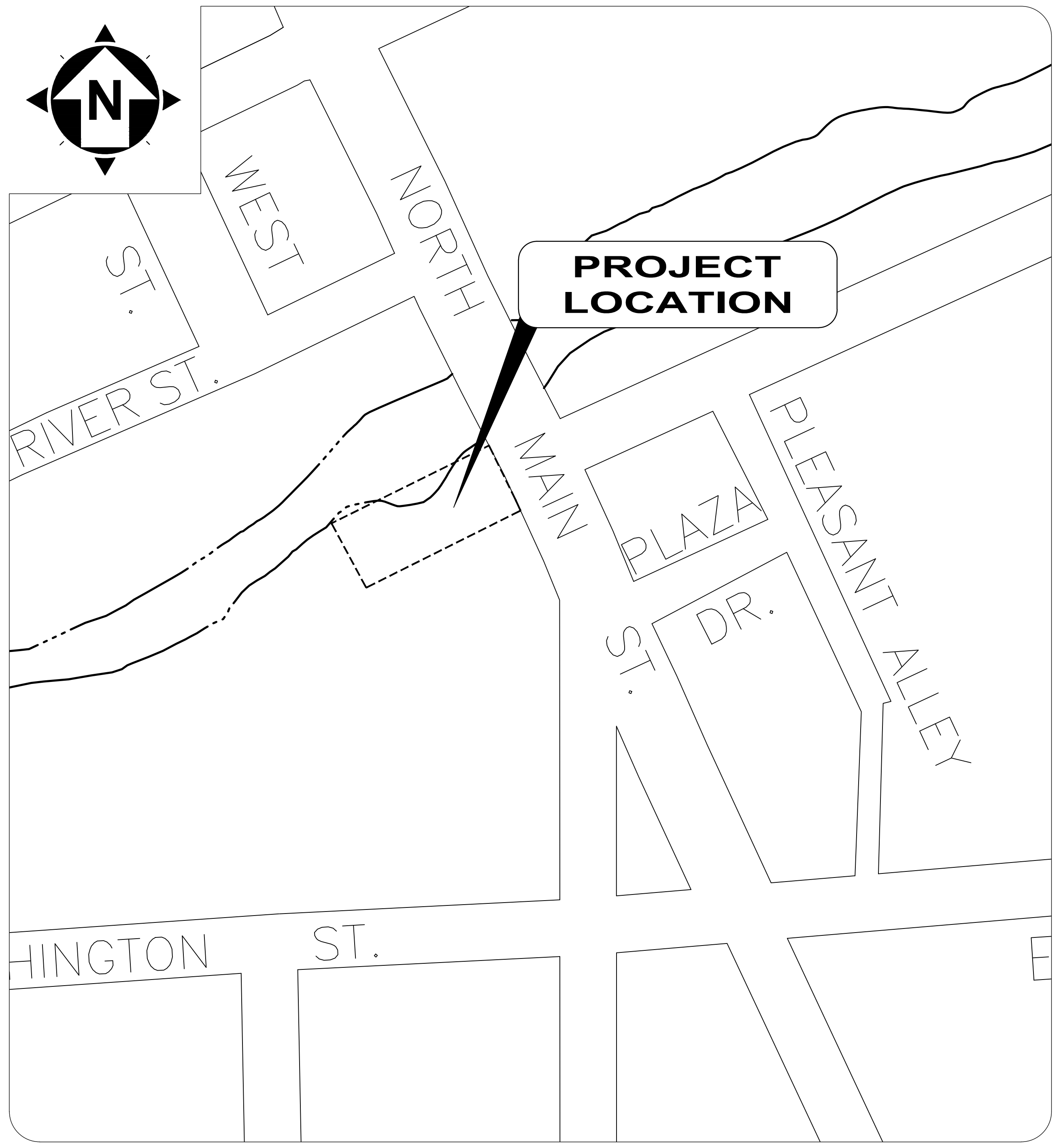
VILLAGE OF CHAGRIN FALLS FALLS VIEWING AREA STAIRWAY REPLACEMENT

CUYAHOGA COUNTY, OHIO

JULY 2025

Sheet List Table

Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL NOTES
3	STANDARD DETAILS
4	GENERAL ARRANGEMENT PLAN
5	FRAMING PLAN
6	BRACING PLAN
7	DECKING PLAN
8	DECKING DETAILS
9	DECKING SPECIFICATIONS



MEMBERS OF COUNCIL:

ANGELA DeBERNARDO, COUNCIL PRESIDENT

NANCY ROGOFF, PRESIDENT PRO-TEM

MICHAEL CORKRAN, COUNCIL REPRESENTATIVE

BRIAN DRUM, COUNCIL REPRESENTATIVE

ANDREW ROCKEY, COUNCIL REPRESENTATIVE

ERINN GRUBE, COUNCIL REPRESENTATIVE

DON GUTIERREZ, COUNCIL REPRESENTATIVE

VILLAGE OFFICIALS:

WILLIAM TOMKO, MAYOR

ROB JAMIESON, CHIEF ADMINISTRATIVE OFFICER

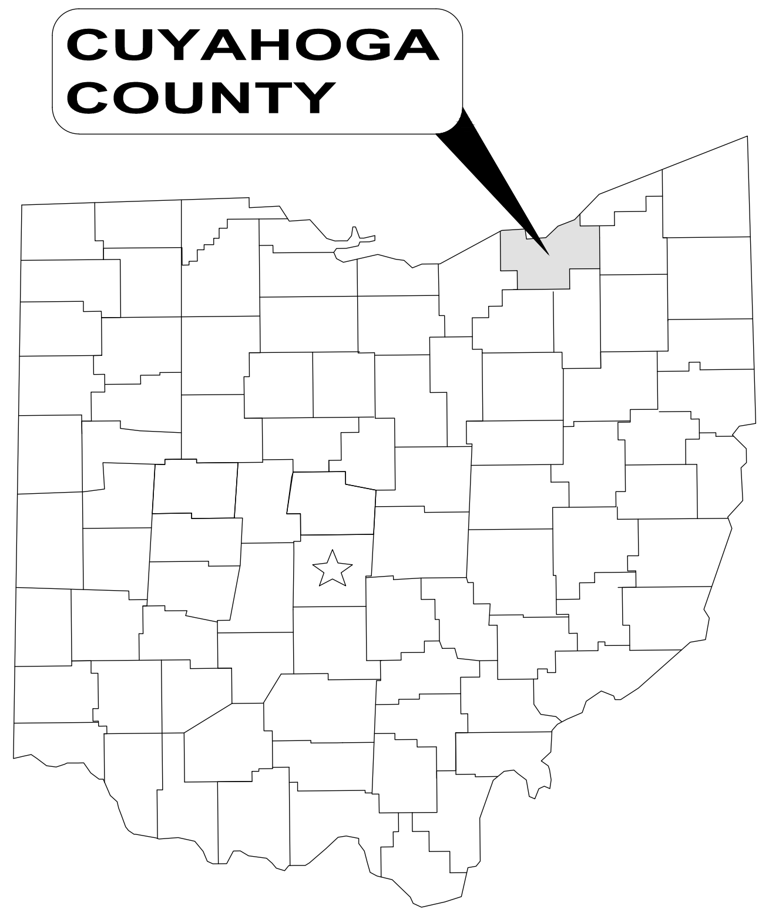
ANGELA GERGYE, DIRECTOR OF FINANCE / CLERK OF COUNCIL

DALE MARKOWITZ, LAW DIRECTOR

GLENN ELLIOTT, UTILITIES SUPERINTENDENT

JOHN BROCKWAY, SUPERINTENDENT OF STREETS

TIM LANNON, VILLAGE ENGINEER



ENGINEER:

VERDANTAS
8150 STERLING COURT
MENTOR, OHIO 44060

(440) 951-9000 PHONE
(440) 951-7487 FAX

PROJECT SITE:

THIS PROJECT IS LOCATED ON NORTH MAIN ST. IN THE VILLAGE OF CHAGRIN FALLS, CUYAHOGA COUNTY, OHIO.

OHIO Utilities Protection SERVICE
Call Before You Dig
1-800-362-2764
CALL TWO WORKING DAYS BEFORE YOU DIG
(NON MEMBERS MUST BE CALLED DIRECTLY)

verdantas

NO	REVISION	DATE
	.	.
	.	.
	.	.
	.	.
	.	.
	.	.

CHAGRIN FALLS VIEWING AREA
STAIRWAY REPLACEMENT
53 N MAIN ST.
VILLAGE OF CHAGRIN FALLS, OHIO

SCALE: SEE PLANS
DATE: 07/03/2025
DESIGNED BY: BAS
DRAWN BY: BAS, RW
CHECKED BY: CMM

COVER SHEET

PROJECT NO: 24025502
DRAWING NAME C-O
SHEET 1 **OF** 9

H:\2024\24025502\DWG\SHEETS\24025502 CHAGRIN FALLS FALLS VIEWING AREA COVER.DWG - C-O - 7/3/2025 10:20:21 AM - RICHARD WASHINGTON

