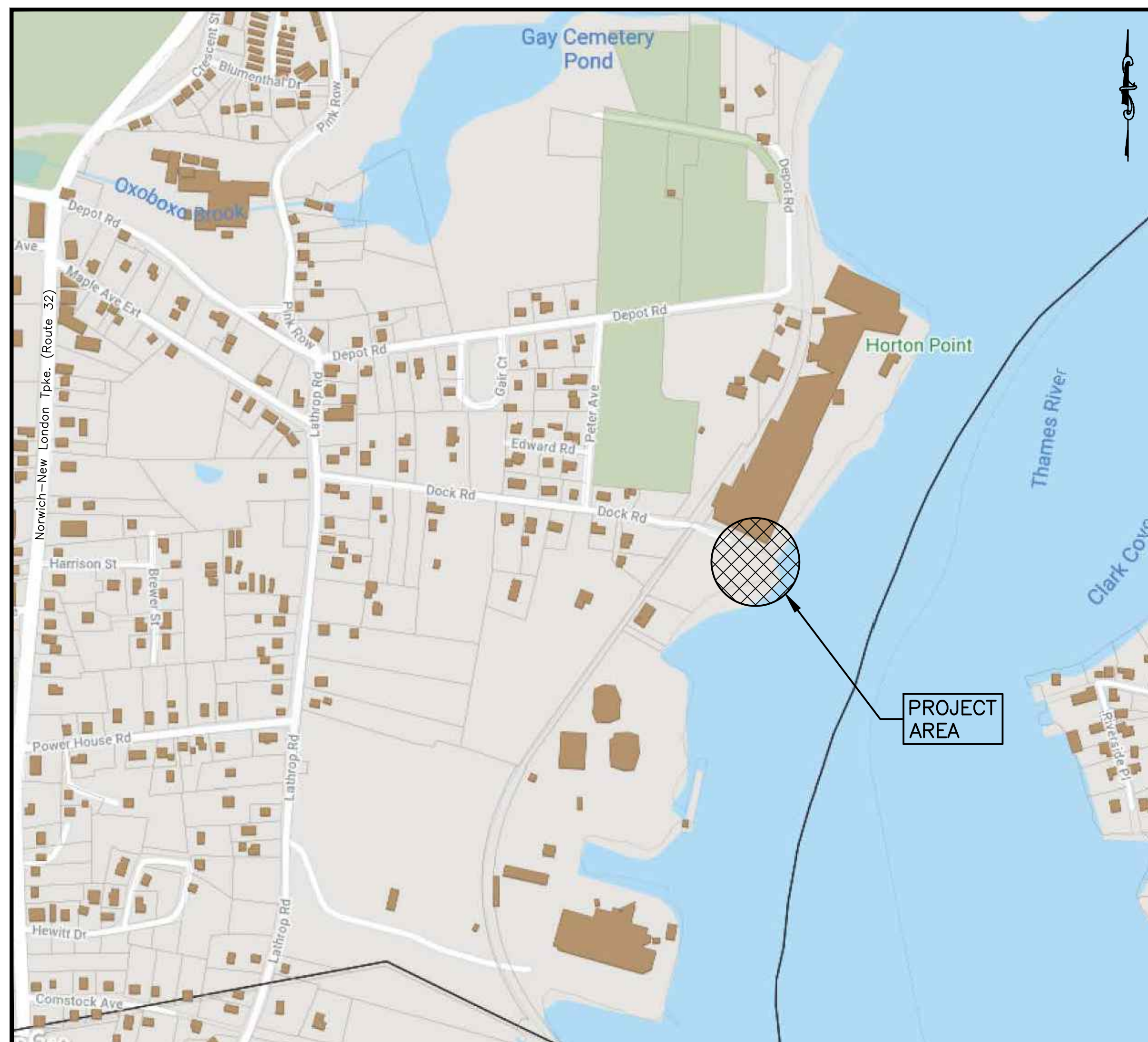


TOWN OF MONTVILLE TOWN BOAT LAUNCH IMPROVEMENTS AND FISHING PIER CONSTRUCTION

55 Dock Road
Uncasville, Connecticut 06382

Prepared For:
TOWN OF MONTVILLE
Bid No. 2025-08

Funding Provided by the Town of Montville & the U.S. Fish and Wildlife Service,
Sport Fish Restoration Program administered by the Connecticut
Department of Energy and Environmental Protection (DEEP)



LOCATION MAP
Scale: 1"=±400'

Revised: January 8, 2025 (Issued for Bid)
Revised: November 8, 2024 (Bid-Issued for Review)
Revised: July 29, 2024
Revised: March 22, 2024
Revised: October 21, 2022
Revised: June 16, 2022
May 2022

CLA Engineers, Inc.
CIVIL • STRUCTURAL • SURVEYING
317 Main Street Norwich, CT 06360
(860) 886-1966 Fax (860) 886-9165



INDEX TO DRAWINGS

Drawing No.	Description of Drawings
1	Bathymetric / Topographic Survey
2	Vicinity Map
3	Plan of Improvements
4	Site Plan
5	Utility Plan
6	Boat Launch and Floating Dock Plan & Profile
7	Boat Launch Details
8	Floating Dock Details
9	Fishing Pier Plan & Profile
10	Erosion & Sedimentation Control and Stormwater Management Plan
11-12	Construction Details & Notes
W-1 to W-9	RACE Coastal Engineering Pier Structural Plans
E-001 to E-901	DME Design Electrical Plans

PROJECT TEAM

FISHING PIER STRUCTURAL ENGINEER



MEP ENGINEER

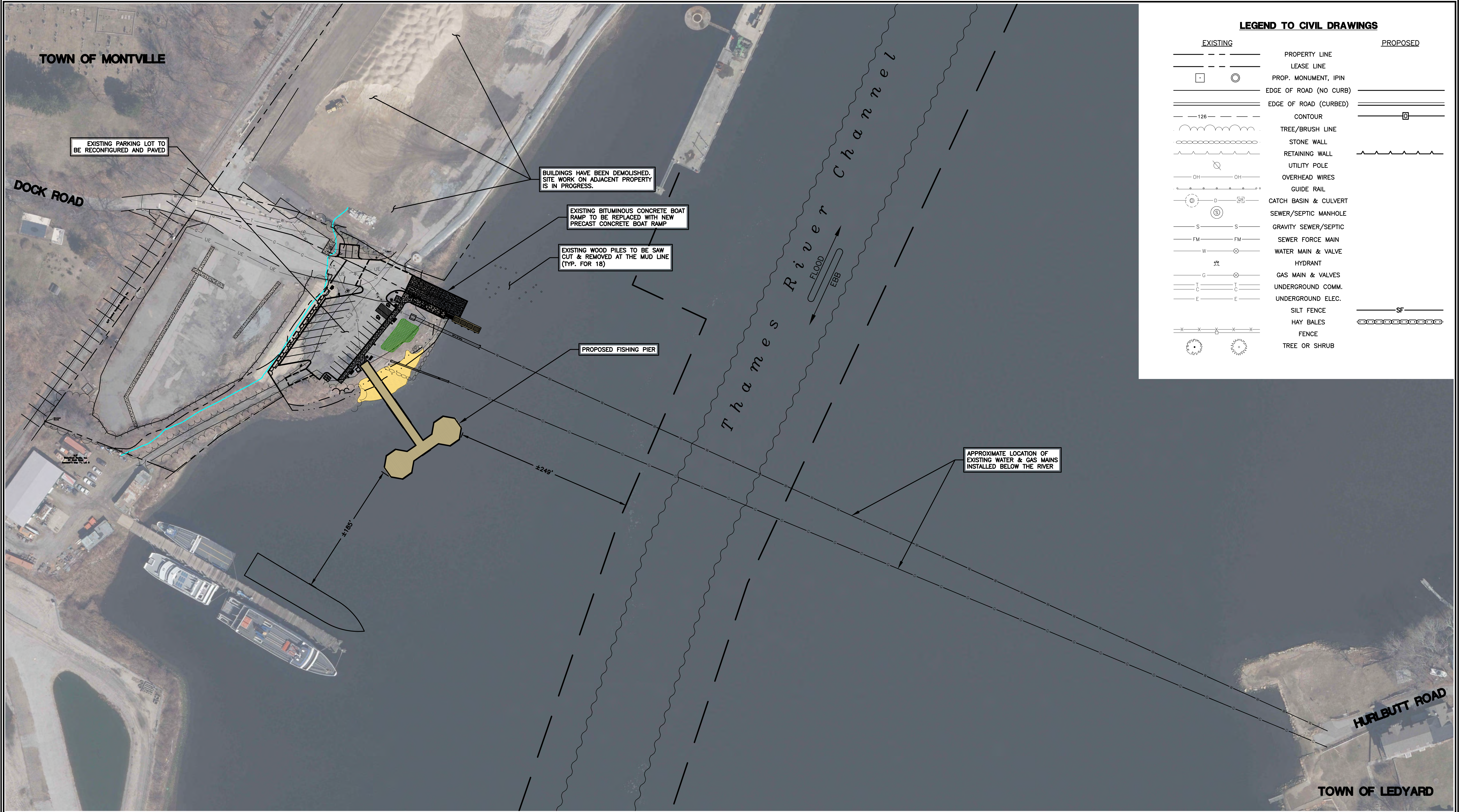


LIGHTING CONSULTANT



BID
DOCUMENT





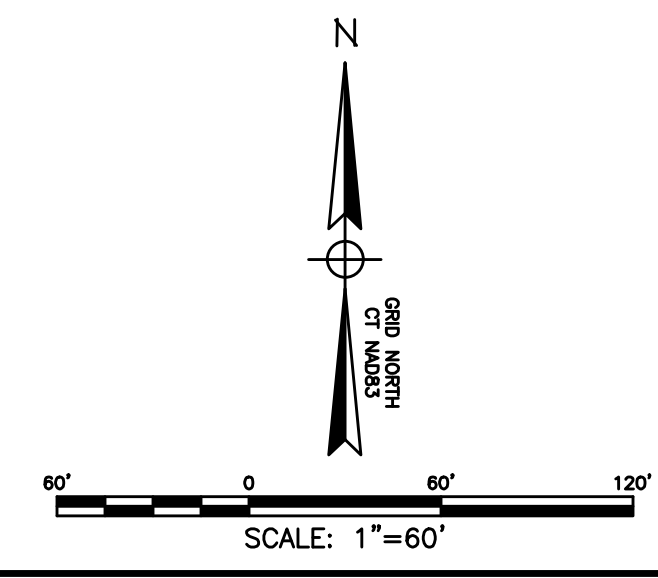
LEGEND TO CIVIL DRAWINGS		
EXISTING		PROPOSED
	PROPERTY LINE	
	LEASE LINE	
	PROP. MONUMENT, IPIN	
	EDGE OF ROAD (NO CURB)	
	EDGE OF ROAD (CURBED)	
	CONTOUR	
	TREE/BRUSH LINE	
	STONE WALL	
	RETAINING WALL	
	UTILITY POLE	
	OVERHEAD WIRES	
	GUIDE RAIL	
	CATCH BASIN & CULVERT	
	SEWER/SEPTIC MANHOLE	
	GRAVITY SEWER/SEPTIC	
	SEWER FORCE MAIN	
	WATER MAIN & VALVE	
	HYDRANT	
	GAS MAIN & VALVES	
	UNDERGROUND COMM.	
	UNDERGROUND ELEC.	
	SILT FENCE	
	HAY BALES	
	FENCE	
	TREE OR SHRUB	

DATUM
VERTICAL: NAVD88
HORIZONTAL: NAD83 CT STATE PLANE

DATA SOURCE
AERIAL: 2023 CONNECTICUT ORTHOIMAGERY
TOPOGRAPHY: CLA FIELD SURVEY (SEE SHEET 1)
BATHYMETRY: CLA FIELD SURVEY (SEE SHEET 1)
PROPERTY LINES: CLA FIELD SURVEY (SEE SHEET 1)

ZONE
INDUSTRIAL (I)

PARKING COUNT
CURRENT PARKING AREAS IS NOT STRIPED AND AREAS FOR CARS AND TRAILERS ARE NOT SPECIFICALLY DESIGNATED
EXISTING: 24
PROPOSED: 27 (8 ARE OVERSIZED FOR TRAILER PARKING)



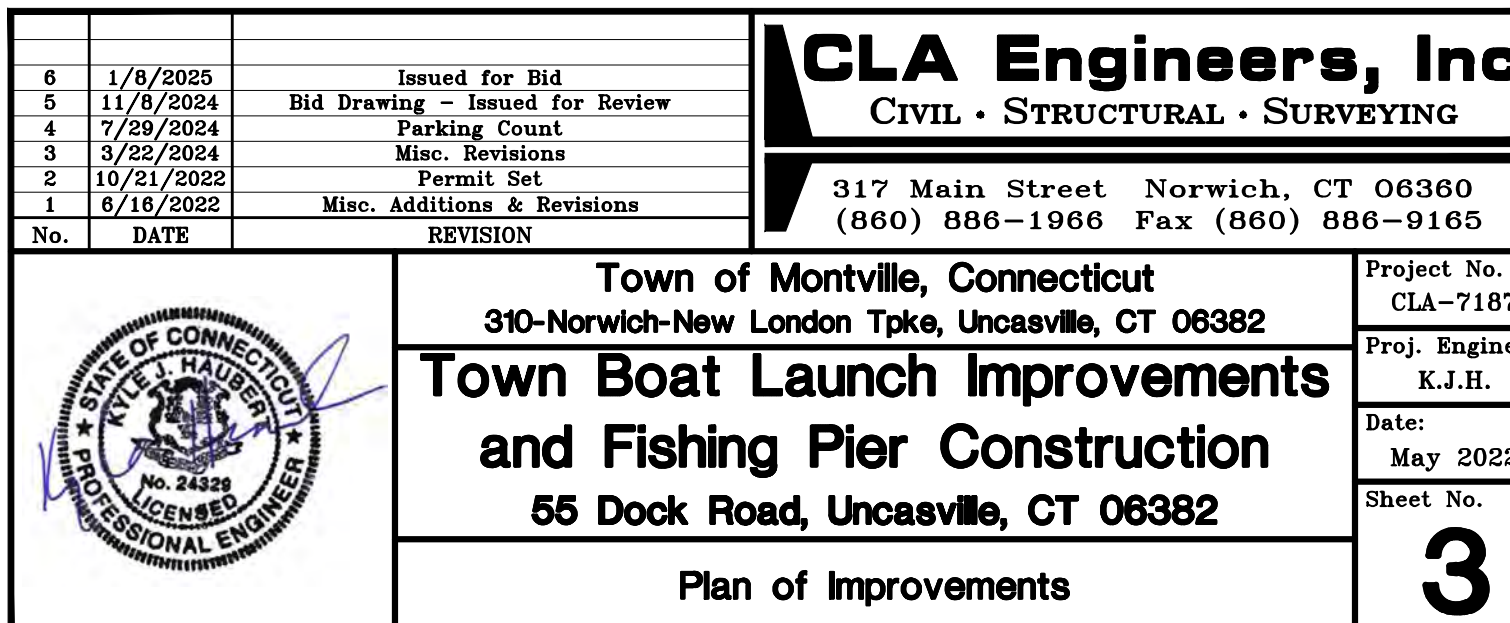
PROJECT CONDITIONS & RESTRICTIONS

1. NOTICE TO PROCEED WILL BE ISSUED BY THE TOWN ON OR BEFORE MARCH 10, 2025.
2. PILE INSTALLATION: IN ACCORDANCE WITH THE ARMY CORPS AUTHORIZATION PILE INSTALLATION SHALL INCLUDE A "SOFT START" TO ALLOW ANIMALS AN OPPORTUNITY TO LEAVE THE PROJECT VICINITY BEFORE SOUND PRESSURE LEVELS INCREASE.
3. STATE OF CT DEPARTMENT OF AQUACULTURE:
NO IN WATER CONSTRUCTION SHALL OCCUR THAT INCREASES TURBIDITY OR RE-SUSPENSION OF SEDIMENTS FROM JUNE 15TH THROUGH AUGUST 30TH. THE CONTRACTOR SHALL SEQUENCE THEIR WORK AND SCHEDULE TO MEET THIS REQUIREMENT.
4. IRON AND STEEL, MANUFACTURED PRODUCTS, AND CONSTRUCTION MATERIALS FOR THE FISHING PIER PORTION OF THE PROJECT ARE REQUIRED TO COMPLY WITH THE BUY AMERICA, BUILD AMERICA ACT REQUIREMENTS OUTLINED IN THE PROJECT MANUAL.

