

CONSTRUCTION SPECIFICATIONS

GENERAL: ALL MATERIALS SHALL BE INSTALLED IN A WORKMANLIKE MANNER AND THE METHODS BE WITHIN THE HIGHEST STANDARDS OF THE APPLICABLE CONSTRUCTION TRADE. ALL WORK SHALL MEET OR EXCEED PROVISIONS OF ALL GOVERNING CODES AND ORDINANCES. THE DRAWINGS ARE GENERAL IN NATURE. IT IS INTENDED THAT THE CONTRACTOR ADJUST DIMENSIONS, MATERIALS AND METHODS OF CONSTRUCTION TO PROPERLY ADAPT THE WORK TO THE SITE CONDITIONS.

EXCAVATOR: EXCAVATE FOR ALL FOUNDATION WORK TO DEPTH BELOW GRADE REQUIRED BY LOCAL CODE. FOOTINGS SHALL REST ON UNDISTURBED EARTH.

CONCRETE: SOLID CONCRETE MASONRY UNITS OR MIN 3,000# STRENGTH CONCRETE OF A SIZE SUFFICIENT TO SPREAD THE IMPOSED FOUNDATION LOAD ON THE BEARING SOIL IN ACCORDANCE WITH CODE REQUIREMENTS.

CARPENTRY: ALL WOOD SHALL BE #2 OR BETTER SOUTHERN YELLOW PINE, PRESSURE-TREATED WITH NON-ARSENIC BASED PRESERVATIVE, OF NOMINAL SIZES DETAILING INDICATED ON THE DRAWINGS OR BY CODE.

METALS: ALL HARDWARE SHALL BE HOT-DIPPED GALVANIZED OR OTHER NONCORROSIVE FINISH AND SHALL BE OF A SIZE AND SPACING SUFFICIENT TO CARRY OR TRANSMIT THE INTENDED STRUCTURAL LOAD IN ACCORDANCE WITH GOVERNING CODES AND APPLICABLE STRUCTURAL STANDARDS. FINISH HARDWARE SHALL BE NON-CORROSIVE AND SUITABLE FOR EXTERIOR APPLICATIONS.

ANALYSIS OF 2x8 CANTILEVERED DECK JOISTS

CALCULATIONS ARE BASED ON THE FOLLOWING DATA:

- 60 PSF LIVE LOAD
- 10 PSF DEAD LOAD
- #2 SYP, FB (ALLOWABLE BENDING STRESS) 925 PSI - E = 1.1 E6 PSI
- CANTILEVER LENGTH 2'-0" MAX.
- BASE SPAN 13'-1" MAX.
- JOIST SPACING 12" OC
- DEFLECTION LIMITED TO L/240

CALCULATED BENDING STRESS = 398 PSI < 925 PSI OK
DEFLECTION = $13'-1" \times 8"/240 = 0.43"$ (104 < 240 OK)

THE CALCULATIONS INDICATE SUCH AN APPLICATION IS ACCEPTABLE AND SATISFIES THE DESIGN SPECIFICATIONS OF THE WESTERN WOOD PRODUCTS ASSOCIATION.

ANALYSIS OF 2x10 CANTILEVERED DECK JOISTS

CALCULATIONS ARE BASED ON THE FOLLOWING DATA:

- 60 PSF LIVE LOAD
- 10 PSF DEAD LOAD
- #2 SYP, FB (ALLOWABLE BENDING STRESS) 907 PSI E = 1.1 E6 PSI
- CANTILEVER LENGTH 3'-0" MAX.
- BASE SPAN 8'-0" TO 11'-0"
- JOIST SPACING 12" oc
- DEFLECTION LIMITED TO L/240

CALCULATED BENDING STRESS = 654 PSI < 907 PSI OK
DEFLECTION = $0.07 = L/1402$ FOR 8'-0" BASE SPAN DEFLECTION = $0.26" = L/503$ FOR 11'-0" BASE SPAN

THE CALCULATIONS INDICATE SUCH AN APPLICATION IS ACCEPTABLE AND SATISFIES THE DESIGN SPECIFICATIONS OF THE WESTERN WOOD PRODUCTS ASSOCIATION.