STRUCTURAL NOTES

GENERAL

1. SAFETY - CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS TO ENSURE THE SAFETY OF WORKERS AND VISITORS TO THE SITE, INCLUDING BUT NOT LIMITED TO BARRICADES SHORING, BRACING AND ACCESS RESTRICTION. COMPLY WITH ALL FEDERAL, STATE AND LOCAL SAFETY CODES AND STANDARDS. DO NOT BACKFILL RETAINING WALLS UNTIL GROUT AND/OR CONCRETE HAS REACHED 100% OF DESIGN STRENGTH.
2. CONTRACTOR SHALL COORDINATE CONSTRUCTION OPERATIONS WITH THE CITY. VERIFY WORKING HOUR AND DAYS OF THE WEEK. IF STAGING AREA OR STORAGE AREA IS NEEDED, COORDINATE WITH THE CITY.
3. SPECIAL INSPECTION IS REQUIRED. THE CITY SHALL PROVIDE FOR A SPECIAL INSPECTION SERVICE. THE CONTRACTOR SHALL COORDINATE WITH THE SPECIAL INSPECTOR DURING CONSTRUCTION OPERATIONS.
4. THE EXISTING CONDITIONS HAVE NOT BEEN DOCUMENTED. CONTRACTOR SHALL FIELD VERIFY EACH DECK SYSTEM, STAIR ASSEMBLY, AND CONCRETE FOUNDATION SYSTEM. VERIFY DECK LENGTH AND WIDTHS. IN GENERAL, THE LOCATION OF THE CORNER MOST CONCRETE FOUNDATION ELEMENT (TYPICALLY A CONCRETE DRILLED PIER) SHALL DEFINE THE APPROXIMATE LENGTH AND WIDTH OF THE PROPOSED DECK.
   A. UPPER DECK ALONG THE MAIN STREET WILL REQUIRE TWO ADDITIONAL FOUNDATION ELEMENTS AND CANTILEVERS UP TO THE CONCRETE WALKING SURFACE.
   B. THE THREE DECKS BELOW THE MAIN STREET DECK SHALL BE LARGER THEN THE EXISTING DECK WITH PSEUDO-CANTILEVER FRAMING. LOCATION OF THE FOUNDATION ELEMENT SHALL DEFINE THE APPROXIMATE LENGTH AND WIDTH OF THE PROPOSED DECK
   C. ALL FRAMING WILL BE PRESSURE TREATED. THE POLY TYPE DECKING MATERIAL SHALL BE ORIENTATED, IN GENERAL, TO BE PERPENDICULAR TO THE WALKING DIRECTION WHEN DESCENDING OR ASCENDING THE STAIRWAY ASSEMBLE. ALL DECKS SHALL HAVE A GUARDRAIL SYSTEM. ALL STAIRS SHALL HAVE A GUARDRAIL AND HANDRAIL SYSTEM. ALL DECKS AND STAIRS SHALL UTILIZE A POLY TYPE DECKING, RISERS, TREADS, GUARDRAILS AND HANDRAILS.
   D. STAIRS RISE AND RUN ARE SHOWN ON DRAWINGS. CONTRACTOR SHALL FIELD VERIFY THE ELEVATION OF THE UPPER DECKS AND THE LOWER EXISTING DECK TO REMAIN. THE CONTRACTOR SHALL VERIFY THE RISE AND RUN SHOWN IS CONSISTENT WITH THE SITE CONDITIONS. ADJUST THE ELEVATION OF INTERMEDIATE DECK ELEVATIONS AS NEEDED AND ADJUST RISE AND RUN IF NEEDED. RISE OF STAIRS FROM THE DECK ADJACENT TO MAIN STREET TO THE DECK TO REMAIN SHOULD BE EQUAL. RISE OF STAIRS FROM THE DECK ADJACENT TO ALLEY TO THE THIRD DECKS BELOW THE MAIN STREET DECK SHOULD BE EQUAL.
3. TOP OF FINISHED ELEVATIONS FOR DECKS ADJACENT TO CONCRETE OR OTHER HARD SURFACES SHALL SHALL MATCH THE ELEVATION OF THE HARD SURFACE.
4. CT CONSULTANTS PRODUCED A MEMORANDUM (DATED JANUARY 26, 2023) WITH THE SUBJECT OF VILLAGE OF CHAGRIN FALLS – VIEWING AREA PLATFORM ASSESSMENT THAT NOTED THERE WERE A NUMBER OF FOUNDATION PIERS THAT WHERE IN DISTRESS. DURING THE DESIGN, A REPRESENTATIVE OF THE CITY STATED THAT THE FOUNDATION ISSUES HAD BEEN ADDRESSED AND THE PIERS BEAR ON BEDROCK. IN GENERAL, THE EXISTING PIERS SHALL BE REUSED. NEW ANCHORS AND POST BASES SHALL BE INSTALLED. DURING DEMOLITION AND OR CONSTRUCTION, IF THE CONTRACTOR IN CONCERNED ABOUT THE FOUNDATION ELEMENT, IMMEDIATELY CONTACT THE ENGINEER. AS-BUILT DOCUMENT FOR THE CONCRETE PIERS IS NOT AVAILABLE. IT IS ASSUMED, BY THE ENGINEER, THAT THE CONCRETE PIER REINFORCING CONFORMS WITH THE REQUIREMENTS OF ACI 318.
5. BRACING (OR CROSS BRACING) MEMBERS SHALL BE LOCATED AS SHOW AND SHALL BE 2X6 AND ATTACHED WITH NAILS AND CONSTRUCTION ADHESIVE. ATTACH BRACE TO COLUMN OR JOIST w/(4)-12d COMMON NAILS (3 1/4"x0.148). ALL BRACING SHALL BE SISTERED WITH A 2X4. THE 2X4 SHALL BE ATTACHED WITH 8d COMMON NAILS (2 1/2" x0.131") @1'-0" OC AND CONSTRUCTION ADHESIVE. THE 2X4 SHALL RUN BETWEEN THE COLUMN, TERMINATE 4" FROM COLUMN OR WHERE THE BRACING CONNECTION POINT TO THE MAIN FRAMING. LOCATED SISTERED 2X4 UNDER OR TO THE INSIDE OF THE DECK SYSTEM (OUT OF VIEW FROM THE PUBLIC WHEN POSSIBLE).
6. ALL POSTS SHALL BE 6X6 SOLID POSTS.
   A. POST THAT ARE ATTACHED TO BRACING (OR CROSS BRACING) SHALL UTILIZE A SIMPSON STRONG-TIE CPT66Z POST-INSTALLED CONCEALED POST BASE WITH A 1 INCH COMPOSITE-PLASTIC STANDOFF POST BASE. BOLTS SHALL BE HOT DIP GALVANIZED ASTM A307, GRADE A. ANCHOR SHALL BE (2)-1/2" DIAMETER HOT DIP GALVANIZED THREADED ROD WITH ADHESIVE ANCHOR. 6 1/2" MINIMUM CONCRETE EMBEDMENT.
   B. POST THAT ARE NOT ATTACHED TO BRACING (OR CROSS BRACING) SHALL UTILIZE A SIMPSON STRONG-TIE ABA66Z POST-INSTALLED POST BASE. ANCHOR SHALL BE 5/8" DIAMETER HOT DIP GALVANIZED THREADED ROD WITH ADHESIVE ANCHOR. 5" MINIMUM CONCRETE EMBEDMENT.
   C. REFER TO SIMPSON STRONG-TIE BASES AND CAP GENERAL NOTES FOR INSTALLATION INSTRUCTIONS.

CODES AND STANDARDS

THE FOLLOWING CODES AND STANDARDS SHALL BE UTILIZED BY THE CONTRACTOR TO ESTABLISH MINIMUM LEVELS OF QUALITY AND CONSTRUCTION TECHNIQUES.

7. GENERAL
   A. OHIO BUILDING CODE, (OBC) 2024 EDITION, LOCALLY AMENDED. THE ABOVE SHALL GOVERN EXCEPT WHERE OTHER APPLICABLE CODES OR CONTRACT PROVISIONS ARE MORE RESTRICTIVE.
   B. AMERICAN SOCIETY OF CIVIL ENGINEERS, "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" (ASCE 7-16).
2. CONCRETE
   C. AMERICAN CONCRETE INSTITUTE, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318).
   D. AMERICAN CONCRETE INSTITUTE, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", (ACI 301).
   E. AMERICAN CONCRETE INSTITUTE, "RECOMMENDED PRACTICE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION" (ACI 302).
   F. AMERICAN CONCRETE INSTITUTE, "GUIDE FOR SPECIFYING, PROPORTIONING, MIXING, PLACING, AND FINISHING STEEL FIBER REINFORCED CONCRETE" (ACI-544)
   G. AMERICAN CONCRETE INSTITUTE, "HOT WEATHER CONCRETING" (ACI-305R)
   H. AMERICAN CONCRETE INSTITUTE, "COLD WEATHER CONCRETING" (ACI-306R)
   I. AMERICAN CONCRETE INSTITUTE, "GUIDE TO MASS CONCRETE" (ACI 207)
   J. AMERICAN CONCRETE INSTITUTE, "SELECTING PROPORTIONS FOR NORMAL, HEAVY WEIGHT AND MASS CONCRETE" (ACI 211.1)
   K. AMERICAN CONCRETE INSTITUTE, "COOLING AND INSULATING SYSTEMS FOR MASS" (ACI 207.4R)
3. MASONRY
   A. AMERICAN CONCRETE INSTITUTE, "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" (ACI 530).
   B. AMERICAN CONCRETE INSTITUTE, "SPECIFICATIONS FOR MASONRY STRUCTURES" (ACI 530.1).

GENERAL

1. FIELD VERIFY ALL DIMENSIONS. COORDINATE w/ARCHITECTURAL AND EQUIPMENT DRAWINGS. STRUCTURAL DIMENSIONS CONTROLLED BY EXISTING CONSTRUCTION SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. STRUCTURAL DIMENSIONS CONTROLLED BY OR RELATED TO THE MECHANICAL OR ELECTRICAL EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ENGINEER BEFORE CONTINUING WITH CONSTRUCTION.
2. REFERENCE TO STANDARDS OR SPECIFICATIONS OF TECHNICAL SOCIETIES, ORGANIZATIONS, OR ASSOCIATIONS, OR TO CODES OF LOCAL/STATE AUTHORITIES, MEANS THE LATEST STANDARD, SPECIFICATION, OR CODE ADOPTED BY THE DATE SHOWN ON THE DRAWINGS, UNLESS SPECIFICALLY NOTED OTHERWISE.
3. MATERIAL, WORKMANSHIP, AND DESIGN SHALL CONFORM TO THE REFERENCED BUILDING CODE.

STRUCTURAL WOOD

1. DESIGN CONFORMS TO ANSI / NDS AND THE OBC. THE TYPE, GRADE AND QUALITY OF ALL STRUCTURAL WOOD SHALL CONFORM TO NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, UNLESS OTHERWISE NOTED. WOOD ERECTION SHALL BE PERFORMED IN ACCORDANCE WITH THE NDS FOR WOOD CONSTRUCTION. DECK LOADING:
   A. LIVE LOAD: 100 PSF
   B. SNOW LOAD: 30 PSF
   C. GUARDRAILS SHALL BE INSTALLED TO RESIST REQUIRED LOADS PER IBC CODE
2. STRUCTURAL FRAMING PLANS DEPICT THE PRIMARY STRUCTURAL FRAMING SYSTEM. CONTRACTOR SHALL PROVIDE SECONDARY AND MISCELLANEOUS FRAMING AS REQUIRED TO COMPLETE THE PROJECT.
3. ALL SAWN LUMBER SHALL BE STAMPED WITH THE GRADE MARK OF AN APPROVED GRADING AGENCY.
4. ALL SAWN LUMBER SHALL BE VISUALLY GRADED PRESSURE TREATED (WITHOUT INCISING) SOUTHERN PINE NUMBER 2, OR BEATER. THE LUMBER SHALL HAVE THE FOLLOWING MINIMUM ENGINEERING/ DESIGN VALUES/PROPERTIES:

F_b (PSI)	F_v (PSI)	E (PSI)	F_c (PERP, PSI)	F_c (PARALLEL, PSI)
1,100	175	1,400,000	675	1,450

5. IBC TABLE 2304.9.1 SHALL GOVERN NAILING OF WOOD MEMBERS UNLESS OTHERWISE NOTED. BOLTS, LAG SCREWS AND OTHER FASTENERS SHALL BE DETAILED IN CONFORMANCE WITH NDS. BOLTS SHALL BE ASTM A307 WITH STEEL FLAT WASHERS CONFORMING TO ASTM F436. METAL FRAMING CONNECTORS SHALL BE SIMPSON OR APPROVED EQUAL. ALL FASTENERS SHALL BE EITHER HOT DIPPED GALVANIZED, STAINLESS STEEL, OR OTHER CORROSION-RESISTANT MATERIALS (PRE-APPROVED BY THE ENGINEER OF RECORDED) SUITABLE FOR TREATED LUMBER.
   A. STRUCTURAL CONNECTIONS SHALL BE MADE USING APPROVED JOIST HANGERS, POST BASES, AND BEAM CONNECTORS PER MANUFACTURER'S SPECIFICATIONS. CONNECTION HARDWARE AND FASTENERS SHALL BE GALVANIZED STEEL, MANUFACTURED AND INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS BY SIMPSON STRONG-TIE COMPANY INC. OR AN APPROVED EQUAL. DO NOT OVERLAP SIMPSON CONNECTORS.
   B. PROVIDE HANGERS THAT ARE MANUFACTURED FOR THE SIZE OF THE MEMBERS UTILIZED. USE A 2X6 HANGER FOR A 2X6. USE A 2X10 HANGER FOR A 2X10 USE A (2)-2X6 HANGER FOR A (2)-2X6. FACE MOUNTED, TOP FLANGE, AND CONCEALED FLANGE HANGERS MAY BE USED..
   C. ALL JOIST AND BEAMS SHALL HAVE METAL ANCHORS (SIMPSON STRONG-TIE HANGER, STRAP, ETC. OR EQUAL) TO BEAMS/POSTS. THERE SHALL BE A LOAD PATH FROM ALL FRAMING MEMBERS TO THE FOUNDATION. ALL ELEMENTS SHALL HAVE METAL ANCHORS (SIMPSON STRONG-TIE HANGER, STRAP, ETC. OR EQUAL) THAT WILL RESIST UPLIFT AND COMPLETE LOAD PATH TO THE FOUNDATION.
6. ALL LUMBER SHALL COMPLY WITH AWPA (AMERICAN WOOD PROTECTION ASSOCIATION) STANDARDS FOR GROUND CONTACT OR ABOVE-GROUND USE AS APPLICABLE. ALL WOOD/LUMBER SHALL BE NATURALLY DURABLE (SPECIES FOR BOTH DECAY AND TERMITE RESISTANCE) OR PRESERVATIVE TREATED USING WATER-BORNE PRESERVATIVES IN ACCORDANCE WITH AWPA U1.
7. WOOD/LUMBER CONSTRUCTION ADHESIVE PRODUCT SHALL BE A WATERPROOF MANUFACTURED BY THE FOLLOWING:
   A. LOCTITE PL 3X PREMIUM ADHESIVE
   B. LIQUID NAILS HEAVY-DUTY CONSTRUCTION ADHESIVE
   C. GORILLA HEAVY-DUTY CONSTRUCTION ADHESIVE
   D. ADISEAL WATERPROOF ADHESIVE
   E. 3M MARINE ADHESIVE SEALANT 4000 UV
8. FRAMING, DECKING, SHEATHING, STAIR ASSEMBLY, GUARD RAILS AND HANDRAILS:
   A. SAWN WOOD JOIST, BRACING, BEAMS, POSTS, HEADERS, STRINGERS, BUILT-UP BEAMS, BLOCKING, AND JOISTS SHALL BE PRESSURE TREADED NO. 2 SOUTHERN PINE OR BETTER, UNLESS OTHERWISE NOTED. STAIR RISER HEIGHT SHALL NOT EXCEED 7-3/4 INCHES, AND TREAD DEPTH SHALL BE, AT LEAST, 11 INCHES.
   B. ALL FASTENERS USED IN DECK/EXTERIOR CONSTRUCTION SHALL BE GALVANIZED OR CAD-PLATED TO RESISTANCE CORROSION.
   C. MANUFACTURED POLYMER AND WOOD DECKING, FASCIA, TRIM, RISERS, TOE BOARDS, ETC. SHALL MATCH THE EXISTING PRODUCTS UTILIZED BY THE CITY FOR THE LOWEST VIEWING AREAS. MATCH THE COLOR, SIZE, AND FINISH OF THE LOWEST VIEWING AREAS. DECK BOARDS SHALL BE SPACED TO ALLOW FOR DRAINAGE AND EXPANSION.
   D. POLYMER RAILINGS SHALL SHALL MATCH THE EXISTING PRODUCTS UTILIZED BY THE CITY FOR THE LOWEST VIEWING AREAS. MATCH THE ASSEMBLY, COLOR, SIZE, DISTANCES, AND FINISH OF THE LOWEST VIEWING AREAS. GUARDRAILS SHALL BE A MINIMUM OF42 INCHES HIGH (ABOVE WALKING SURFACE) AND HANDRAIL SHALL BE BETWEEN 34 AND 38 INCHES MEASURED VERTICALLY FROM THE NOSING OF THE STAIR TREAD (MATCH EXISTING OF LOWER AREA).
9. PROVIDE SOLID BLOCKING BETWEEN AS SHOWN ON THE DRAWINGS. PROVIDE SOLID BLOCKING BETWEEN JOISTS OVER DROP BEAMS AND OVER SUPPORTS AT CANTILEVERS TO PREVENT LATERAL AND TORSION MOVEMENT. PROVIDE SOLID BLOCKING AT 48" OC BETWEEN STAIR STRINGERS THAT SPAN MORE THEN 7 FEET. PROVIDE SOLID BLOCKING FOR THE GUARD/HAND RAIL SYSTEM, AS NEEDED.

REINFORCED CONCRETE

1. APPLICABLE CODE AND MIX DESIGN - CONCRETE CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE ACI BUILDING CODE(ACI 318 BUILDINGS). MIX DESIGNS SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT.
2. REINFORCING STEEL DETAILS - ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, UNLESS OTHERWISE NOTED SHALL BE IN ACCORDANCE WITH MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI-315), LATEST EDITION.
3. MINIMUM 28 DAY CONCRETE COMPRESSIVE STRENGTH SHALL BE:

	28-DAY	W/C RATIO		ENTRAINEDSLUMP
CLASS	F'c	(MIN.)	(MAX.)	AIR (MIN.)
A	4,500 PSI	0.42	5.0±1.5%	3"-4"

   a. CLASS A CONCRETE SHALL BE USED FOR STRUCTURAL APPLICATIONS.
   b. COURSE AGGREGATE IN CLASS A CONCRETE SHALL CONFORM TO ASTM /AASHTO COARSE AGGREGATE GRADATION 467 OR 57.
   c. PROVIDE 20 TO 25 PERCENT POZZOLAN, BY WEIGHT OF CEMENTATION MATERIALS. PERCENTAGE OF POZZOLAN MAY BE INCREASED FOR MASS POURS.
4. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60 (DEFORMED)
5. CONCRETE MIX AND MATERIALS
   A. PORTLAND CEMENT SHALL BE ASTM C150, TYPE II OR TYPE V, LOW ALKALI, CONTAINING LESS THAN 0.60 PERCENT ALKALIS. PORTLAND-POZZOLAN CEMENT SHALL BE ASTM C595, TYPE IP(MS), INTERGROUND, LOW ALKALI.
   B. FINE AND COARSE AGGREGATES SHALL CONFORM TO ASTM C33. FINE AND COARSE AGGREGATES SHALL BE REGARDED AS SEPARATE INGREDIENTS. AGGREGATES SHALL BE NON-REACTIVE AND SHALL BE WASHED BEFORE USE. TESTS FOR SIZE AND GRADING OF FINE AND COARSE AGGREGATES SHALL BE IN ACCORDANCE WITH ASTM C136. COMBINED AGGREGATES SHALL BE WELL AND UNIFORMLY GRADED FROM COARSE TO FINE SIZES TO PRODUCE A CONCRETE THAT HAS OPTIMUM WORKABILITY AND CONSOLIDATION CHARACTERISTICS. THE FINAL COMBINED AGGREGATE GRADATION SHALL BE ESTABLISHED DURING THE DESIGN MIX.
   C. FINE AGGREGATE: FINE AGGREGATE SHALL BE HARD, DENSE, DURABLE PARTICLES OF EITHER SAND OR CRUSHED STONE REGULARLY GRADED FROM COARSE TO FINE. GRADATION SHALL CONFORM TO ASTM C33.
   D. COARSE AGGREGATE: COARSE AGGREGATE SHALL BE HARD, ANGULAR (NOT RIVER WASHED), DENSE AND DURABLE GRAVEL OR CRUSHED ROCK FREE FROM INJURIOUS AMOUNTS OF SOFT AND FRIABLE PARTICLES, ALKALI, AND ORGANIC MATTER. OTHER DELETERIOUS SUBSTANCES SHALL NOT EXCEED THE LIMITS LISTED IN ASTM C33, TABLE 3. GRADATION OF EACH COARSE AGGREGATE SIZE SHALL CONFORM TO ASTM C33, TABLE 2.
   E. POZZOLAN SHALL BE CLASS N, NATURAL POZZOLAN, OR CLASS F, FLY ASH, CONFORMING TO ASTM C618. FLY ASH POZZOLAN SHALL CONTAIN LESS THAN 1 PERCENT BY WEIGHT CARBON AND LESS THAN 3 PERCENT BY WEIGHT SULFUR TRIOXIDE. POZZOLAN SUPPLIED DURING THE LIFE OF THE PROJECT SHALL HAVE BEEN FORMED AT THE SAME SINGLE SOURCE. THE POZZOLAN COLOR SHALL NOT SUBSTANTIALLY ALTER THE RESULTING CONCRETE FROM THE NORMAL GRAY COLOR AND APPEARANCE.
   F. ADMIXTURES SHALL BE COMPATIBLE WITH THE CONCRETE AND WITH EACH OTHER. CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CALCIUM CHLORIDE ARE NOT ACCEPTABLE. ADMIXTURES SHALL BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SHALL BE ADDED SEPARATELY TO THE CONCRETE MIX.
   G. WATER REDUCING ADMIXTURES AND RETARDERS: WATER REDUCING RETARDERS SHALL CONFORM TO ASTM C494, TYPE D. CANDIDATE MANUFACTURERS INCLUDE DEGUSSA ADMIXTURE SYSTEMS, POZZOLITH 300R; SIKA CHEMICAL CORP., PLASTIMENT; EUCLID CHEMICAL CO., EUCON RETARDER 75; OR EQUAL.
   H. WATER REDUCING ADMIXTURES SHALL CONFORM TO ASTM C494, TYP.E A. CANDIDATE MANUFACTURERS INCLUDE DEGUSSA ADMIXTURE SYSTEMS, POZZOLITH 322N; SIKA CHEMICAL CORP., PLASTOCRETE 161; EUCLID CHEMICAL CO., EUCON WR89; OR EQUAL.
   I. THE WATER REDUCING RETARDERS AND ADMIXTURES SHALL REDUCE THE WATER REQUIRED BY AT LEAST 11 PERCENT FOR A GIVEN CONCRETE CONSISTENCY AND SHALL COMPLY WITH THE WATER/CEMENT RATIO STANDARDS OF ACI 211.1.
   J. AIR ENTRAINING AGENT: AIR ENTRAINING AGENT SHALL CONFORM TO ASTM C260. CANDIDATE MANUFACTURERS INCLUDE DEGUSSA ADMIXTURE SYSTEMS, MB-AE 90; SIKA CHEMICAL CORP., AEA-15; EUCLID CHEMICAL CO., AEA-92 OR EQUAL. THE AIR ENTRAINING AGENT ADDED SHALL PRODUCE, IN ACCORDANCE WITH ASTM C260.
   K. WATER FOR WASHING AGGREGATE, FOR MIXING AND FOR CURING SHALL BE POTABLE AND FREE FROM OIL AND DELETERIOUS AMOUNTS OF ACIDS, ALKALIS, AND ORGANIC MATERIALS; SHALL NOT CONTAIN MORE THAN 1,000 MG/L OF CHLORIDES AS CL, NOR MORE THAN 1300 MG/L OF SULFATES AS SO4; AND SHALL NOT CONTAIN AN AMOUNT OF IMPURITIES THAT MAY CAUSE A CHANGE OF MORE THAN 25 PERCENT IN THE SETTING TIME OF THE CEMENT NOR A REDUCTION OF MORE THAN 5 PERCENT IN THE COMPRESSIVE STRENGTH OF THE CONCRETE AT 14 DAYS WHEN COMPARED WITH THE RESULT OBTAINED WITH DISTILLED WATER. ADDITIONALLY, WATER USED FOR CURING SHALL NOT CONTAIN AN AMOUNT OF IMPURITIES SUFFICIENT TO DISCOLOR THE CONCRETE.
7. ALL CONCRETE EXPOSED TO WEATHER SHALL BE AIR ENTRAINED.
9. DETAILING, FABRICATION AND ERECTION OF REINFORCING STEEL, UNLESS OTHERWISE NOTED, SHALL CONFORM TO ACI 315, "DETAILS AND DETAILING OF REINFORCED CONCRETE STRUCTURES" AND THE CRSI, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES."
10. CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", (ACI 301).
11. CONCRETE SHALL BE PROPORTIONED, BATCHED, MIXED, PLACED, CONSOLIDATED, AND CURED IN ACCORDANCE WITH ACI 301,304,308,309 AND 318.
12. REINFORCING BAR HOOKS SHOWN ON THE DRAWINGS SHALL BE ACI STANDARD 90 DEGREE HOOKS. HOOKS DO NOT HAVE TO BE ORIENTATED AS SHOWN IN DRAWINGS. DO NOT LAP OR ATTACH STANDARD 90 DEGREE HOOKS TO ADJACENT BARS.
13. REINFORCING STEEL SHALL NOT BE HEATED OR WELDED AND MUST BE DRY AND FREE OF CONTAMINANTS SUCH AS RUST, DIRT, GREASE, AND PROTECTIVE COATINGS.
14. CONCRETE COVER FOR REINFORCING BARS SHALL CONFORM TO ACI 350 AND AS FOLLOWS WITH MINIMUM COVER OF ONE BAR DIAMETER.
   A. FOOTING AND FOUNDATION MATS CAST ON GROUND........................3"
   B. OTHERS...2"
15. PROVIDE 3/4" 45 DEGREE CHAMFERED CORNERS AT ALL EXPOSED CONCRETE CORNERS.
16. ANCHOR BOLTS SHALL BE HOT DIPPED GALVANIZED ASTM F1554-36 UNLESS OTHERWISE NOTED. EMBEDMENT, EDGE DISTANCES AND ALLOWABLE LOADS SHALL CONFORM TO IBC TABLE 1912.2 OR AS NOTED ON THE DRAWINGS.
17. DO NOT BACKFILL OR LOAD CONCRETE UNTIL THE CONCRETE HAS REACHED AT LEAST 75 PERCENT OF ITS DESIGN STRENGTH (f"c).