**BID
DOCUMENT**

<table><tr><td>6</td><td>1/6/2025</td><td>Issued for Bid</td></tr><tr><td>5</td><td>11/6/2024</td><td>Bid Drawing - Issued for Review</td></tr><tr><td>4</td><td>7/29/2024</td><td>No Changes to this Sheet</td></tr><tr><td>3</td><td>3/22/2024</td><td>Misc. Revisions</td></tr><tr><td>2</td><td>10/21/2022</td><td>Permit Set</td></tr><tr><td>1</td><td>6/16/2022</td><td>Misc. Additions & Revisions</td></tr></table>	6	1/6/2025	Issued for Bid	5	11/6/2024	Bid Drawing - Issued for Review	4	7/29/2024	No Changes to this Sheet	3	3/22/2024	Misc. Revisions	2	10/21/2022	Permit Set	1	6/16/2022	Misc. Additions & Revisions	<table><tr><th>No.</th><th>DATE</th><th>REVISION</th></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></table>	No.	DATE	REVISION													<p>CLA Engineers, Inc. CIVIL • STRUCTURAL • SURVEYING</p> <p>317 Main Street Norwich, CT 06360 (860) 886-1966 Fax (860) 886-9165</p>
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Date: May 2022	Sheet No. 2																																		

**Know what's below.
Call 811 before you dig.**



WOOD PILES TO
BE REMOVED
(TYP. FOR 18)
(SEE SHEET 3 FOR
FULL EXTENTS)

WOODEN PILES
TYP. FOR 18

PROVIDE TEMPORARY
SAND BAG COFFER DAM
TOP EL.=5.0 MIN.

PROVIDE HAY BALE BARRIER DEWATERING
STRUCTURE AS NEEDED BY THE CONTRACTOR.
TO BE SIZED BASED ON THE CONTRACTORS
PUMP DISCHARGE
(SEE DETAILS)

PROVIDE FLOATING DOCKS
(SEE SHEET 6-8)

APPROXIMATE LOCATION
OF EXISTING WATER MAIN
INSTALLED BELOW THE RIVER

UTILIZE PROPOSED WATER QUALITY BASIN
AS A TEMPORARY SEDIMENT TRAP DURING
CONSTRUCTION: 0.4 AC. DISTURBANCE
134 CY/AC. x 0.4 AC. = 54 CY REQ.
72 CY PROVIDED
(SEE TEMPORARY SEDIMENT TRAP TO WATER
QUALITY BASIN CONVERSION NARRATIVE)

PROVIDE 6'x5'
MODIFIED RIP RAP
LEVEL SPREADER
ELEV.=3.5

PROVIDE WATER QUALITY BASIN
BOTTOM ELEV.=2.0

APPROXIMATE LOCATION
OF EXISTING GAS MAIN
INSTALLED BELOW THE RIVER

REMOVE & DISPOSE OF EXISTING
GRAVEL/ASPHALT MILLING SURFACE
AS REQUIRED TO MEET THE PROPOSED
GRADES AND PAVEMENT SECTION

PROVIDE & MAINTAIN A CONTINUOUS
LINE OF SILT FENCE, STRAW WATTLES,
OR HAY BALES DURING CONSTRUCTION
(TYP.)

PROVIDE FISHING PIER
(SEE SHEET 7 AND RACE COASTAL ENGINEERING PLANS)

SAW CUT & REMOVE EXISTING CURB.
MATCH NEW PAVING TO EXISTING
EDGE OF PAVEMENT (TYP.)

SAW CUT EXISTING PAVEMENT
(TYP.)

REMOVE & DISPOSE
OF EXISTING
BITUMINOUS PAVEMENT

PROVIDE 8'x8'
CONCRETE PAD
AND BIKE RACK

PROVIDE PRECAST CONCRETE
BOAT RAMP. (SEE SHEET 6-7)

PROVIDE ADA ACCESSIBLE
PARKING SPACES:
STANDARD
VAN

PROVIDE 7' WIDE
SINGLE POUR
CONCRETE CURB
AND SIDEWALK

PROVIDE TRASH CAN ON
A 3'x3' CONCRETE PAD
(TYP. FOR 2)

PROVIDE 6'x6' FLUSH TIMBER
AREA FILLED WITH WOOD CHIP
MULCH FOR SIGNS AND POSTINGS

PROVIDE BENCHES
(TYP. FOR 3)

PROVIDE 8.5'x7'
CONCRETE PAD FOR
PORTABLE TOILET
(PORTABLE TOILET BY OTHERS)

PROVIDE EROSION
CONTROL MATTING

REMOVABLE
BOLLARDS 6' O.C.
(TYP. FOR 2)

LIMITS OF DISTURBANCE
ON THE BEACH FOR
FISHING PIER CONSTRUCTION

ALL WORK TO TAKE PLACE
WITHIN THE LEASE LINE OR
TOWN RIGHT-OF-WAY LIMITS
(TYP.)

PROPOSED TREE/BRUSH LINE
AND CLEARING LIMITS
(TYP.)

PROPOSED STOCKPILE AREA.
EXACT LOCATION MAY BE
ADJUSTED IN THE FIELD WITH
PRIOR APPROVAL FROM THE OWNER.
MUST NOT BLOCK ACCESS TO
THE ADJACENT PROPERTY AT
ANY TIME.

PREVIOUSLY CONSTRUCTED
MODULAR CONCRETE
BLOCK RETAINING WALL
TO REMAIN

T/WALL=10.0±
B/WALL=7.1±

100-YEAR FLOOD PLAIN LIMIT
(ZONE AE, ELEV. 11.0)

T/WALL=10.0
B/WALL=7.6

PROVIDE 12' WIDE
GRAVEL DRIVE
MATCH EXISTING
GRAVEL DRIVE
EXISTING RIGHT-OF-WAY TO
REMAIN. ALLOW CONTINUOUS
ACCESS DURING CONSTRUCTION

COASTAL JURISDICTION
LINE (O.C.)
(ELEV. 2.3)

PROPERLY-PLACED MEAN HIGH WATER
(ELEV. 1.2) APPROXIMATE LOCATION

Thames River
FLOOD
EBB

SCALE: 1"=10'

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Town of Montville, Connecticut
310-Norwich-New London Tpke, Uncasville, CT 06382
**Town Boat Launch Improvements
and Fishing Pier Construction**
55 Dock Road, Uncasville, CT 06382

Site Plan

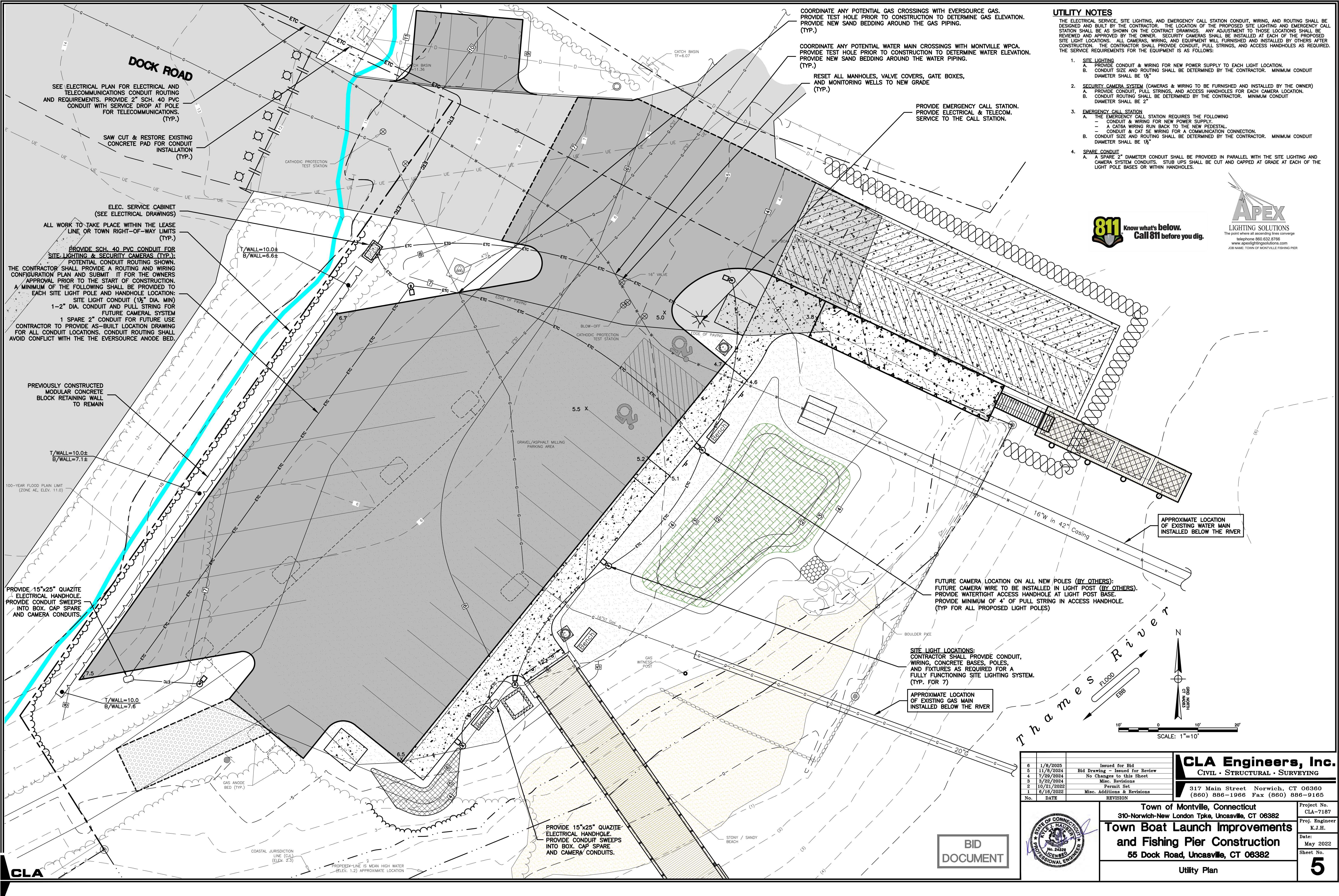
Project No.
CLA-7187
Proj. Engineer
K.J.H.
Date:
May 2022
Sheet No.

4



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DOCUMENT**


CLA



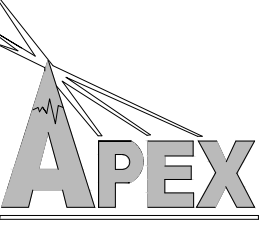
UTILITY NOTES

THE ELECTRICAL SERVICE, SITE LIGHTING, AND EMERGENCY CALL STATION CONDUIT, WIRING, AND ROUTING SHALL BE DESIGNED AND BUILT BY THE CONTRACTOR. THE LOCATION OF THE PROPOSED SITE LIGHTING AND EMERGENCY CALL STATION SHALL BE AS SHOWN ON THE CONTRACT DRAWINGS. ANY ADJUSTMENT TO THOSE LOCATIONS SHALL BE REVIEWED AND APPROVED BY THE OWNER. SECURITY CAMERAS SHALL BE INSTALLED AT EACH OF THE PROPOSED SITE LIGHT LOCATIONS. ALL CAMERAS, WIRING, AND EQUIPMENT WILL BE FURNISHED AND INSTALLED BY OTHERS AFTER CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE CONDUIT, PULL STRINGS, AND ACCESS HANDHOLES AS REQUIRED. THE SERVICE REQUIREMENTS FOR THE EQUIPMENT IS AS FOLLOWS:

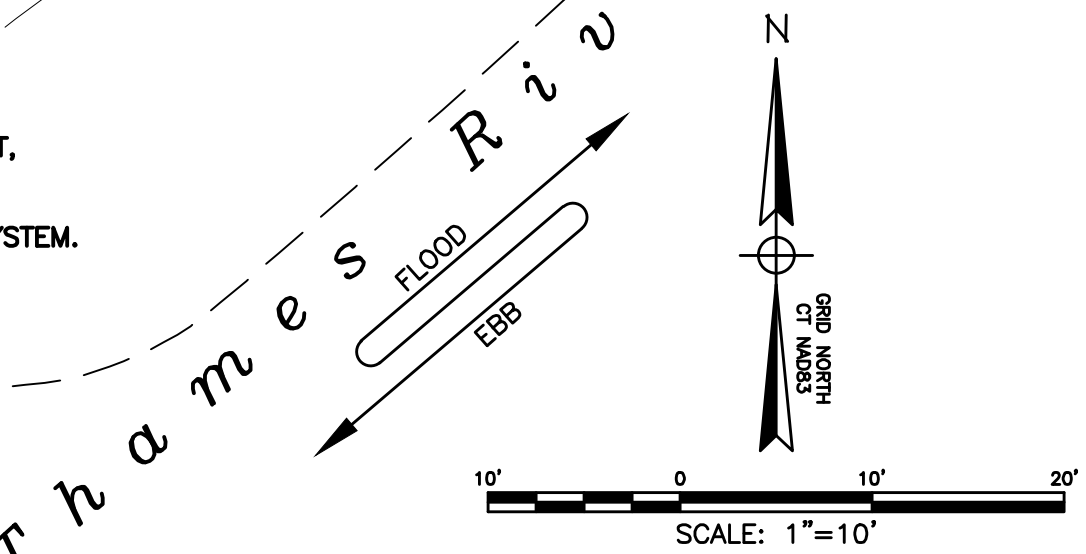
- SITE LIGHTING**
 - PROVIDE CONDUIT & WIRING FOR NEW POWER SUPPLY TO EACH LIGHT LOCATION.
 - CONDUIT SIZE AND ROUTING SHALL BE DETERMINED BY THE CONTRACTOR. MINIMUM CONDUIT DIAMETER SHALL BE 1/2"
- SECURITY CAMERA SYSTEM** (CAMERAS & WIRING TO BE FURNISHED AND INSTALLED BY THE OWNER)
 - PROVIDE CONDUIT, PULL STRINGS, AND ACCESS HANDHOLES FOR EACH CAMERA LOCATION.
 - CONDUIT ROUTING SHALL BE DETERMINED BY THE CONTRACTOR. MINIMUM CONDUIT DIAMETER SHALL BE 2"
- EMERGENCY CALL STATION**
 - THE EMERGENCY CALL STATION REQUIRES THE FOLLOWING:
 - CONDUIT & WIRING FOR NEW POWER SUPPLY.
 - A CAT5A WIRING RUN BACK TO THE NEW PEDESTAL.
 - CONDUIT & CAT 5E WIRING FOR A COMMUNICATION CONNECTION.
 - CONDUIT SIZE AND ROUTING SHALL BE DETERMINED BY THE CONTRACTOR. MINIMUM CONDUIT DIAMETER SHALL BE 1/2"
- SPARE CONDUIT**
 - A SPARE 2" DIAMETER CONDUIT SHALL BE PROVIDED IN PARALLEL WITH THE SITE LIGHTING AND CAMERA SYSTEM CONDUITS. STUB UPS SHALL BE CUT AND CAPPED AT GRADE AT EACH OF THE LIGHT POLE BASES OR WITHIN HANDHOLES.