UPLIFT AND UPLIFT RESISTANCE

FOR THESE CALCULATIONS THE "WORST CASE" COLUMN (LONGEST SPAN AND LARGEST CONTRIBUTING AREA) WAS USED. THE DECK WAS CONSIDERED A FLAT ROOF, TABLE 1609.4.3 OF THE IBC IS FOR A ROOF WITH MEAN HEIGHT OF 30 FEET LOCATED IN EXPOSURE B; TABLE R301.2(3) OF THE IRC LISTS THE LOWEST MEAN ROOF HEIGHT AT 15' WITH AN ADJUSTMENT COEFFICIENT OF 1.00. THIS DECK IS AVERAGE $+/-2' - 4'$ ABOVE GRADE. DESIGN WIND SPEED = 115 MPH.

UPLIFT
DECK CONTRIBUTING AREA = $6' - 0" \times 15' - 11" = 95.5 \text{ SF}$

UPLIFT WAS INTERPOLATED FROM TABLE 1609.6.2.1(1), VERTICAL LOAD, INTERIOR ZONE, WINDWARD ROOF, LOAD DIRECTION - LONGITUDINAL.
110MPH = -16.0 120MPH = -19.1 115MPH = -17.55
 $95.5 \text{ SF} \times 17.55 \text{ PSF} = 1676 \text{#}$ UPLIFT

RESISTANCE TO UPLIFT

THE MASCORE METAL POST HAS AN ALLOWABLE WORKING LOAD FOR UPLIFT RESISTANCE OF $+/- 4800 \text{#}$.

DEAD LOAD $95.5 \text{ SF} \times 10 \text{#}/\text{SF} = 955 \text{#}$
MASCORE METAL POST 4800
HEADLOAD 640
DEAD LOAD 955 TOTAL 6395 OK

DOUBLE AND MAX. 16" O.C.
FOR JOISTS SPANNING MORE
THAN 8'



4" STARBORN STRUCTURAL F23 LEDGER/MULTI BOLTS
SPACED - STAGGERED - AS PER MFG. TABLE BELOW.

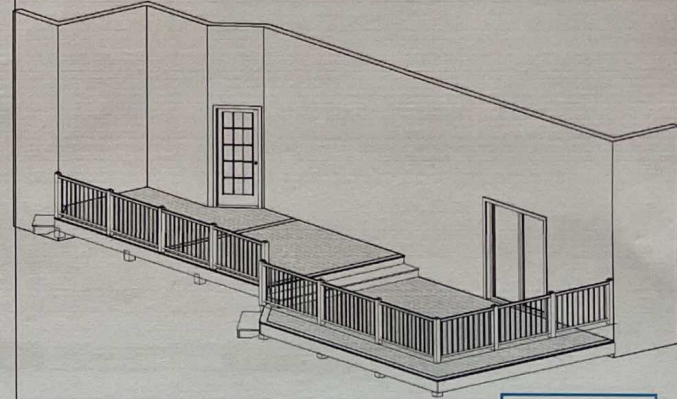
LEDGER BOLT PATTERN DETAIL NTS

BASED ON 60#LL, S. PINE LEDGER AND 2x LUMBER HOUSE RIM JOIST

JOIST LENGTH (SPAN FROM LEDGER)	ON CENTER SPACING
6'-0" OR LESS	17"
+6'-0" TO 8'-0"	13"
+8'-0" TO 10'-0"	10"
+10'-0" TO 12'-0"	8"
+12'-0" TO 14'-0"	7"
+14'-0" TO 16'-0"	6"

THE MASCORE METAL POST INSTALLER WILL PROVIDE A FIELD REPORT DETAILING AND ATTESTING TO THE LOCATION OF EACH HELICAL PILE, IT'S DEPTH, THE ACHIEVED TORQUE AND THE BEARING CAPACITY IN RELATION TO THE TORQUE

A COPY OF THIS REPORT WILL BE PROVIDED TO THE CONSTRUCTION OFFICIAL.



GENERAL INFORMATION

USE GROUP R-5
CONSTRUCTION TYPE 5B

DESIGN LOADS

LIVE LOAD 60#/sf
DEAD LOAD 10#/sf
TOTAL LOAD 70#/sf

DESIGN WIND SPEED - 115 MPH.
AREA = 321 SF
263 SF

BUILDING CODES

2021 INTERNATIONAL BUILDING CODE IL ED.
2021 INTERNATIONAL EXISTING BUILDING CODE IL ED.

ALTERNATE CONCRETE FOOTING SIZES

LOAD IN LBS	DIAM
0-2137#	14"
2138-2799#	16"
2800-3533#	18"
3534-4362#	20"
4363-4809#	21"
4810-5279#	22"
5280-5770#	23"
5771-6283#	24"
6284-6817#	25"
6818-7374#	26"