FOUNDATIONS

1. THE FOUNDATION DESIGN IS BASED ON RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT PREPARED BY GEOTECHNOLOGY LIVING, LLC, DATED NOVEMBER 11, 2022 (GEOTECHNOLOGY PROJECT NO. J042030.01). THE CONTRACTOR SHALL OBTAIN A COPY OF THE GEOTECHNICAL REPORT AND STRICTLY ADHERE TO THE RECOMMENDATIONS. NOTIFY THE CONSTRUCTION MANAGER OF CONFLICTS BETWEEN SPECIFICATIONS AND THE REPORT RECOMMENDATIONS FOR RESOLUTION.
2. SHALLOW FOUNDATIONS ALLOWABLE NET BEARING PRESSURE: 3000 PSF. ALLOWABLE BEARING IS BASED ON SPREAD FOOTINGS BEARING ON NATIVE SOILS OR STRUCTURAL FILL.
3. SURFACE VEGETATION, TOPSOIL, AND OTHER ORGANIC MATERIALS SHALL BE REMOVED FROM BENEATH THE BUILDING AREA/EQUIPMENT FOUNDATIONS, PLUS A MINIMUM OF 5-FEET BEYOND CONSTRUCTION LIMITS. REMOVE EXISTING FILL COMPLETELY FROM THE PROPOSED BUILDING AREA/EQUIPMENT FOUNDATIONS AND REPLACE WITH STRUCTURAL FILL TO GRADE.
4. ALL EXTERIOR FOOTINGS SHALL BEAR ON FIRM AND STABLE NATURAL SOILS. ALL EXTERIOR FOUNDATIONS SHALL EXTEND TO A MINIMUM OF 30-INCHES BELOW THE PROPOSED GRADE OR TO ACCEPTABLE SOILS, WHICHEVER IS DEEPER.
5. LOOSE OR SOFT SOIL OR ROCK, DEBRIS, OR EXCESS SURFACE WATER SHOULD BE REMOVED FROM THE FOUNDATION BOTTOMS BEFORE CONCRETE OR REINFORCING STEEL IS PLACE. FOOTINGS SHALL BE POURED "NEAT" TO THE EXCAVATION SIDES SO WATER CANNOT COLLECT BEFORE FORMS BEFORE BACKFILLING.
6. FOUNDATION CONCRETE SHALL BE PLACED DURING THE SAME DAY EXCAVATION IS MADE. IN THE EVENT FOOTING EXCAVATIONS ARE LEFT OPEN FOR MORE THAN ONE DAY, THEY SHALL BE PROTECTED TO REDUCE EVAPORATION OR ENTRY OF MOISTURE.
7. CONTRACTOR SHALL KEEP ALL FREE STANDING WATER OUT OF EXCAVATIONS. CONTRACTOR SHALL PROVIDE DEWATERING MEASURES AS NECESSARY PRIOR TO PLACING CONCRETE.

POST-INSTALLED FASTENERS

1. POST-INSTALLED ANCHORS SHALL BE USED ONLY WHERE SPECIFIED ON THE STRUCTURAL DRAWINGS. MINIMUM EMBEDMENT = 8 TIMES ANCHOR DIAMETER, UNO.
2. ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION IS REQUIRED FOR ALL INSTALLERS OF ADHESIVE ANCHORS IN HORIZONTAL OR UPWARDLY INCLINED ORIENTATION. THIS CERTIFICATION CAN BE OBTAINED THROUGH ACI OR APPROVED EQUIVALENT.
3. FASTENERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING IN COORDINATION WITH INFORMATION HEREIN. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED IF CONFLICTS EXIST BETWEEN THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS AND THE REQUIREMENTS HEREIN.
4. DRILL HOLES USING ROTARY PERCUSSION DRILL WITH A DEPTH GAGE. USE OF A DIAMOND CORE BIT WITH ROUGHENING TOOL FOR ANCHOR HOLES MUST BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO DRILLING. UNLESS OTHERWISE SHOWN IN THE DRAWINGS, ALL HOLES SHALL BE DRILLED PERPENDICULAR TO THE CONCRETE SURFACE. CLEAN HOLES IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. IF CONCRETE IS DAMP, BLOW DRY HOLE WITH OIL-FREE COMPRESSED AIR. CLEAN HOLE WITH WATER ONLY IF RECOMMENDED BY MANUFACTURER. ADHESIVE ANCHORS MAY NOT BE SET IF WATER IS SEEPING INTO HOLE AND THE STRUCTURAL ENGINEER. OF RECORD SHALL BE NOTIFIED.
5. ANCHOR SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE SUBMITTED AND APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE DOCUMENTATION DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF MEETING THE PERFORMANCE OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR ITS USE, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE, INSTALLATION TEMPERATURE, MOISTURE CONDITION OF CONCRETE, AND DRILLING METHODS.
6. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL ANCHOR PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF ANCHOR INSTALLATION.
7. EXCEPT WHERE INDICATED ON THE DRAWINGS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES:
   E. ANCHORAGE TO CONCRETE (ADHESIVE ANCHORS):
1. HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HIT-Z ROD
2. HILTI HIT-HY 200 SAFE SET SYSTEM INSTALLED USING HILTI HOLLOW DRILL BIT AND VACUUM WITH HAS-V-36 GRADE 36 THREADED ROD
3. HILTI HIT-RE 500 V3 SAFE SET SYSTEM INSTALLED USING HILTI HOLLOW DRILL BIT AND VACUUM WITH HAS THREADED ROD
4. SIMPSON SET-3G HIGH-STRENGTH EPOXY ADHESIVE WITH ASTM A36 THREADED ROD
5. SIMPSON AT-3G HIGH-STRENGTH ACRYLIC ANCHORING ADHESIVE WITH ASTM A36 THREADED ROD
6. DEWALT PURE110+ EPOXY INJECTION ADHESIVE ANCHORING SYSTEM WITH ASTM A36 THREADED ROD
7. DEWALT AC200+ ACRYLIC INJECTION ADHESIVE ANCHOR WITH ASTM A36 THREADED ROD
8. APPROVED EQUAL

SHOP DRAWINGS AND SUBMITTALS

1. REPRODUCTION OF STRUCTURAL DRAWINGS FOR SHOP DRAWINGS IS NOT PERMITTED.
2. ELECTRONIC DRAWING FILES WILL NOT BE PROVIDED TO THE CONTRACTOR.
3. REVIEW OF SHOP DRAWINGS WILL BE FOR CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS REGARDING ARRANGEMENT AND SIZES OF MEMBERS AND THE CONTRACTOR'S INTERPRETATION OF THE DESIGN LOADS, IF APPLICABLE, AND CONSTRUCTION DOCUMENT DETAILS. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF THE FULL RESPONSIBILITY TO COMPLY WITH THE CONSTRUCTION DOCUMENTS.
4. CONCRETE, GROUT, AND REINFORCING FABRICATION DRAWINGS:
   A. CONCRETE MIX SHOWING THE EXPECTED STRENGTH, CORRESPONDING SLUMP BEFORE AND AFTER THE INTRODUCTION OF MID- OR HIGH-RANGE WATER-REDUCING ADMIXTURES, (C) WEIGHTS AND TEST RESULTS OF THE INGREDIENTS, (D) A MASS CONCRETE TEMPERATURE CONTROL PLANS AND (E) OTHER PHYSICAL PROPERTIES NECESSARY TO REVIEW EACH MIX DESIGN FOR CONFORMANCE WITH THESE SPECIFICATIONS. MIX DESIGN PROPOSED SHALL BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. MIX DESIGNS SHALL BE CHECKED BY AN INDEPENDENT TESTING LABORATORY.
   B. PRODUCT LITERATURE AND TECHNICAL DATA FOR AGGREGATES AND POZZOLAN.
   C. PRODUCT LITERATURE, TECHNICAL DATA AND DOSAGE OF ALL PROPOSED ADMIXTURES INCLUDING, BUT NOT LIMITED TO, AIR ENTRAINING, WATER REDUCING AND/OR RETARDING ADMIXTURES.
   D. CURING PROGRAM DESCRIPTION IN SUFFICIENT DETAIL TO DEMONSTRATE ACCEPTABLE STRENGTH, FINISH AND CRACK CONTROL AS SPECIFIED.
   E. ALL CONCRETE ANCHORS MANUFACTURES PRODUCT AND INSTALLATION DATA INCLUDING ADHESIVE ANCHORS AND IMPACT ANCHORS.
   F. MATERIAL SAFETY DATA SHEETS (MSDS)/SAFETY DATA SHEETS (SDS) ON ALL PRODUCTS.
   G. ANY SUBSTITUTIONS REQUEST SHALL INCLUDE INFORMATION JUSTIFYING WHY THE ITEM IS AN "OR EQUAL" OR BETTER.