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LIGHTING SOLUTIONS
The point where all ascending lines converge
telephone 860 632 8766
www.apexlightingsolutions.com
JOB NAME: TOWN OF MONTVILLE FISHING PIER



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Project No. CLA-7187	
Proj. Engineer K.J.H.	
Date: May 2022	
Sheet No. 5	

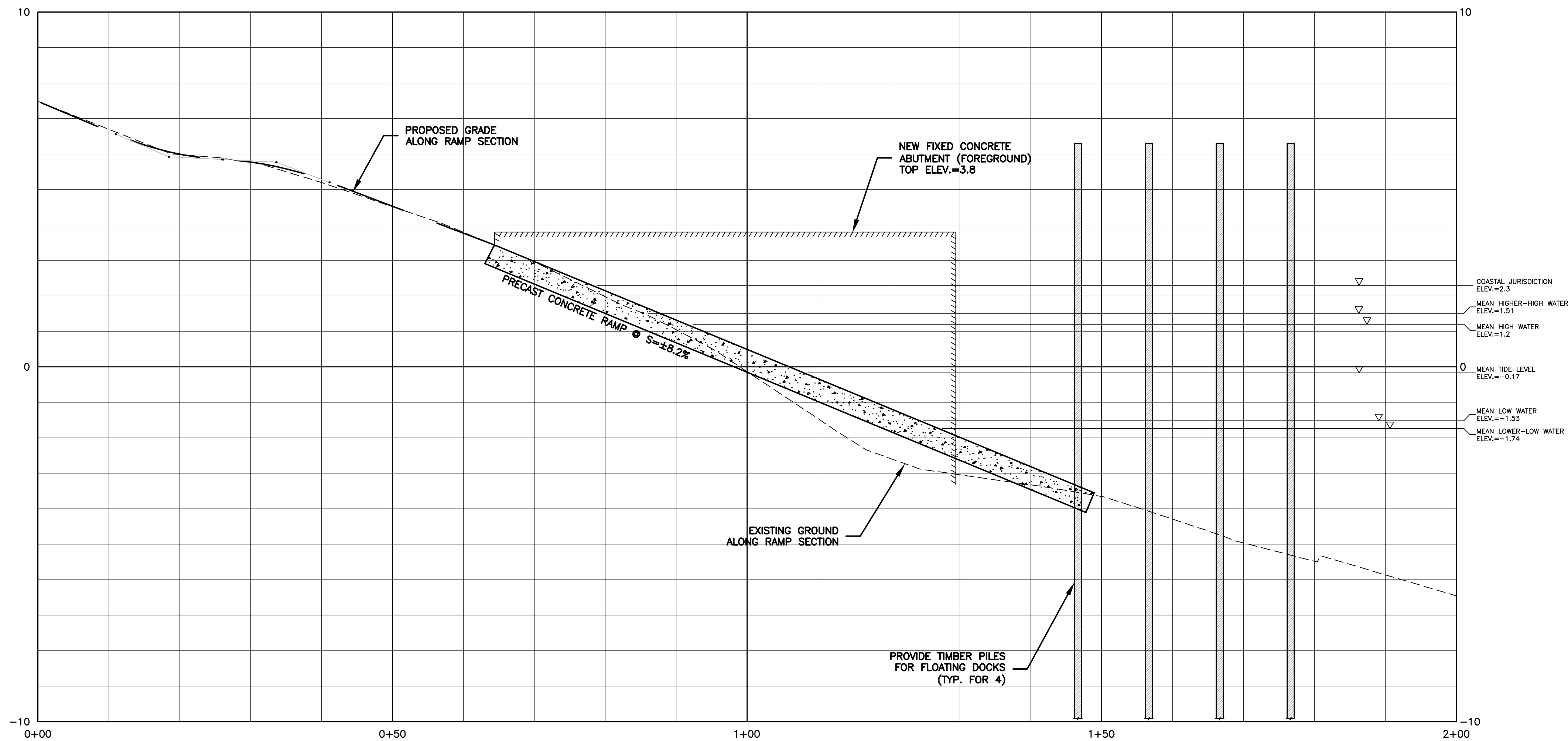
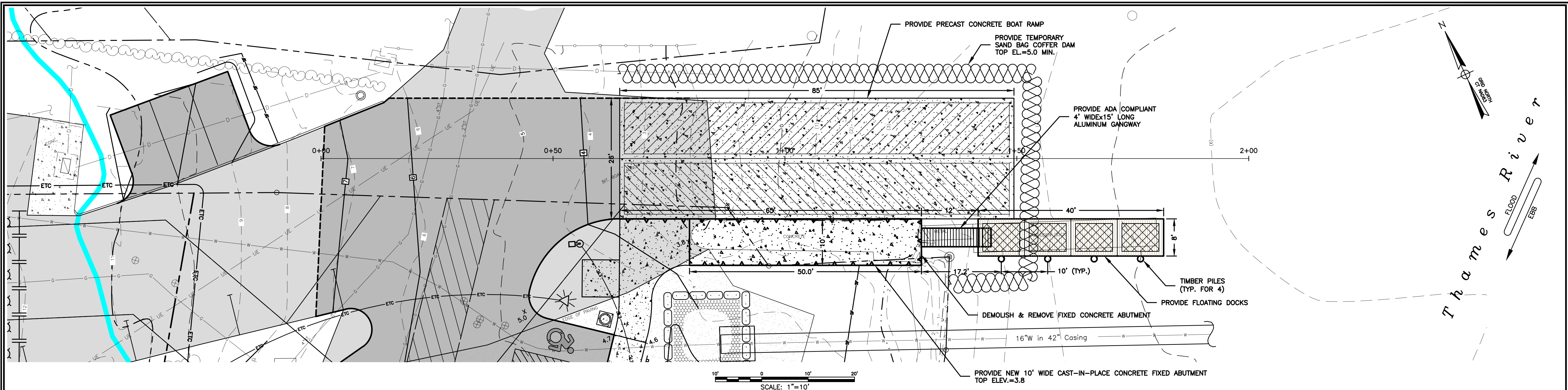
Town of Montville, Connecticut 310-Norwich-New London Tpke, Uncasville, CT 06382	
Town Boat Launch Improvements and Fishing Pier Construction 55 Dock Road, Uncasville, CT 06382	
Utility Plan	

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2	10/21/2022	Permit Set
1	6/16/2022	Misc. Additions & Revisions



**BID
DOCUMENT**

\\A:\0000\1100\1187 Fishing Pier Drawings\Bid Drawings\CLA-7187 - Montville Boat Launch and Fishing Pier BID - Sheet 02 of 05 Site Plan REV05.dwg



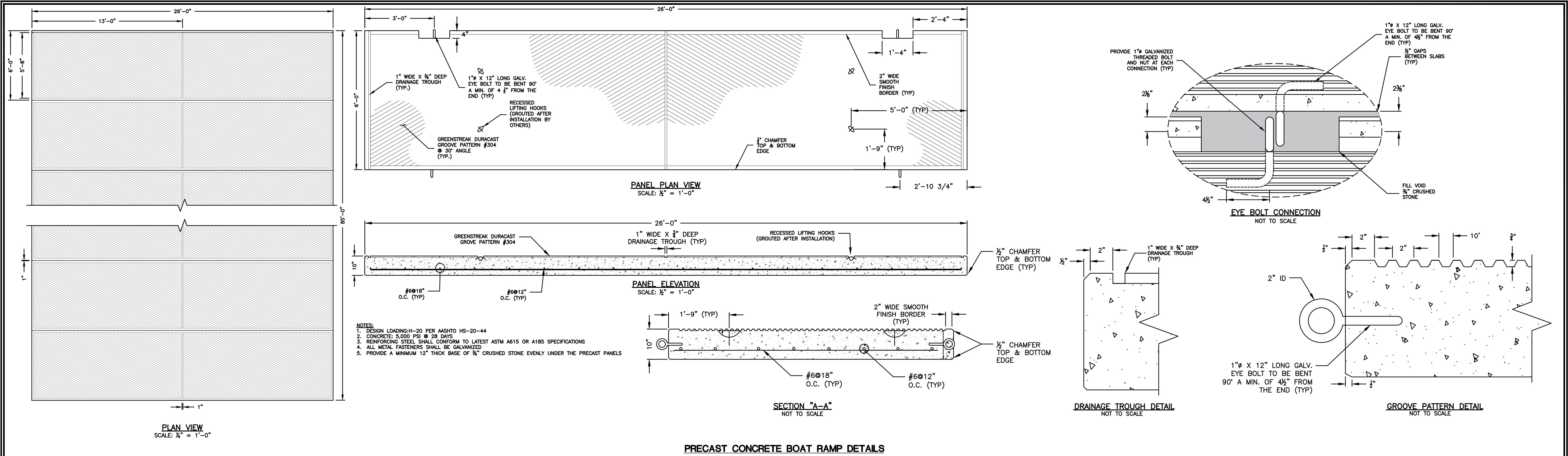
WATER ELEVATION NOTES:
1. MEAN WATER ELEVATIONS FROM NOAA STATION 8461467, YALE BOATHOUSE, THAMES RIVER, CT.
2. STATION DATUM IS MEAN HIGH WATER: ELEVATION 1.2 ESTABLISHED BY FIELD SURVEY.

Profile View
SCALE: HORIZ: 1"=10'
VERT: 1"=2'

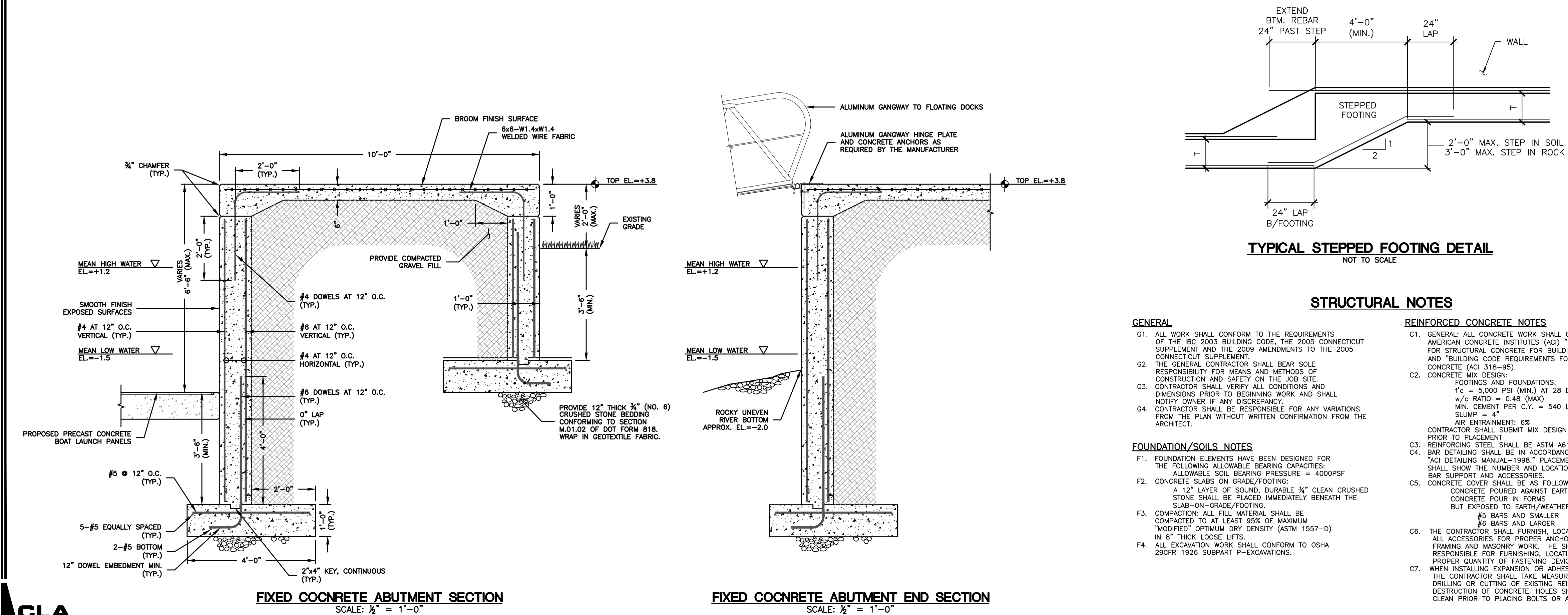
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1 6/16/2022 Misc. Additions & Revisions			
No.	DATE	REVISION	
			Project No. CLA-7187
			Proj. Engineer K.J.H.
			Date: May 2022
			Sheet No. 6

Town of Montville, Connecticut
310-Norwich-New London Tpke, Uncasville, CT 06382
**Town Boat Launch Improvements
and Fishing Pier Construction**
55 Dock Road, Uncasville, CT 06382
Boat Launch and Floating Dock Plan & Profile




PRECAST CONCRETE BOAT RAMP DETAILS



BID
DOCUMENT

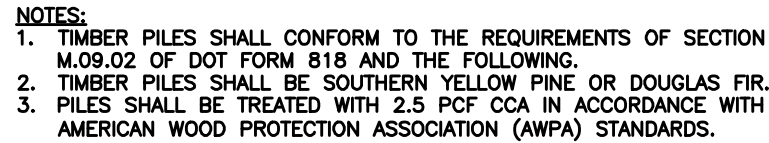
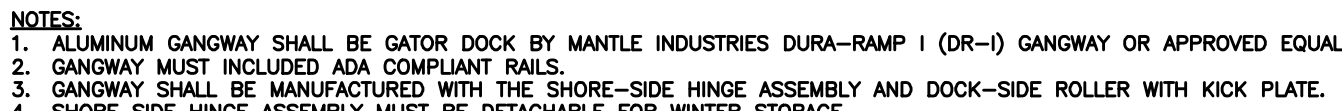
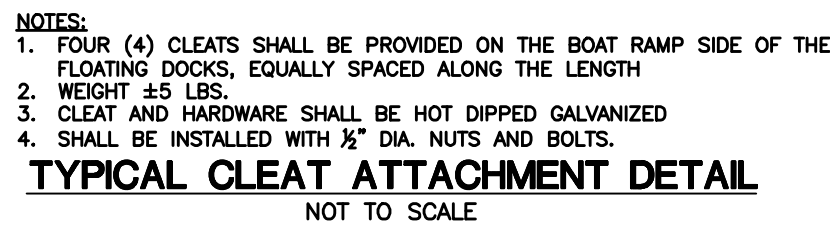
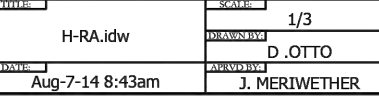
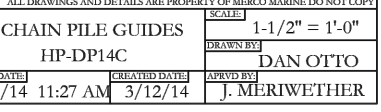
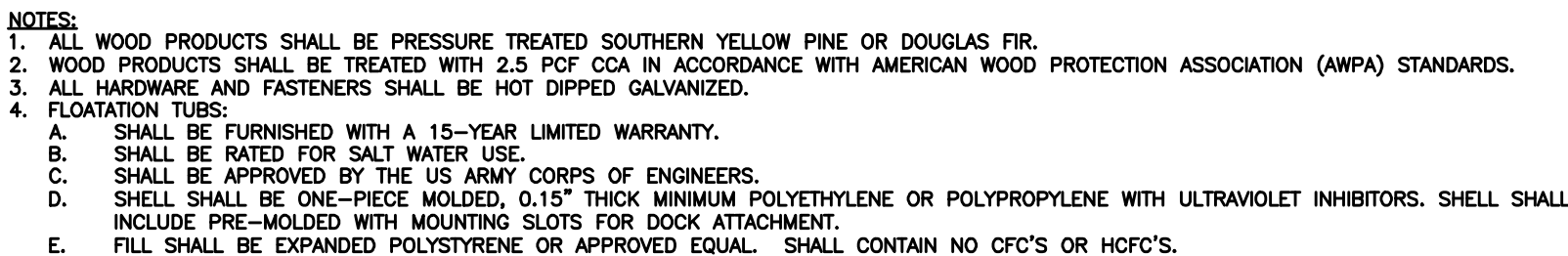
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No.	DATE	REVISION



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Town of Montville, Connecticut
310-Norwich-New London Tpke, Uncasville, CT 06382
**Town Boat Launch Improvements
and Fishing Pier Construction**
55 Dock Road, Uncasville, CT 06382
Boat Launch Details

