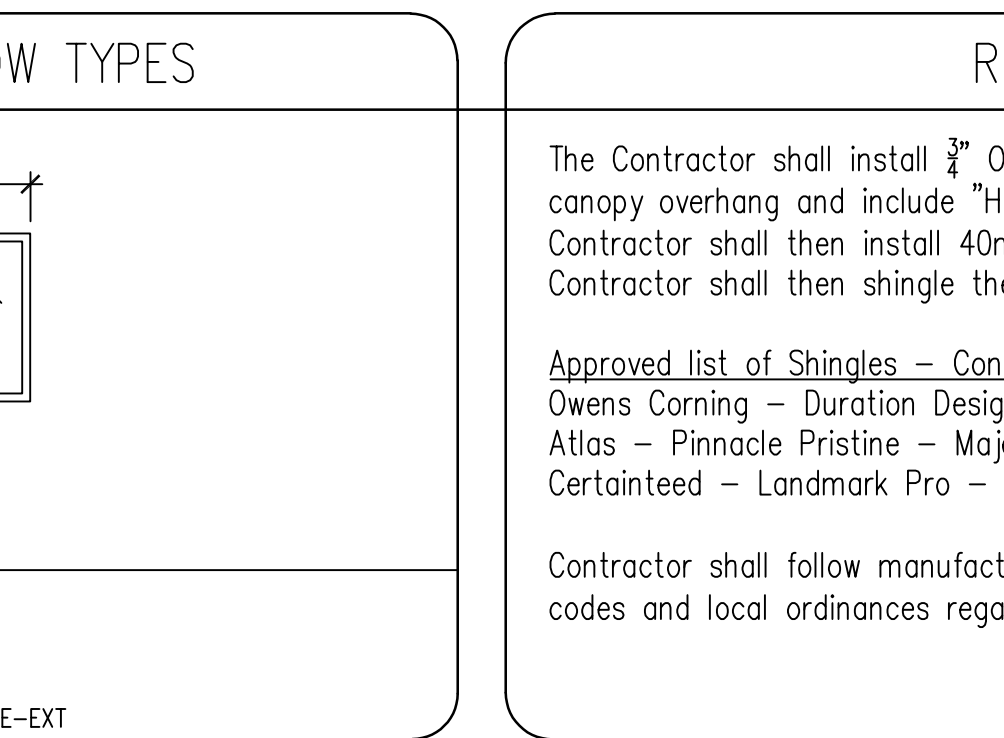
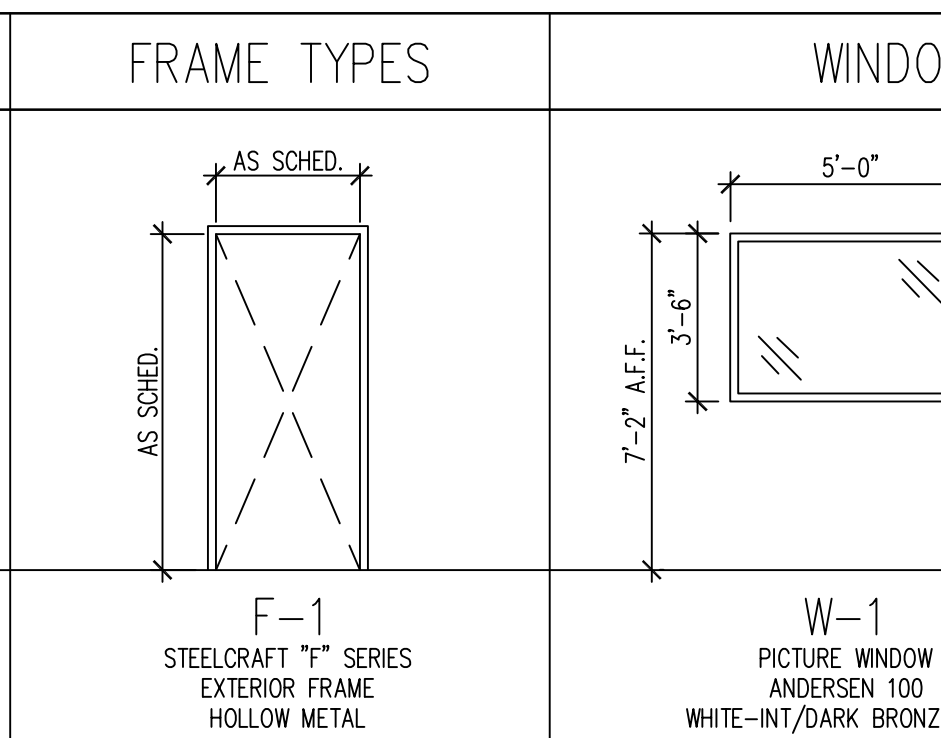
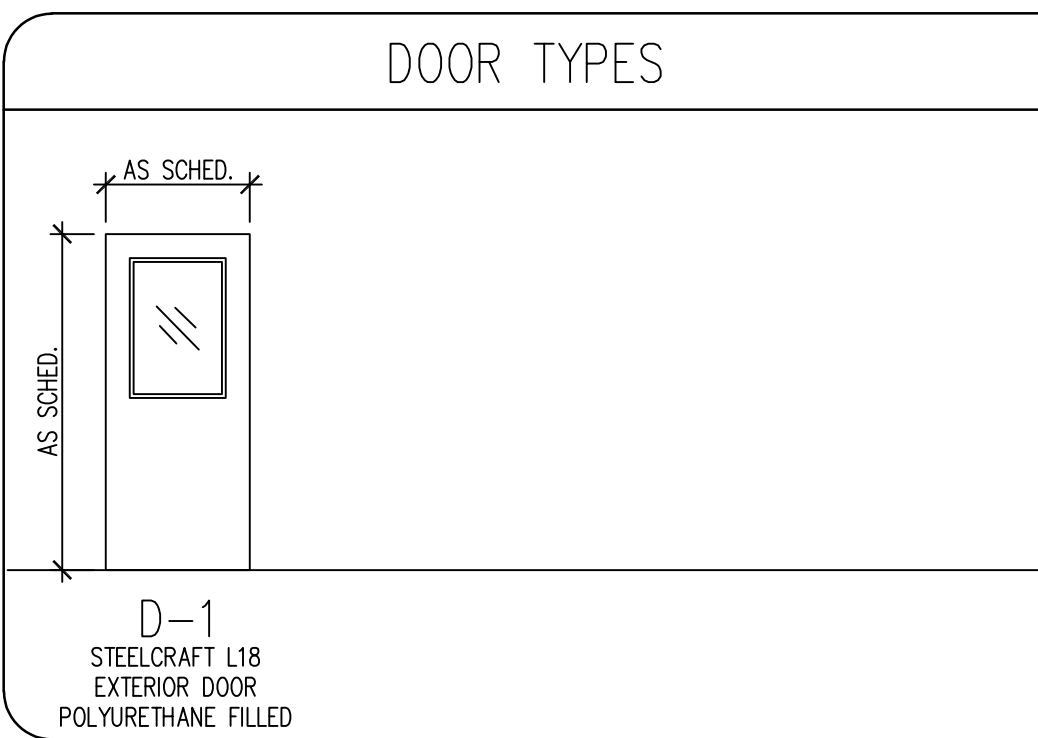
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SHEET NO:

A-315



ROOFING REQUIREMENTS

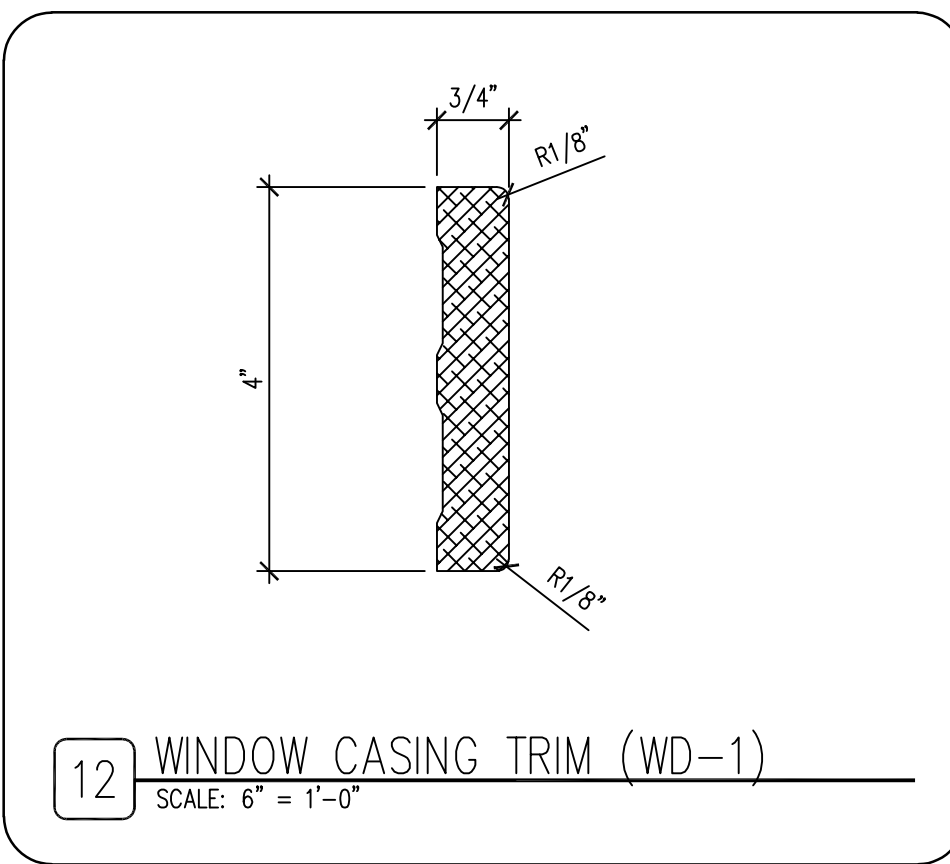
The Contractor shall install $\frac{3}{4}$ " OSB or plywood sheathing over the entire building, including the canopy overhang and include "H" clips between all sheathing boards as required by code. The Contractor shall then install 40mil self-adhered water and ice barrier over the entire roof. The Contractor shall then shingle the entire roof with one of the following shingles:

Approved list of Shingles – Contractor must submit on the intended shingle to be used.
 Owens Corning – Duration Designer – Summer Harvest
 Atlas – Pinnacle Pristine – Majestic Shake
 Certainteed – Landmark Pro – Weathered Wood

Contractor shall follow manufacturer's installation instructions and shall follow all applicable codes and local ordinances regarding roofing.

ROOM SCHEDULE

ROOM #	ROOM NAME	FLOORING	BASE	NORTH WALL FINISH	EAST WALL FINISH	SOUTH WALL FINISH	WEST WALL FINISH	CEILING	NOTES
100	STORAGE GARAGE	CONC-1	-	ST-1	ST-1	ST-1	ST-1	ST-1	29 GAUGE STEEL LINER PANEL WALLS & CEILING



11 NOT USED
SCALE: 1 1/2" = 1'-0"

10 NOT USED
SCALE: 1 1/2" = 1'-0"

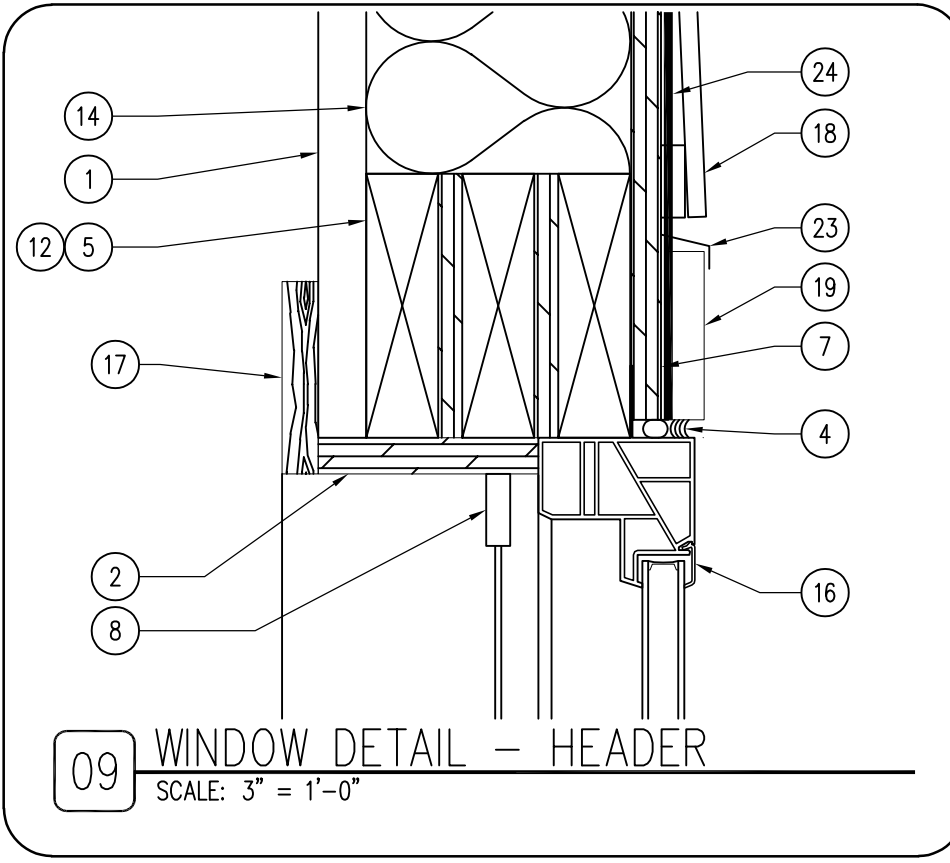
HARDWARE SCHEDULE

A. ALL HARDWARE MODEL NUMBERS BASED ON SCHLAGE "ND-SERIES" LOCKSETS (ATHENS) AND "IVES" HARDWARE, OR APPROVED EQUAL.
 B. HARDWARE FINISH TO BE : "AGED BRONZE (6438)", UNLESS NOTED OTHERWISE.
 C. WINDOW BASIS OF DESIGN, ANDERSEN 100 SERIES, OR APPROVED EQUAL, WITH LOW-E, ARGON FILLED, DOUBLE PANE WINDOWS. ALL WINDOWS TO RECEIVE WINDOW INSERTS, COMMERCIAL GRADE, NOISE REDUCTION INSERTS.
 D. CHECK ALL QUANTITIES, DIMENSIONS AND FINISHES BEFORE ORDERING.
 E. ALL STEEL DOORS TO BE GALVANIZED. PAINT ALL STEEL DOORS AND FRAMES DARK BRONZE TO MATCH TRIMS.
 F. ALL EXTERIOR STEEL WALK-THROUGH DOORS TO RECEIVE DRIP-CAPS BY MANUFACTURER.
 G. ALL GLASS ON WALK-THROUGH DOORS TO BE INSULATED, LOW-E, TEMPERED GLASS.
 H. ALL OVERHEAD GARAGE DOORS BASED ON OVERHEAD DOOR COMPANY MODEL 430, OR APPROVED EQUAL. PROVIDE THREE (3) KEYLESS FOBS, REQUIRED POWER LIFT, AND PUSH-BUTTON ENTRY FROM THE INTERIOR.