SPECIAL INSPECTIONS

PER THE IBC SECTION 1705, SPECIAL INSPECTIONS ARE REQUIRED FOR THE FOLLOWING ITEMS:

1. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:
   A. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK DESIGNATED TO ASSURE IT IS CONSTRUCTED IN CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS.
   B. THE SPECIAL INSPECTOR SHALL SUBMIT INSPECTION REPORTS AND TESTS TO THE BUILDING OFFICIAL AND REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.
   C. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.
   D. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND TESTS, AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS OR TESTS, SHALL BE SUBMITTED WITHIN THE AGREED UPON TIME TO THE BUILDING OFFICIAL PRIOR TO THE START ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
   E. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A STATEMENT OF RESPONSIBILITY ACKNOWLEDGING THE AWARENESS OF THE SPECIAL INSPECTION REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS.
2. CONCRETE:
   A. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT. (PERIODIC)
   B. REINFORCING BAR WELDING:
      - VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706. (PERIODIC)
      - INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16" (PERIODIC)
      - INSPECT ALL OTHER WELDS (CONTINUOUS)
   C. INSPECT ANCHORS CAST IN CONCRETE (PERIODIC)
   D. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS:
      - ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. (CONTINUOUS)
      - MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED ABOVE. (PERIODIC)
   E. VERIFY USE OF REQUIRED MIX DESIGN. (PERIODIC)
   F. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE. (CONTINUOUS)
   G. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES. (CONTINUOUS)
3. WOOD
   H. VERIFY THAT THE FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES CONFORMING TO APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS FOR PREFABRICATED WOOD STRUCTURAL ELEMENTS AND ASSEMBLIES.
   I. VERIFY THE NAIL OR STAPLE DIAMETER AND LENGTH.
   J. INSPECTION OF FIELD GLUING OPERATIONS OF ELEMENTS OF THE LATERAL-FORCE-RESISTING-SYSTEM. (CONTINUOUS)
   K. INSPECTION OF NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF COMPONENTS WITHIN THE LATERAL-FORCE-RESISTING-SYSTEM, INCLUDING, BUT NOT LIMITED TO WOOD BRACES AND HOLD-DOWNS. (PERIODIC)
4. SOILS
   I. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY. (PERIODIC)
   J. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL. (PERIODIC)

---

verdantas

BART
STROBEL
90274

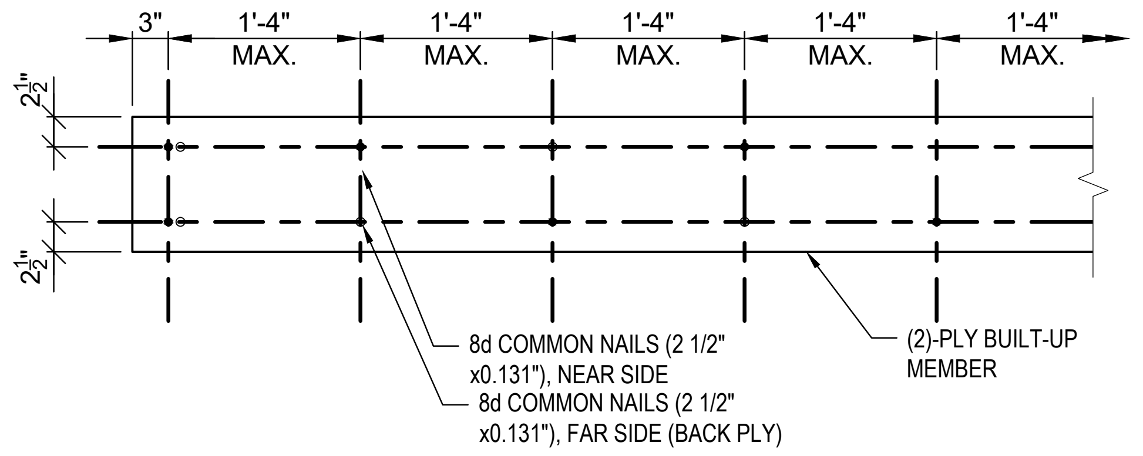
NO	REVISION	DATE
	.	.
	.	.
	.	.
	.	.
	.	.
	.	.

CHAGRIN FALLS VIEWING AREA
STAIRWAY REPLACEMENT
53 N MAIN ST.
VILLAGE OF CHAGRIN FALLS, OHIO

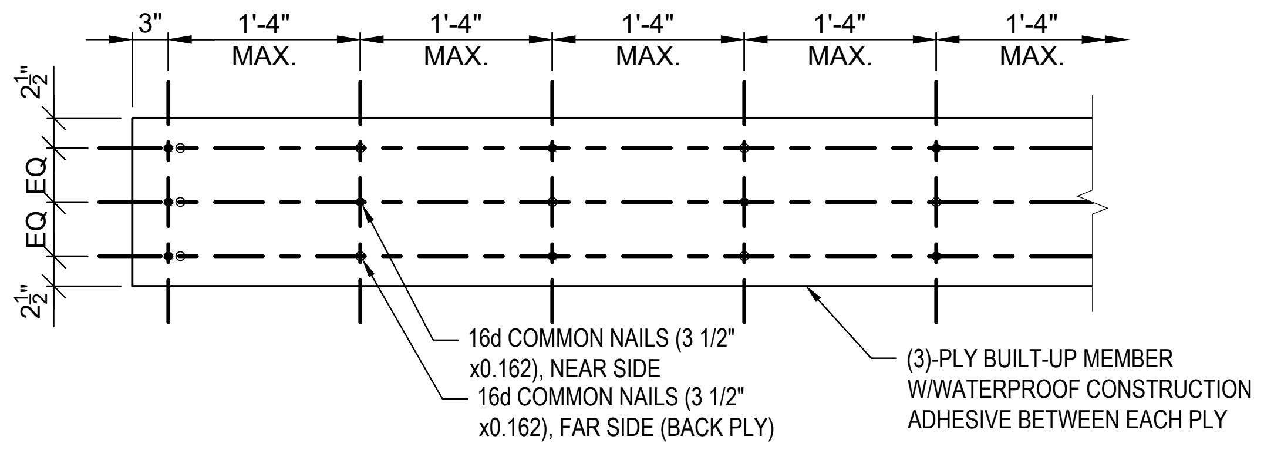
SCALE: SEE PLANS
DATE: 07/03/2025
DESIGNED BY: BAS
DRAWN BY: BAS, RW
CHECKED BY: CMM

GENERAL NOTES

PROJECT NO: 24025502
DRAWING NAME: S-02
SHEET 2 OF 9



(2) PLY BUILT-UP MEMBER

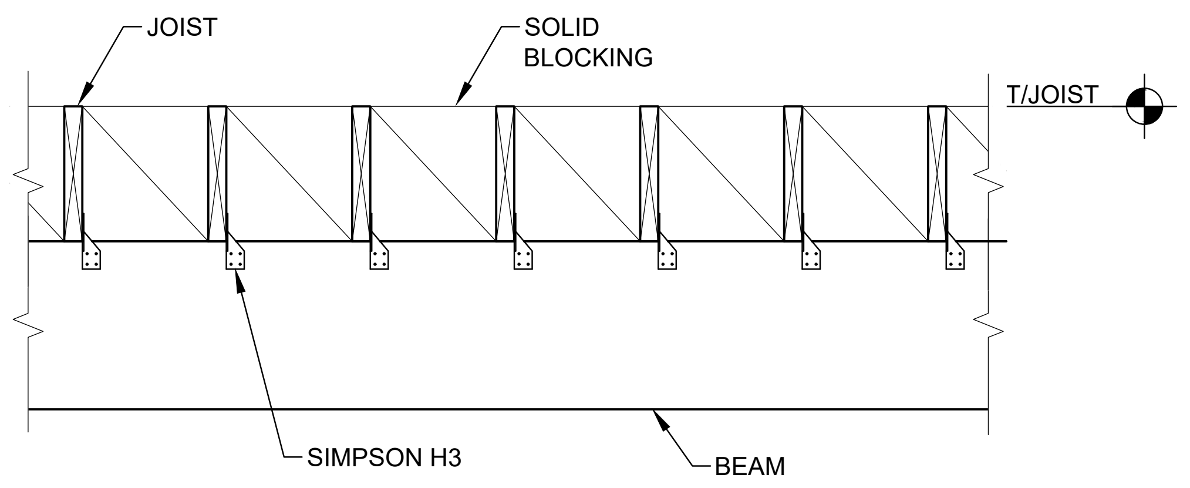


(3) PLY BUILT-UP MEMBER

1 MULTI-PLY BUILT-UP MEMBER

S-03

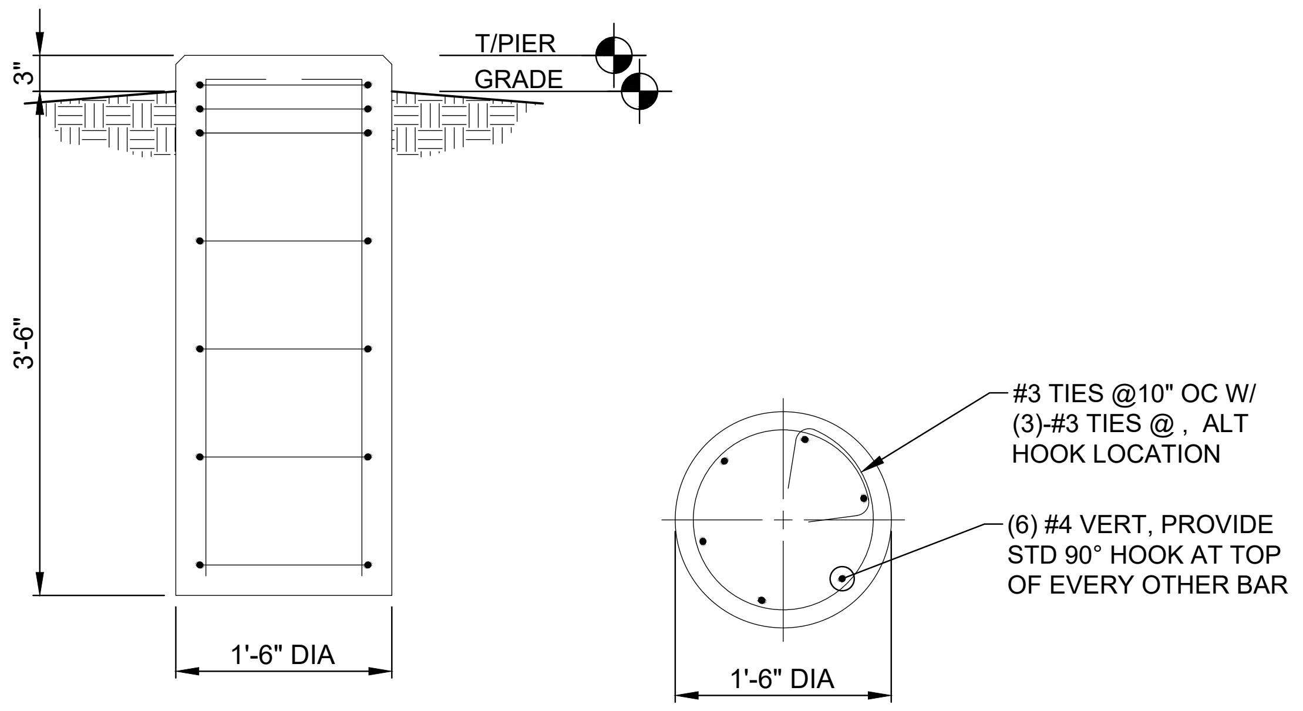
SCALE: NTS



2 BLOCKING AT DROP BEAM

S-03

SCALE: NTS

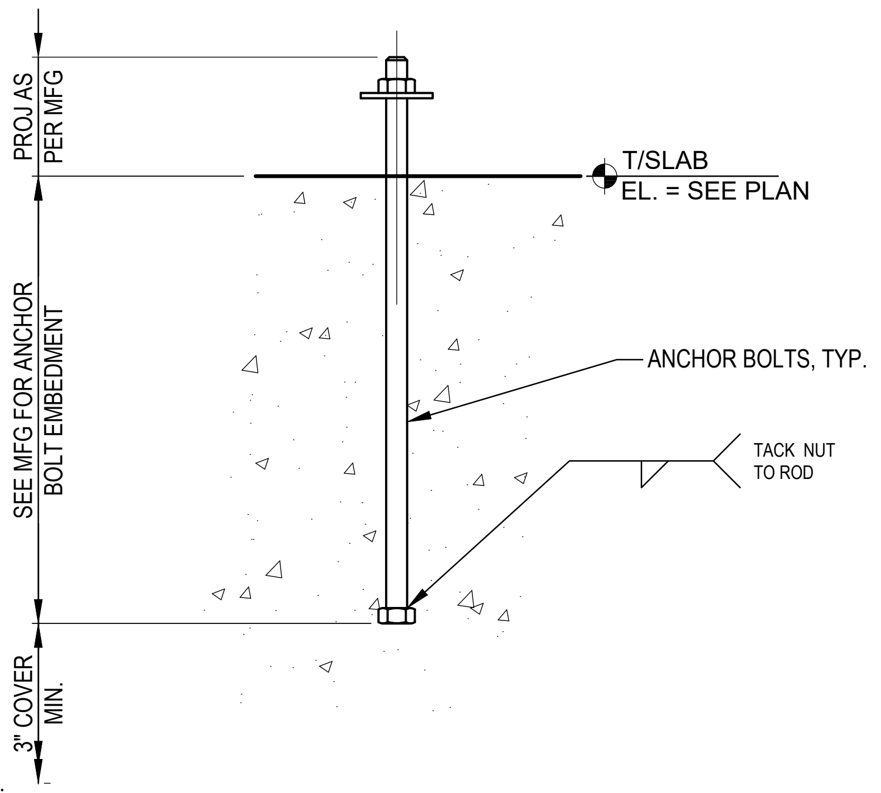


NOTE:
BOTTOM OF PIER SHALL BE 3'-6" DEPTH, MINIMUM. IF WEATHERED ROCK ENCOUNTERED, EXTEND PIER A MINIMUM OF 18" INTO THE WEATHERED ROCK.