Project No. CLA-7187
Proj. Engineer K.J.H.
Date: May 2022
Sheet No. 7

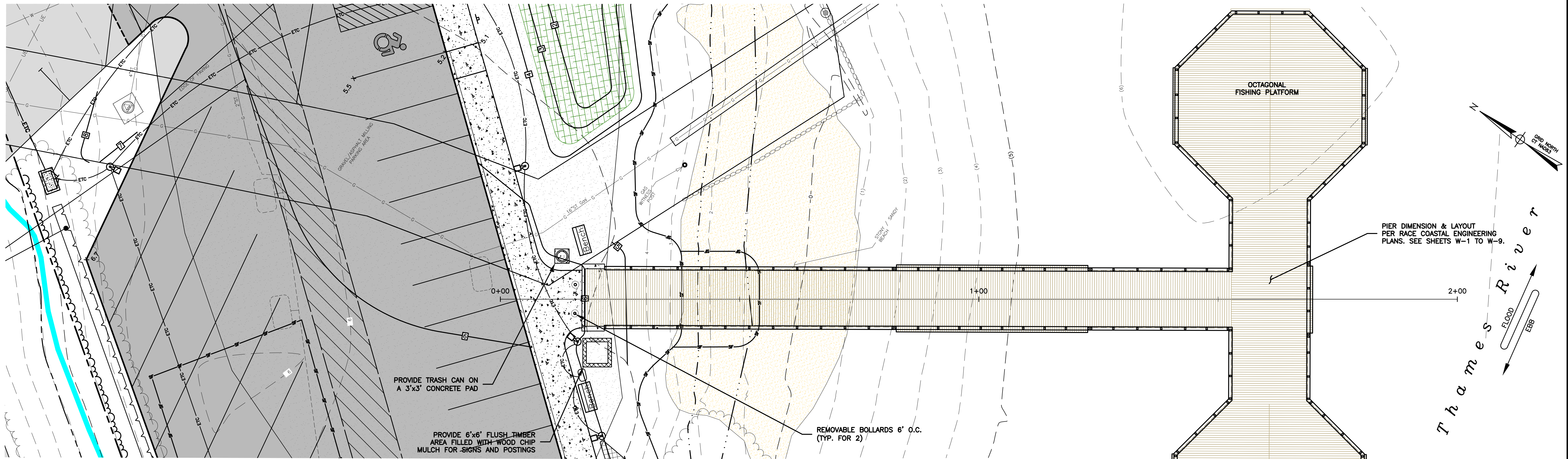


	Town of 310-Norwich-New
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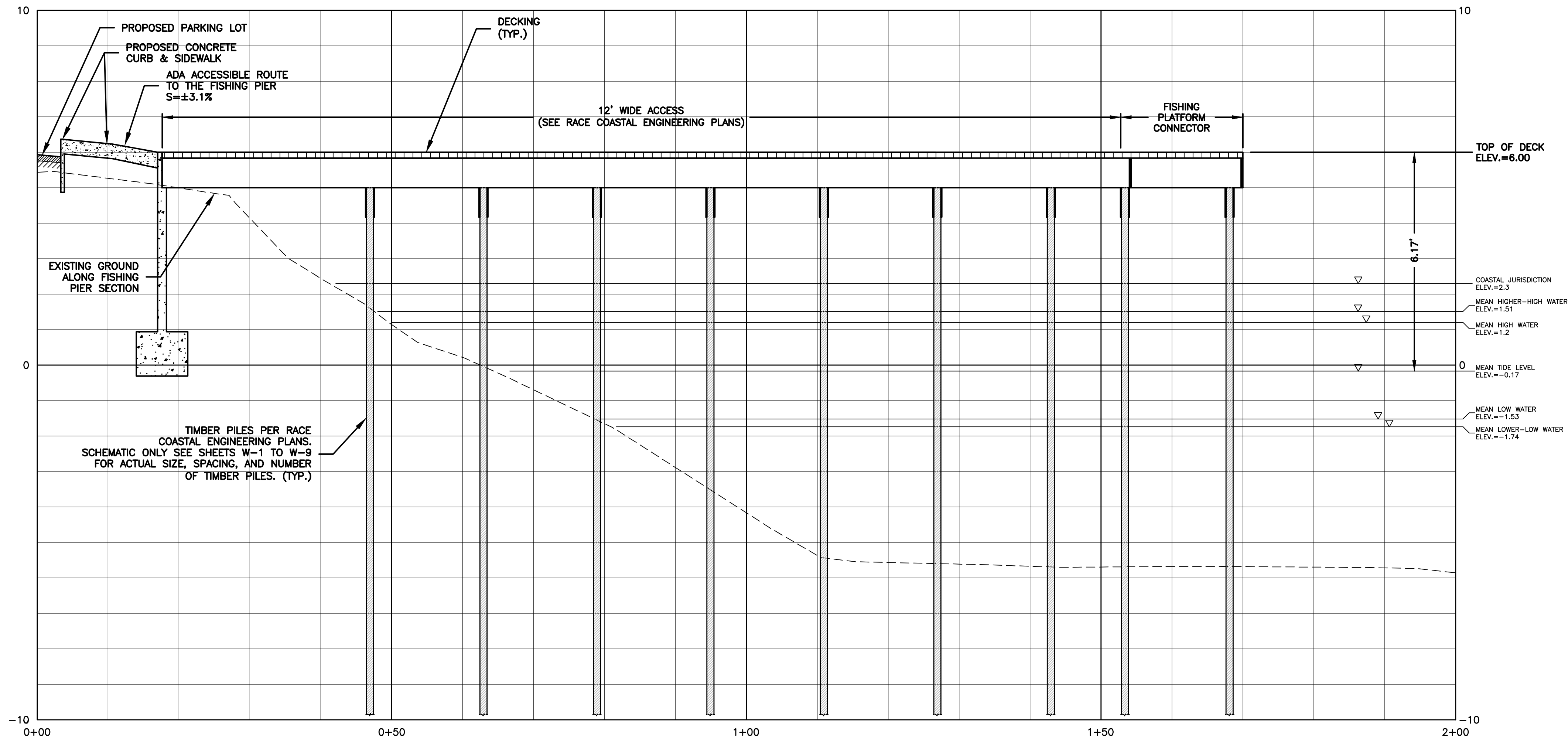
317 Main Street Norwich, CT 06360
(860) 886-1966 Fax (860) 886-9165

Floating Dock Details

3



10' 0 10' 20'
SCALE: 1"=10'



WATER ELEVATION NOTES:
1. MEAN WATER ELEVATIONS FROM NOAA STATION 8461467, YALE BOATHOUSE, THAMES RIVER, CT.
2. STATION DATUM IS MEAN HIGH WATER: ELEVATION 1.2 ESTABLISHED BY FIELD SURVEY.

Profile View
SCALE: HORIZ: 1"=10'
VERT: 1"=2'

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	Town of Montville, Connecticut 310-Norwich-New London Tpke, Uncasville, CT 06382		Project No. CLA-7187
	Town Boat Launch Improvements and Fishing Pier Construction		Proj. Engineer K.J.H.
	55 Dock Road, Uncasville, CT 06382		Date: May 2022
	Fishing Pier Plan & Profile		Sheet No. 9

EROSION & SEDIMENTATION CONTROL NARRATIVE

1. THE EROSION & SEDIMENTATION CONTROL PLAN AND DETAILS HAVE BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. THIS PLAN IS BASED ON THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" EFFECTIVE MARCH 30, 2024 BY THE COUNCIL ON SOIL AND WATER CONSERVATION IN COLLABORATION WITH CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION.
2. THE PROPOSED LOCATIONS OF SILTATION AND EROSION CONTROL MEASURES ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL PROVIDED SILT FENCE, STONE CHECK DAMS AND/OR OTHER EROSION CONTROL MEASURES AS NEEDED OR DIRECTED BY THE ENGINEER OR TOWN STAFF TO ADEQUATELY PREVENT SEDIMENT TRANSPORT.
3. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE DISTURBANCE.
4. THE CONTRACTOR SHALL INSPECT, REPAIR AND/OR REPLACE EROSION CONTROL MEASURES EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT. SEDIMENT DEPOSITS MUST BE REMOVED WHEN WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE PERMANENTLY STABILIZED.
5. STAKED HAY BALE SILT BARRIERS OR SILT FENCE SHALL BE INSTALLED AROUND ANY TEMPORARY STOCKPILE AREAS. TEMPORARY VEGETATIVE COVER MAY BE REQUIRED (SEE NOTE).
6. CONTINUOUS DUST CONTROL USING WATER, CALCIUM CHLORIDE OR APPROVED EQUAL SHALL BE PROVIDED FOR ALL EARTH STOCKPILES, EARTH PILED ALONG EXCAVATIONS, EXCAVATIONS, SURFACES OF BACKFILLED TRENCHES AND GRAVELED ROADWAY SURFACES.
7. IF DEWATERING IS NECESSARY DURING ANY TIME OF CONSTRUCTION A CLEAR WATER DISCHARGE SHALL BE PROVIDED AS PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. TRENCH DEWATERING SHALL NOT DISCHARGE DIRECTLY TO WETLANDS. WATER SHALL BE DISCHARGED TO THE STABILIZED SETTLING BASIN(S).
8. ALL DISTURBED AREAS SHALL BE RESTORED PER THE SLOPE STABILIZATION AND PERMANENT VEGETATION DETAILS. ALL DISTURBED AREAS THAT ARE SLOPED LESS THAN THREE HORIZONTAL TO ONE VERTICAL (3:1) SLOPE SHALL BE LOAMED, SEEDED, FERTILIZED AND MULCHED PER THE PERMANENT VEGETATIVE COVER SPECIFICATIONS. EROSION CONTROL MATTING OR HYDROSEEDING SHALL BE PROVIDED ON ALL DISTURBED AREAS THAT ARE SLOPED THREE HORIZONTAL TO ONE VERTICAL (3:1) OR STEEPER.
9. IF FINAL SEEDING OF DISTURBED AREAS IS NOT TO BE COMPLETED BEFORE OCTOBER 15, THE CONTRACTOR SHALL PROVIDE TEMPORARY MULCHING (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY PERMANENT SEEDING.
10. WHEN FEASIBLE, TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINISHED GRADED SHALL BE COMPLETED PRIOR TO OCTOBER 15.
11. ANY EROSION WHICH OCCURS WITHIN THE DISTURBED AREAS SHALL BE IMMEDIATELY REPAIRED AND STABILIZED. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT SHALL BE RETURNED TO THE SITE. POST SEEDING, INTERCEPTED SEDIMENT, IF ANY, SHALL BE DISPOSED OF IN A MANNER APPROVED BY THE TOWN AND ENGINEER.
12. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL VEGETATION IS RE-ESTABLISHED OR SLOPES ARE STABILIZED AND REMOVAL IS APPROVED BY THE TOWN.
13. UNFORESEEN PROBLEMS WHICH ARE ENCOUNTERED IN THE FIELD SHALL BE SOLVED ACCORDING TO THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" EFFECTIVE MARCH 30, 2024 BY THE COUNCIL ON SOIL AND WATER CONSERVATION IN COLLABORATION WITH CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION.
14. THE CONTRACTOR SHALL PROVIDE THE NAME AND EMERGENCY CONTACT INFORMATION FOR THE PROJECT PERSONNEL RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROLS TO THE TOWN PRIOR TO THE START OF CONSTRUCTION.

NOTE: THE CONTRACTOR SHALL CONTINUALLY STORE THE FOLLOWING MATERIALS ONSITE DURING CONSTRUCTION TO MEET UNEXPECTED EROSION NEEDS

- * 100 LF OF SILT FENCE
- * 10 HAY BALES
- * 10 CY OF WOOD CHIPS OR CRUSHED STONE

TEMPORARY SEDIMENT TRAP TO WATER QUALITY BASIN CONVERSION

THE STORMWATER BASIN IS LOCATED AT THE LOW POINT IN THE DEVELOPED PORTION OF THE SITE. TOPOGRAPHY AND WILL BE USED DURING CONSTRUCTION AS A TEMPORARY SEDIMENT TRAP. THE TRAP WILL BE EXCAVATED TO THE DESIGN FINISHED GRADE PRIOR TO THE COMMENCEMENT OF OTHER SITE GRADING. THE TRAP SHALL BE STABILIZED WITH TEMPORARY SEED MIX OR A 3" THICKNESS OF ¾" CRUSHED STONE. THE BERM ON THE DOWNSTREAM SIDE OF THE BASIN WILL BE STABILIZED WITH MODIFIED RIPRAP. THE FOLLOWING OPERATIONS AND MAINTENANCE PROCEDURES SHALL BE FOLLOWED:

1. THE TRAP WILL BE INSPECTED AT LEAST ONCE PER WEEK AND WITHIN 24 HOURS AFTER ANY RAINFALL OF 0.5 INCHES OR GREATER.

2. THE SEDIMENT TRAP WILL BE CLEANED WHEN SEDIMENT ACCUMULATION EXCEEDS ONE HALF OF THE AVAILABLE WET STORAGE CAPACITY. SEDIMENTS REMOVED FROM THE SEDIMENT TRAP WILL BE PLACED OUTSIDE OF THE UPLAND REVIEW ZONE IN THE DESIGNATED STOCKPILE AREA OR WILL BE TRUCKED OFFSITE.

3. PRIOR TO COMPLETING THE BASINS, EXISTING SEDIMENT LOCATED IN THE BASIN BOTTOM IS TO BE REMOVED.

4. AFTER SITE CONSTRUCTION IS COMPLETE THE TRAP SHALL BE EXCAVATED TO A SUFFICIENT DEPTH TO INSTALL THE PERVIOUS TOPSOIL MIX AS INDICATED ON THE WATER QUALITY BASIN CONSTRUCTION DETAIL. PERVIOUS TOPSOIL MIX SHALL BE INSTALLED TO THE FINISHED GRADE.

5. IMMEDIATELY FOLLOWING THE BACKFILLING THE BASIN SHALL BE SEEDED AND MULCHED.

STORMWATER MANAGEMENT & POLLUTION PREVENTION PLAN

- DURING CONSTRUCTION
1. POLLUTION PREVENTION TEAM:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR CARRYING OUT THE PROVISIONS OF THIS PLAN. THE OWNER WILL PROVIDE OVERSIGHT AND MONITOR THE CONTRACTOR'S ACTIVITIES.
2. SWEEPING:
IMPERVIOUS SURFACES WITHIN AND BEYOND THE WORK SITE SHALL BE SWEEPED CLEAN OF SAND, SILT AND LITTER DAILY AT THE END OF THE WORK DAY.
3. OUTSIDE STORAGE:
ACCESSORIES OR EQUIPMENT STORED OUTSIDE SHALL BE COVERED OR MAINTAINED TO MINIMIZE POSSIBILITY OF THESE MATERIALS OR THEIR RESIDUE PASSING TO STORM WATER.
4. WASHING:
NO WASHING OF VEHICLES, ACCESSORIES, EQUIPMENT OR APPLIANCES IN WORK SITE.
5. MAINTENANCE AND INSPECTION:
A. THE CONTRACTOR SHALL INSPECT, REPAIR AND/OR REPLACE EROSION CONTROL MEASURES EVERY 7 DAYS AND IMMEDIATELY FOLLOWING RAINFALL OF 0.25" OR MORE AND AFTER SNOW MELT.
B. SEDIMENT DEPOSITS MUST BE REMOVED WHEN WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER.
C. DAILY DUST CONTROL USING WATER, OR APPROVED EQUAL SHALL BE PROVIDED FOR ALL EARTH STOCKPILES. EARTH PILED ALONG EXCAVATIONS, SURFACES OF BACKFILLED TRENCHES AND GRAVELED SURFACES.
6. FUELING OF VEHICLES AND EQUIPMENT
A. REFUELING OF VEHICLES AND EQUIPMENT SHALL TAKE PLACE WITHIN THE WORK AREA AND SHALL BE DONE A MINIMUM OF 100-FEET UPGRADE OF THE EDGE OF RIVER.
B. REFUELING SHALL BE DONE OVER A TEMPORARY PORTABLE SPILL CONTAINMENT BERM.
7. SPILLS OR ACCIDENTAL DISCHARGES:
A. A SPILL CONTAINMENT KIT SUITABLE FOR OIL AND WATER BASED PRODUCTS SHALL BE MAINTAINED ONSITE AT ALL TIMES.
B. COMPLY WITH STATE AND FEDERAL REGULATIONS TO CONTAIN AND CLEAN UP ANY SPILL OR DISCHARGE AND DISPOSE OF MATERIALS AT AN APPROVED FACILITY.
C. CONTACT CONNECTICUT DEEP OIL AND CHEMICAL SPILL RESPONSE DIVISION (860) 424-3338
D. THE FOLLOWING STEPS SHOULD BE PERFORMED AS SOON AS POSSIBLE:
a. STOP THE SOURCE OF THE SPILL.
b. CONTAIN THE SPILL.
c. COVER SPILL WITH ABSORBENT MATERIAL FROM THE SPILL KIT OR OTHER ABSORBENT MATERIAL SUCH AS KITTY LITER, OR SAWDUST. DO NOT USE STRAW.
d. DISPOSE OF ABSORBER IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS.

TEMPORARY VEGETATIVE COVER

A TEMPORARY SEEDING OF RYE GRASS WILL BE COMPLETED WITHIN 15 DAYS OF THE FORMATION OF STOCKPILES. IF THE SOIL IN THE STOCKPILES HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS IT SHALL BE LOOSENED TO A DEPTH OF 2 INCHES BEFORE THE FERTILIZER, LIME AND SEED IS APPLIED. 10-10-10 FERTILIZER AT A RATE OF 7.5 POUNDS PER 1000 S.F. LIMESTONE AT A RATE OF 90 LBS. PER 1000 S.F. SHALL BE USED. RYE GRASS APPLIED AT A RATE OF 1 LB. PER 1000 S.F. SHALL PROVIDE THE TEMPORARY VEGETATIVE COVER. STRAW FREE FROM WEEDS AND COARSE MATTER SHALL BE USED AT A RATE OF 70-90 LBS. PER 1000 S.F. AS A TEMPORARY MULCH. APPLY MULCH AND DRIVE TRACKED EQUIPMENT UP AND DOWN SLOPE OVER ENTIRE SURFACE SO CLEAT MARKS ARE PARALLEL TO THE CONTOURS.

PERMANENT VEGETATIVE COVER

TOPSOIL WILL BE REPLACED ONCE THE EXCAVATIONS HAVE BEEN COMPLETED AND THE SLOPES ARE GRADED AS SHOWN ON THE PLANS. PROVIDE SLOPE PROTECTION AS CALLED FOR ON THE PLANS AND DETAILS. TOPSOIL SHALL BE SPREAD AT A MINIMUM COMPACTED DEPTH OF 6 INCHES. ONCE THE TOPSOIL HAS BEEN SPREAD, ALL STONES TWO INCHES OR LARGER IN ANY DIMENSION WILL BE REMOVED AS WELL AS DEBRIS.