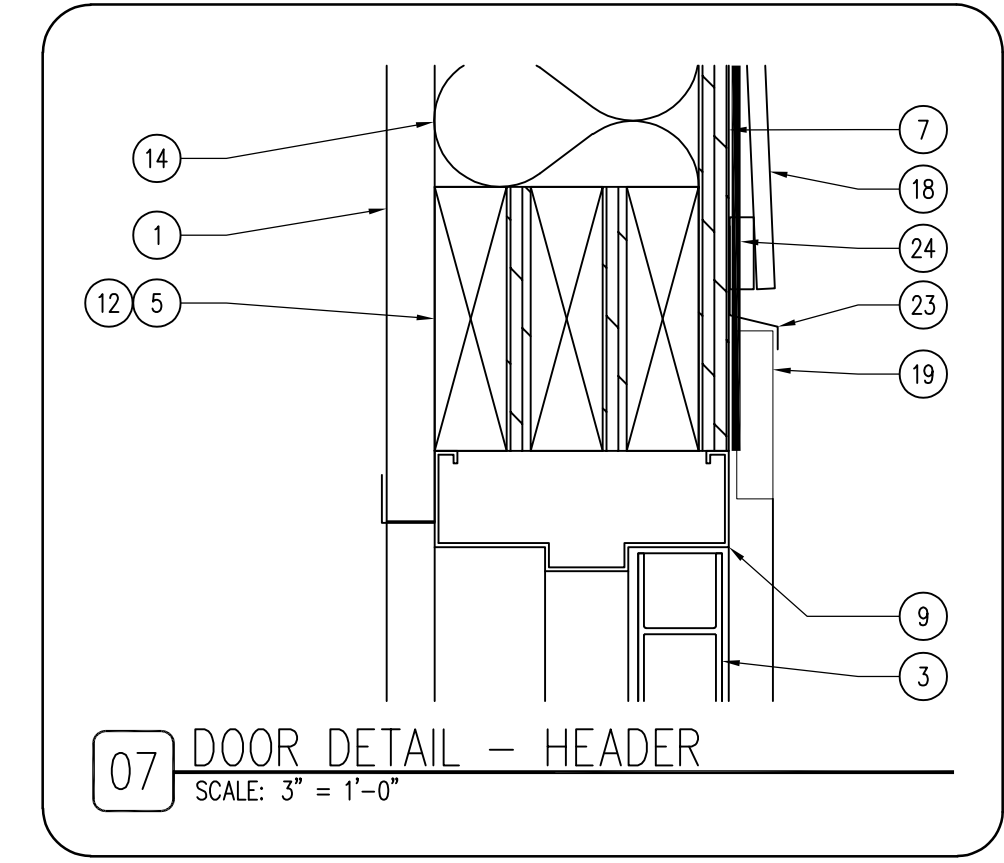
HARDWARE SET NO. 1 - DOORS: 100A & 100B
 3 EA. NRP HINGES FBB191 4 1/2 X 4 1/2
 1 EA. ENTRANCE LOCKSET NDS0PD
 1 EA. DEADBOLT B663P
 3 EA. PERIMETER SEALS BLACK GASKET
 1 EA. THRESHOLD SEAL BLACK BROOM TYPE
 1 EA. ADA THRESHOLD DARK BRONZE
 1 EA. CLOSER LCN 4111

FINISH SCHEDULE

FINISH MARK	MATERIAL	MANUFACTURER INFO		DIMENSION	COLOR	FINISH	COMMENTS
		COMPANY NAME	PRODUCT NUMBER				
FLOOR FINISH							
CONC-1	PENETRATING SEALER	-	-	-	CLEAR	MATTE	SILANE, SILOXANE OR SILICONATE
CEILING FINISH							
ST-1	STEEL LINER PANEL	-	-	29 GAUGE	WHITE	MANUF.	INCLUDE REQUIRED TRIMS
INTERIOR FINISH							
ST-1	STEEL LINER PANEL	-	-	29 GAUGE	WHITE	MANUF.	INCLUDE REQUIRED TRIMS
EXTERIOR FINISH							
SR-1	SHINGLE ROOF	ROOFING REQUIREMENTS	ARCHITECTURAL	-	-	-	-
SP-1	STEEL SOFFIT PANEL	-	V-GROOVE VENTED	26GA	DARK BRONZE	-	ALL EAVES AND OVERHANGS
LP-1	LP SMARTSIDE - LAP SIDING	LP CORPORATION	76 SERIES - CEDAR	11.84"	PNT-2	-	2X COATS SW EXT. DURATION
LP-2	LP SMARTSIDE - TRIM	LP CORPORATION	540 SERIES - CEDAR	5.5"	PNT-1 & PNT-2	-	2X COATS SW EXT. DURATION
LP-3	LP SMARTSIDE - BASE TRIM	LP CORPORATION	540 SERIES - CEDAR	9.21"	PNT-2	-	2X COATS SW EXT. DURATION
PNT-1	EXTERIOR ACRYLIC LATEX	SHERWIN WILLIAMS	EXT. DURATION	-	COLOR MATCH OHD 100C	SATIN	WINDOW AND DOOR TRIM
PNT-2	EXTERIOR ACRYLIC LATEX	SHERWIN WILLIAMS	EXT. DURATION	-	SW6152 SUPERIOR BRONZE	SATIN	LAP SIDING AND BUILDING CORNERS
PNT-3	EXTERIOR ALKYD ENAMEL	SHERWIN WILLIAMS	DIRECT-TO-METAL B55T	-	COLOR MATCH OHD 100C	SEMI-GLOSS	STEEL DOORS AND FRAMES

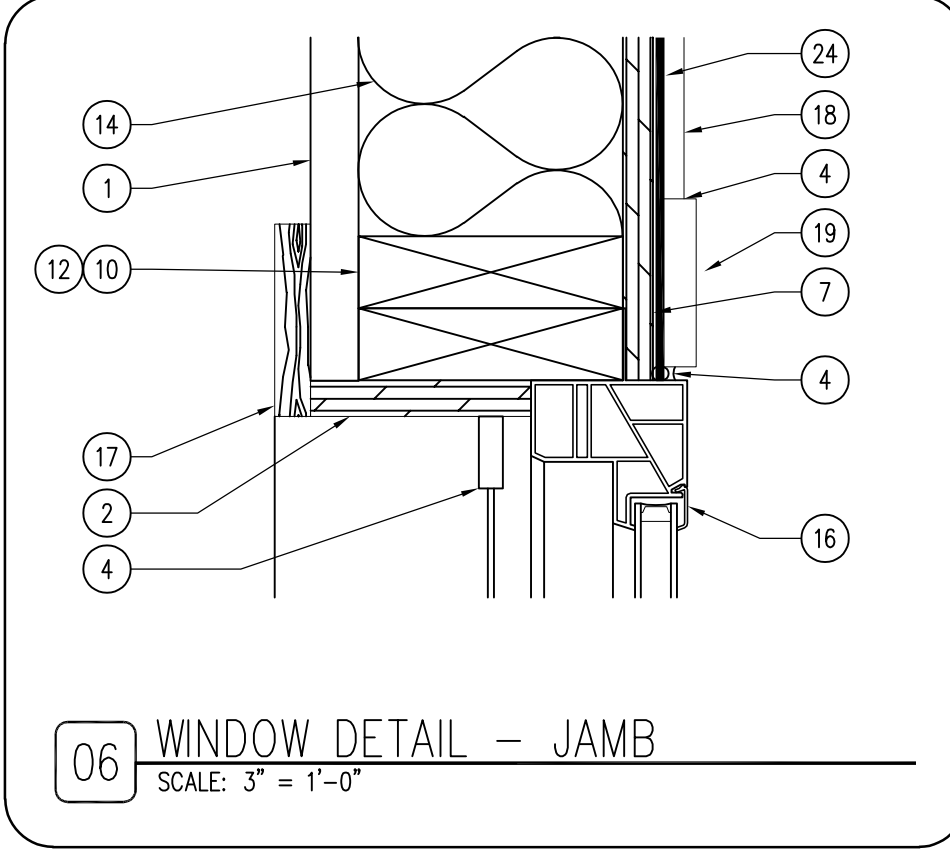


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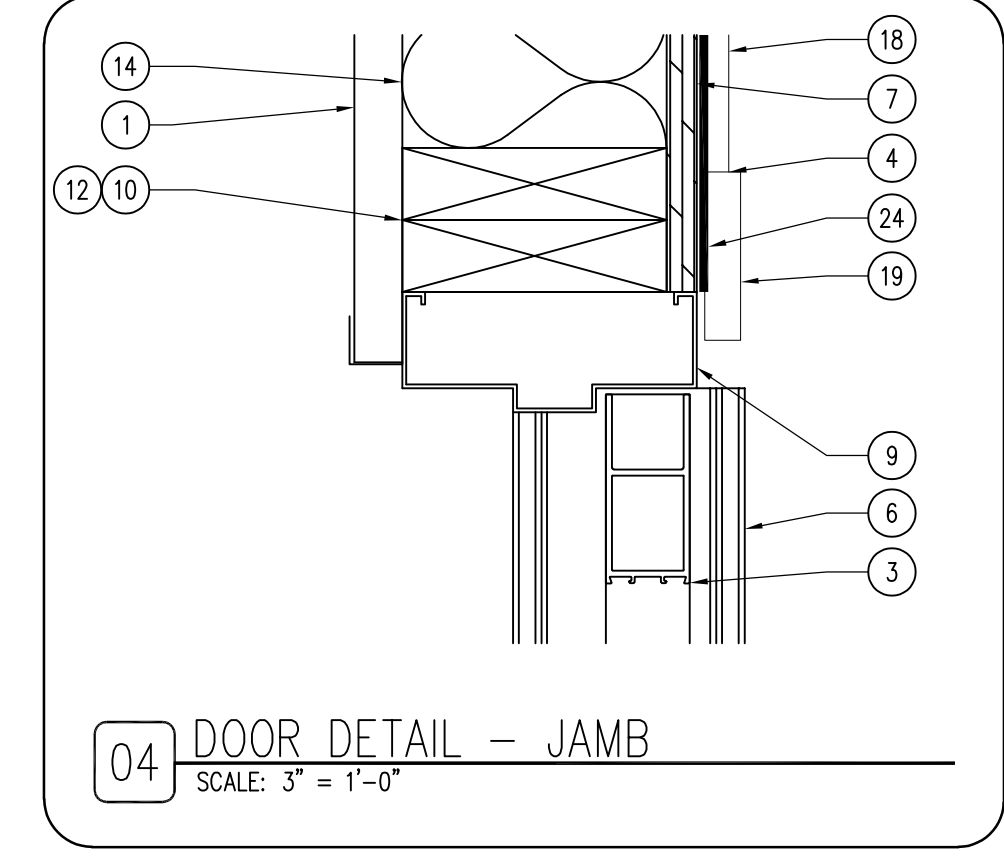


KEYNOTES

- WALL FINISH AS SCHEDULED.
- $\frac{3}{4}$ " MAPLE PLYWOOD JAMB EXT.
- DOOR AS SCHEDULED.
- CONTINUOUS SEALANT.
- 2X6 WOOD HEADER.
- ADA COMPLIANT THRESHOLD.
- $\frac{1}{2}$ " PLYWOOD SHEATHING.
- COMMERCIAL GRADE WINDOW WINDOW INSERT.
- DOOR FRAME AS SCHEDULED.
- 2X6 WOOD JAMB.
- SOUND BATT INSULATION.
- 2X6 STUD WALL.
- $\frac{1}{2}$ " EXPANSION WITH CONTINUOUS SEALANT.
- R-19 KRAFT-FACED BATT INSULATION.
- 2X6 SILL PLATE.
- WINDOW AS SCHEDULED.
- HARD MAPLE TRIM, WD-1.
- LP SMARTSIDE SIDING, AS SCHEDULED.
- LP SMARTSIDE TRIM, AS SCHEDULED.
- BRUSH TYPE GASKET FOR EXTERIOR DOORS.
- CONCRETE SLAB.
- NOT USED.
- FLASHING AS REQUIRED.
- CONTINUOUS WRB BUILDING WRAP.

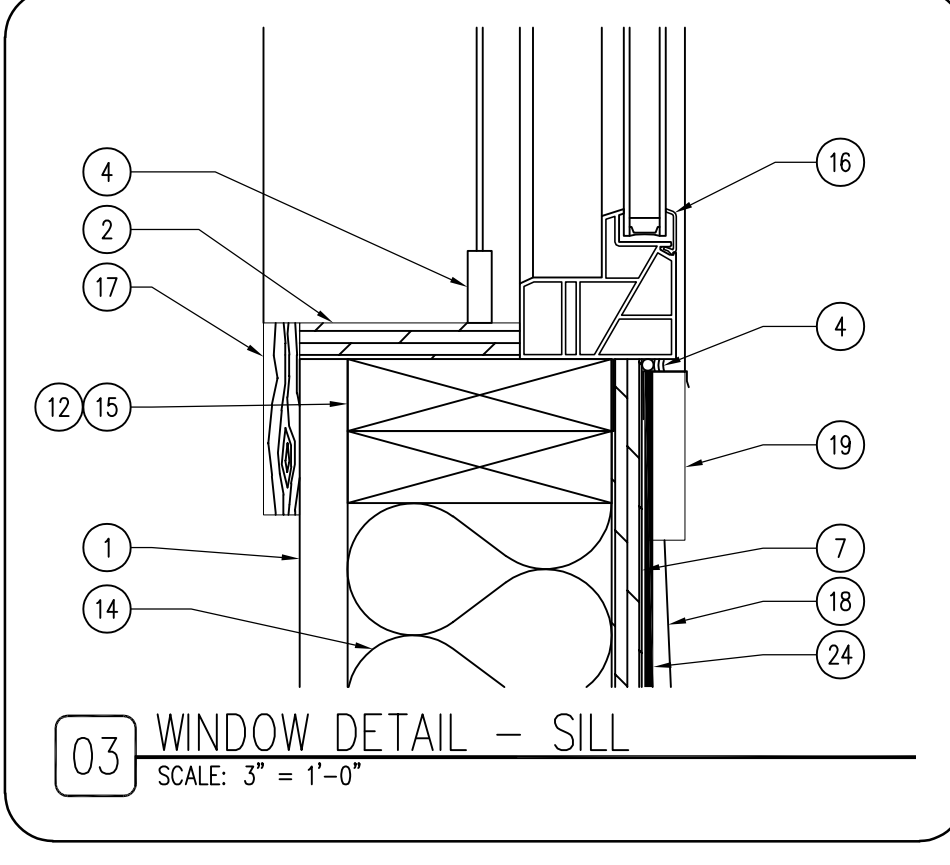


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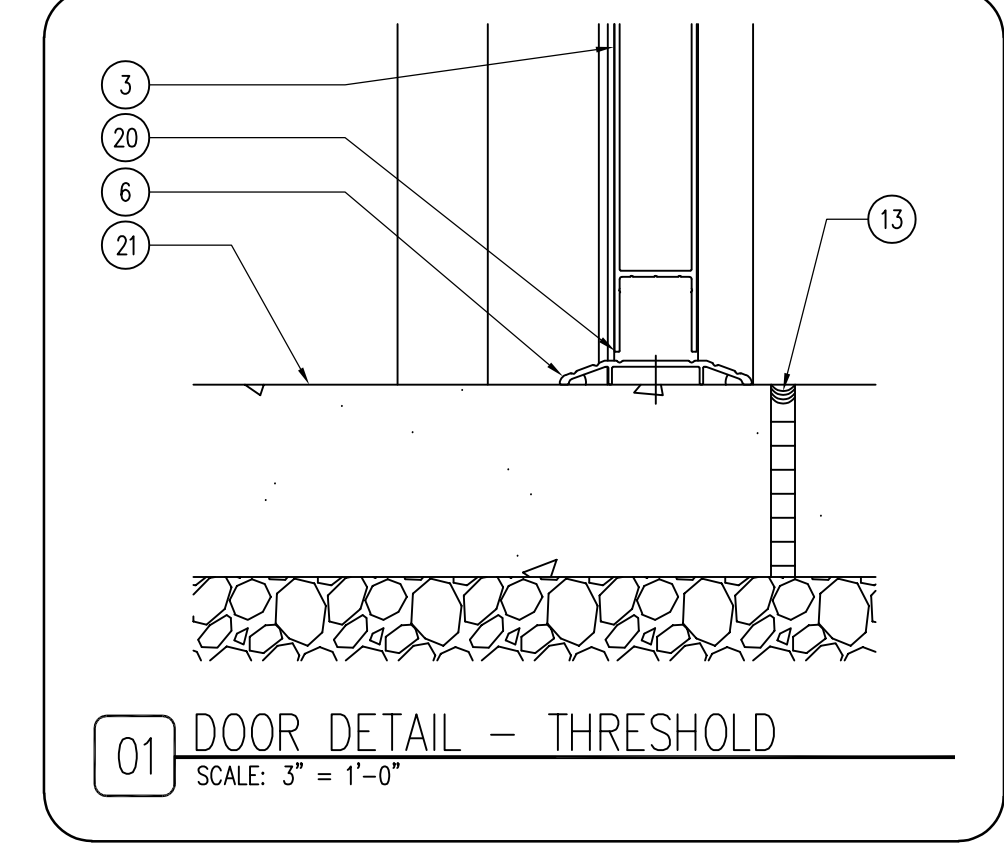


DOOR SCHEDULE

DOOR NUMBER	DOOR			FRAME							FIRE RATING LABEL	HARDWARE		COMMENTS	
	DIMENSION			TYPE	GLASS	FINISH	DETAILS			TYPE		FINISH	SET #		KEYSIDE ROOM NUMBER
	WIDTH	HEIGHT	THICK.				HEAD	JAMB	THRESHOLD						
100A	3'-0"	7'-0"	1 3/4"	D-1	MANUF.	BROWN	07/A-600	04/A-600	01/A-600	F-1	PNT-1	1	EXT.	EXT. STEELCRAFT "L" SERIES - HALF LITE	
100B	3'-0"	7'-0"	1 3/4"	D-1	MANUF.	BROWN	07/A-600	04/A-600	01/A-600	F-1	PNT-1	1	EXT.	EXT. STEELCRAFT "L" SERIES - HALF LITE	
100C	16'-0"	8'-0"	1 7/8"	2128	-	BROWN	-	-	-	-	BROWN	-	-	CHI - 2128 SKYLINE FLUSH DOOR	



02 NOT USED
SCALE: 6" = 1'-0"



WINDOW SCHEDULE

WINDOW TYPE	WINDOW			TYPE	GLASS	FINISH	FRAME			QUANTITY	COMMENTS		
	DIMENSION						DETAILS						
	WIDTH	HEIGHT	THICK.				HEAD	JAMB	SILL				
W-1	60"	42"	-	LOW-E	MANUF.	-	09/A-600	06/A-600	03/A-600	-	WHITE/D.BRONZE	3	ANDERSEN 100 - PICTURE WITH WINDOW WINDOW INSERTS

IOWA DEPARTMENT OF
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502 E. 9TH ST., DES MOINES, IA 50319-0034
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SCHEDULES AND DETAILS
RANGE RENOVATION PHASE I FOR:
DLS SHOOTING RANGE
Long Grove, IA 52754
30245 220th Ave.