NOTE:

1. VARIOUS UNMOVABLE OBSTACLES SUCH AS SEPTIC LINES, LARGE ROCKS, ETC., MAY PRECLUDE A HELICAL PIER. A CONCRETE FOOTING MAY BE SUBSTITUTED FOLLOWING THE TABLE ABOVE.
2. FOOTINGS ARE 8" DEEP AT MIN. 42" BELOW GRADE. CONTRACTOR SHALL HAVE OPTION TO USE ALTERNATE CONCRETE FOOTINGS OVER HELICAL PILES



SHEET 1 - NOTES & SPECS

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SEAL

ROYAL DECK

924 W 75TH ST

UNIT 120-129

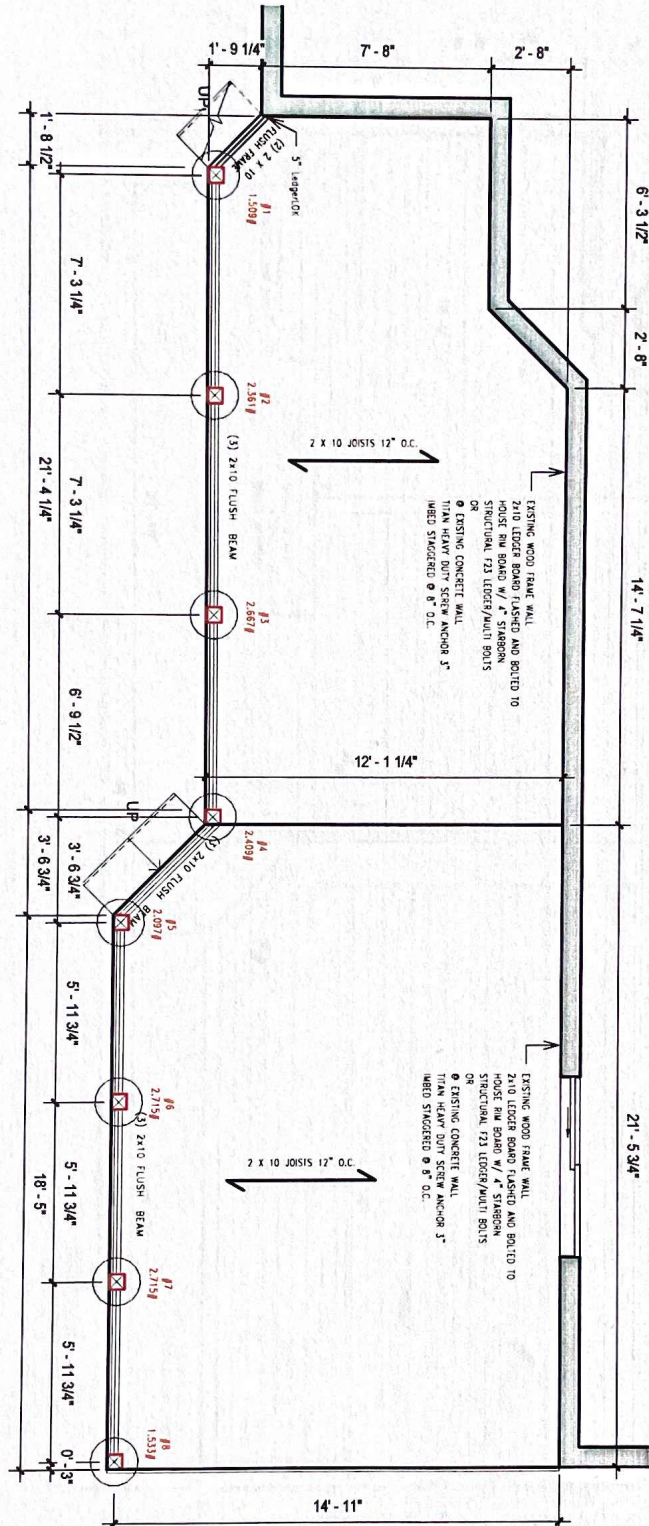
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FRAMING NOTES

1. VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
2. ALL NEW FOOTINGS SHALL BE NOTED ON PLAN.
3. LEDGER BOARD SHALL BE SAME SIZE AS JOISTS AND ATTACHED TO RM JOIST AS BEAM. IF LEDGER NOT PROPERLY ALIGNED W/ HOUSE RM JOIST LEDGER SHALL BE SECURED TO FOUNDATION WALL WITH STAGGERED THRU BOLTS OR WEDGE ANCHORS.
4. PROVIDE JOIST HANGERS AT ALL FLUSH FRAME CONDITIONS.
5. JOIST HANGERS TO BE SIMPSON LUS28Z.
6. BLOCK JOISTS AT MID-SPAN FOR SPANS OF 8'-0" OR GREATER.
7. 6x6 PT SUPPORT COLS/POSTS TREATED FOR STRUCTURAL GROUND BURIAL MCA 23 BE SECURED TO FOUNDATION WALL WITH STAGGERED THRU BOLTS OR WEDGE ANCHORS.
8. BEAMS/JOISTS TO BE SYP TREATED VALUED. SEE PLAN FOR SIZING AND SPACING.
9. DECKING TO BE 5/4 x 6 TREX.
10. RAIS TO BE 3/8" HIGH WITH LESS THAN 4" OPENINGS PER IRC CODE.
11. 2x10 LEDGER BOARD TO BE BUILT MAX 7'-3/4" RISE TO MIN RUN PER IRC CODE.
12. ALL NEW FOOTINGS TO BE CORROSION RESISTANT AND INSTALLED PER MANUFACTURER'S INSTRUCTIONS.



1 FRAMING PLAN
1/4" = 1'-0"



6x6 SUPPORT POST ON MASONRY HELICAL PILE

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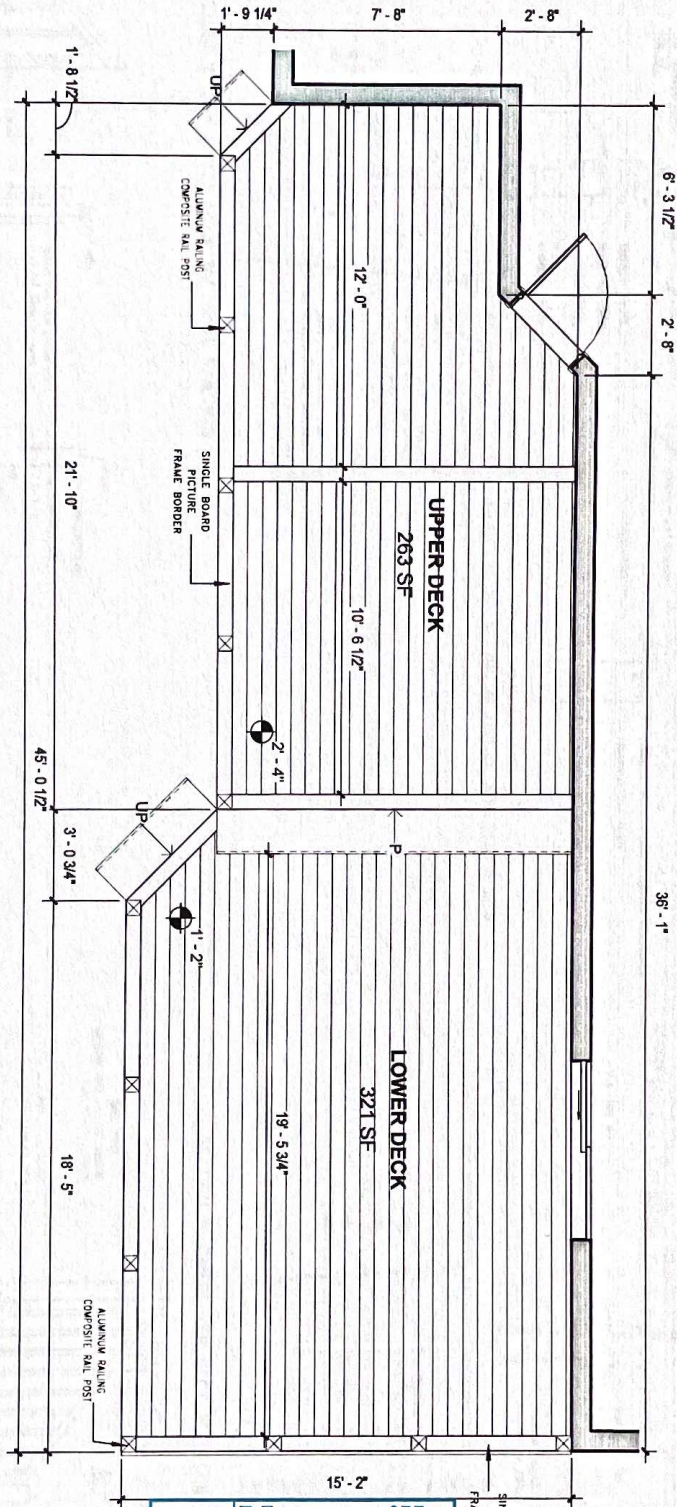
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SHEET 2 FRAMING PLAN
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FASTEN 5/ 4X6 TREX DECKING W/ HIDDEN FASTENERS