3 CONCRETE PIER

S-03

SCALE: NTS

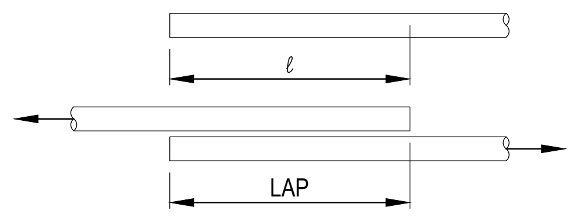


NOTES:
1. ALL ANCHOR BOLTS TO BE PER MFG SPECS
2. FOR ANCHOR BOLTS LEVEL EMBEDDED STRUCTURAL STEEL, REFER TO DETAILS FOR APPROXIMATE PROJECTION LENGTH AND EMBEDMENT DEPTH.
3. USE HEAD BOLTS OR TACK WELD NUT..
4. DO NOT USE 'J' BOLTS. 'J' BOLTS ARE NOT ACCEPTABLE
5. ANCHOR BOLTS SHALL BE F1554 GR. 36, UNLESS NOTED OTHERWISE.

4 ANCHOR BOLT

S-03

SCALE: NTS



LAP TABLE (f'_c = 4,500 PSI)

BAR SIZE	LAP CLASS	UNCOATED BARS			
		TOP BARS		OTHER BARS	
		CASE 1	CASE 2	CASE 1	CASE 2
#3	A	18	27	14	21
	B	23	34	18	27
#4	A	24	35	18	27
	B	31	46	24	35
#5	A	30	44	23	34
	B	38	57	29	44
#6	A	35	53	27	41
	B	46	68	35	53

NOTES:
1. TABULATED VALUES ARE BASED ON A MINIMUM YIELD STRENGTH OF 60,000 PSI. LENGTHS ARE IN INCHES.
2. CASES 1 AND 2, WHICH DEPEND ON THE TYPE OF STRUCTURAL MEMBER, CONCRETE COVER, AND OC SPACING OF THE BARS ARE DEFINED AS:
   BEAMS AND COLUMNS
   - CASE 1: CONCRETE COVER AT LEAST $1.0d_b$ AND OC SPACING AT LEAST $2.0\ d_b$
   - CASE 2: CONCRETE COVER LESS THAN $1.0d_b$ OR OC SPACING LESS THAN $2.0\ d_b$

   OTHER BARS
   - CASE 1: CONCRETE COVER AT LEAST $1.0d_b$ AND OC SPACING AT LEAST $3.0\ d_b$
   - CASE 2: CONCRETE COVER LESS THAN $1.0d_b$ OR OC SPACING LESS THAN $3.0\ d_b$
3. THE TABLE VALUES FOR THOSE BAR SIZES ARE TENSION DEVELOP LENGTHS.
4. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.

verdantas

STATE OF OHIO
BART
STROBEL
90274
REGISTERED
PROFESSIONAL ENGINEER

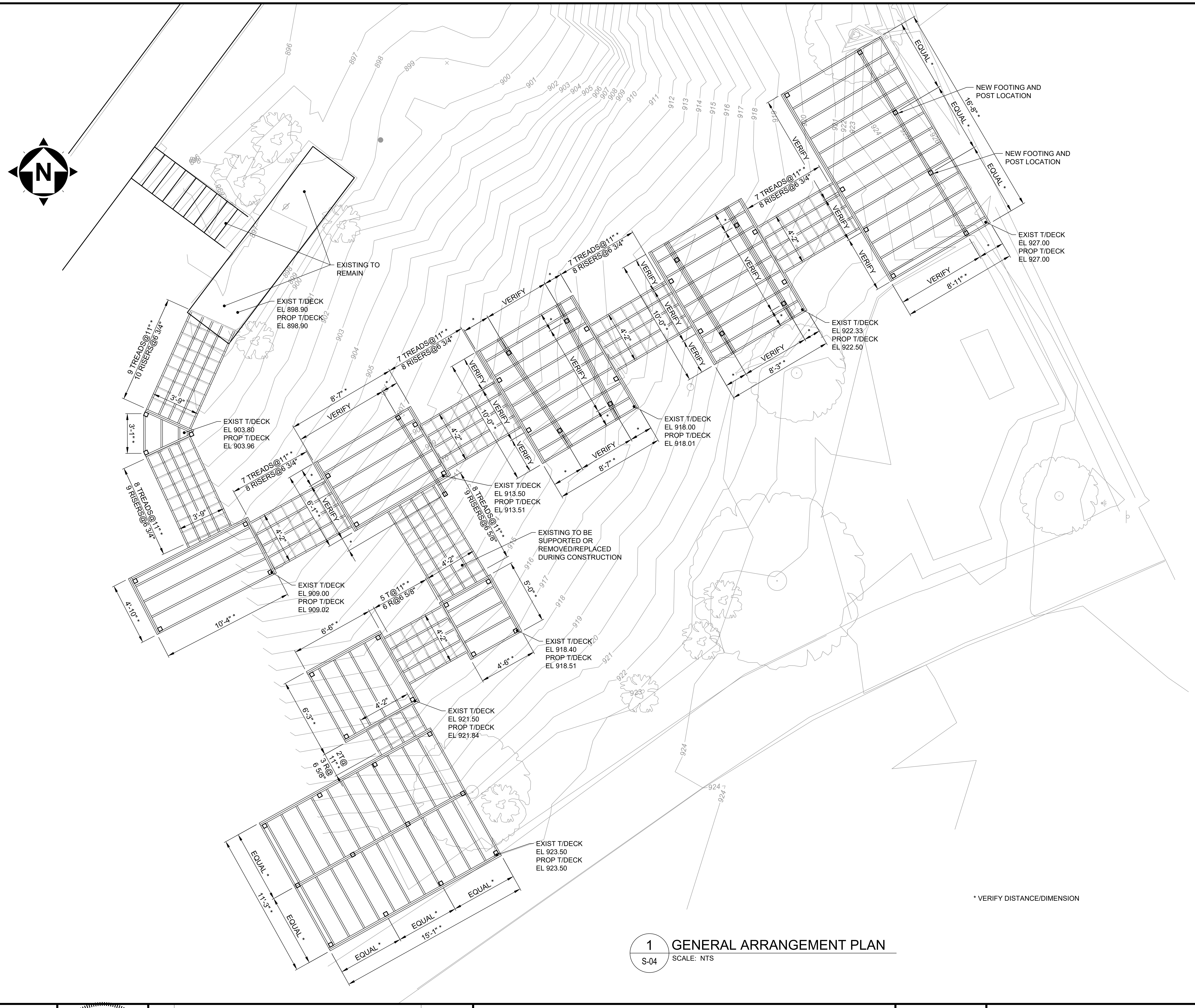
NO	REVISION	DATE
	.	.
	.	.
	.	.
	.	.
	.	.
	.	.

CHAGRIN FALLS VIEWING AREA
STAIRWAY REPLACEMENT
53 N MAIN ST.
VILLAGE OF CHAGRIN FALLS, OHIO

SCALE: SEE PLANS
DATE: 07/03/2025
DESIGNED BY: BAS
DRAWN BY: BAS, RW
CHECKED BY: CMM

STANDARD DETAILS

PROJECT NO: 24025502
DRAWING NAME S-03
SHEET 3 **OF** 9



* VERIFY DISTANCE/DIMENSION

1 GENERAL ARRANGEMENT PLAN
S-04
SCALE: NTS

verdantas

BART STROBEL
90274
STATE OF OHIO
REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE
	.	.
	.	.
	.	.
	.	.
	.	.
	.	.

CHAGRIN FALLS VIEWING AREA
STAIRWAY REPLACEMENT
53 N MAIN ST.
VILLAGE OF CHAGRIN FALLS, OHIO

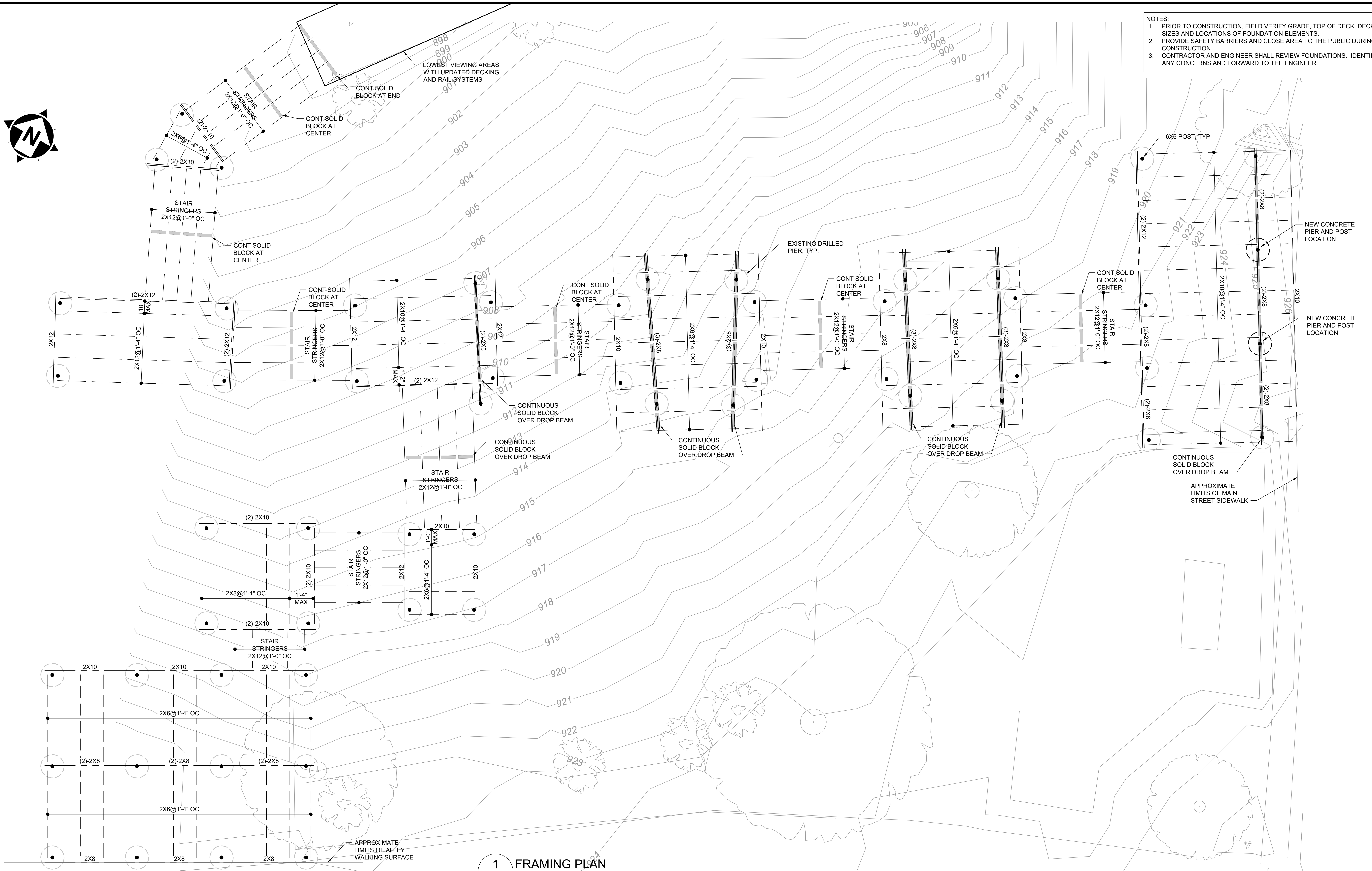
SCALE: SEE PLANS
DATE: 07/03/2025
DESIGNED BY: BAS
DRAWN BY: BAS, RW
CHECKED BY: CMM