NO. BY DATE REVISION

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DRAWN BY: PROJECT NUMBER:
23-06-82-01
CHK'D BY: DATE:
06.20.2023
SHEET NO.:

DEMOLITION AND RENOVATION NOTES - ELECTRICAL

- 1. ELECTRICAL DEMOLITION DRAWINGS SHOWING EXISTING CONDITIONS HAVE BEEN PREPARED BASED ON FIELD OBSERVATION AND ORIGINAL DRAWINGS. FIELD VERIFY EXISTING CONDITIONS BEFORE WORK BEGINS. ADDITIONAL COMPONENTS MAY EXIST WHICH ARE NOT SHOWN. BECOME FAMILIAR WITH EXISTING ELECTRICAL SYSTEM WHICH WILL BE AFFECTED BY THE DEMOLITION WORK.
2. PROVIDE EQUIPMENT, LABOR, AND MATERIALS TO REMOVE ELECTRICAL FACILITIES AND CLEAR THE AREA TO RECEIVE THE NEW WORK PROVIDED UNDER THIS CONTRACT.
3. IN OCCUPIED AREAS BEYOND THE DEMOLITION SCOPE, KEEP EXISTING SYSTEMS NOT AFFECTED BY PROJECT SCOPE OPERATIONAL THROUGH THE DURATION OF THE PROJECT. OBTAIN PERMISSION FROM OWNER'S REPRESENTATIVE TO SHUT OFF SERVICES OR SYSTEMS WHICH MAY AFFECT OTHER AREAS BEYOND THE LIMITS OF THE DEMOLITION AREA. INFORM OWNER'S REPRESENTATIVE OF THE REASON FOR AND DURATION OF THE SHUTDOWN AND ENSURE THAT THE SHUTDOWN IS MADE WITH AS LITTLE INCONVENIENCE TO OTHER AREAS AS POSSIBLE.
4. REMOVE CONDUITS, BOXES, ETC., AS REQUIRED BY WALL, CEILING, AND ADJACENT COMPONENTS DEMOLITION. REMOVE EXISTING WIRE UNLESS OTHERWISE NOTED.
5. INSTALL NEW CONDUCTORS FOR NEW CIRCUITS IN REMODELED AREAS UNLESS SPECIFICALLY NOTED OTHERWISE. RETAIN EXISTING CONDUITS IN GOOD CONDITION WHERE APPROVED BY ENGINEER OR AS INDICATED.
6. IDENTIFY DISCONNECTED BRANCH CIRCUIT LOCATION OR ITEM SERVED BEFORE DISCONNECTION. UPDATE PANEL/EQUIPMENT DIRECTORY ACCORDINGLY.
7. MAINTAIN CIRCUITS SERVING AREAS BEYOND THE DEMOLITION AREA. EXTEND NEW WIRING AND BYPASS DEMOLISHED DEVICES TO MAINTAIN EXISTING CIRCUITS.
8. KEEP EXISTING SYSTEMS OPERATIONAL DURING ALL PHASES OF CONSTRUCTION. DO NOT CUT EXISTING TELECOMMUNICATION WIRING, CABLES OR CONDUIT. CONTRACTORS WHO CUT IN-SERVICE CABLES ARE RESPONSIBLE FOR ALL DOWNTIME AND COSTS TO REPAIR.
9. INSTALL BLANK COVER PLATES OVER OPENING AT REMOVED DEVICE LOCATIONS. THIS INCLUDES BUT IS NOT LIMITED TO, CLOCKS, RECEPTACLES, SWITCHES, JUNCTION BOXES, ETC.
10. PROVIDE CUTTING AND PATCHING OF EXISTING MATERIALS AS REQUIRED FOR THE PROPER COMPLETION OF THE DEMOLITION WORK AND THE INSTALLATION OF THE NEW WORK.
11. MAINTAIN FULL FUNCTIONAL AND AESTHETIC INTEGRITY OF DEVICES IDENTIFIED TO BE REMOVED AND RELOCATED. HANDLE WITH APPROPRIATE CARE TO ALLOW FOR REINSTALLATION. REPLACE DEVICES DAMAGED DURING DEMOLITION WITH NEW AT CONTRACTOR'S EXPENSE.
12. EQUIPMENT AND SYSTEM THAT ARE REMOVED REMAIN THE PROPERTY OF THE OWNER UNLESS OTHERWISE NOTED. DISPOSE OF ALL MATERIALS NOT SALVAGED BY THE OWNER.
13. REMOVE AND REINSTALL CEILING TILES REQUIRED FOR THE WORK BEING DONE UNDER THIS CONTRACT. REPLACE CEILING TILES DAMAGED DURING CONSTRUCTION TO MATCH EXISTING.

GENERAL NOTES - ELECTRICAL

- 1. COORDINATE LOCATION/INSTALLATION OF MECHANICAL AND ELECTRICAL WORK WITH ALL OTHER TRADES. BEGIN INSTALLATION AND ROUGH-IN ONLY AFTER PROPER AND TIMELY COORDINATION WITH ALL TRADES ASSOCIATED WITH THE INSTALLATION IS COMPLETE. COORDINATE WITH BUILDING STRUCTURE, ARCHITECTURE, MECHANICAL SHEET METAL, ALL PIPING SYSTEMS, LIGHT FIXTURES, CONDUITS, CABLE TRAYS, EQUIPMENT ACCESS/CLEARANCE, ETC. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT. CONTRACTOR IS RESPONSIBLE FOR REWORK OF INSTALLED EQUIPMENT RESULTING FROM INSUFFICIENT COORDINATION.
2. ELECTRICAL DRAWINGS ARE ONLY A PORTION OF THE COMPLETE SET OF PLANS AND CONTRACT DOCUMENTS. THE ELECTRICAL SCOPE OF WORK IS DEFINED BY THE COMPLETE SET OF CONTRACT DOCUMENTS. THIS INCLUDES BUT IS NOT LIMITED TO REFERENCING ARCHITECTURAL PLANS FOR DIMENSIONS AND DETAILS; EQUIPMENT PLANS FOR ROUGH-IN REQUIREMENTS, MECHANICAL PLANS FOR EQUIPMENT SIZES AND LOCATIONS.

CODE NOTES - ELECTRICAL

- 1. PROVIDE ELECTRICAL INSTALLATION IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL CODES.
2. THE CURRENT ADOPTED EDITION OF THE ELECTRICAL CODE IS THE STANDARD FOR THE ELECTRICAL INSTALLATION. VERIFY WITH LOCAL OFFICIALS WHEN PERMITS ARE OBTAINED. NOTIFY DESIGN TEAM OF ANY DISCREPANCIES BETWEEN THE PROJECT MANUAL OR DRAWINGS AND THE GOVERNING CODE.
3. INSTALLATION SHALL FOLLOW REQUIREMENTS OF THE ADAAG - AMERICANS WITH DISABILITIES ACT.
4. REFER TO PROJECT MANUAL AND PROJECT CODE REVIEW SHEET FOR LIST OF APPLICABLE CODES.

DEVICE INSTALLATION AND MATERIALS - ELECTRICAL

- 1. PROVIDE NORMAL WIRING DEVICES AS GRAY UNLESS OTHERWISE NOTED.
2. PROVIDE DEVICES COVER PLATES AS STAINLESS STEEL. MATCH WIRING DEVICES COLOR.
3. PROVIDE GFCI TYPE RECEPTACLES AT ALL LOCATIONS REQUIRED BY THE NEC.
4. INSTALL WALL MOUNTED RECEPTACLES AT +18" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.
5. INSTALL WALL MOUNTED LIGHT SWITCHES AT +48" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. EXCEPTION: INSTALL DEVICES ABOVE AN OBSTRUCTED HIGH FORWARD REACH OBSTACLE GREATER THEN 20 INCHES IN DEPTH AT +42".
6. INSTALL ABOVE COUNTERTOP RECEPTACLES +8" ABOVE COUNTERTOP OR AS OTHERWISE INDICATED.
7. AT A COMMON COUNTERTOP, INSTALL ALL RECEPTACLES AND SWITCHES AT THE SAME HEIGHT UNLESS OTHERWISE SPECIFICALLY INDICATED.

INSTALLATION NOTES - LIGHTING

- 1. UNLESS NOTED OTHERWISE, CONNECT ALL EMERGENCY BATTERY FIXTURES WITH AN UN-SWITCHED LEG OF THE LIGHTING CIRCUIT THAT SERVES THE FIXTURES SPACE. MAINTAIN NORMAL SWITCHING SCHEME OF EMERGENCY FIXTURES UNDER NORMAL OPERATION. INSTALL PER EMERGENCY FIXTURE OR TRANSFER DEVICE INSTRUCTIONS.
2. VERIFY CEILING TYPE (IE. GRID, GYP) WITH ARCHITECTURAL REFLECTED CEILING PLANS PRIOR TO RELEASE OF LIGHTING FIXTURE EQUIPMENT PACKAGE. ADJUST FIXTURE TYPE, CONSTRUCTION, FLANGE, OR OTHER COORDINATION DETAILS AS REQUIRED FOR CEILING TYPE.
3. LIGHTING CONTROLS SENSORS ARE SHOWN ON PLANS AT SUGGESTED LOCATIONS ONLY. VERIFY LOCATIONS WITH MANUFACTURER GUIDELINES AND INSTALLATION RECOMMENDATIONS. ADJUST LOCATIONS AS REQUIRED TO MEET MANUFACTURER GUIDELINES.
4. PROVIDE LIGHTING CONTROLS AS A COMPLETE SYSTEM AND INCLUDE MATERIAL AND INSTALLATION FOR ALL POWER PACKS, ACCESSORIES, CONTROLLERS, AND WIRING REQUIRED FOR OPERATION.

BUILDING EQUIPMENT COORDINATION NOTES - ELECTRICAL

- 1. REFER TO EQUIPMENT CONNECTION SCHEDULE FOR COORDINATION DETAILS BETWEEN MECHANICAL AND ELECTRICAL SYSTEMS.
2. PROVIDE AND INSTALL ELECTRICAL SYSTEMS UNDER THIS CONTRACT MEETING THE REQUIREMENTS OF THE SPECIFIED MECHANICAL, FIRE PROTECTION, AND PLUMBING SYSTEMS. REFERENCE THE ENTIRE PROJECT DOCUMENTS, MANUALS, SCHEDULES, DETAILS, AND NOTES.
3. PROVIDE ELECTRICAL CONNECTIONS AND ACCESSORIES INCLUDING STARTERS, DISCONNECTS, CONTROL WIRING, ETC. AS REQUIRED FOR THE BUILDING MECHANICAL EQUIPMENT. INFORMATION HEREIN AND ON THE DRAWINGS IS FOR GENERAL DESCRIPTION AND ESTIMATING PURPOSES ONLY. VERIFY VOLTAGE, AMPERAGE, PHASE, INRUSH, ETC. FOR EACH ITEM OF EQUIPMENT BEFORE PROCEEDING WITH INSTALLATION. INSTALL EQUIPMENT PER WIRING DETAILS AND INSTRUCTIONS FURNISHED BY THE SUPPLIERS OF THE EQUIPMENT TO PROVIDE PROPER OPERATION.
4. REVIEW MECHANICAL EQUIPMENT SHOP DRAWINGS FOR COMPLIANCE AND COORDINATION WITH ELECTRICAL CONNECTIONS. NOTIFY ENGINEER IF CHANGES TO ELECTRICAL CONNECTIONS, WIRING, AND BREAKER REQUIREMENTS ARE NECESSARY TO ACCOMMODATE EQUIPMENT BEING SUPPLIED.
a. DO NOT RELEASE ELECTRICAL DISTRIBUTION EQUIPMENT UNTIL ALL MECHANICAL EQUIPMENT REQUIRING ELECTRICAL INFRASTRUCTURE HAS BEEN SUBMITTED AND APPROVED. MAKE COORDINATION ADJUSTMENTS TO BREAKER SIZES AND SIMILAR CHANGES TO ELECTRICAL EQUIPMENT PRIOR TO SUBMITTAL RELEASE. COORDINATE SCHEDULING OF SHOP DRAWINGS WITH ALL TRADES.
5. PROVIDE DISCONNECTS RATED FOR EQUIPMENT AS REQUIRED AND AS INDICATED WITHIN EQUIPMENT CONNECTION SCHEDULE. COORDINATE DISCONNECT MOUNTING TO ALLOW EQUIPMENT REMOVAL WITHOUT DISCONNECT REMOVAL AND TO MINIMIZE WIRING WORK REQUIRED.
6. PROVIDE HEAVY DUTY TYPE DISCONNECTS RATED FOR THE INSTALLED ENVIRONMENT. PROVIDE MINIMUM NEMA 3R RATED DISCONNECTS FOR EXTERIOR INSTALLATIONS OR AS NOTED.
7. VERIFY LOCATIONS OF ALL EQUIPMENT. REFER TO MECHANICAL, PLUMBING, AND ARCHITECTURAL DRAWINGS AND COORDINATE WITH THE ASSOCIATED SUB-CONTRACTOR. ADJUST ELECTRICAL INSTALLATION AS REQUIRED.

PROJECT DELIVERY NOTES - ELECTRICAL

- 1. THE DELIVERY METHOD FOR THIS PROJECT IS INDIVIDUAL SUB-CONTRACTS TO ONE GENERAL CONTRACTOR. THIS CONTRACTOR IS RESPONSIBLE FOR MEETING WITH ALL SUB-CONTRACTORS TO COORDINATE LOCATIONS AND INSTALLATION OF MECHANICAL AND ELECTRICAL WORK WITH ALL OTHER TRADES. REWORK OF INSTALLED EQUIPMENT WILL BE AT CONTRACTORS EXPENSE.

INSTALLATION NOTES - ELECTRICAL

- 1. BECOME FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BID.
2. INCREASE CONDUCTOR SIZES ON 20A 120V-1 PHASE CIRCUITS EXCEEDING 100 FEET TO CENTER OF LOAD TO ACCOUNT FOR VOLTAGE DROP.
3. RACEWAYS AND BOXES ARE SHOWN DIAGRAMMATICALLY ONLY AND INDICATE GENERAL AND APPROXIMATE LOCATIONS. LAYOUTS DO NOT ALWAYS SHOW THE TOTAL NUMBER OF RACEWAYS OR BOXES FOR THE CIRCUITS REQUIRED, NOR ARE THE LOCATIONS OF INDICATED RUNS INTENDED TO SHOW THE ACTUAL ROUTING OF THE RACEWAYS.
4. LIGHT FIXTURES, SWITCHES, DEVICES, ETC. ARE SHOWN IN PREFERRED LOCATION. MODIFY CONDUIT, HANGERS, CIRCUITING, ETC. TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM.
5. PROVIDE A DEDICATED GREEN INSULATED GROUND CONDUCTOR TO ALL DEVICES. DO NOT USE CONDUIT SYSTEM AS THE ONLY EQUIPMENT GROUNDING METHOD.
6. DO NOT INSTALL BOXES BACK-TO-BACK ON OPPOSITE SIDES OF THE SAME WALL. MAINTAIN MINIMUM OF 8" DISTANCE BETWEEN BOXES WHEREVER APPLICABLE.
7. BALANCE PANEL LOADS DURING INSTALLATION. CIRCUIT NUMBERING SHOWN ON PLANS MAY BE ADJUSTED TO ACCOMMODATE.
8. PROVIDE TYPED PANEL DIRECTORY AT PROJECT COMPLETION FOR NEW PANELS AND EXISTING PANELS WITH CIRCUITS MODIFIED AS A RESULT OF THIS PROJECT. USE OWNER'S CURRENT ROOM NUMBERS AND EQUIPMENT NAMES.
9. CONTRACTOR IS RESPONSIBLE FOR OPENINGS IN WALLS, FLOORS, CEILINGS, AND ROOFS THAT ARE REQUIRED TO COMPLETE THEIR SCOPE OF WORK. SEAL PENETRATIONS IN ACCORDANCE WITH THE RATING OF THE AFFECTED ASSEMBLY. REFER TO ARCHITECTURAL CODE PLAN FOR RATED WALLS, FLOORS, AND CEILINGS.