1 DECK PLAN
1/4" = 1'-0"

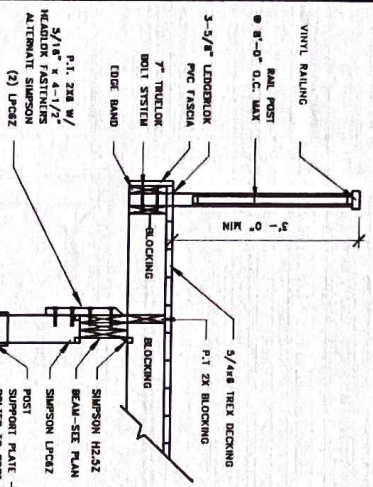
DECK ELEVATION FROM GRADE

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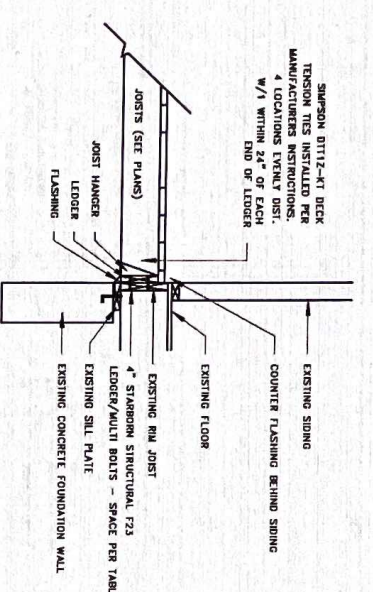
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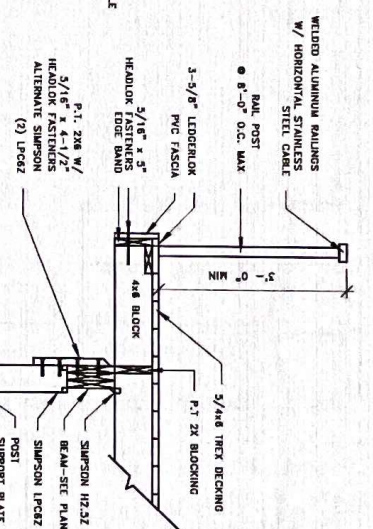
SHEET 3 - DECK PLAN
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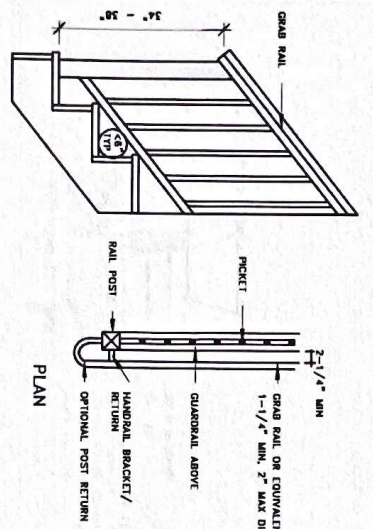
NOTE: THE DIAMETER OF THE HELIX MAY BE CHANGED DUE TO SOIL CONDITIONS AT THE SITE. THE INSTALLER IS RESPONSIBLE FOR DETERMINING THE PROPER HELIX SIZE BASED ON SOIL CONDITIONS.