GENERAL ARRANGEMENT PLAN

PROJECT NO: 24025502
DRAWING NAME S-04
SHEET 4 OF 9

H:\2024\24025502\DWG\SHEETS\24025502 CHAGRIN FALLS FALLS VIEWING AREA.DWG - S-04 - 7/7/2025 6:14:20 AM - BART STROBEL

NOTES:
1. PRIOR TO CONSTRUCTION, FIELD VERIFY GRADE, TOP OF DECK, DECK SIZES AND LOCATIONS OF FOUNDATION ELEMENTS.
2. PROVIDE SAFETY BARRIERS AND CLOSE AREA TO THE PUBLIC DURING CONSTRUCTION.
3. CONTRACTOR AND ENGINEER SHALL REVIEW FOUNDATIONS. IDENTIFY ANY CONCERNS AND FORWARD TO THE ENGINEER.



1 FRAMING PLAN
S-05
SCALE: NTS

verdantas

STATE OF OHIO
BART STROBEL
90274
REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE
.		.
.		.
.		.
.		.
.		.

CHAGRIN FALLS VIEWING AREA
STAIRWAY REPLACEMENT
53 N MAIN ST.
VILLAGE OF CHAGRIN FALLS, OHIO

SCALE: SEE PLANS
DATE: 07/03/2025
DESIGNED BY: BAS
DRAWN BY: BAS, RW
CHECKED BY: CMM

FRAMING PLAN

PROJECT NO: 24025502
DRAWING NAME: S-05
SHEET 5 OF 9

H:\2024\24025502\DWG\SHEETS\24025502 CHAGRIN FALLS FALLS VIEWING AREA.DWG - S-05 - 7/7/2025 6:14:20 AM - BART STROBEL

1 BRACING PLAN
S-06
SCALE: NTS

verdantas

BART STROBEL
90274

NO	REVISION	DATE
	.	.
	.	.
	.	.
	.	.
	.	.
	.	.

CHAGRIN FALLS VIEWING AREA
STAIRWAY REPLACEMENT
53 N MAIN ST.
VILLAGE OF CHAGRIN FALLS, OHIO

SCALE: SEE PLANS
DATE: 07/03/2025
DESIGNED BY: BAS
DRAWN BY: BAS, RW
CHECKED BY: CMM

BRACING PLAN

PROJECT NO: 24025502
DRAWING NAME S-06
SHEET 6 **OF** 9

H:\2024\24025502\DWG\SHEETS\24025502 CHAGRIN FALLS FALLS VIEWING AREA.DWG - S-06 - 7/7/2025 6:14:20 AM - BART STROBEL

NOTES:
1. REFER TO FRAMING PLAN FOR DECK DIMENSIONS.
2. CONTRACTOR SHALL VERIFY ALL POST LOCATIONS AND MAKE FIELD ADJUSTMENTS TO ACTUAL POST LOCATIONS. REVIEW ANY ADJUSTMENTS WITH HE ENGINEER.
3. BENCHES, DECKING AND RAILINGS SHALL MATCH THE EXISTING LOWER NEW DECK AREA STYLE, COLOR AND DIMENSIONS.
4. GATES SHALL HINGED TO OPEN FLUSH. INSTALL LOCKABLE CLOSING LATCH AND LATCH FOR SECURING GATE OPEN.

verdantas

STATE OF OHIO
RICHARD R. WASHINGTON
9400794
REGISTERED
LANDSCAPE ARCHITECT

NO	REVISION	DATE
	.	.
	.	.
	.	.
	.	.
	.	.

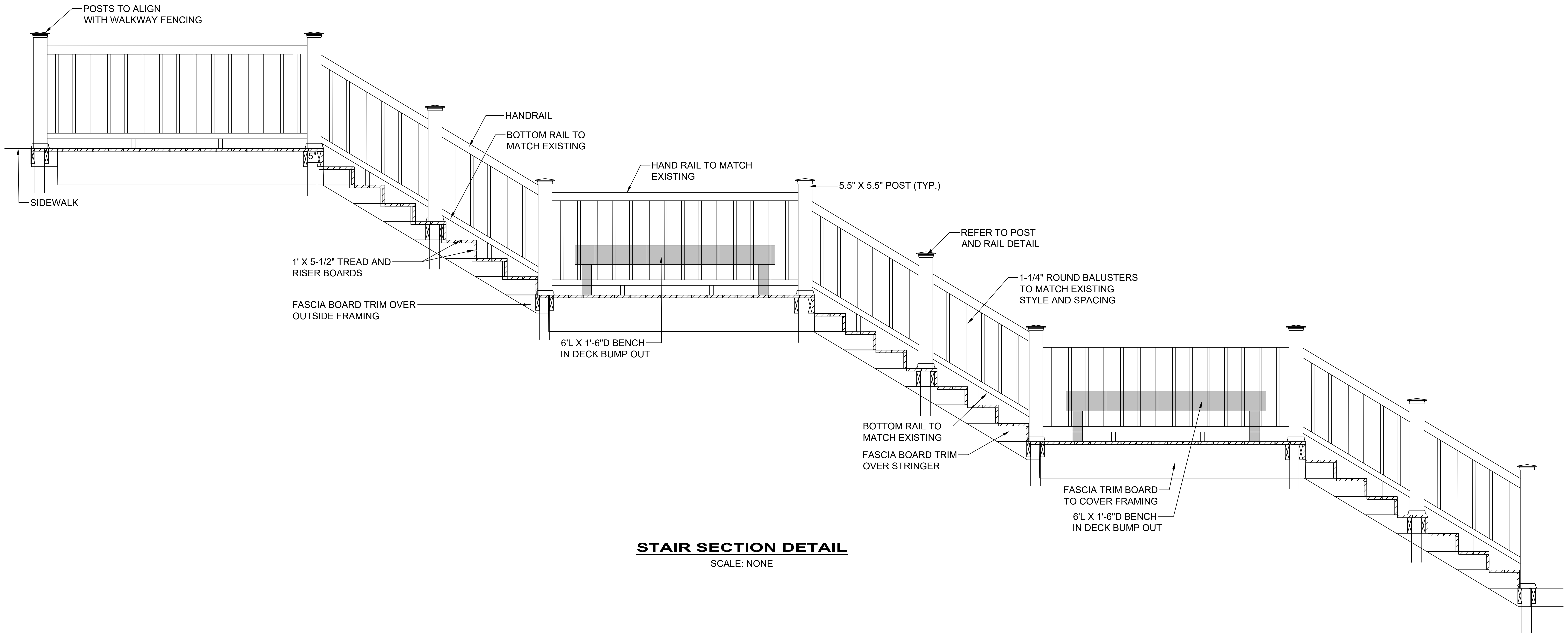
CHAGRIN FALLS VIEWING AREA
STAIRWAY REPLACEMENT
53 N MAIN ST.
VILLAGE OF CHAGRIN FALLS, OHIO

SCALE: SEE PLANS
DATE: 07/03/2025
DESIGNED BY: BAS
DRAWN BY: BAS, RW
CHECKED BY: CMM

DECKING PLAN

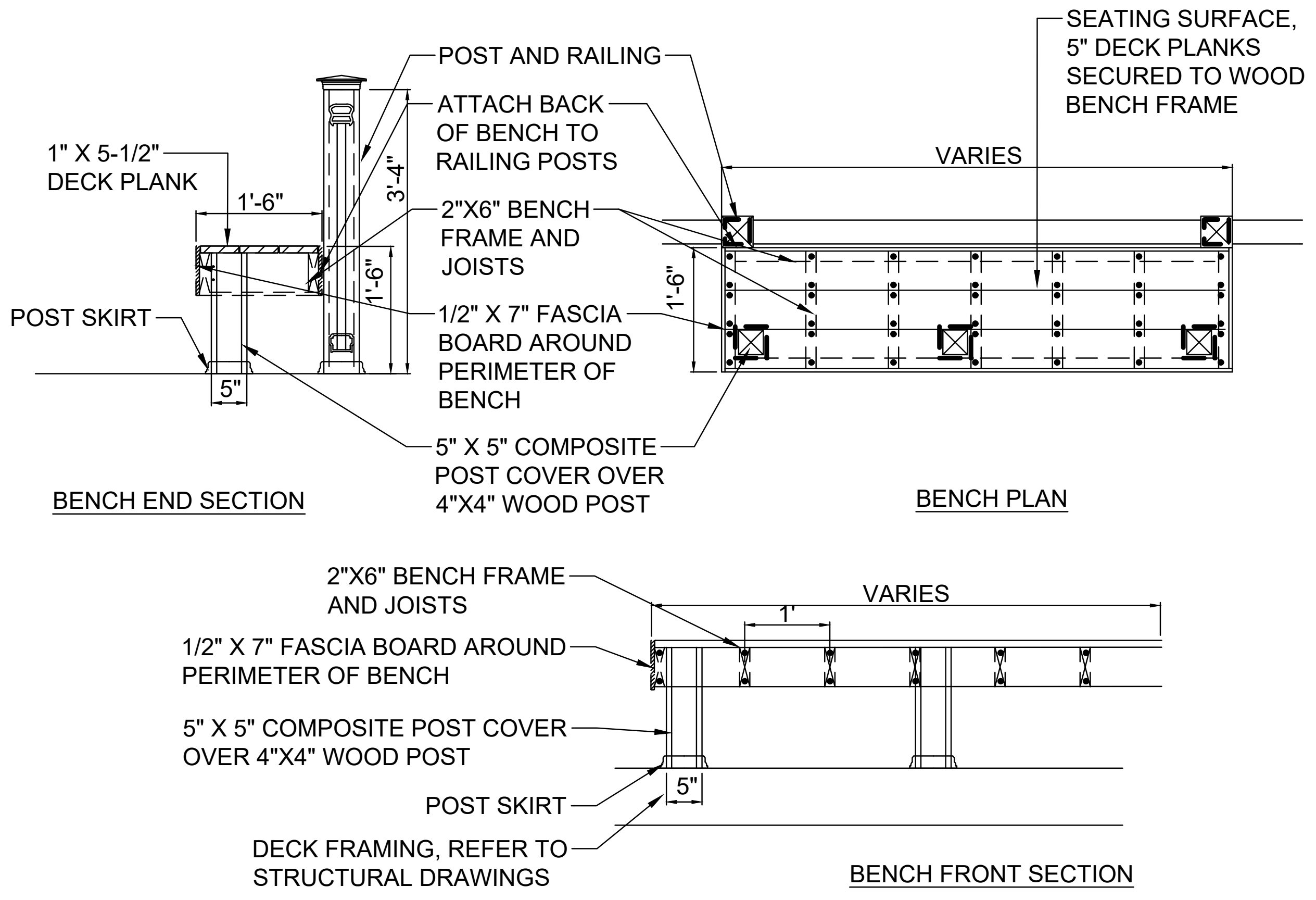
PROJECT NO: 24025502
DRAWING NAME: DP-01
SHEET 7 OF 9