POWER SYMBOLS

Table with 2 columns: Symbol and Description. Includes symbols for Duplex Receptacle (wall mount, surface raceway, GFCI), Duplex GFCI Weather Resistant Receptacle with Weather-Proof In-Use Cover, Equipment Connection, Motorized Door Operator Control Station, Utility Meter, Panelboard - Surface Mounted, Speaker - Ceiling Mounted, and Disconnect Switch.



GENERAL NOTE: UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES HAVE BEEN SHOWN BASED UPON INFORMATION OBTAINED FROM FIELD LOCATIONS BY UTILITY COMPANIES, AVAILABLE SURVEYS AND RECORDS. THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS ALSO POSSIBLE THAT THERE MAY BE OTHER UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES IN EXISTENCE THAT ARE NOT SHOWN. IT IS THE RESPONSIBILITY OF EACH INDIVIDUAL PARTY REFERENCING THIS PLAN TO DETERMINE THE EXACT LOCATION AND TYPE OF UNDERGROUND FACILITIES ON THE SITE. HAND EXCAVATE AT CRITICAL POINTS AS NECESSARY TO VERIFY LOCATIONS, SIZES, ELEVATIONS, FLOW LINES, ETC. IF A PROBLEM OR INTERFERENCE EXISTS, NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING.

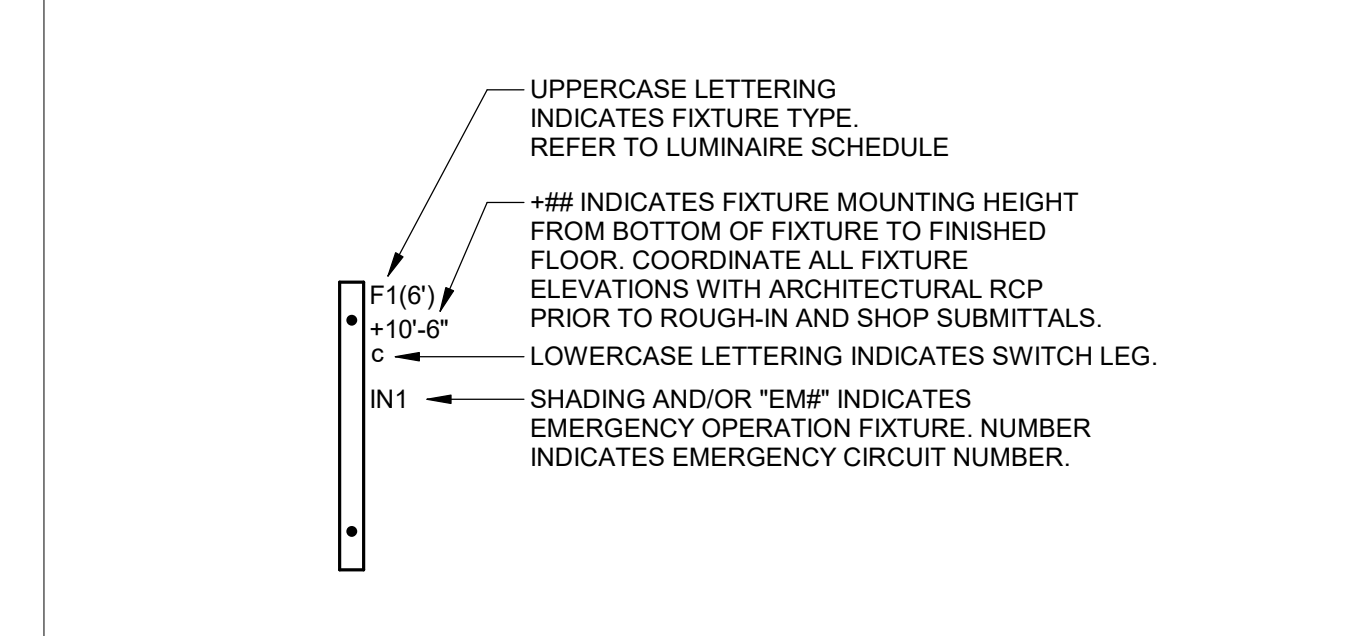
SITE NOTES - ELECTRICAL

- 1. UTILITIES SHOWN ON ELECTRICAL SITE PLAN ARE SCHEMATIC ONLY. VERIFY ALL SITE CONDITIONS AND DIMENSIONS ON SITE PRIOR TO SUBMITTING BID AND ORDERING EQUIPMENT.
2. REPAIR ALL AFFECTED SURFACES AND RESTORE TO EXISTING CONDITIONS AT COMPLETION OF PROJECT.
3. WARNING - CALL BEFORE YOU DIG: LAW REQUIRES ANYONE DOING EXCAVATION, FENCING, PLANTING OR DRILLING TO CALL 48 HOURS IN ADVANCE. HAND DIG WITHIN 18 INCHES OF ANY LOCATE MARK OR FLAG. ONE-CALL 811.

ELECTRICAL ABBREVIATIONS

Table with 2 columns: Abbreviation and Full Name. Includes terms like DEVICE MOUNTED +8" ABOVE COUNTER TOP, AUTOMATIC TRANSFER SWITCH, CEILING, CIRCUIT BREAKER, CURRENT TRANSFORMER, EXISTING ITEM TO REMAIN, EMERGENCY LIGHT FIXTURE, NEW LOCATION OF EXISTING ITEM, FIRE ALARM ANNUNCIATOR PANEL, FIRE ALARM CONTROL PANEL, FIRE SMOKE DAMPER, GROUND FAULT CIRCUIT INTERRUPTER, GROUND, KVA, KILOWATTS, MECHANICAL CONTRACTOR, MAIN CIRCUIT BREAKER, MAIN DISTRIBUTION PANEL, MAIN LUGS ONLY, NEW DEVICE IN EXISTING LOCATION, NIC, NOT IN CONTRACT, NM, NONMETALLIC, NOT TO SCALE, ON CENTER, OWNER FURNISHED, CONTRACTOR INSTALLED, OWNER FURNISHED, OWNER INSTALLED, EXISTING ITEM TO BE REMOVED AND RELOCATED, EXISTING ITEM TO BE REMOVED AND REPLACED WITH NEW, SHORT CIRCUIT CURRENT RATING, TAMPER PROOF DEVICE, TEMPERATURE CONTROL CONTRACTOR, TELEVISION, TYPICAL, UNINTERRUPTIBLE POWER SUPPLY, VOLTS, VOLT-AMPERES, WIREGUARD COVER, WEATHERPROOF DEVICE, WEATHER RESISTANT DEVICE, INDICATES MOUNTING HEIGHT CENTER LINE OF DEVICE TO FINISHED FLOOR.

LIGHTING PLANS NOTATION KEY



GENERAL SYMBOLS

Table with 2 columns: Symbol and Description. Includes symbols for Junction Box (ceiling or floor mounted), Junction Box (wall mounted, elevation as noted), Circuit Homerun, Concealed Conduit or Cable, Keynote, Equipment Identification Tag, and Detail Drawing Reference Tag (SIM-Similar, TYP-Typical, OPP-Opposite Sheet Reference).

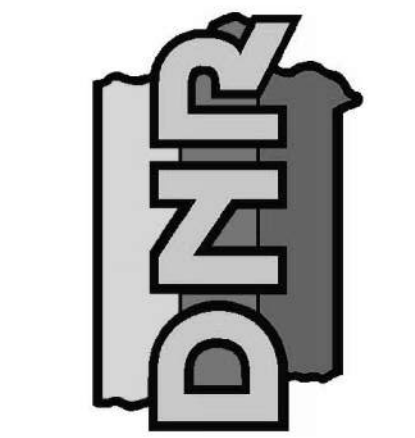
LIGHTING SYMBOLS

Table with 2 columns: Symbol and Description. Includes symbols for Site Pole Luminaire, Surface Mounted Strip Fixture, Industrial Strip Light Fixture, Emergency Light Fixture, Exit Sign, Exterior Light Fixture, Flood Light Fixture, Single Pole Switch, Occupancy Sensor (wall mount), and Occupancy Sensor (ceiling mount).

NOTE: ALL SYMBOLS MAY NOT APPLY TO THIS PROJECT

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ELECTRICAL NOTES RANGE RENOVATION PHASE I FOR: DLS SHOOTING RANGE

Long Grove, IA 52756

30245 220th Ave.

Revision table with columns for NO., DATE, and REVISION. Includes drawing information: DRAWN BY: DEB, PROJECT NUMBER: 23-06-82-01, CHKD BY: JTL, DATE: 06.20.2023.

SITE NOTES - ELECTRICAL

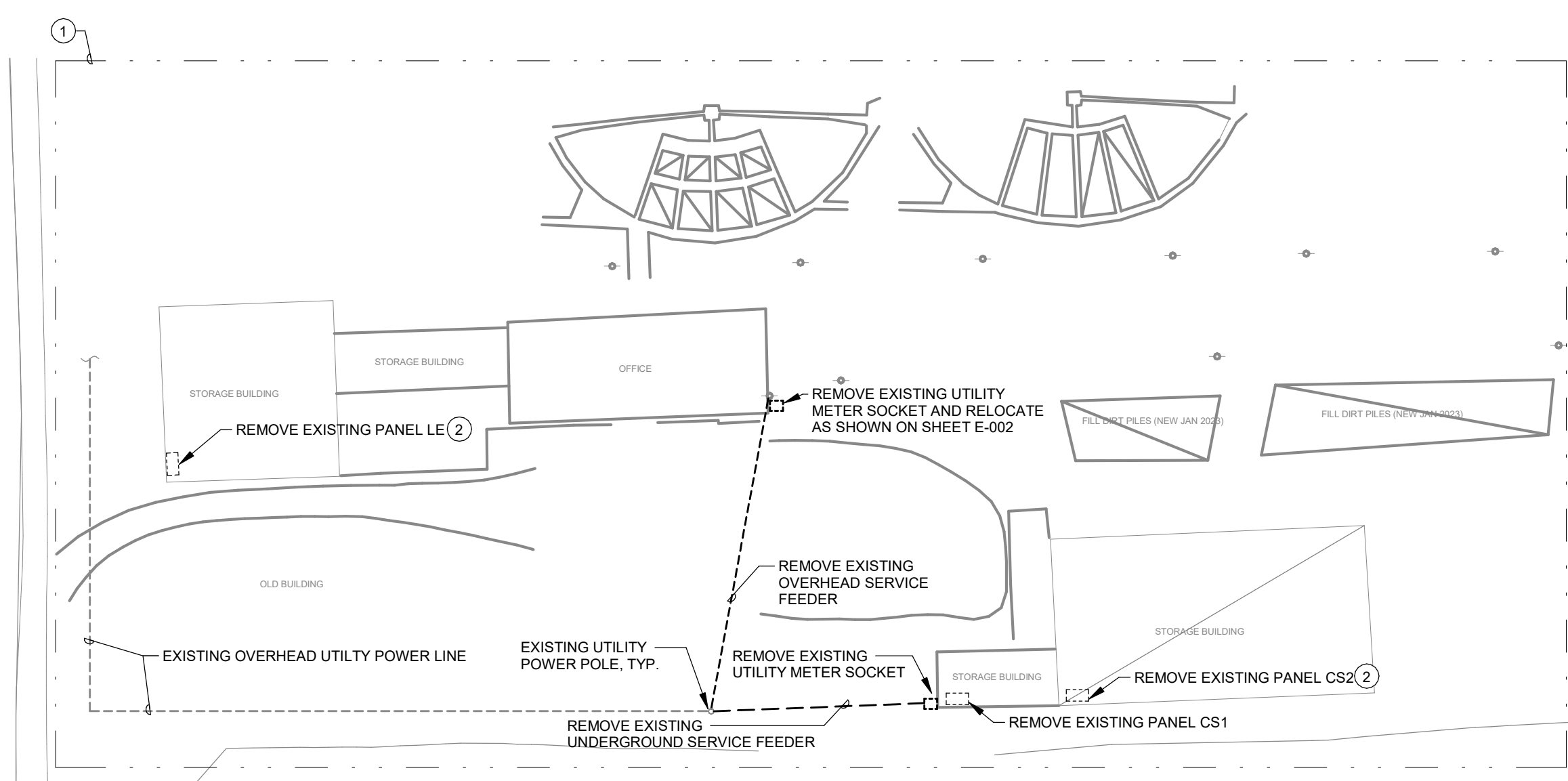
1. UTILITIES SHOWN ON ELECTRICAL SITE PLAN ARE SCHEMATIC ONLY. VERIFY ALL SITE CONDITIONS AND DIMENSIONS ON SITE PRIOR TO SUBMITTING BID AND ORDERING EQUIPMENT.
2. REPAIR ALL AFFECTED SURFACES AND RESTORE TO EXISTING CONDITIONS AT COMPLETION OF PROJECT.
3. WARNING - CALL BEFORE YOU DIG: LAW REQUIRES ANYONE DOING EXCAVATION, FENCING, PLANTING OR DRILLING TO CALL 48 HOURS IN ADVANCE. HAND DIG WITHIN 18 INCHES OF ANY LOCATE MARK OR FLAG. ONE-CALL 811.

ELECTRICAL DEMOLITION NOTES

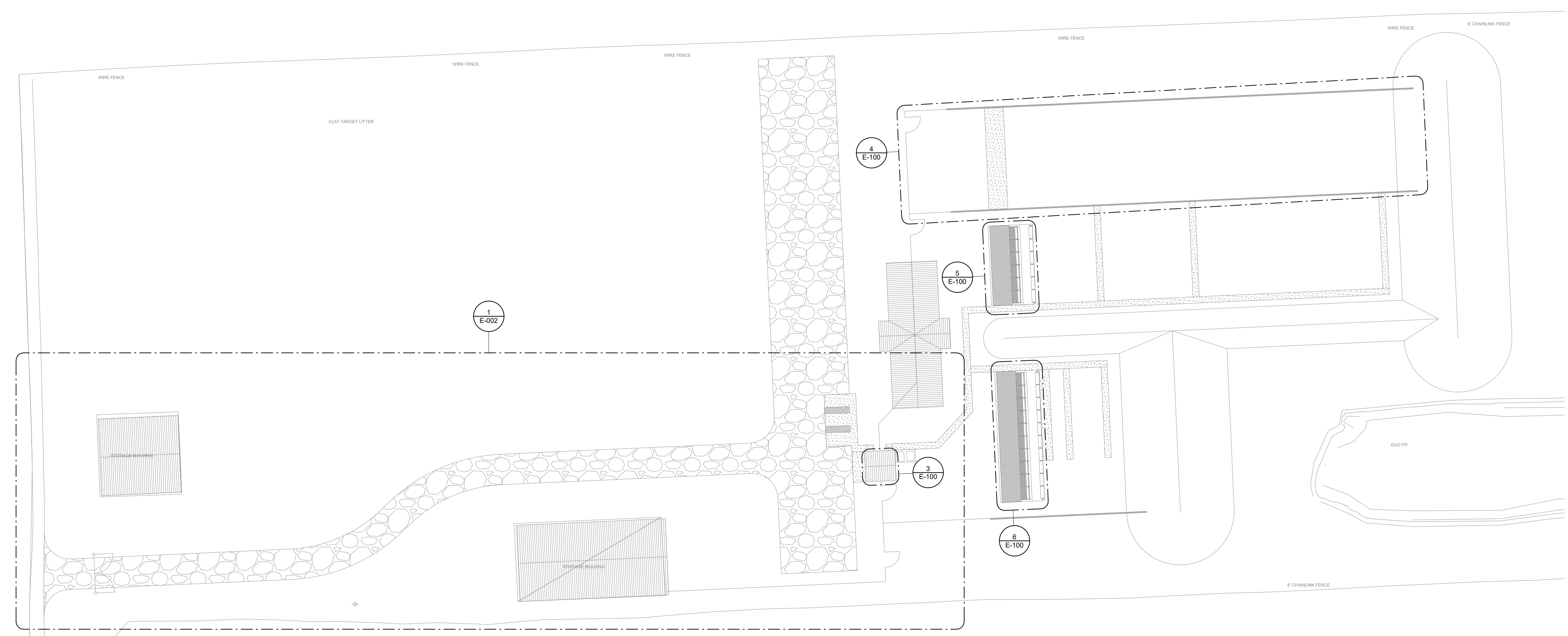
1. DEMOLITION DRAWINGS PRESENT LAYOUT OF EXISTING CONDITIONS AND MAJOR MECHANICAL/ELECTRICAL ITEMS. THEY ARE NOT TO BE CONSTRUED AS COMPLETE IN REPRESENTATION OF ACCESSORIES AND INCIDENTALS TO BE REMOVED, REPLACED, OR REWORKED. NOR SHOULD ACCESSIBILITY BE INFERRED. THE CONTRACTOR IS RESPONSIBLE TO FAMILIARIZE THEMSELVES WITH THE BUILDING AND EXISTING CONDITIONS, PRIOR TO THE SUBMITTING OF A BID FOR THIS PROJECT. REMOVE ELECTRICAL FACILITIES AND CLEAR THE AREA TO RECEIVE THE NEW WORK TO BE PROVIDED UNDER THIS CONTRACT.
2. THIS ELECTRICAL DEMOLITION DRAWING SHOWING EXISTING CONDITIONS HAS BEEN PREPARED BASED ON FIELD OBSERVATION AND ORIGINAL DRAWINGS. ADDITIONAL COMPONENTS MAY EXIST WHICH DO NOT SHOW, AND SUCH ITEMS SHALL BE DEALT WITH IN A MANNER SIMILAR TO THOSE ITEMS WHICH DO SHOW. CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS. CONDUITS, BOXES, ETC., SHALL BE REMOVED AS REQUIRED BY WALL AND CEILING DEMOLITION AND REMOVALS. WIRING SHALL BE REMOVED. ALL WIRING FOR THE REMODELED AREAS SHALL BE NEW UNLESS SPECIFICALLY NOTED OTHERWISE. ALL BRANCH CIRCUITS TO BE DISCONNECTED SHALL BE IDENTIFIED AS TO LOCATION OR ITEM SERVED BEFORE DISCONNECTING. CIRCUITS SERVING AREAS BEYOND THE IMMEDIATE DEMOLITION AREA SHALL BE MAINTAINED.
3. CONTRACTOR SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH EXISTING ELECTRICAL SYSTEM WHICH WILL BE AFFECTED BY THE DEMOLITION WORK. CONTRACTOR SHALL OBTAIN PERMISSION FROM OWNER'S REPRESENTATIVE TO SHUT OFF SERVICES OR SYSTEMS WHICH MAY AFFECT OTHER AREAS BEYOND THE LIMITS OF THE IMMEDIATE DEMOLITION AREA. SUCH PERMISSION WILL BE GRANTED ONLY AFTER OWNER'S REPRESENTATIVE IS INFORMED OF THE REASON FOR AND DURATION OF THE SHUTDOWN AND IS SATISFIED THAT THE SHUTDOWN CAN BE MADE WITH AS LITTLE INCONVENIENCE TO OTHER AREAS AS POSSIBLE.
4. PANELBOARDS, DISCONNECTS, FIXTURES, WIRING DEVICES, SIGNAL DEVICES, ETC., SHOWN ON PLANS SHALL BE REMOVED UNLESS NOTED OTHERWISE. REMOVAL SHALL BE DONE IN A TIMELY MANNER IN ACCORDANCE WITH THE GENERAL DEMOLITION WORK. COORDINATE WITH THE OWNER AND OTHER CONTRACTORS.
5. ABBREVIATIONS:
 E - EXISTING ITEM TO REMAIN
 ER - NEW LOCATION OF EXISTING ITEM
 N - NEW ITEM IN EXISTING LOCATION
 R - EXISTING ITEM TO BE REMOVED, PATCH AND/OR COVER
 RN - REPLACE EXISTING WITH NEW
 RR - EXISTING ITEM TO BE REMOVED AND RELOCATED