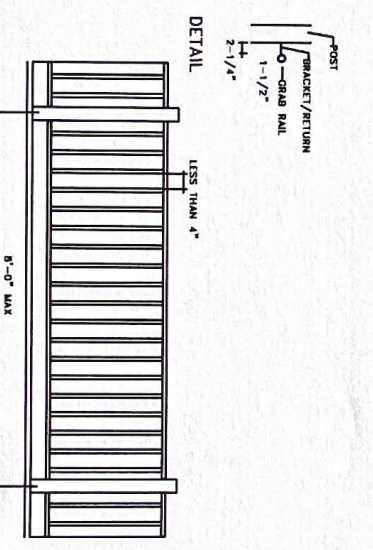
ATTACHMENT DETAIL @ HOUSE RIM BOARD NTS



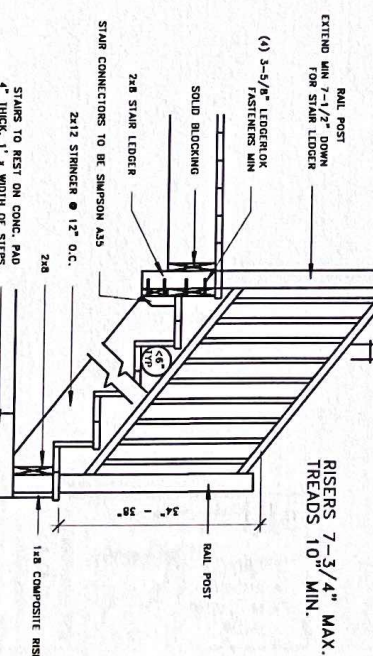
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GRASPABLE HANDRAIL NTS



RAILING ELEVATION NTS



STAIR DETAIL NTS

SECTION @ CANTILEVER DECK W/ ALUM. RAIL NTS

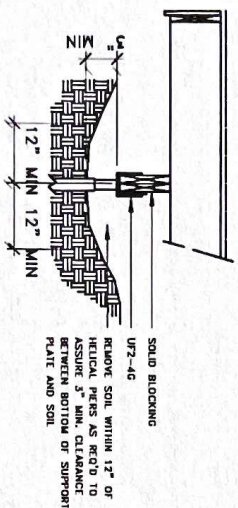
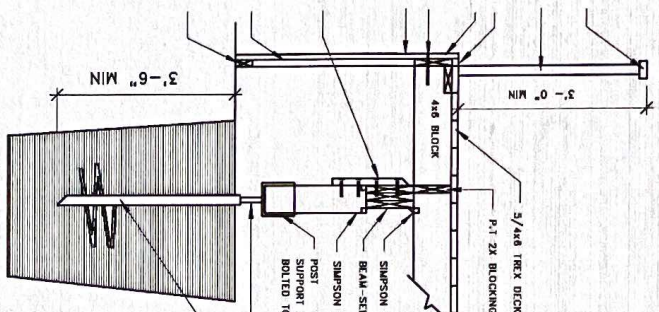
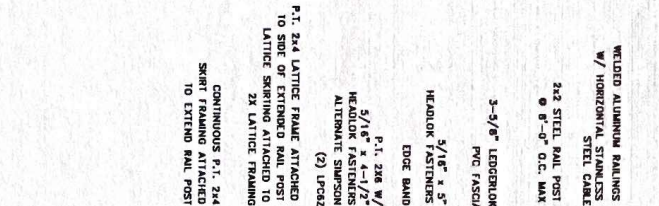
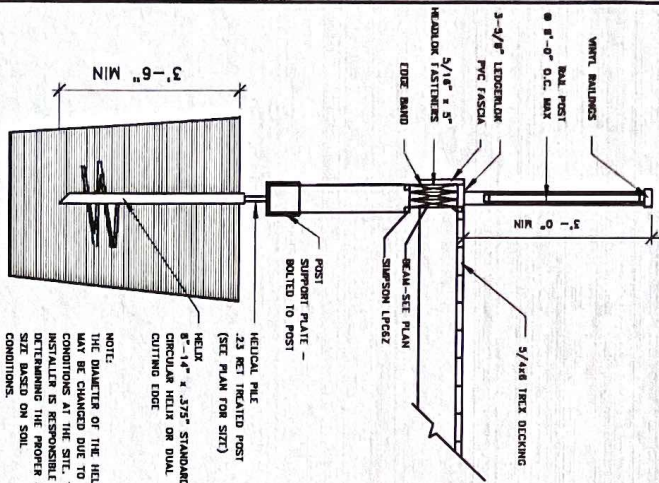
SECTION @ CANTILEVER DECK W/ VINYL RAIL NTS

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SHEET 4 - DETAILS	

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NOTE: OPTIONAL SIMPSON STRONG-TIE OUTDOOR ACCENT AWAYT COLLECTION 2x4x4 BLACK POWDER COATED 1-STRINGERS TO BE USED IN PLACE OF 4-STRINGERS

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