- APPLY AGRICULTURAL GROUND LIMESTONE AT THE RATE OF TWO TONS PER ACRE OR 100 LBS. PER 1000 S.F.
- APPLY 10-10-10 FERTILIZER OR EQUIVALENT AT A RATE OF 300 LBS. PER ACRE OR 7.5 LBS. PER 1000 S.F.
- WORK LIMESTONE AND FERTILIZER INTO THE SOIL TO A DEPTH OF 4 INCHES.
- INSPECT SEEDBED BEFORE SEEDING.
- IF TRAFFIC HAS COMPACTED THE SOIL, RETILL COMPACTED AREAS.
- APPLY THE FOLLOWING GRASS SEED MIX:

ALL DISTURBED AREAS	LBS./ACRE	LBS./1000 S.F.
KENTUCKY BLUEGRASS	20	0.45
CREeping RED FESCUE	20	0.45
PERENNIAL RYEGRASS	5	0.10
	45	1.00

TYPICAL SEED MIXTURE FOR NON-MOWED SLOPES (3:1 OR STEEPER)	LBS./ACRE	LBS./1000 S.F.
CT DEP SEED MIX NO. 26		
SWITCHGRASS (BLACKWELL, SHELTER, CAVE-IN-ROCK)	4.0	0.10
BIG BLUESTEM (NIAGRA, KAW)	4.0	0.10
LITTLE BLUESTEM (BLAZE, ALDOUS, CAMPER)	2.0	0.05
SAND LOVEGRASS (NE-27, BEND)	1.5	0.03
BIRD'S-FOOT TREFOIL (EMPIRE VIKING)	2.0	0.05
	13.5	0.33

TYPICAL SEED MIXTURE FOR WATER QUALITY BASIN – SEE BELOW

THE RECOMMENDED SEEDING DATES ARE:
APRIL 1 – JUNE 15 AND AUGUST 15 – OCTOBER 15

IMMEDIATELY FOLLOWING SEEDING, FIRM SEED BED WITH A ROLLER AND MULCH WITH WEED FREE STRAW. IF PERMANENT VEGETATIVE COVER IS HAS NOT BEEN ESTABLISHED BY OCTOBER 15, APPLY A TEMPORARY VEGETATIVE COVER ON THE TOPSOIL.

VEGETATIVE COVER WATER QUALITY BASINS

SEED MIXTURE FOR SETTLING BASINS SHALL BE THE "NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR MOIST SITES" FROM NEW ENGLAND WETLAND PLANTS, AMHERST, MA, TELEPHONE NO. 413-548-8000

THE BEST RESULTS ARE OBTAINED WITH A SPRING SEEDING. SUMMER AND FALL SEEDING REQUIRE A LIGHT MULCHING OF WEED FREE STRAW TO CONSERVE MOISTURE. LATE FALL AND WINTER DORMANT SEEDING REQUIRE A 10% INCREASE IN THE SEEDING RATE. FERTILIZATION IS NOT REQUIRED UNLESS THE SOILS ARE PARTICULARLY INFERTILE.

LBS./ACRE	LBS./1000 S.F.
35	0.80

WATER QUALITY SEED MIXTURE

NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES

SPECIES: Virginia Wild Rye, (Elymus virginicus), Creeping Red Fescue, (Festuca rubra), Little Bluestem, (Schizachyrium scoparium), Big Bluestem (Andropogon gerardii), Fox Sedge, (Carex vulpinoidea), Switch Grass, (Panicum virgatum), Rough Bentgrass, (Agrostis scabra), New England Aster, (Aster novae-angliae), Boneset, (Eupatorium perfoliatum), Grass Leaved Goldenrod, (Euthamia graminifolia), Green Bulrush, (Scirpus atrovirens), Blue Vervain, (Verbena hastata), Soft Rush, (Juncus effusus), Wool Grass, (Scirpus cyperinus)

FLOOD PLAIN NARRATIVE

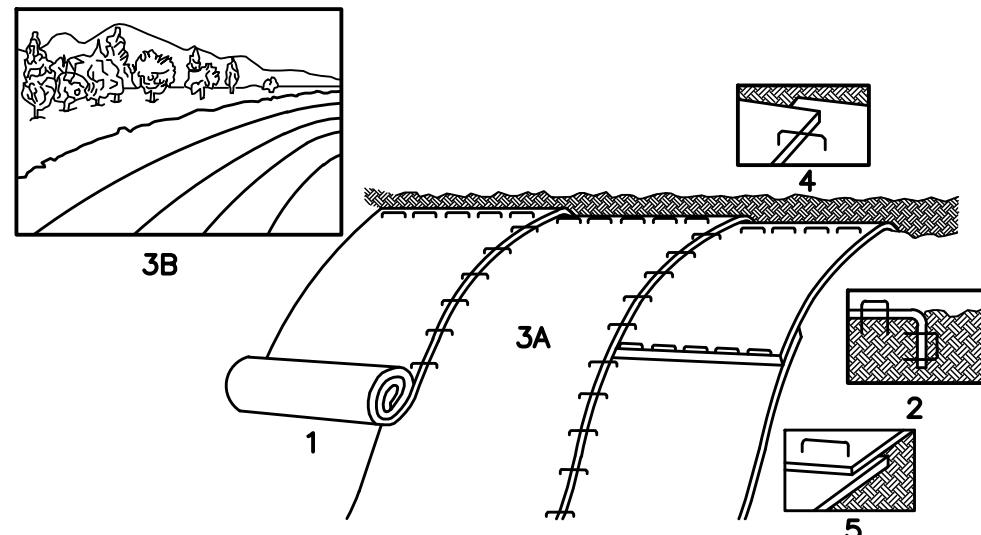
- THE WORK SITE LIES ENTIRELY WITHIN THE THAMES RIVER 100-YEAR FLOOD PLAIN
1. THERE SHALL BE NO BUOYANT, HAZARDOUS FLAMMABLE, EXPLOSIVE, SOLUBLE, EXPANSIVE, OR ANY OTHER MATERIAL WHICH COULD BE INJURIOUS TO HUMAN, ANIMAL OR PLANT LIFE STORED WITHIN THIS AREA AT ANY TIME.
2. NO STORAGE OF CONSTRUCTION EQUIPMENT AND/OR MATERIAL SHALL OCCUR WITHIN THE FLOOD PLAIN UNLESS SUCH EQUIPMENT OR MATERIAL IS NOT SUBJECT TO MAJOR FLOOD DAMAGE, IS ANCHORED, RESTRAINED OR ENCLOSED TO PREVENT IT FROM FLOATING AWAY OR IS REMOVED PRIOR TO FLOODING.
3. THE CONTRACTOR SHALL MONITOR WEATHER CONDITIONS AND RIVER ELEVATIONS. IN THE EVENT OF A PREDICTED MAJOR STORM, POTENTIAL FLOODING, OR AT THE DIRECTION OF THE OWNER OR ENGINEER, THE CONTRACTOR MUST REMOVE EQUIPMENT AND LOOSE MATERIALS FROM THE FLOOD PLAIN AND SECURE THE SITE. THE FOLLOWING METHODS AND/OR PRODUCTS MAY BE UTILIZED TO PROTECT GRAVEL, TOPSOIL, OR OTHER STOCKPILES DURING A FLOOD EVENT:
A. LOAD AND TRUCK THE MATERIALS OFF SITE TO A SUITABLE LOCATION BEYOND THE FLOOD ZONE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND SECURING SUCH SITE.
B. PROVIDE AN ALTERNATE METHOD OR PRODUCT FOR SECURING STOCKPILES TO BE SUBMITTED TO THE ENGINEER AND THE TOWN AND SUBJECT TO APPROVAL PRIOR TO THE START OF CONSTRUCTION.
4. THE CONTRACTOR SHALL MAKE PROVISIONS FOR AND SHALL BE SOLELY RESPONSIBLE FOR SECURING THE WORK IN PROGRESS AND ANY MATERIAL STOCKPILES PRIOR TO A MAJOR STORM.
5. THE CONTRACTOR SHALL SUBMIT A WRITTEN FLOOD CONTINGENCY PLAN TO THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.

FLOOD PLAIN IMPACTS

THE PROJECT IS LOCATED ENTIRELY WITHIN THE 100-YEAR FLOOD PLAIN (FIRM MAP #09011C0361J, MAP EFF. AUGUST 5, 2013)

AREA OF DISTURBANCE WITHIN THE 100-YEAR FLOOD PLAIN:
27,100 SF (0.6 ACRES)

EARTHWORK VOLUME WITHIN THE 100-YEAR FLOOD PLAIN:
CUT: 223 CY
FILL: 189 CY
NET: 34 CY (CUT)



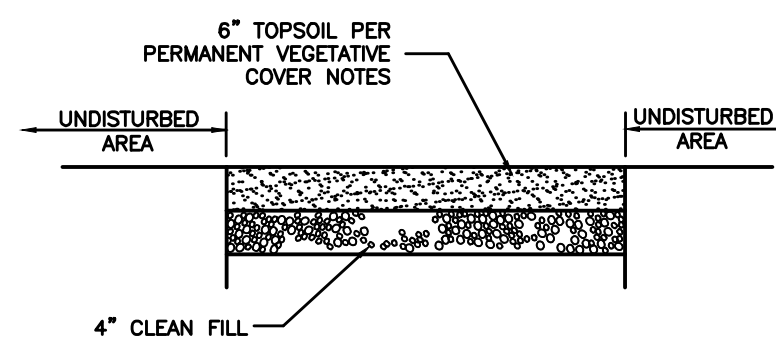
- INSTALLATION NOTES:
1. PROVIDE 4" THICKNESS OF TOPSOIL OVER CLEAN FILL. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED MIX PER PERMANENT VEGETATIVE COVER NOTES. (SHALL BE PAID FOR AT THE UNIT PRICE FOR LOAM, SEED, FERTILIZE & MULCH)
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP x 6" WIDE TRENCH, BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKET (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.

- PRODUCT NOTES:
1. EROSION CONTROL MATTING MUST BE LISTED ON THE LATEST CT DOT QUALIFIED PRODUCTS LIST UNDER CLASS 1: SLOPE PROTECTION, TYPE D.

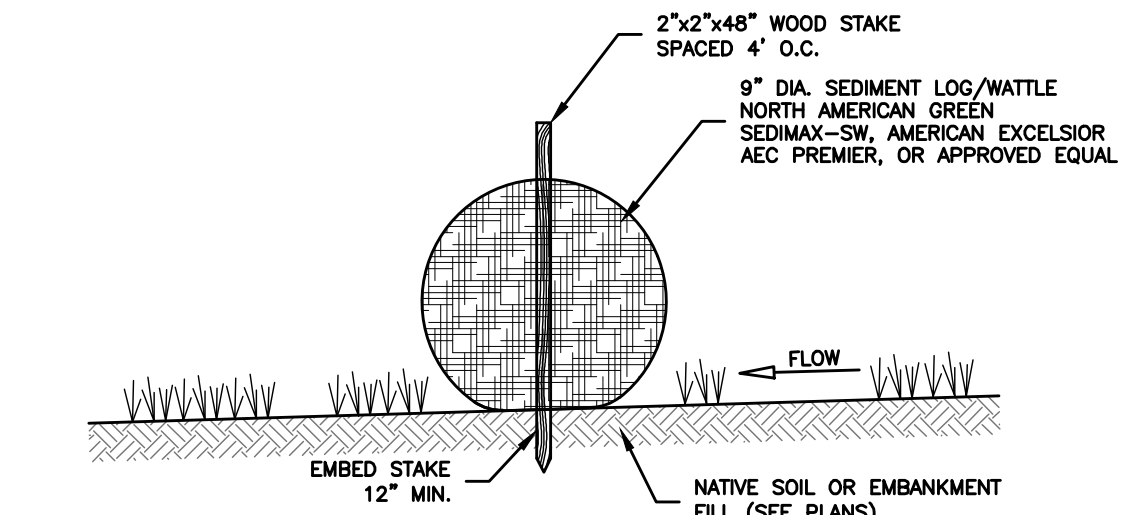
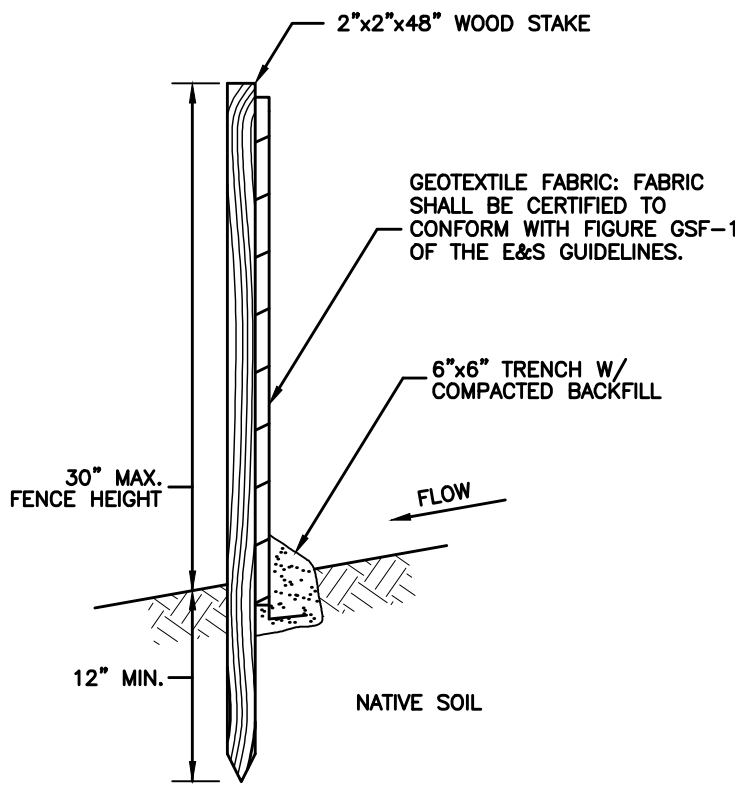
EROSION CONTROL MATTING DETAIL
(FOR 3:1 SLOPES OR STEEPER)

- NOTES:
1. HYDROSEED SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 9.50.3.1 OF DOT FORM 818.
2. BONDED FIBER MATRIX (BFM) OR FLEXIBLE GROWTH MEDIUM (FGM) MUST BE INCLUDED IN THE HYDROSEED SLURRY. MIX RATE PERCENTAGES SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS FOR THE FINISHED SLOPES. THE FOLLOWING ARE ACCEPTABLE PRODUCTS:
A. PROFILE FLEXITERRA FGM
B. PROFILE HYDRO-BLANKET BONDED FIBER MATRIX
C. MAT, INC. SOIL GUARD BONDED FIBER MATRIX
D. NORTH AMERICAN GREEN HYDRA GT OR HYDRA CM
3. THE REQUIRED SEED MIX SHALL BE IN ACCORDANCE WITH THE PERMANENT VEGETATIVE COVER NOTES. ALL APPLICATION RATES SHALL BE INCREASED BY 10% FOR HYDROSEEDING.
4. THE CONTRACTOR SHALL ENSURE 100% COVERAGE OF THE DISTURBED SOIL.