KEYNOTES #

1. COORDINATE ADDITIONAL SITE ELECTRICAL DEMOLITION WORK WITH OWNER AS SHOWN ON CIVIL DEMOLITION PLANS.
2. EXISTING PANEL SHALL BE REPLACED WITH NEW IN EXISTING LOCATION. EXTEND AND RECONNECT EXISTING BRANCH CIRCUITS AS NECESSARY. REFER TO NEW ELECTRICAL SITE PLAN ON SHEET E-002 AND ONE-LINE DIAGRAM ON SHEET E-200.



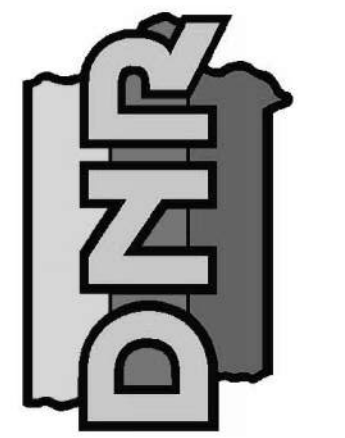
1 SITE ELECTRICAL DEMOLITION PLAN
1/4" = 1'-0"



2 OVERALL ELECTRICAL SITE PLAN - REFERENCE ONLY
1/4" = 1'-0"

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ELECTRICAL SITE PLAN
RANGE RENOVATION PHASE I FOR:
DLS SHOOTING RANGE

30245 220th Ave.
Long Grove, IA 52756

NO.	BY DATE	REVISION

DRAWN BY: **DEB** PROJECT NUMBER: **23-06-82-01**
 CHK'D BY: **JTL** DATE: **06.20.2023**

SHEET NO: **E-001**

SITE NOTES - ELECTRICAL

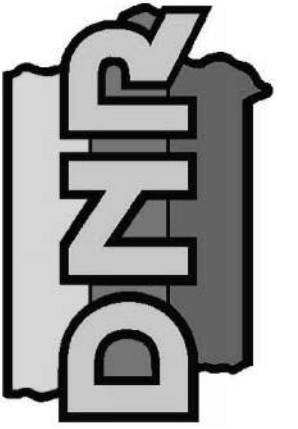
1. UTILITIES SHOWN ON ELECTRICAL SITE PLAN ARE SCHEMATIC ONLY. VERIFY ALL SITE CONDITIONS AND DIMENSIONS ON SITE PRIOR TO SUBMITTING BID AND ORDERING EQUIPMENT.
2. REPAIR ALL AFFECTED SURFACES AND RESTORE TO EXISTING CONDITIONS AT COMPLETION OF PROJECT.
3. WARNING - CALL BEFORE YOU DIG: LAW REQUIRES ANYONE DOING EXCAVATION, FENCING, PLANTING OR DRILLING TO CALL 48 HOURS IN ADVANCE. HAND DIG WITHIN 18 INCHES OF ANY LOCATE MARK OR FLAG. ONE-CALL 811.

KEYNOTES #

1. NEW ELECTRICAL PANEL IN EXISTING LOCATION. RECONNECT EXISTING CIRCUITS AND ESTABLISH NEW BUILDING GROUNDING SYSTEM.
2. HH1 SHALL BE (1) 24X18" QUAZITE HAND HOLE WITH BOLTED GASKET COVER. ENGRAVE COVER WITH "COMMUNICATIONS". ROUTE EMPTY CONDUITS FROM 30 YARD AND 100 YARD SHOOTING STRUCTURES TO THIS HAND HOLE FOR FUTURE USE. PROVIDE PULL STRING WITHIN CONDUIT AND FIELD COORDINATE FINAL HAND HOLE LOCATION WITH OWNER AND CIVIL DRAWINGS.
3. HH2 FOR LAW ENFORCEMENT RANGE SHALL BE (1) 24X18" QUAZITE HAND HOLE WITH BOLTED GASKET COVER. ENGRAVE COVER WITH "ELECTRICAL". ROUTE LIGHTING AND POWER CONDUITS FROM 30 YARD AND 100 YARD SHOOTING STRUCTURES TO THIS HAND HOLE. FIELD COORDINATE FINAL HAND HOLE LOCATION WITH OWNER AND CIVIL DRAWINGS.
4. NEW ELECTRICAL SERVICE AND DISTRIBUTION EQUIPMENT. REFER TO ONE-LINE DIAGRAM 1/E-200. COORDINATE FINAL REQUIREMENTS WITH UTILITY COMPANY AND EXISTING SITE CONDITIONS.

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ENLARGED ELEC. SITE PLAN

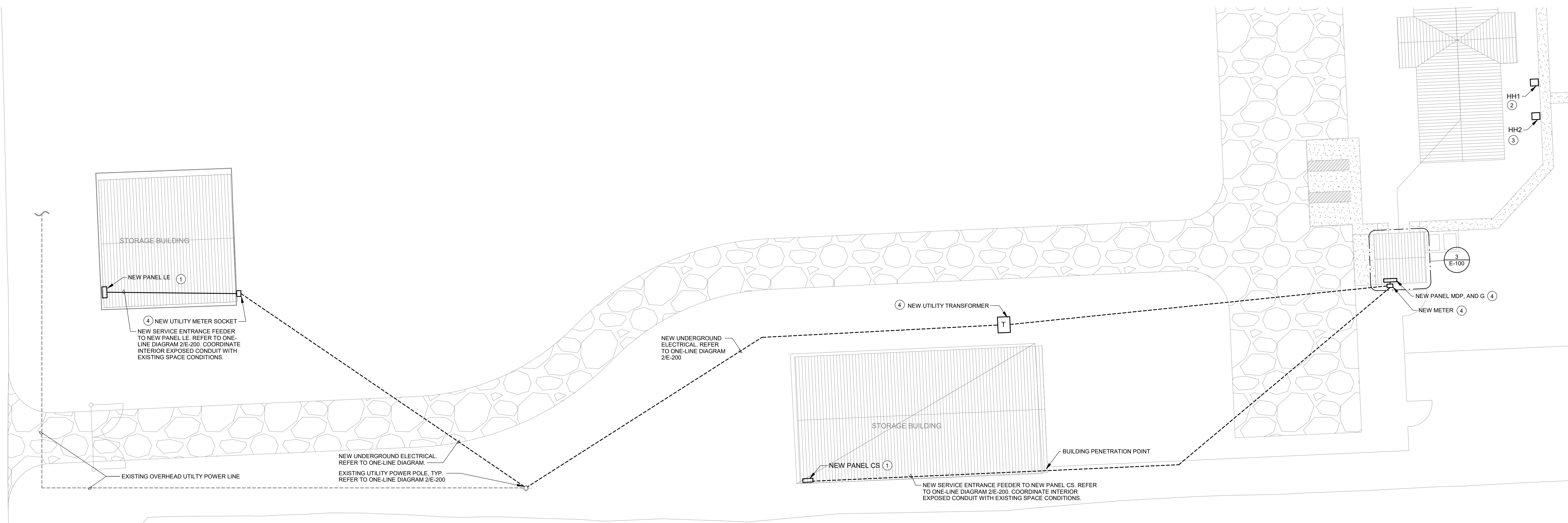
RANGE RENOVATION PHASE I FOR:
DLS SHOOTING RANGE

30245 220th Ave. Long Grove, IA 52756

NO.	BY	DATE	REVISION

DRAWN BY: DEB PROJECT NUMBER: 23-06-82-01
 CHKD BY: JTL DATE: 06.20.2023
 SHEET NO:

E-002



1 ENLARGED SITE ELECTRICAL PLAN - UTILITIES
1/2" = 1'-0"

LIGHTING GENERAL NOTES

- A. COORDINATE LOCATION/INSTALLATION OF MECHANICAL AND ELECTRICAL WORK WITH ALL OTHER TRADES. NO ASPECT OF A SYSTEM INSTALLATION OR ITS ROUGH-IN SHALL COMMENCE UNTIL PROPER AND TIMELY COORDINATION WITH ALL TRADES ASSOCIATED WITH THE INSTALLATION HAS TRANSPIRED. ITEMS TO BE COORDINATED SHALL INCLUDE BUT NOT BE LIMITED TO: BUILDING STRUCTURE, SHEET METAL, ALL PIPING SYSTEMS, LIGHT FIXTURES, CONDUITS, CABLE TRAYS, ETC. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.

POWER GENERAL NOTES

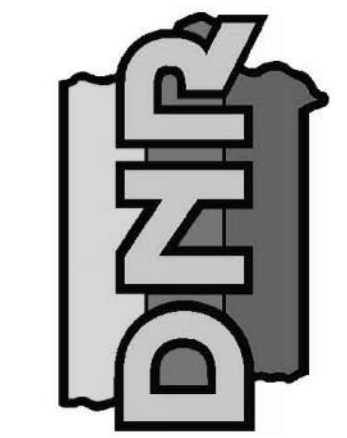
- A. COORDINATE LOCATION/INSTALLATION OF MECHANICAL AND ELECTRICAL WORK WITH ALL OTHER TRADES. NO ASPECT OF A SYSTEM INSTALLATION OR ITS ROUGH-IN SHALL COMMENCE UNTIL PROPER AND TIMELY COORDINATION WITH ALL TRADES ASSOCIATED WITH THE INSTALLATION HAS TRANSPIRED. ITEMS TO BE COORDINATED SHALL INCLUDE BUT NOT BE LIMITED TO: BUILDING STRUCTURE, SHEET METAL, PIPING SYSTEMS, LIGHT FIXTURES, CONDUITS, CABLE TRAYS, ETC. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
- B. COORDINATE ELECTRICAL REQUIREMENTS FOR MECHANICAL UNITS WITH M.C. AND FINAL MECHANICAL SHOP DRAWINGS.
- C. PROVIDE PENETRATIONS REQUIRED FOR ROUTING RACEWAYS THROUGH THE BUILDING. COORDINATE FIRE RATED WALL PENETRATIONS AND PROVIDE CONDUIT SLEEVES AND FIRE STOPPING TO MAINTAIN RATING.

KEYNOTES

- 1 OVERHEAD DOOR MOTORIZED CONTROLLER. INSTALL DEVICES PER MANUFACTURER INCLUDING ALL LOW VOLTAGE SENSORS AND SWITCHES. PROVIDE EQUIPMENT DISCONNECT WHERE NECESSARY.
- 2 240V NEMA 6-15R RECEPTACLE. MINIMUM +48" AFF. COORDINATE FINAL HEIGHT WITH ARCHITECT AND EQUIPMENT SHOP DRAWINGS.
- 3 MOUNT LUMINAIRE PARALLEL TO CONCRETE WALL AND ORIENT EASTWARDS. ROTATE LUMINAIRE 30 DEGREES AWAY FROM THE WALL, AND A TILT OF 95 DEGREES FROM THE GROUND.
- 4 SURFACE MOUNT WEATHERPROOF SINGLE POLE SWITCH BANK.
- 5 ROUTE EMPTY CONDUITS WITH PULL STRING TO HH1.