H:\2024\24025502\DWG\SHEETS\24025502 CHAGRIN FALLS FALLS VIEWING AREA RAILING.DWG - DP-01 - 7/3/2025 10:18:26 AM - RICHARD WASHINGTON



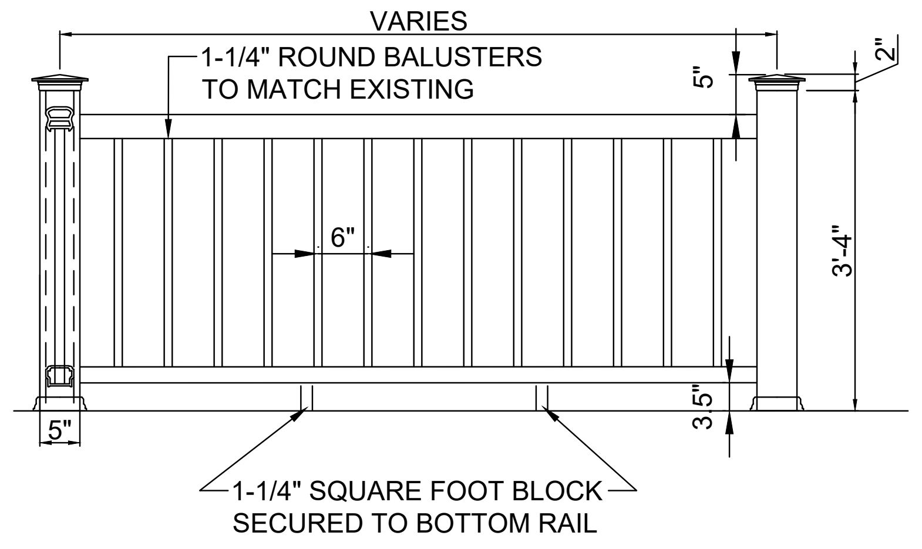
STAIR SECTION DETAIL

SCALE: NONE



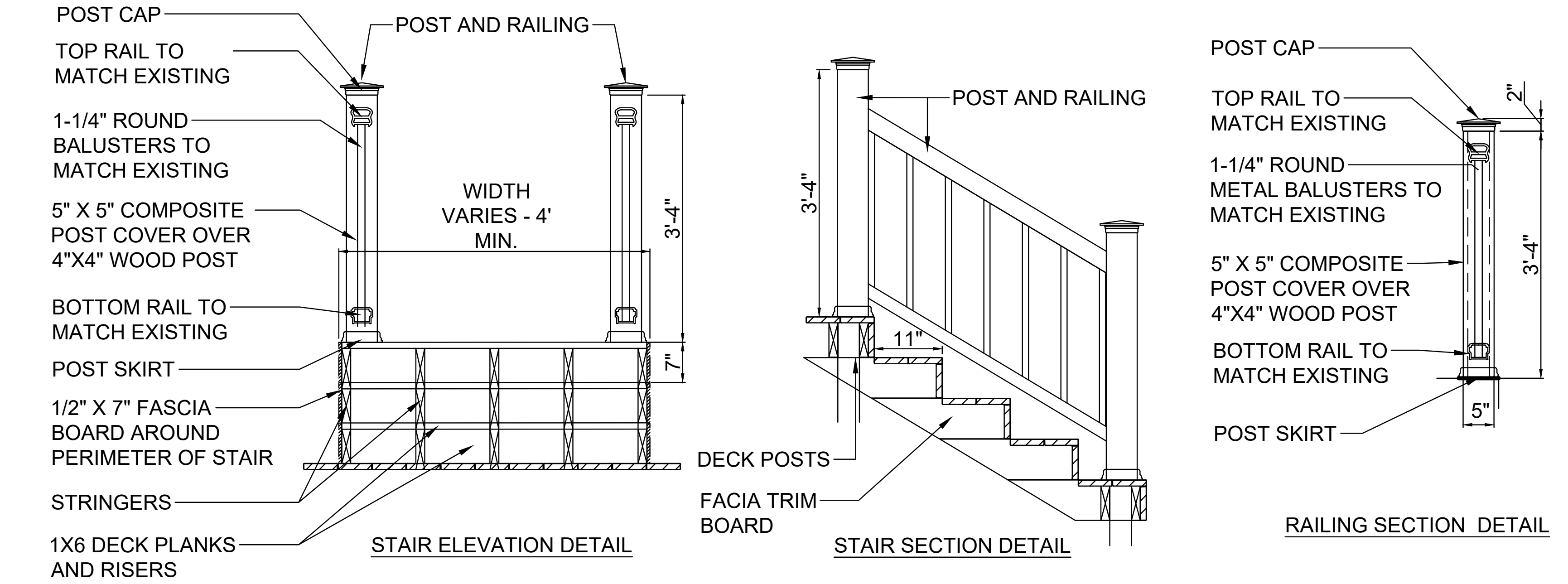
DECK BENCH DETAIL

SCALE: NONE



RAILING ELEVATION DETAIL

SCALE: NONE



RAILING & STAIR DETAIL

SCALE: NONE

NOTES:

1. COMPOSITE DECK PLANKS, FASCIA BOARDS, RAILS AND METAL BALUSTERS SHALL MATCH THE EXISTING DECK AND STAIR STYLE
2. DECKING COLOR SHALL BE MOCHA.
3. SECURE AND FASTEN ALL COMPONENTS PER THE MANUFACTURER'S SPECIFICATIONS.
4. REFER TO STRUCTURAL PLANS FOR ELEVATIONS, FRAMING, STRINGERS, JOISTS, BRACING AND POST SIZES AS WELL AS LAYOUT, ANCHORING AND HARDWARE SPECIFICATIONS.

verdantas

RICHARD R. WASHINGTON
9400794

NO	REVISION	DATE
	.	.
	.	.
	.	.
	.	.
	.	.
	.	.

CHAGRIN FALLS VIEWING AREA
STAIRWAY REPLACEMENT
53 N MAIN ST.
VILLAGE OF CHAGRIN FALLS, OHIO

SCALE: SEE PLANS
DATE: 07/03/2025
DESIGNED BY: BAS
DRAWN BY: BAS, RW
CHECKED BY: CMM

DECKING DETAILS

PROJECT NO: 24025502
DRAWING NAME: DT-01
SHEET 8 OF 9

SECTION 067300 - COMPOSITE DECKING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Composite decking.
   2. Decking fastening system.

1.3 ACTION SUBMITTALS

A. Product Data: For composite decking and decking fastening system components. Include installation instructions.B.Samples: For decking, not less than 24 inches long, showing the range of variation to be expected in appearance of decking, including surface texture.

1.4 INFORMATIONAL SUBMITTALS

A. Evaluation Reports: For the following, from ICC-ES:
   1. Composite decking.
   2. Decking fastening system.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store materials under cover and protected from weather and contact with damp or wet surfaces. Stack materials flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.B.Handle and store decking materials to comply with manufacturer's written instructions.

1.6 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of decking system that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
a. Structural failures, including cracking, splitting, and deforming.
   2. Warranty Period: 20 years from date of Substantial Completion.

B. Fade and Stain Warranty: Provide manufacturer's warranty against color fade and permanent staining within warranty period.
   1. Fading is defined as loss of color of more than 5 Hunter color-difference units as measured in accordance with ASTM D2244.
   2. Warranty Period: 50 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 COMPOSITE DECKING

A. Basis-of-Design Product: Subject to compliance with requirements, provide AZEK Building Products; TimberTech PRO Legacy to match existing or comparable product by one of the following:

   1. TimberTech.
   2. or approved equal

B. Composite Decking: Solid capped four sided shapes made from a mixture of cellulose fiber and polyethylene or polypropylene.
   1. Decking Standard: ICC-ES AC174.
   2. Decking Size: [0.94 by 5.36 inches actual] 0.89 by 5.36 inches actual
   3. Fascia Board: 0.94 by 12 inches by 12 ft. matching decking color.
   4. Stair Riser Board: 0.94 by 7.25 inches by 12 ft. actual matching decking color.
   5. Configuration: Provide product with grooved edges designed for fastening with concealed decking fasteners and full profile.
   6. Surface Texture: Embossed woodgrain to match existing.
   7. Color: Mocha from the Legacy Collection

C. Composite Decking components
   1. Top and bottom rail to match existing profile, Radiance Rail.
   2. Railing balusters: round hollow pickets to match style and diameter of existing pickets, color to be black.
   3. Post covers and post skirts
   4. Color for composite components: Mocha from the Legacy Collection

2.2 DECKING FASTENING SYSTEM

A. Basis-of-Design Product: Subject to compliance with requirements, provide AZEK Building Products; CONCEALoc comparable product by one of the following:

   4. Grabber Construction Products.
   5. Blue Heron Enterprises, LLC.
   6. Ipe Clip Fastener Company Inc. (The).
   7. KK Mfg. Co., Inc
   8. M. M. Products, Inc.
   9. Titan Metal Werks, Inc
   10. Ty-Lan Enterprises Inc.

B. Concealed Decking Clips: Black-oxide-coated, stainless steel clips designed to secure decking material and provide uniform spacing of decking material.

C. Fasteners: Stainless steel screws, minimum #7 size, in sufficient length to penetrate not less than 1-1/4 inches into wood framing substrate.

2.3 DECKING POST AND RAILING SYSTEM

A. Basis-of-Design Product: Subject to compliance with requirements, provide AZEK Building Products; TimberTech Radiance Express Railing system.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrates of projections and substances detrimental to application.

3.3 INSTALLATION

A. Set work to required levels and lines, with members plumb, true to line, cut, and fitted. Fit work to other construction; scribe and cope as needed for accurate fit.

B. Install decking, stair treads, railing and benches in accordance with manufacturer's written instructions.

C. Secure decking to wood framing with concealed deck clips and screws to match existing.

D. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.

E. For exposed work, arrange fasteners in straight rows parallel with edges of members, with fasteners evenly spaced and with adjacent rows staggered.

END OF SECTION 067300

verdantas

RICHARD R. WASHINGTON
9400794

NO	REVISION	DATE
	.	.
	.	.
	.	.
	.	.
	.	.
	.	.

CHAGRIN FALLS VIEWING AREA
STAIRWAY REPLACEMENT
53 N MAIN ST.
VILLAGE OF CHAGRIN FALLS, OHIO

SCALE: SEE PLANS
DATE: 07/03/2025
DESIGNED BY: BAS
DRAWN BY: BAS, RW
CHECKED BY: CMM

DECKING SPECIFICATIONS

PROJECT NO: 24025502
DRAWING NAME SP-02
SHEET 9 **OF** 9

H:\2024\24025502\DWG\SHEETS\24025502 CHAGRIN FALLS FALLS VIEWING AREA DECKING SPECS.DWG - SP-02 - 6/30/2025 5:33:33 PM - RICHARD WASHINGTON