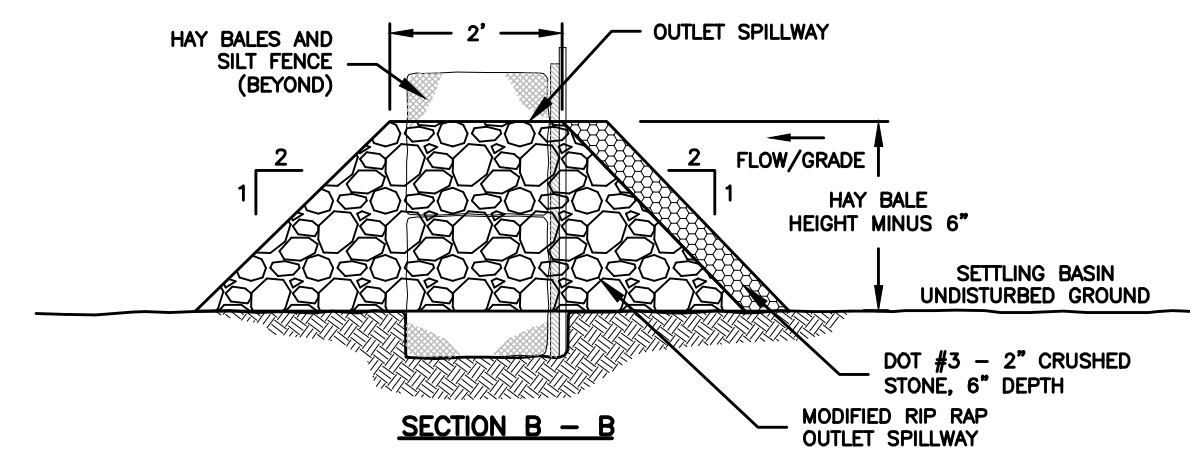
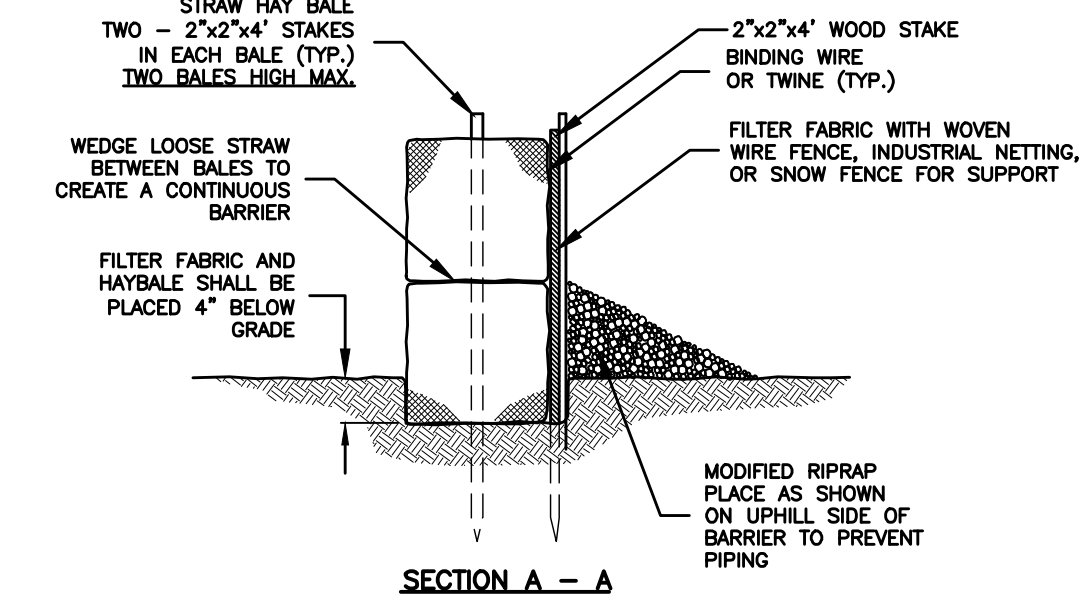
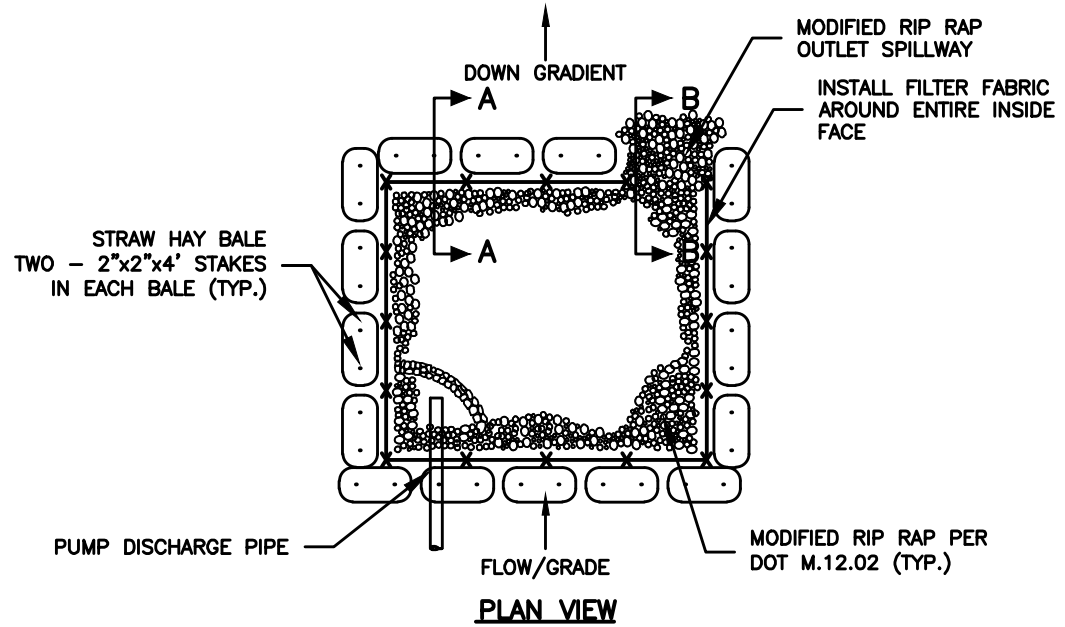
HYDROSEED REQUIREMENTS
(FOR 3:1 SLOPES OR STEEPER)



SLOPE STABILIZATION DETAILS
NOT TO SCALE



- NOTES:
1. STORMWATER LOG ENDS SHALL BE TIED TOGETHER, OVERLAPPED AT LEAST 24" OR BE SECURED AS RECOMMENDED BY THE MANUFACTURER.



- CONSTRUCTION NOTES:
1. SILT FENCE FILTER CLOTH TO BE SECURELY FASTENED TO GRADE STAKE WITH STAPLES, 6" ON CENTER.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN ONE ANOTHER THEY SHALL OVERLAP BY 6" AND BE FOLDED.
3. BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.

DEWATERING PLAN


- A CLEAR WATER DISCHARGE SHALL BE PROVIDED AS FOLLOWS:
1. PUMP INLET SHALL BE PROTECTED WITH FILTER FABRIC & CRUSHED STONE.
2. PUMP SHALL BE STAGED OUTSIDE OF WETLANDS.
3. THE WATER SHALL BE PUMPED TO A DEWATERING STRUCTURE WHICH SHALL BE LOCATED AT LEAST 50 FEET FROM ANY REGULATED WETLAND AREA OR AS SHOWN ON THE PLANS.
4. THE DEWATERING STRUCTURE SHALL BE SIZED TO ACCOMMODATE PUMP DISCHARGE RATE: REQUIRED VOLUME (C.F.) = PUMP DISCHARGE (G.P.M.) x 18
5. THE DEWATERING STRUCTURE SHALL DISCHARGE TO A VEGETATED AREA.
6. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN AND PROPERLY DISPOSED OF WHEN ACCUMULATION REACHES HALF OF THE REQUIRED STORAGE VOLUME.
7. DEWATERING AREA SHALL BE RESTORED WITH NEW ENGLAND EROSION CONTROL SEED MIX.

HAY BALE BARRIER DE-WATERING DETAIL

NOT TO SCALE

BID
DOCUMENT

				CLA Engineers, Inc. CIVIL • STRUCTURAL • SURVEYING	
6	1/8/2025	Issued for Bid		317 Main Street Norwich, CT 06360 (860) 886-1966 Fax (860) 886-9165	
5	11/8/2024	Bid Drawing – Issued for Review			
4	7/29/2024	No Changes to this Sheet			
3	3/22/2024	Misc. Revisions			
2	10/21/2022	Permit Set			
1	6/16/2022	Misc. Additions & Revisions			
No.	DATE	REVISION			
		Town of Montville, Connecticut 310-Norwich-New London Tpke, Uncasville, CT 06382			
		Town Boat Launch Improvements and Fishing Pier Construction 55 Dock Road, Uncasville, CT 06382			
		Stormwater Management Plan and Erosion & Sedimentation Control Details			

	Project No.	CLA-7187
	Proj. Engineer	K.J.H.
	Date:	May 2022
	Sheet No.	
		10



Project No.
CLA-7187
Proj. Engineer
K.J.H.
Date:
May 2022
Sheet No.
10

CLA

DEVELOPMENT

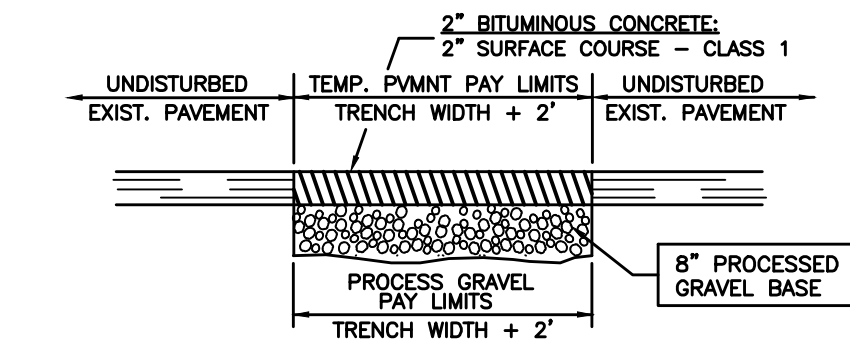
THE PROPOSED DEVELOPMENT IS A RECONSTRUCTION OF AN EXISTING MUNICIPAL BOAT LAUNCH AND ASSOCIATED SITE IMPROVEMENTS AS SHOWN ON THE PLANS.

THE PROPOSED PROJECT WILL DISTURB APPROXIMATELY **0.6 ACRES**.

1. THE THAMES RIVER IS A TIDAL RIVER.
2. WORK WILL BE PERFORMED BELOW THE CTDEEP COASTAL JURISDICTION LINE (EL. 2.3).
3. THERE ARE NO INLAND WETLANDS ONSITE.
4. THE PROJECT IS LOCATED ENTIRELY WITHIN THE 100-YEAR FLOOD PLAIN (FIRM MAP #09011C0361J, MAP EFF. AUGUST 5, 2013)
5. THE PROJECT IS LOCATED ENTIRELY WITHIN A CT DEEP NATURAL DIVERSITY DATABASE AREA.
6. THE PROJECT IS LOCATED ENTIRELY WITHIN THE COASTAL MANAGEMENT AREA.
7. NO PORTION OF THE LOT LIES WITHIN THE AQUIFER PROTECTION AREA

GENERAL NOTES

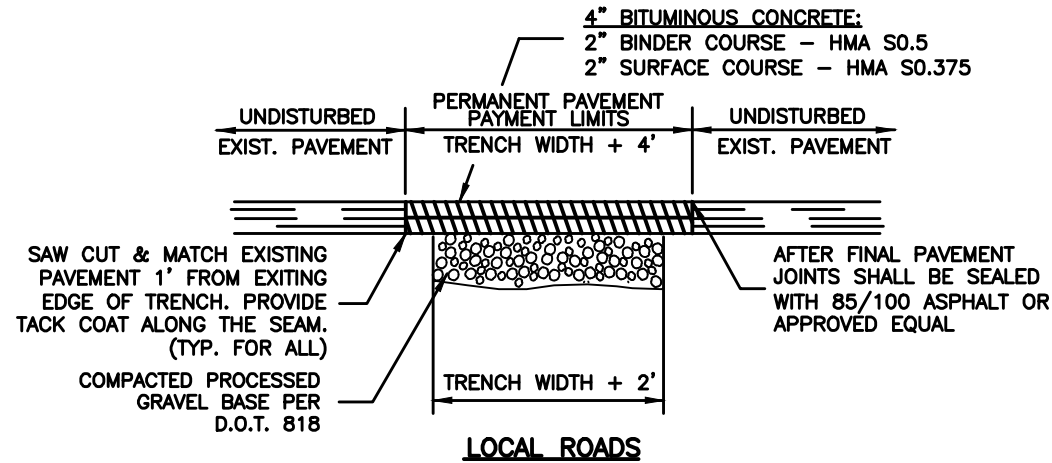
1. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING CONDITIONS.
2. EXISTING PROPERTY LINES AND RIGHT-OF-WAY LINES WHERE SHOWN ARE APPROXIMATE AND ARE INTENDED FOR GENERAL INFORMATION ONLY.
3. EXISTING GROUND LINE AS SHOWN ON THESE PLANS IS BASED ON FIELD SURVEY PERFORMED BY CLA ENGINEERS INC.
4. CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT 811 AT LEAST TWO FULL WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
5. INFORMATION SHOWN ON THE DRAWINGS RELATING TO MATERIALS, CONDITIONS, AND/OR LOCATIONS OF EXISTING STRUCTURES AND UTILITIES HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING FIELD SURVEY, UTILITY COMPANY AND TOWN RECORD MAPS AND DRAWINGS, AND IS NOT GUARANTEED ACCURATE OR COMPLETE. ALL UTILITIES SHALL BE LOCATED IN THE FIELD BY THE CONTRACTOR, NEITHER THE OWNER NOR THE ENGINEER WARRANTS OR GUARANTEES THE CONDITIONS SHOWN ON THE PLANS.
6. THE CONTRACTOR SHALL EXCAVATE TEST PITS AS NEEDED OR AS DIRECTED BY THE OWNER TO VERIFY EXISTING UTILITY INFORMATION AND LOCATIONS.
7. **MAINTENANCE AND PROTECTION OF TRAFFIC:**
 - A. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF TRAFFIC, TRAFFIC CONTROL, TEMPORARY SIGNING OR BARRICADES, AND TEMPORARY LANE CLOSURES. CONTINUOUS ACCESS FOR BUSES AND EMERGENCY VEHICLES SHALL BE MAINTAINED AT ALL TIMES.
 - B. PASSAGE OF TRAFFIC ON ROADWAYS A MINIMUM OF ONE LANE FOR TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL PERFORM HIS OPERATIONS TO MINIMIZE DISRUPTIONS TO TRAFFIC WITHIN THE PROJECT SITE.
 - C. RESIDENTS OR BUSINESSES WITH DRIVES AFFECTED BY CONSTRUCTION SHALL BE NOTIFIED BY THE CONTRACTOR AT LEAST 48 HOURS BEFORE CONSTRUCTION BEGINS AND SHALL BE ALLOWED CONTINUOUS ACCESS TO THEIR PROPERTY.
 - D. THE WORK AREA SHALL BE CLOSED TO ALL TRAFFIC WITH THE EXCEPTION OF THE PASS THROUGH TRAFFIC FOR THE ABUTTING PROPERTY AS SHOWN ON THE PROJECT PLANS. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TEMPORARY SIGNS, BARRICADES, AND FACILITIES NECESSARY TO TEMPORARILY CLOSE THE SITE.
8. CONSTRUCTION SIGNS MUST CONFORM TO THE SIGNING REQUIREMENTS OUTLINED IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)". ALL SIGN FACES SHALL BE REFLECTORIZED.
9. ALL PROPOSED WORK MAY BE VARIED IN THE FIELD BY THE OWNER TO MATCH EXISTING CONDITIONS.
10. THE CONTRACTOR SHALL CONFINE HIS OPERATIONS AND ACTIVITIES FOR CONSTRUCTION PURPOSES WITHIN THE STREET LINES AND/OR EASEMENTS AS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING PAVEMENT, ROADWAY, SIDEWALKS, ETC., OUTSIDE OF THE WORK AREA AND SHALL REPAIR SUCH DAMAGE AT NO ADDITIONAL COST TO THE OWNER.
11. UPON COMPLETION OF THE WORK, ALL DISTURBED AREAS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTED PRIOR TO CONSTRUCTION.
12. ALL STREET SIGNS, MAILBOXES, PLANTINGS, ORNAMENTAL OBJECTS, LIGHTS, LANDSCAPE SHRUBBERY, ETC., SHALL BE PROTECTED FROM DAMAGE AND SHALL BE REPLACED IN THE SAME OR BETTER CONDITION BY THE CONTRACTOR IF DISTURBED OR DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION.
13. RESIDENTS WITH DRIVES AFFECTED BY CONSTRUCTION SHALL BE NOTIFIED BY THE CONTRACTOR AT LEAST 48 HOURS BEFORE CONSTRUCTION BEGINS AND SHALL BE ALLOWED ACCESS TO THEIR PROPERTY.
14. THE CONTRACTOR SHALL MAINTAIN A SET OF RECORD DRAWINGS WHICH SHALL BE SUBMITTED TO THE ENGINEER AT THE COMPLETION OF THE PROJECT.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESETTling TO GRADE ALL FRAMES, GRATES, COVERS, VALVE BOXES, ACCESS COVERS, AND ALL OTHER ITEMS WHICH NORMALLY MUST HAVE A FIXED RELATION TO FINISHED GRADE.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TEMPORARY AND PERMANENT SUPPORT OF ALL EXISTING UTILITY POLES IN AN ADJACENT TO THE CONSTRUCTION AREA AND SHALL COMPLY WITH ALL THE REQUIREMENTS AND SPECIAL DETAILS FOR THE SUPPORT OF UTILITIES REQUIRED BY UTILITY AGENCIES. ALL COSTS FOR TEMPORARILY SUPPORTING UTILITY POLES DURING CONSTRUCTION SHALL BE INCLUDED IN OTHER ITEMS.
17. IF BLASTING IS PERFORMED A PRE-BLAST SURVEY WILL BE REQUIRED. ANY AND ALL BLASTING SHALL CONFORM TO THE REGULATIONS SET FORTH BY THE TOWN AND SHALL BE APPROVED BY THE APPROPRIATE TOWN AGENCIES AND ADJACENT UTILITY OWNERS.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION SURVEY AND STAKEOUT AS THEY NEED. SURVEY BASE INFORMATION AND LAYOUT WILL BE PROVIDED TO THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
19. **MATERIAL STOCKPILE AND STAGING AREAS:** STOCKPILE AND STAGING AREAS ARE SHOWN ON THE PROJECT PLANS. IF ADDITIONAL AREA IS REQUIRED THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ADDITIONAL STOCKPILE, MATERIAL STORAGE AND EQUIPMENT STORAGE AREAS. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL IDENTIFY THESE AREAS AND PROVIDE EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED. CONTRACTOR SHALL NOTE PROVISIONS FOR WORK AND STORAGE WITHIN THE FLOOD PLAIN AS NOTED ELSEWHERE.
20. **DISPOSAL OF CONSTRUCTION MATERIALS:** CONTRACTOR IS ADVISED TO PAY PARTICULAR ATTENTION TO PROVISIONS OF SPECIAL CONDITIONS OF THE SPECIFICATIONS IN PREPARATION OF HIS BID. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL BE REQUIRED TO IDENTIFY ALL LOCATIONS WITHIN THE TOWN TO BE USED FOR DISPOSAL OF UNSUITABLE CONSTRUCTION MATERIALS.
21. **CLEARING AND GRUBBING:** ALL TREES, BRUSH, VEGETATION, ETC. SHALL BE CUT DOWN BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE ALL REMAINING STUMPS, CUT-UP TREES & LIMBS, ETC. WITHIN THE CONTRACT LIMITS. CONTRACTOR SHALL PROTECT REMAINING TREES FROM DAMAGE DURING CONSTRUCTION. TREES UNNECESSARILY CUT OR DAMAGED BY THE CONTRACTOR'S FORCES SHALL BE REPLACED, OF COMPARABLE SIZE AND TYPE, BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
22. **PERMANENT PAVEMENT MARKINGS** SHALL CONFORM WITH ARTICLE 12.10 OF THE DOT FORM 819 SPECIFICATIONS.
 - A. PARKING LOT STRIPING, PARKING STALL STRIPING, AND HATCHING SHALL BE 4" WIDE WHITE EPOXY RESIN STRIPES
23. ALL WORK TO CONFORM TO THE STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION FORM 819, DATED JULY 2024, AS REVISED.