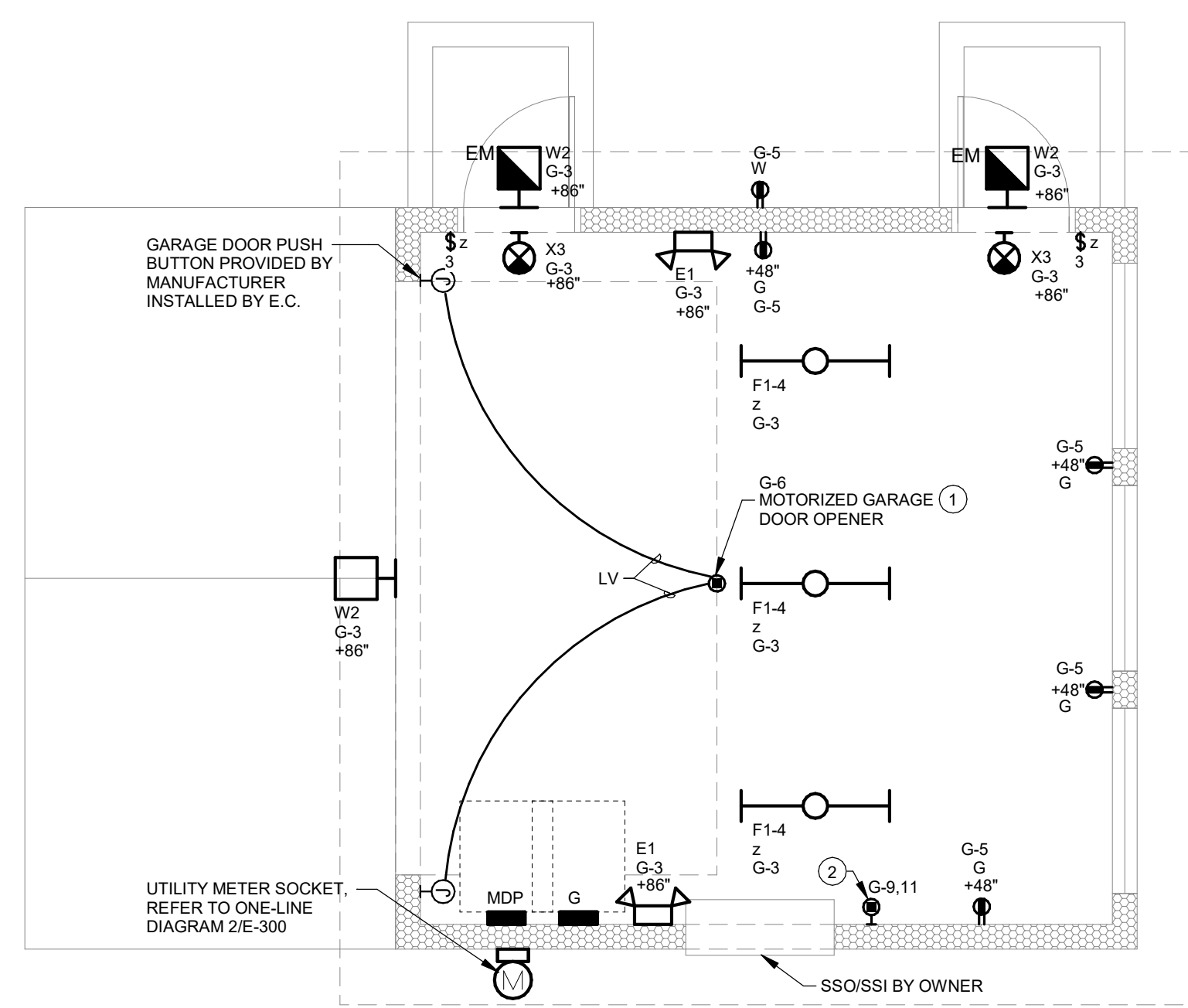
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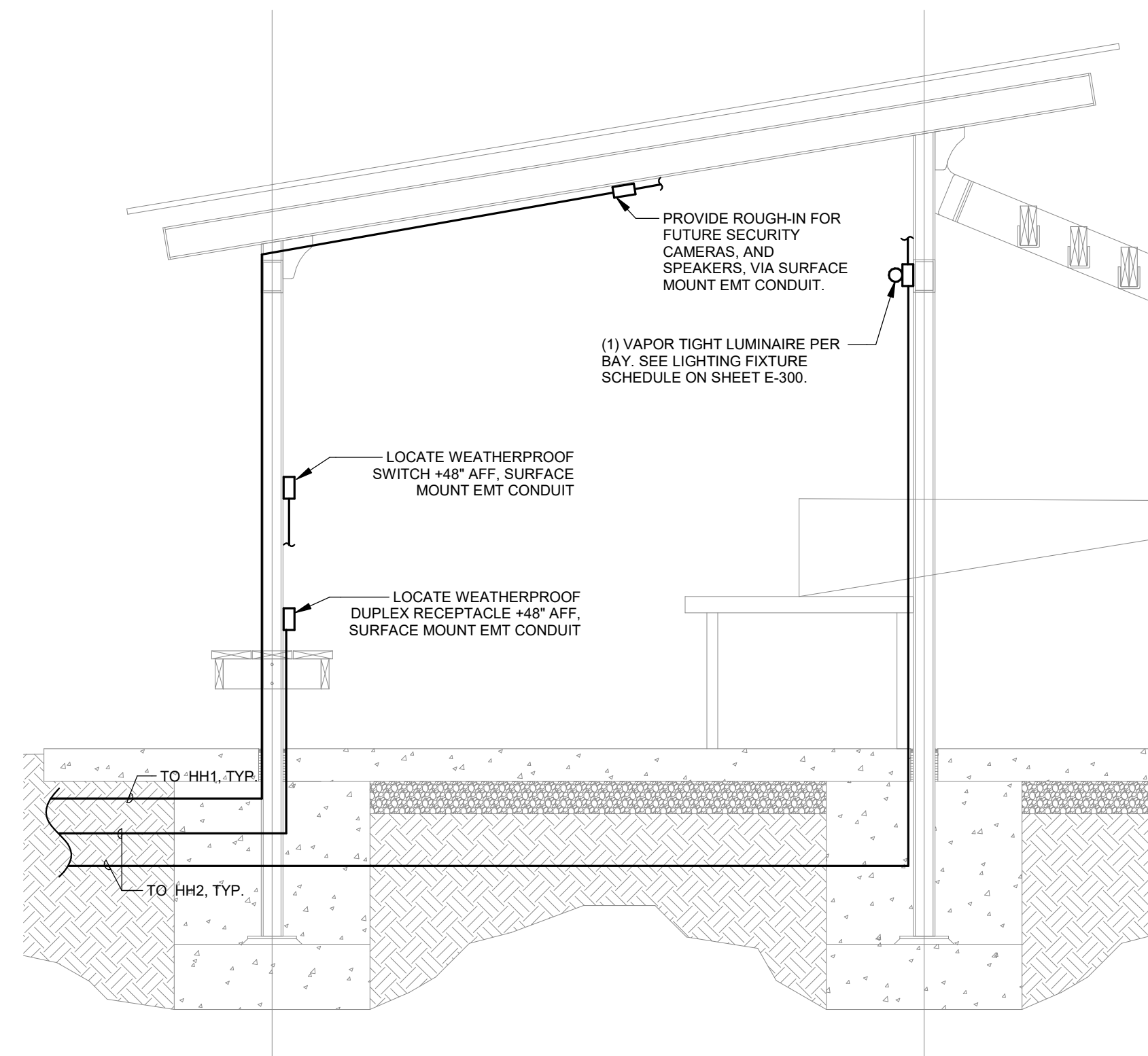


ELECTRICAL FLOOR PLANS
RANGE RENOVATION PHASE I FOR:
DLS SHOOTING RANGE
30245 220th Ave.
Long Grove, IA 52756

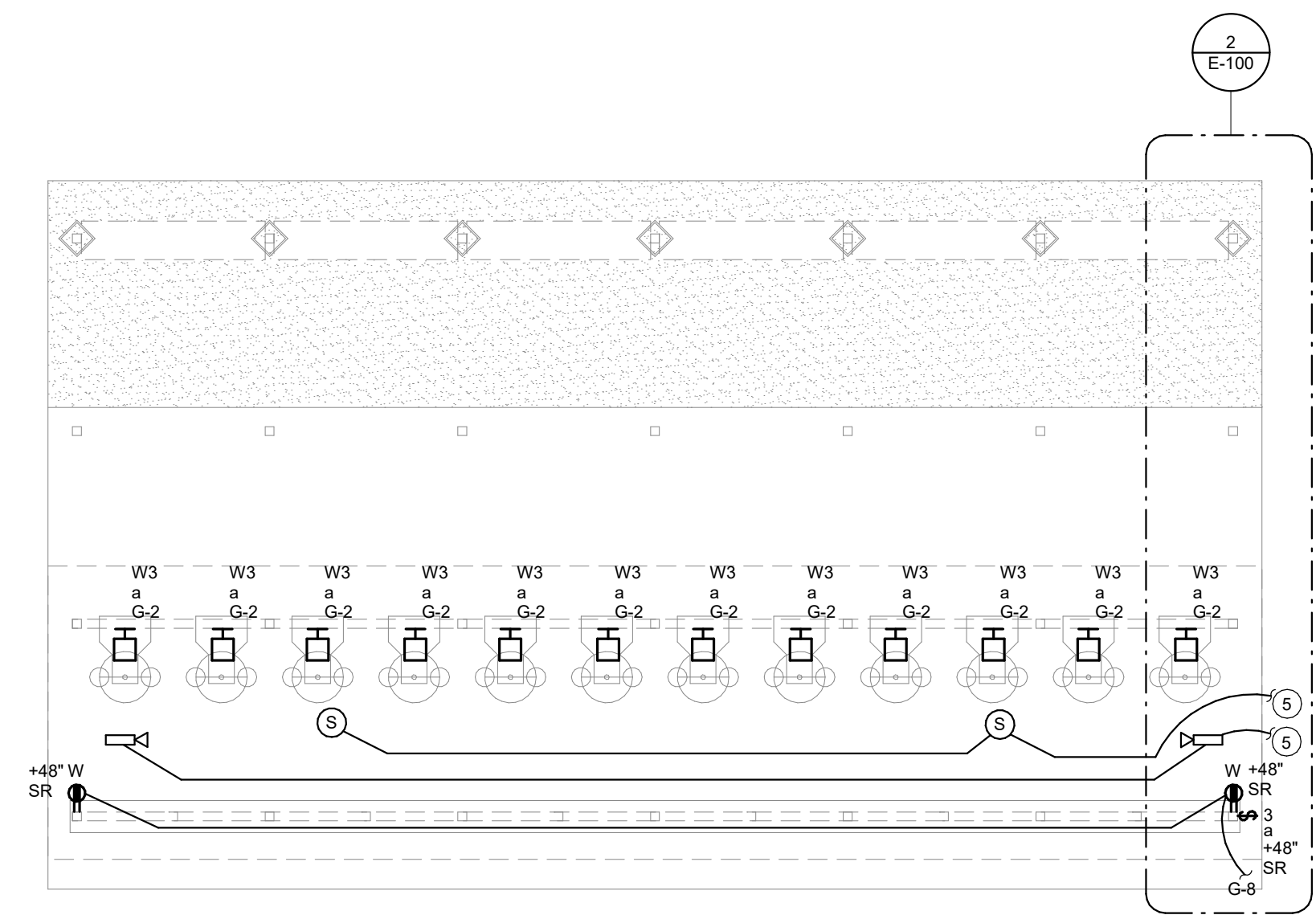
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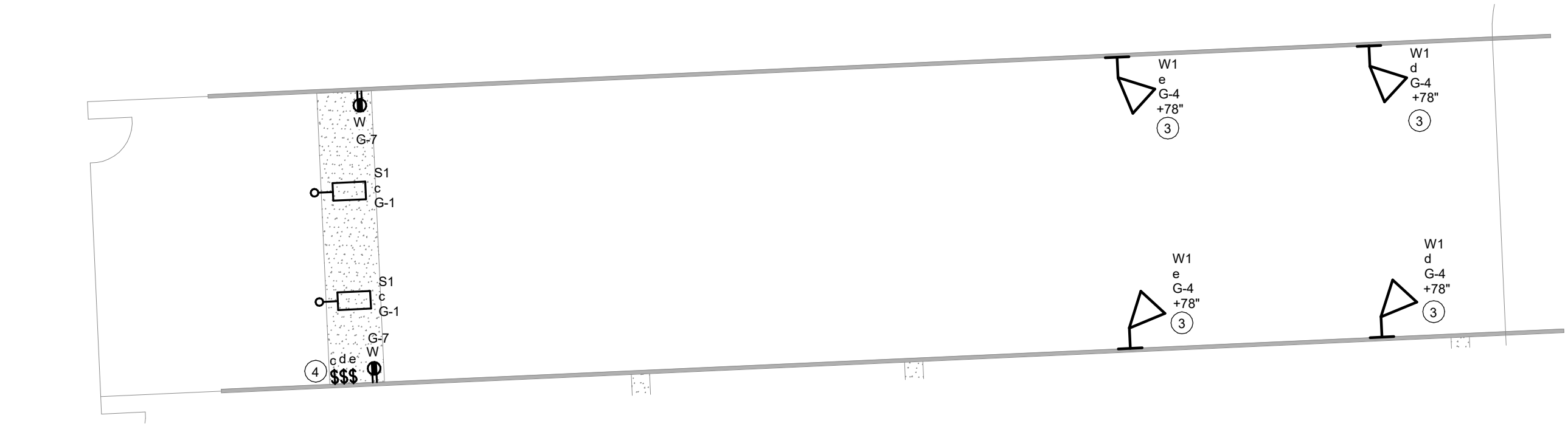
3 ENLARGED ELECTRICAL PLAN - GARAGE
1/4" = 1'-0"



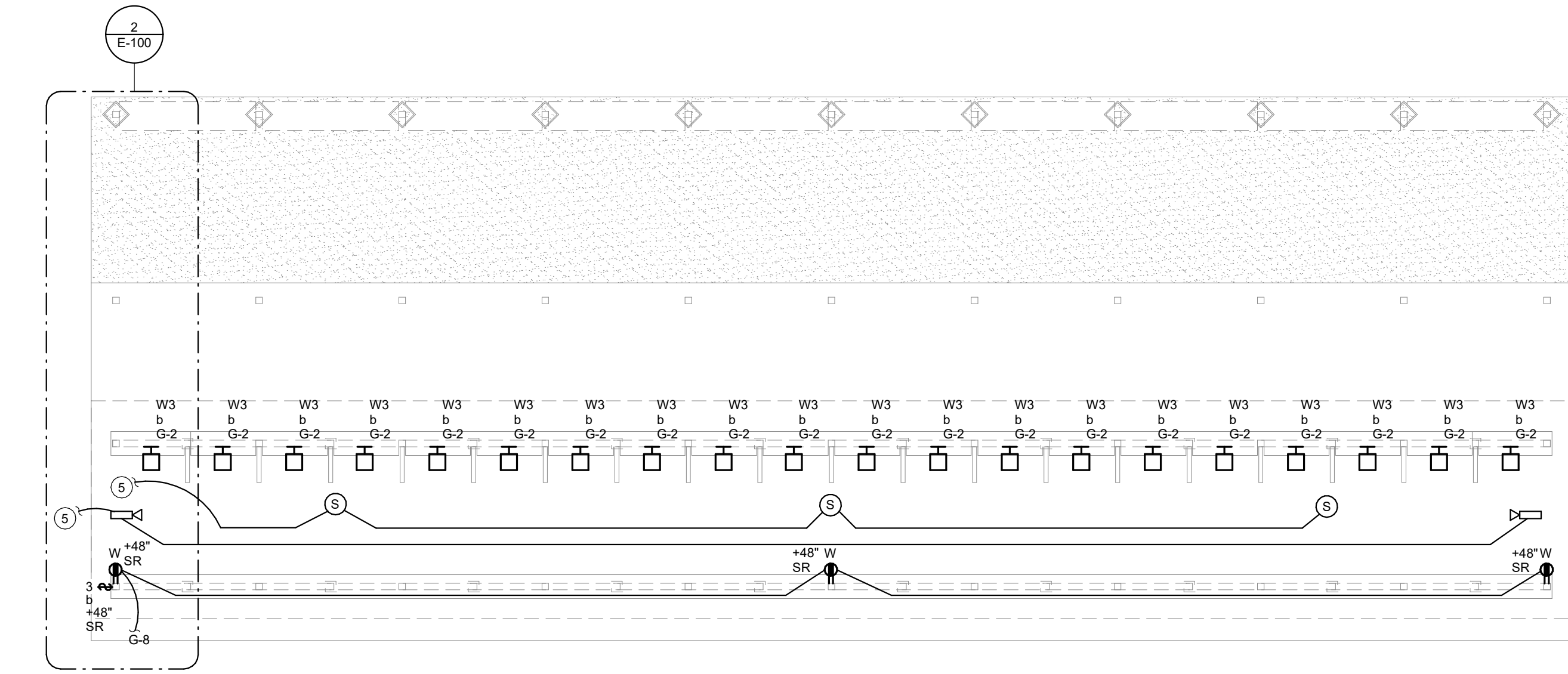
2 ELECTRICAL SECTION - SHOOTING STRUCTURE
1/2" = 1'-0"



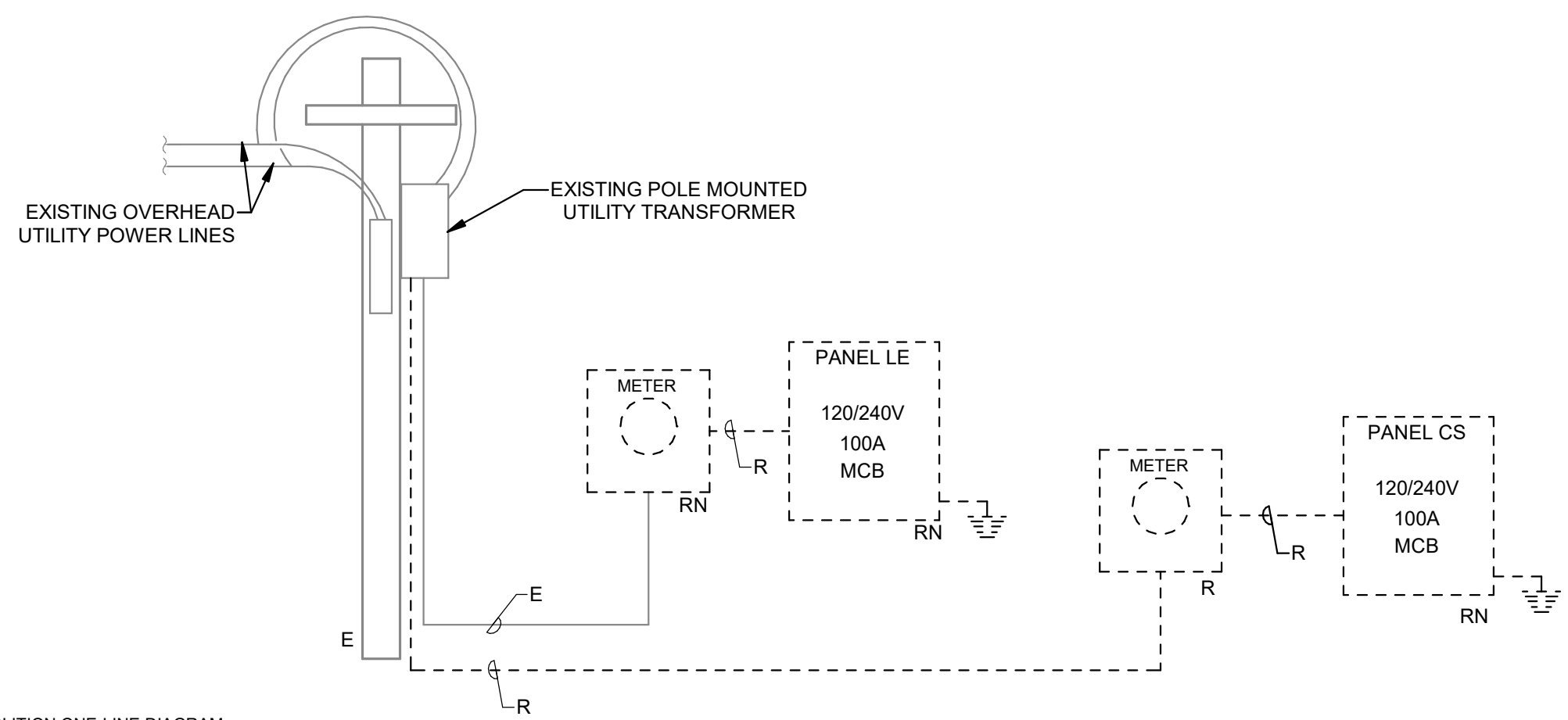
5 ELECTRICAL FLOOR PLANS - NORTH SHOOTING STRUCTURE
1/8" = 1'-0"



4 ENLARGED ELECTRICAL SITE PLAN - RANGE
3/8" = 1'-0"



6 ELECTRICAL FLOOR PLANS - SOUTH SHOOTING STRUCTURE
1/8" = 1'-0"



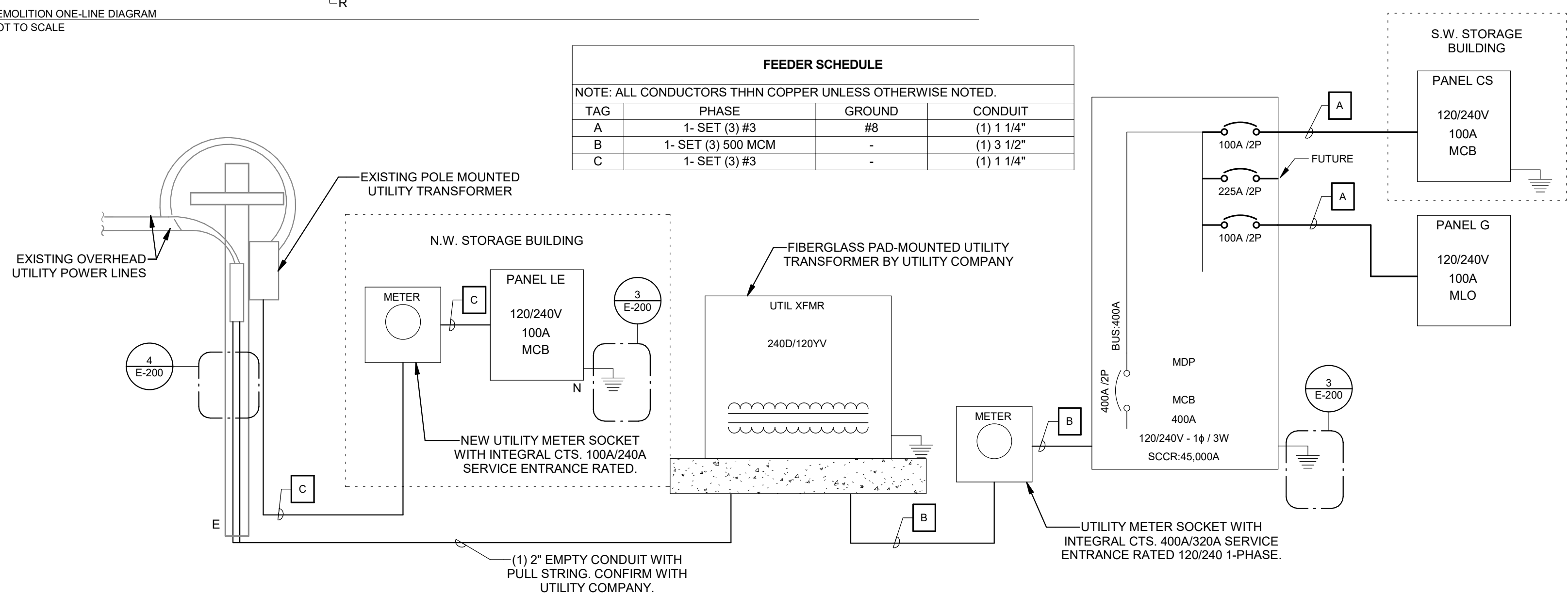
1 DEMOLITION ONE-LINE DIAGRAM
NOT TO SCALE

RISER DIAGRAM GENERAL NOTES

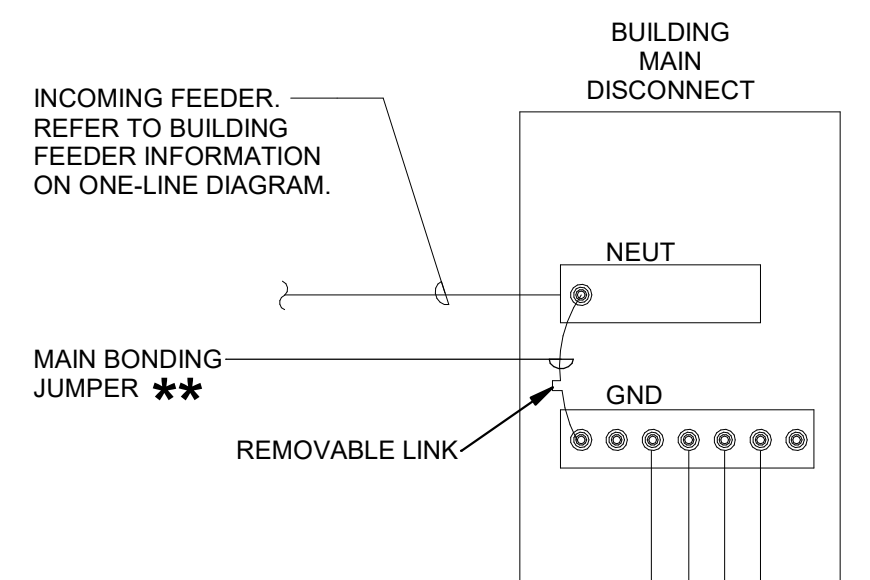
- A. DIAGRAM INDICATES OVERALL LAYOUT OF ELECTRICAL DISTRIBUTION SYSTEM. REFER TO FLOOR PLANS FOR EQUIPMENT LOCATIONS.
- B. USE COPPER CONDUCTORS UNLESS OTHERWISE INDICATED.
- C. MATCH NEUTRAL CONDUCTOR SIZE TO THE PHASE CONDUCTORS UNLESS OTHERWISE NOTED.
- D. ALL WIRING SHALL BE IN RACEWAY AS NOTED. REFER TO SPECIFICATIONS FOR CONDUIT APPLICATION REQUIREMENTS.
- E. INSTALL UTILITY TRANSFORMER PAD, METERING EQUIPMENT, AND SERVICE ENTRANCE FEEDERS IN ACCORDANCE WITH UTILITY COMPANY REQUIREMENTS.

FEEDER SCHEDULE
NOTE: ALL CONDUCTORS THHN COPPER UNLESS OTHERWISE NOTED.

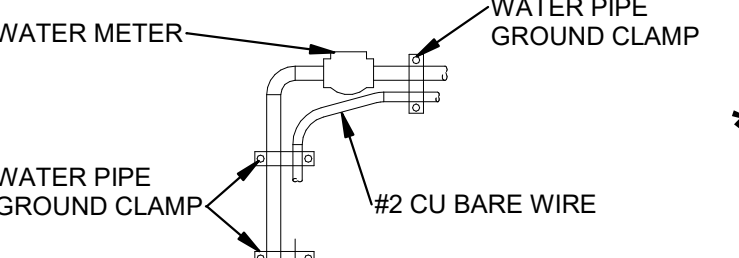
TAG	PHASE	GROUND	CONDUIT
A	1- SET (3) #3	#8	(1) 1 1/4"
B	1- SET (3) 500 MCM	-	(1) 3 1/2"
C	1- SET (3) #3	-	(1) 1 1/4"



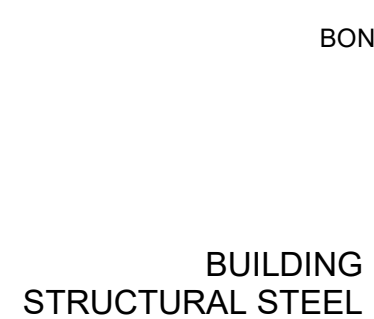
2 ONE-LINE DIAGRAM
NOT TO SCALE



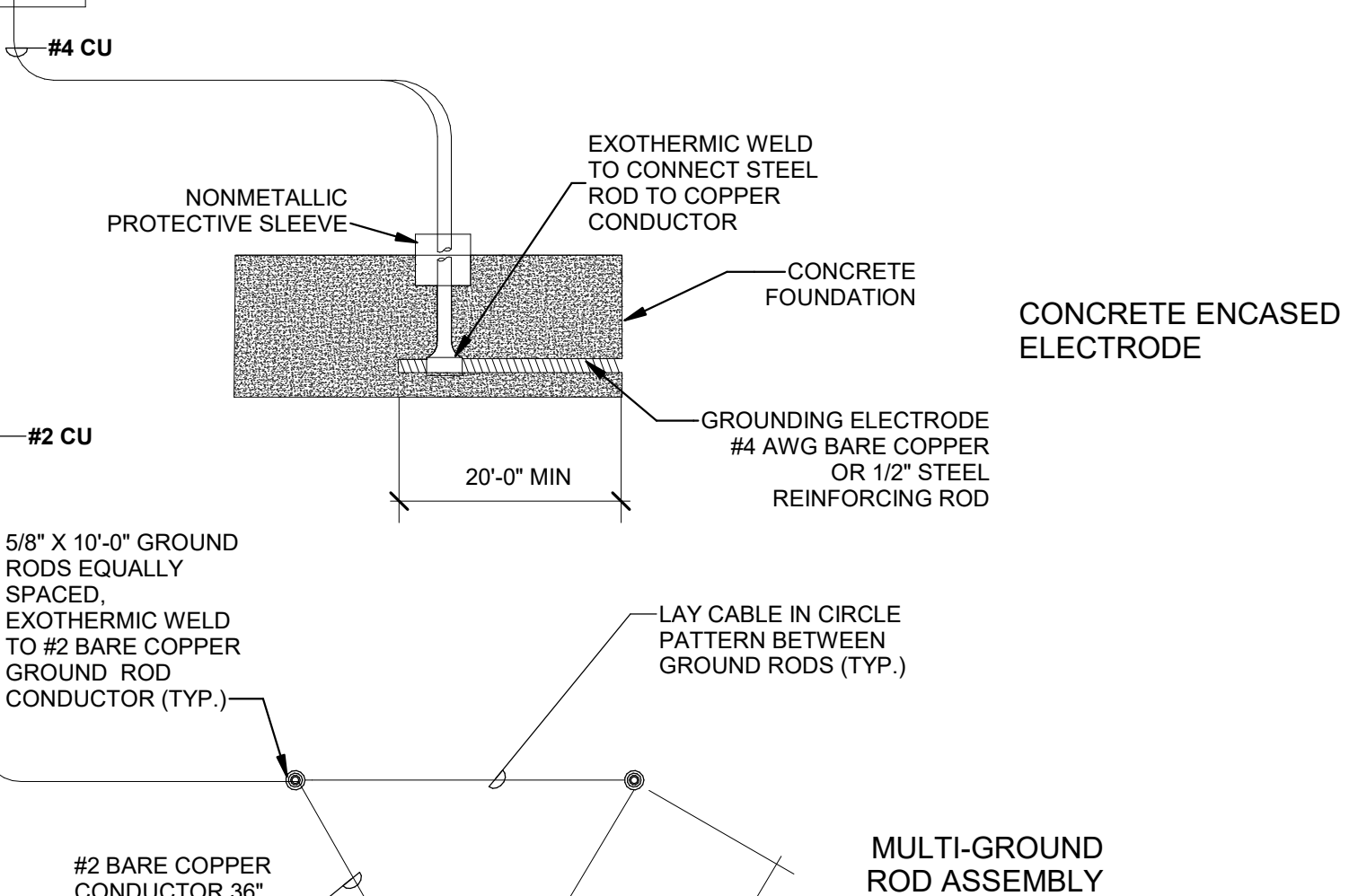
BUILDING GAS PIPING



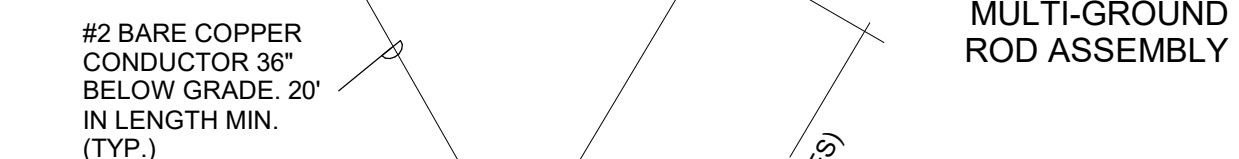
COLD WATER PIPE ENTRY



BUILDING STRUCTURAL STEEL



CONCRETE ENCASED ELECTRODE



MULTI-GROUND ROD ASSEMBLY

* SIZE GROUNDING ELECTRODE CONDUCTOR AND BONDING PER NEC 250.66 AND TABLE BELOW. ALL CONDUCTORS TO BE COPPER.
TABLE BASED ON NEC 2020

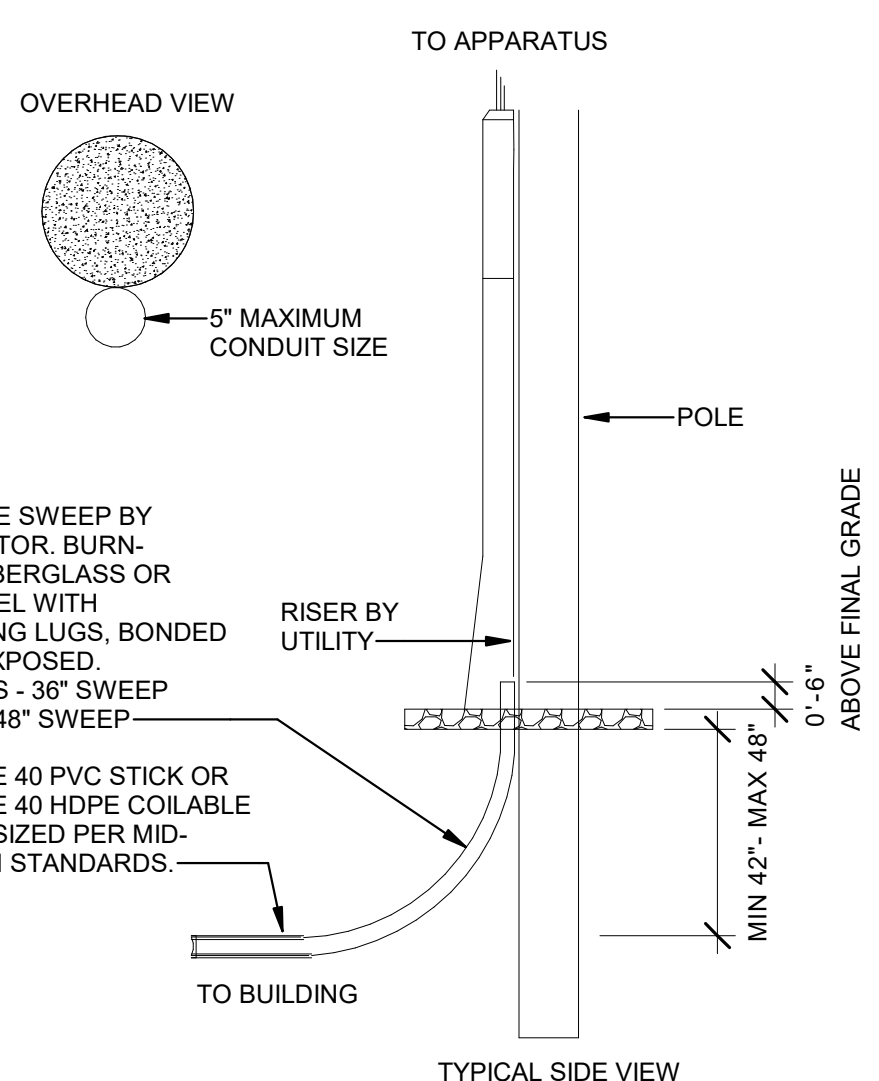
TABLE 250.66 GROUNDING ELECTRODE CONDUCTOR FOR ALTERNATING-CURRENT SYSTEMS

SIZE OF LARGEST UNGROUNDING CONDUCTOR OR EQUIVALENT AREA FOR PARALLEL CONDUCTORS (AWG/KCMIL)	ALUMINUM OR COPPER-CLAD AL	SIZE OF GROUNDING ELECTRODE CONDUCTOR (AWG/KCMIL)
COPPER		COPPER
#2 OR SMALLER	#1/0 OR SMALLER	#8
#1 OR #1/0	#2/0 OR #3/0	#6
#2/0 OR #3/0	#4/0 OR 250	#4
OVER #3/0 THROUGH 350	OVER 250 THROUGH 500	#2
OVER 350 THROUGH 600	OVER 500 THROUGH 900	#1/0
OVER 600 THROUGH 1100	OVER 900 THROUGH 1750	#2/0
OVER 1100	OVER 1750	#3/0

** SIZE BONDING JUMPER PER NEC 250.102. USE TABLE ABOVE FOR ALL CONDUCTORS BETWEEN #2 AND #1100. ALL INCOMING CONDUCTORS OVER 1100 CU OR 1750 AL SHALL BE SIZED PER THE TABLE 250.102(C). SERVICE EQUIPMENT SHALL BE SUPPLIED WITH BONDING JUMPER FROM THE MANUFACTURER.