- NOTES:
1. CONTRACTOR TO PROVIDE COMPACTION ON ALL TRENCH BACKFILLS, EXCAVATIONS AND PAVEMENT BASES TO NOT LESS THAN 95% OF THE DRY DENSITY FOR THAT MATERIAL.
 2. LOCAL ROADS - TEMPORARY PAVEMENT SHALL BE PLACED AT THE END OF EACH WEEK OR AS DIRECTED BY THE OWNER OR ENGINEER.
 3. PROCESSED GRAVEL MUST BE INSTALLED AT THE TIME OF TEMPORARY PAVING.

TEMPORARY PAVEMENT REPAIR

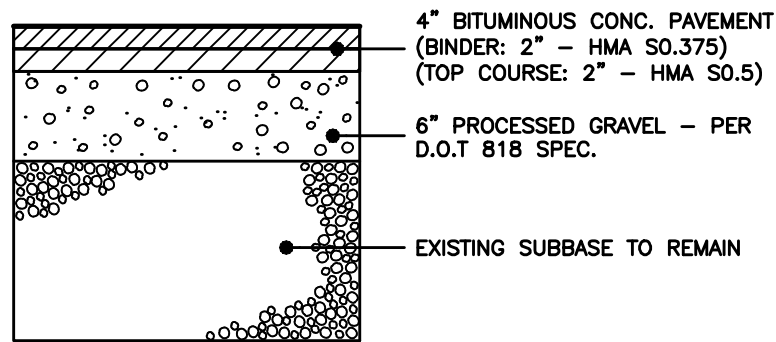
NOT TO SCALE



- NOTES:
1. CONTRACTOR TO PROVIDE COMPACTION ON ALL TRENCH BACKFILLS, EXCAVATIONS AND PAVEMENT BASES TO NOT LESS THAN 95% OF THE DRY DENSITY FOR THAT MATERIAL.

PERMANENT PAVEMENT REPAIR

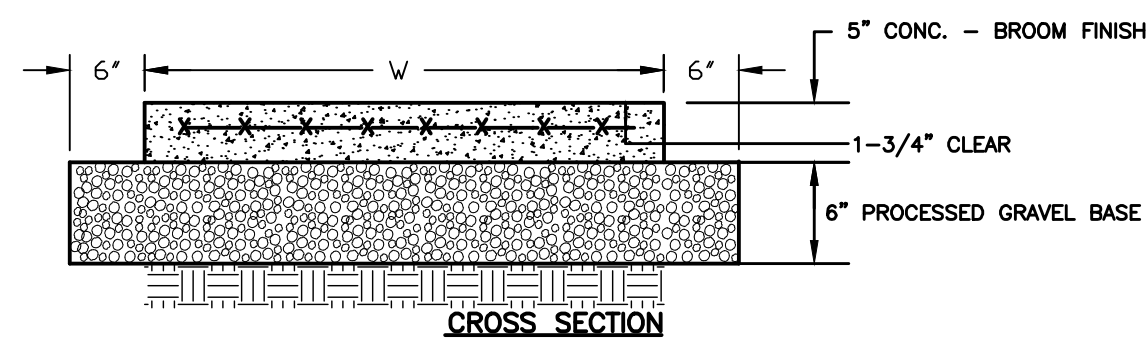
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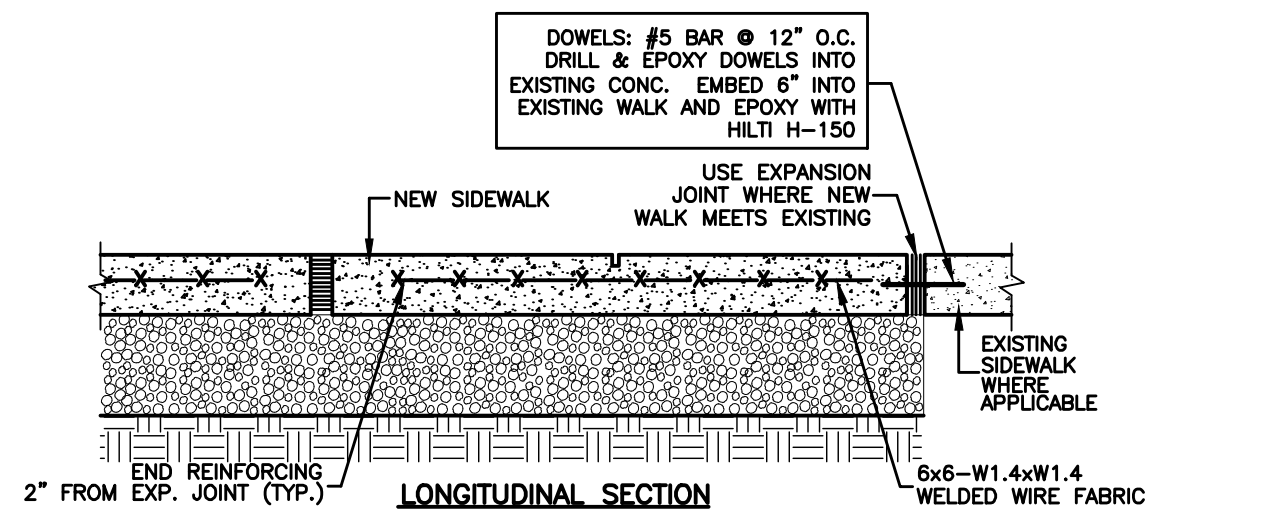
- NOTES:
1. PROVIDE CONTINUOUS TACK COAT ALONG EDGE WHEN MATCHING EXISTING PAVEMENT
 2. CONTRACTOR TO PROVIDE COMPACTION ON ALL TRENCH BACKFILLS, EXCAVATIONS AND PAVEMENT BASES TO NOT LESS THAN 95% OF THE DRY DENSITY FOR THAT MATERIAL WHEN TESTED IN ACCORDANCE WITH AASHTO T180, METHOD D

TYPICAL PAVEMENT SECTION DETAIL

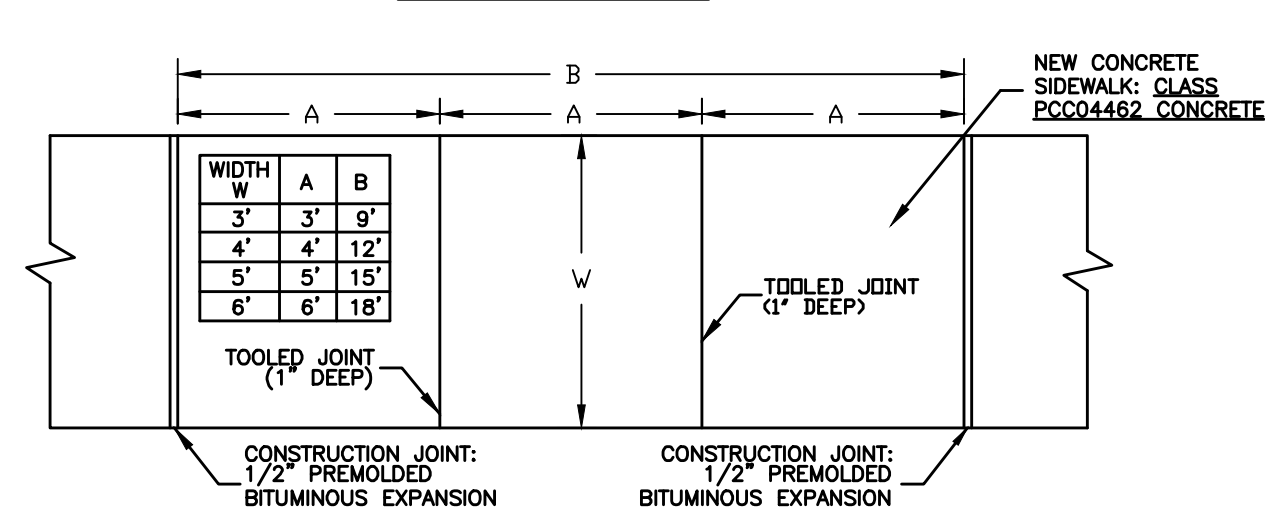
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CROSS SECTION

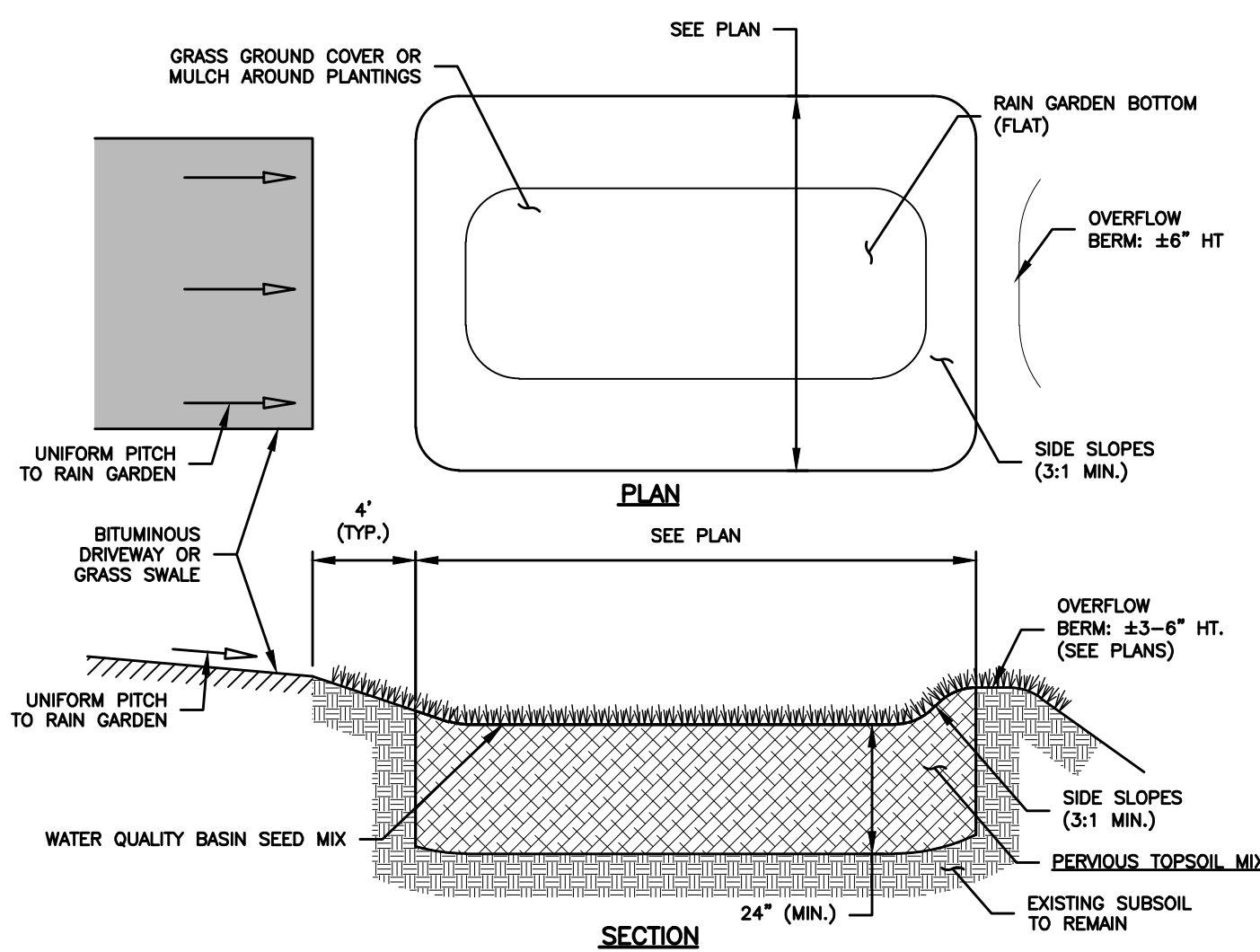


LONGITUDINAL SECTION



CONCRETE WALK & JOINT DETAIL

NOT TO SCALE



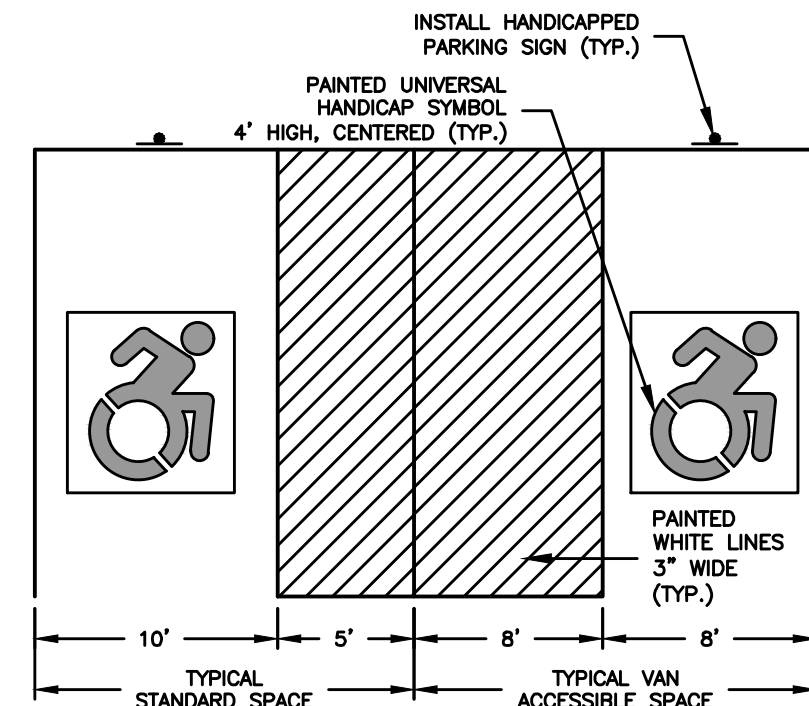
- NOTES:
1. PERVIOUS TOPSOIL MIX SHALL MEET THE REQUIREMENTS OF DOT FORM 819, ARTICLE M.13.01.1 WITH THE FOLLOWING GRADATION:

SIZE	% PASSING
#10	100%
#40	60-80%
#80	5%
#200	0%

DO NOT COMPACT MATERIAL DURING INSTALLATION.
 2. EXCAVATE WATER QUALITY BASIN TO THE GRADES SPECIFIED WITH SIDEWALLS AS NEAR TO VERTICAL AS POSSIBLE. INSTALL PERVIOUS TOPSOIL MIX. DO NOT COMPACT TOPSOIL MIX.
 3. SEED MIX SHALL CONFORM THE REQUIREMENTS SPECIFIED IN THE VEGETATIVE COVER NARRATIVE HEREIN. LANDSCAPE SCHEDULE.
1. EACH WATER QUALITY BASIN SHALL BE PLANTED WITH THE SEED MIX AS SPECIFIED.