NOTES

- A. ALL AVAILABLE GROUNDING ELECTRODES WHICH ARE PRESENT AT THE BUILDING OR STRUCTURE SHALL BE BONDED TOGETHER TO FORM THE GROUNDING ELECTRODE SYSTEM (GES). ADDITIONAL CODE-REQUIRED GROUNDING CONNECTIONS NOT SHOWN SHALL BE PROVIDED. CONNECTIONS WHICH ARE ENCASED, UNDERGROUND, OR INACCESSIBLE SHALL BE EXOTHERMIC WELDED.
- B. ALL BONDING JUMPERS CONNECTING GROUNDING ELECTRODES TO THE GES SHALL BE SIZED EQUAL TO THE GROUNDING ELECTRODE CONDUCTOR (GEC) IN ACCORDANCE WITH NEC 250.53(C). OTHER BONDING JUMPERS SHALL BE SIZED AS OTHERWISE DESCRIBED IN NEC ARTICLE 250. CONDUCTORS SHALL BE BARE COPPER UNLESS OTHERWISE NOTED.
- C. REFER TO SPECIFICATIONS FOR ADDITIONAL PRODUCT AND MATERIAL REQUIREMENTS. GROUNDING AND BONDING METHODS AND MATERIALS SHALL COMPLY WITH NEC ARTICLE 250.
- D. REFER TO TECHNOLOGY DETAILS FOR ADDITIONAL REQUIREMENTS RELATED TO TELECOM GROUNDING.

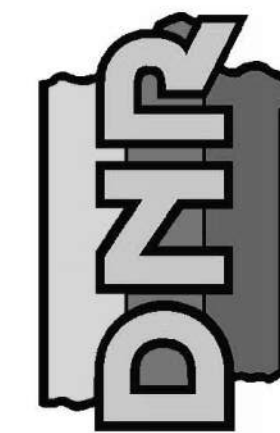


4 UTILITY POLE RACEWAY DETAIL
NOT TO SCALE

3 GROUNDING ELECTRODE DETAIL
NOT TO SCALE

**IOWA DEPARTMENT OF
NATURAL RESOURCES**

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034
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ELECTRICAL DETAILS
RANGE RENOVATION PHASE I FOR:
DLS SHOOTING RANGE

Long Grove, IA 52756

30245 220th Ave.

NO. BY REVISION

DRAWN BY: PROJECT NUMBER:

DEB 23-06-82-01

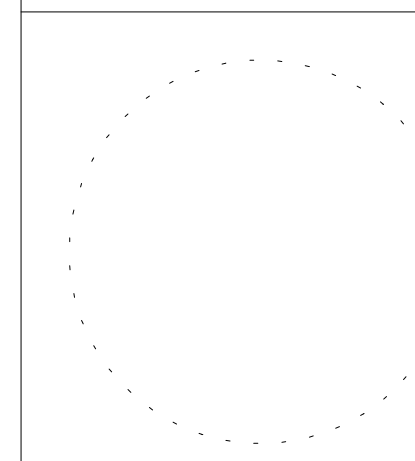
CHKD BY: DATE:

JTL 06.20.2023

SHEET NO:

E-200

CONSULTANT:
KCL
ENGINEERING
300 4th Street
West Des Moines, Iowa 50265
515.724.7938
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SEAL

BRANCH PANEL: CS

LOCATION: SOUTH BUILDING VOLTAGE: 120/240 SINGLE SCCR RATING: 18,000 A
 SUPPLY FROM: UTILITY PHASES: 1 MAINS TYPE: MCB
 MOUNTING: SURFACE WIRES: 3 MAINS RATING: 100 A
 ENCLOSURE: TYPE 1 MCB RATING: 100 A

NOTES:

CIRCUIT DESCRIPTION	P	AMP	CKT NO	A	B	CKT NO	AMP	P	CIRCUIT DESCRIPTION	
EXISTING	1	-- 20 A	1	500	500	2	20 A	-- 1	EXISTING	
EXISTING	1	-- 20 A	3		500	500	4	20 A	-- 1	EXISTING
EXISTING	1	-- 20 A	5	500	500	6	20 A	-- 1	EXISTING	
EXISTING	1	-- 20 A	7		500	500	8	20 A	-- 1	EXISTING
SPARE	1	-- 20 A	9	0	0	10	20 A	-- 1	SPARE	
SPARE	1	-- 20 A	11		0	0	12	20 A	-- 1	SPARE
SPARE	1	-- 20 A	13	0	0	14	20 A	-- 1	SPARE	
SPARE	1	-- 20 A	15		0	0	16	20 A	-- 1	SPARE
SPARE	1	-- 20 A	17	0	0	18	20 A	-- 1	SPARE	
				2000 VA	2000 VA					
				17 A	17 A					

LEGEND:
 G INDICATES GFCI TYPE BREAKER.

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED...	PANEL TOTALS
Spare	4000 VA	100.00%	4000 VA	TOTAL CONN. LOAD: 0 VA TOTAL EST. DEMAND: 0 VA TOTAL CONN.: 0 A TOTAL EST. DEMAND: 0 A

NOTES:

BRANCH PANEL: LE

LOCATION: NORTHWEST BUILDING VOLTAGE: 120/240 SINGLE SCCR RATING: 18,000 A
 SUPPLY FROM: UTILITY PHASES: 1 MAINS TYPE: MCB
 MOUNTING: SURFACE WIRES: 3 MAINS RATING: 100 A
 ENCLOSURE: TYPE 1 MCB RATING: 100 A

NOTES:

CIRCUIT DESCRIPTION	P	AMP	CKT NO	A	B	CKT NO	AMP	P	CIRCUIT DESCRIPTION	
EXISTING	1	-- 20 A	1	500	500	2	20 A	-- 2	EXISTING	
EXISTING	1	-- 20 A	3		500	500	4	20 A	-- 1	EXISTING
EXISTING	1	-- 20 A	5	500	500	6	20 A	-- 1	EXISTING	
EXISTING	1	-- 20 A	7		500	500	8	20 A	-- 1	EXISTING
SPARE	1	-- 20 A	9	0	500	10	20 A	-- 1	EXISTING	
SPARE	1	-- 20 A	11		0	500	12	20 A	-- 1	EXISTING
				2500 VA	2500 VA					
				21 A	21 A					

LEGEND:
 G INDICATES GFCI TYPE BREAKER.

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED...	PANEL TOTALS
Spare	5000 VA	100.00%	5000 VA	TOTAL CONN. LOAD: 0 VA TOTAL EST. DEMAND: 0 VA TOTAL CONN.: 0 A TOTAL EST. DEMAND: 0 A

NOTES:

LIGHTING FIXTURE SCHEDULE

NOTES:
 1. ALL FIXTURES SHALL BE U.L. OR SIMILARLY LISTED.
 2. INCLUDE A MINIMUM 1 YEAR WARRANTY FOR LIGHTING FIXTURES, WHERE NOT OTHERWISE SPECIFIED.
 3. REFER TO ARCHITECTURAL DOCUMENTS FOR EXACT MOUNTING LOCATIONS, DETAILS, AND CONFIGURATIONS OF ALL LUMINAIRES. IF ARCHITECTURAL DRAWINGS DO NOT CLARIFY EXACT MOUNTING LOCATION OR DETAIL, ISSUE AN RFI FOR ARCHITECT TO SPECIFICALLY CLARIFY PRIOR TO FIXTURE ROUGH-IN.
 4. VERIFY COMPATIBILITY OF LIGHT FIXTURES WITH CEILING MATERIAL, ADJACENT CONSTRUCTION, AND ADJACENT FINISHES PRIOR TO SHOP DRAWINGS SUBMITTAL. NOTIFY THE ARCHITECT OF ANY CONFLICTS WITH THE PROPOSED INSTALLATION.
 5. CONTRACTOR IS RESPONSIBLE FOR ALL MISCELLANEOUS HARDWARE NECESSARY TO INSTALL AND SUPPORT THE LUMINAIRES.
 6. AIM AND TARGET ADJUSTABLE INTERIOR AND EXTERIOR LIGHT FIXTURES UNDER THE OBSERVATION AND IN COMPLIANCE WITH RECOMMENDATIONS OF THE ARCHITECT. INCLUDE LABOR AND MATERIAL COSTS MADE NECESSARY BY THIS REQUIREMENT.
 7. CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND FILLING OUT ALL UTILITY REBATE FORMS FOR OWNER.

DESIGNED BY: DEBBIE

TYPE	MANUFACTURER	MODEL	DESCRIPTION	FINISH	LUMENS	CRI	DRIVER TYPE	SOURCE-CCT	VOLTAGE	LOAD-VA	APPROVED EQUALS
E1	LITHONIA LIGHTING	ELM2L-MVOLT-SD	EMERGENCY UNIT, WALL OR CEILING MOUNTED, 2 LED ADJUSTABLE LAMP HEADS, MAINTENANCE-FREE BATTERY	WHITE	-	-	-	LED	120 V	2 VA	EMERGI-LITE, DUAL-LITE, OR AS APPROVED BY ENGINEER
F1-4	CURRENT LIGHTING	HEM-4'-40K-ML-RFA-E-U-XEHC	CHAIN-HUNG UTILITY FIXTURE 4' LENGTH, CURVED RIBBED LENS, MEDIUM OUTPUT, GENERAL DISTRIBUTION, RATED TO -40 C DEGREES, IP65 RATED	WHITE	5000	80	NON-DIMMING	LED-4000K	120 V	47 VA	LITHONIA LIGHTING, METALUX FAIL-SAFE, OR AS APPROVED BY ENGINEER
S1	BEACON LIGHTING	VP-ST-1-36L39-4K8-5W-UNV-A#-DBT	POLE MOUNTED AREA LIGHT, TYPE 5 DISTRIBUTION, LOW GLARE, RATED TO -40 C DEGREES, IP65 RATED, 20" OAH, 2" BASE, PROVIDE BOLTS AND COVER	BRONZE	18,000	80	NON-DIMMING	LED-4000K	120 V	40 VA	LITHONIA LIGHTING, MCGRAW EDISON, OR AS APPROVED BY ENGINEER
W1	BEACON LIGHTING	ALD-72L-220-4K8-4X4-UNV-WM-DBT	WALL MOUNTED FLOOD LIGHT VIA TENON AND PLATE, 30X30 MINIMUM BEAM, BUTTON EXTERIOR RATED	BRONZE	22,800	80	NON-DIMMING	LED-4000K	120 V	220 VA	LITHONIA LIGHTING, MCGRAW-EDISON, OR AS APPROVED BY ENGINEER
W2	CURRENT LIGHTING	TRP1-24L-15-4K8-4W-UNV-DBT-PC	BUILDING MOUNTED WALL PACK, TYPE 4 DISTRIBUTION, BUTTON PHOTOCONTROL, CONNECT TO EM WHERE SHOWN	BRONZE	1800	80	NON-DIMMING	LED-4000K	120 V	15 VA	LITHONIA LIGHTING, MCGRAW-EDISON, OR AS APPROVED BY ENGINEER
W3	CURRENT LIGHTING	VBGL-1 / VGL-RD	SURFACE MOUNT VAPOR-TIGHT INDICATOR LAMP WITH RED LENS, A19 BASE LED LAMP, RATED TO -40 C DEGREES, IP66 RATED	BRONZE	600	80	NON-DIMMING	LED-4000K	120 V	15 VA	LITHONIA LIGHTING, HALO, OR AS APPROVED BY ENGINEER
X3	LITHONIA LIGHTING	LQM-S-W-3-R-MVOLT-EL-N-SD	BACK MOUNTED EXIT SIGN, SINGLE FACE, THERMOPLASTIC HOUSING, SELF-DIAGNOSTICS	WHITE	-	-	-	RED LED	120 V	5 VA	EMERGI-LITE, DUAL-LITE, OR AS APPROVED BY ENGINEER

BRANCH PANEL: G

LOCATION: STORAGE 100 VOLTAGE: 120/240 SINGLE SCCR RATING: 18,000 A
 SUPPLY FROM: MDP PHASES: 1 MAINS TYPE: MLO
 MOUNTING: SURFACE WIRES: 3 MAINS RATING: 100 A
 ENCLOSURE: TYPE 1

NOTES:
 PROVIDE WITH INTEGRAL SPD

CIRCUIT DESCRIPTION	P	AMP	CKT NO	A	B	CKT NO	AMP	P	CIRCUIT DESCRIPTION	
RANGE LIGHTING	1	20 A	1	80	480	2	20 A	1	SHOOTING STRUCTURE LIGHTING	
GARAGE LIGHTING	1	20 A	3		199	880	4	20 A	1	RANGE FLOOD LIGHTING
GARAGE RCPT	1	20 A	5	900	600	6	20 A	1	GARAGE DOOR OPENER	
RANGE POWER	1	20 A	7		360	900	8	20 A	1	SHOOTING STRUCTURE POWER
GARAGE NEMA RCPT	2	15 A	9	1150	0	10	20 A	-- 1	SPARE	
			11		1150	0	12	20 A	-- 1	SPARE
SPARE	1	-- 20 A	13	0	0	14	20 A	-- 1	SPARE	
SPARE	1	-- 20 A	15		0	0	16	20 A	-- 1	SPARE
SPARE	1	-- 20 A	17	0	0	18	20 A	-- 1	SPARE	
SPARE	1	-- 20 A	19		0	0	20	20 A	-- 1	SPARE
SPARE	1	-- 20 A	21	0	0	22	20 A	-- 1	SPARE	
SPARE	1	-- 20 A	23		0	0	24	20 A	-- 1	SPARE
				3210 VA	3489 VA					
				27 A	29 A					

LEGEND:
 G INDICATES GFCI TYPE BREAKER.

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED...	PANEL TOTALS
LIGHTING	1639 VA	125.00%	2049 VA	TOTAL CONN. LOAD: 6699 VA
POWER	2900 VA	100.00%	2900 VA	TOTAL EST. DEMAND: 7109 VA
RECEPTACLE	2160 VA	100.00%	2160 VA	TOTAL CONN.: 28 A TOTAL EST. DEMAND: 30 A

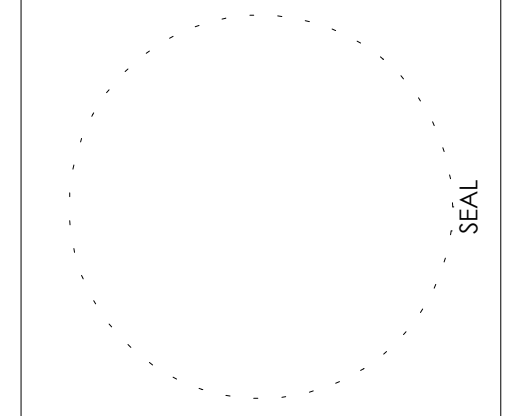
NOTES:

CONSULTANT:

KCL

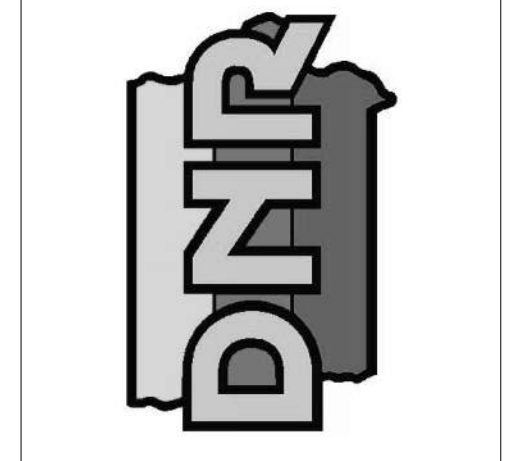
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ELECTRICAL SCHEDULES

RANGE RENOVATION PHASE I FOR:
DLS SHOOTING RANGE

30245 220th Ave.
 Long Grove, IA 52756

NO.	BY DATE	REVISION

DRAWN BY: **DEB** PROJECT NUMBER: **23-06-82-01**
 CHKD BY: **JTL** DATE: **06.20.2023**
 SHEET NO: **E-300**