TYPICAL WATER QUALITY BASIN DETAILS

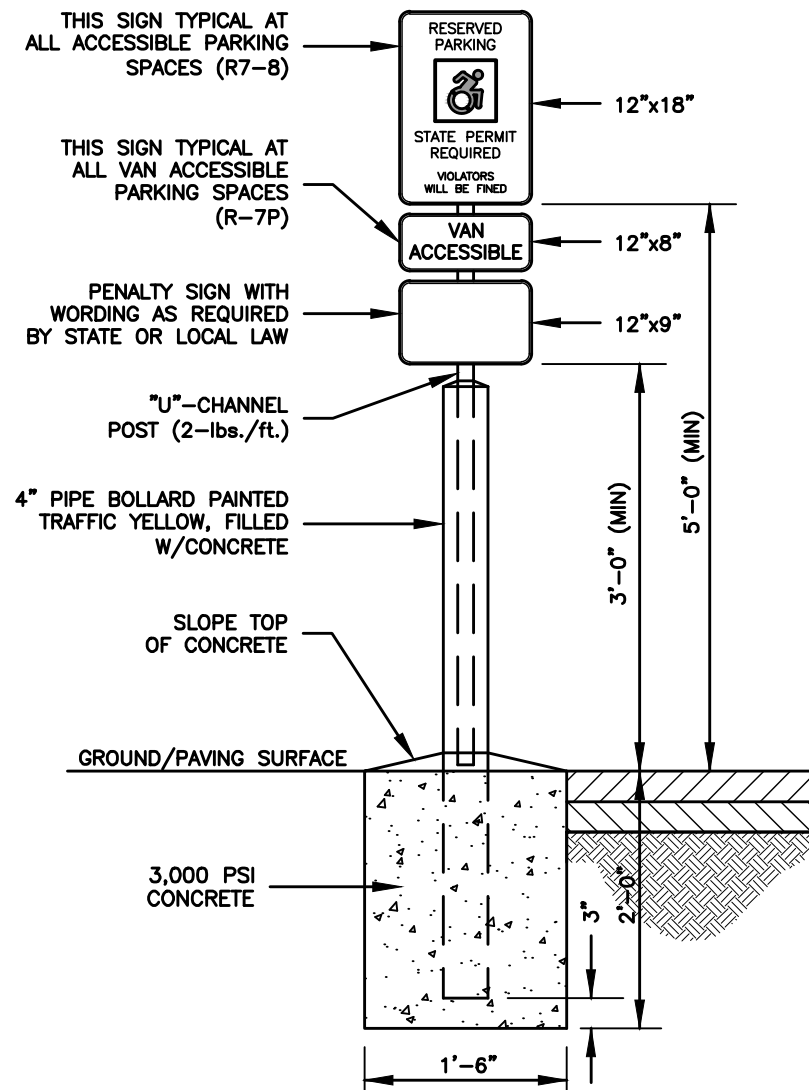
NOT TO SCALE



- NOTES:
1. ALL ADA ACCESSIBLE SIGNING, DIMENSIONS AND SPACE MARKINGS SHALL BE IN ACCORDANCE WITH COS 14-253ae(h) AND THE 2003 PORTION OF THE STATE BUILDING CODE

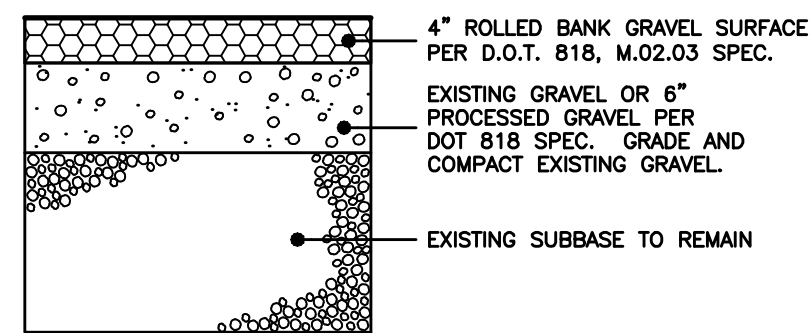
ADA ACCESSIBLE PARKING SPACE DETAIL

NOT TO SCALE



ADA ACCESSIBLE PARKING SIGN DETAIL

NOT TO SCALE



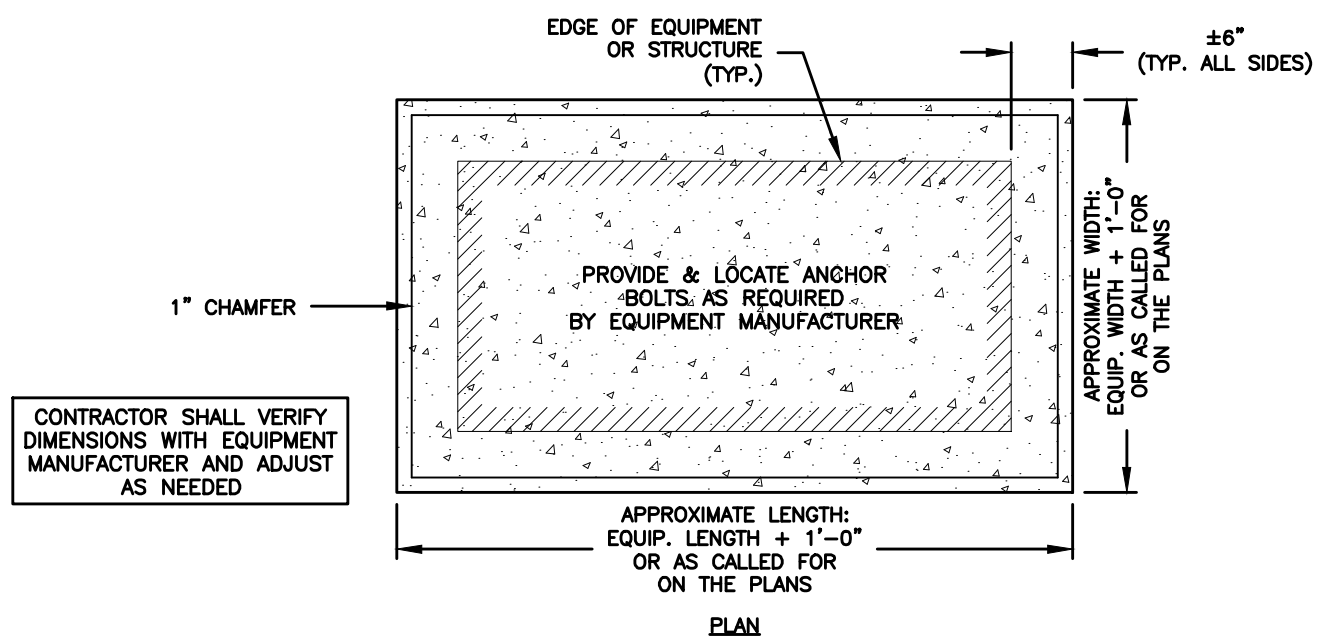
- NOTES:
1. CONTRACTOR TO PROVIDE COMPACTION ON ALL TRENCH BACKFILLS, EXCAVATIONS AND PAVEMENT BASES TO NOT LESS THAN 95% OF THE DRY DENSITY FOR THAT MATERIAL WHEN TESTED IN ACCORDANCE WITH AASHTO T180, METHOD D

TYPICAL GRAVEL DRIVE SECTION DETAIL

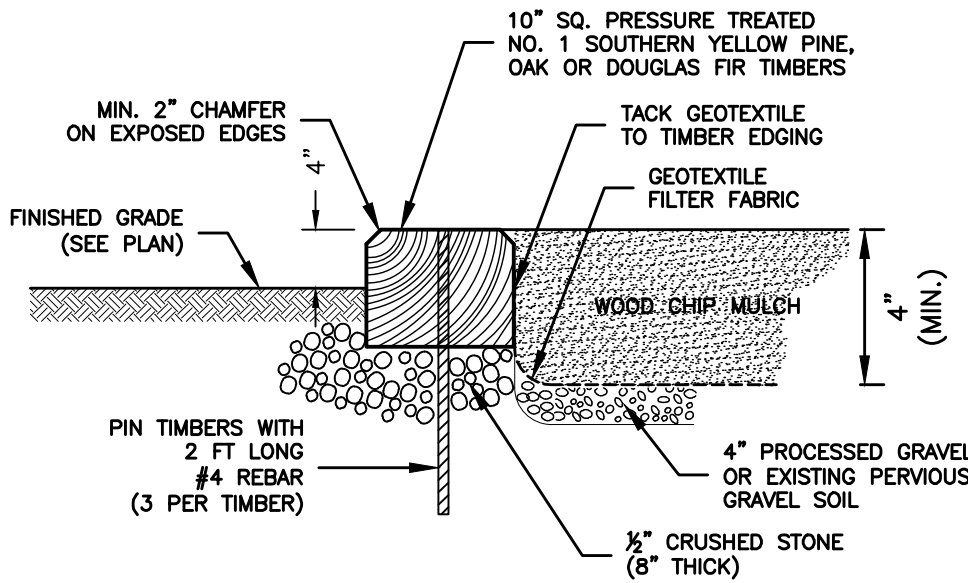
NOT TO SCALE

6 1/6/2025		Issued for Bid	CLA Engineers, Inc. CIVIL • STRUCTURAL • SURVEYING 317 Main Street Norwich, CT 06360 (860) 886-1966 Fax (860) 886-9165	Project No. CLA-7187
5 11/8/2024		Bid Drawing - Issued for Review		Proj. Engineer K.J.H.
4 7/29/2024		No Changes to this Sheet		Date: May 2022
3 3/22/2024		Misc. Revisions		Sheet No.
2 10/21/2022		Permit Set		
1 6/16/2022		Misc. Additions & Revisions		
No.	DATE	REVISION		
Town of Montville, Connecticut 310-Norwich-New London Tpke, Uncasville, CT 06382 Town Boat Launch Improvements and Fishing Pier Construction 55 Dock Road, Uncasville, CT 06382 Construction Details & Notes				

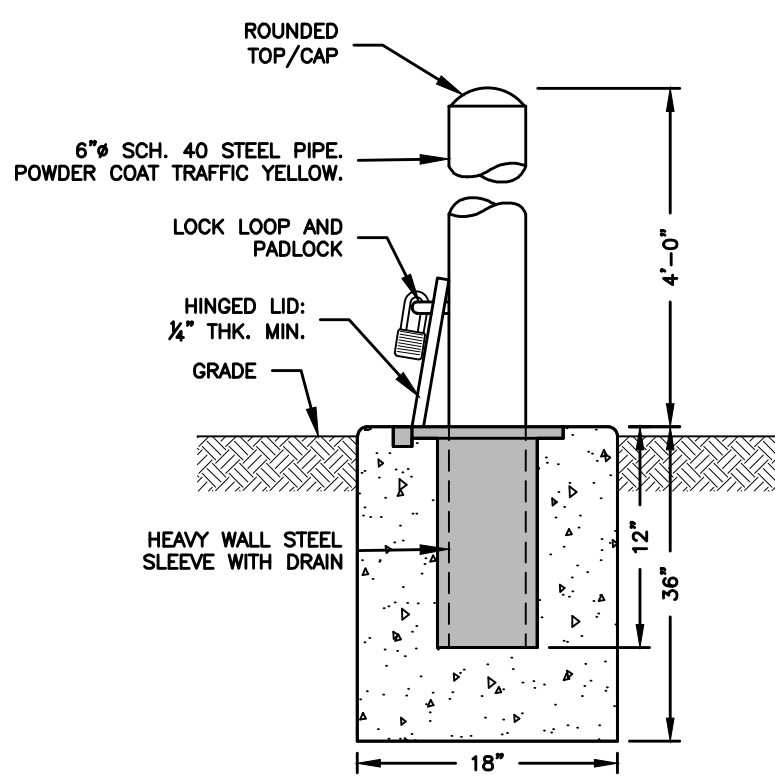
**BID
DOCUMENT**



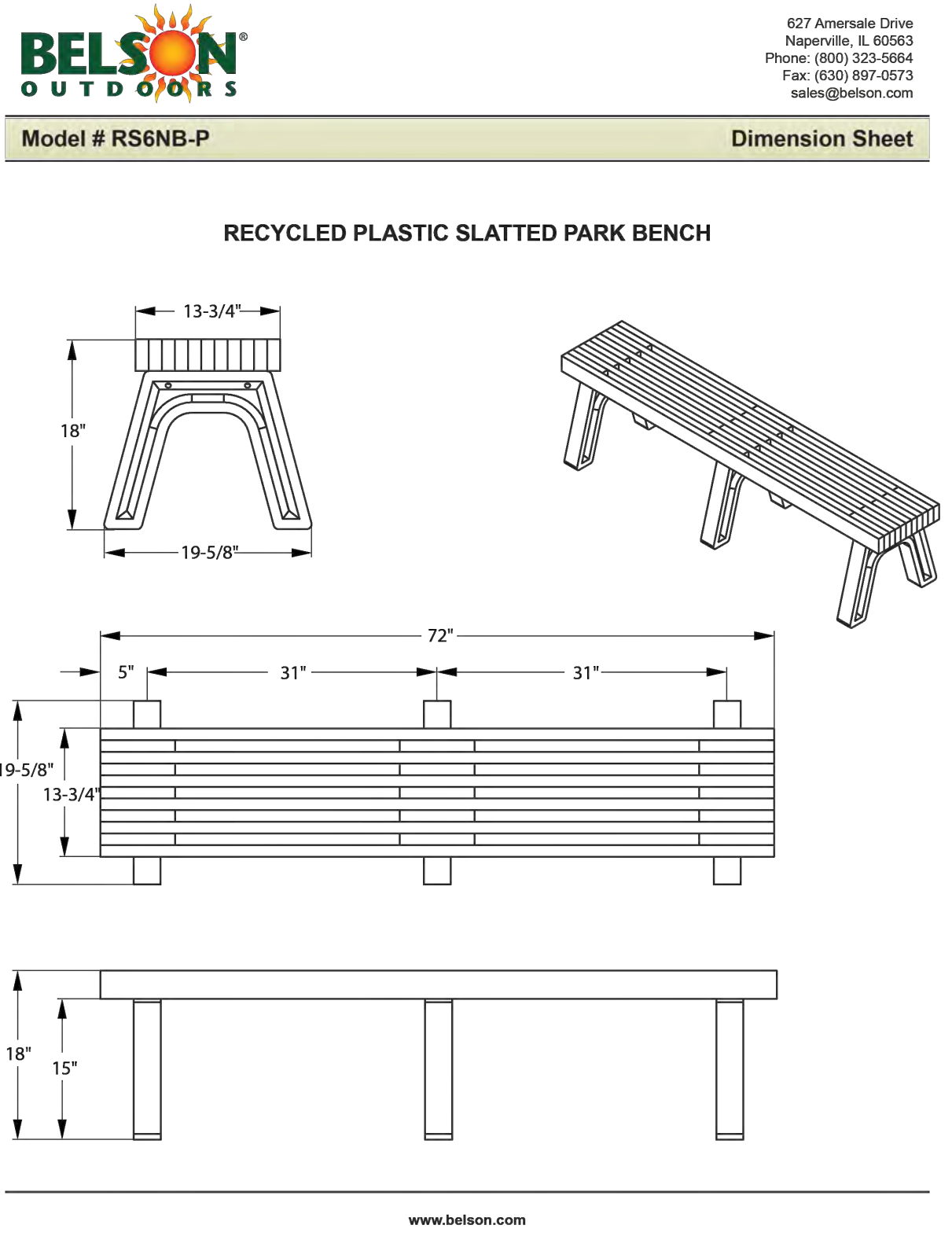
TYPICAL REINFORCED CONCRETE PAD DETAIL
NOT TO SCALE



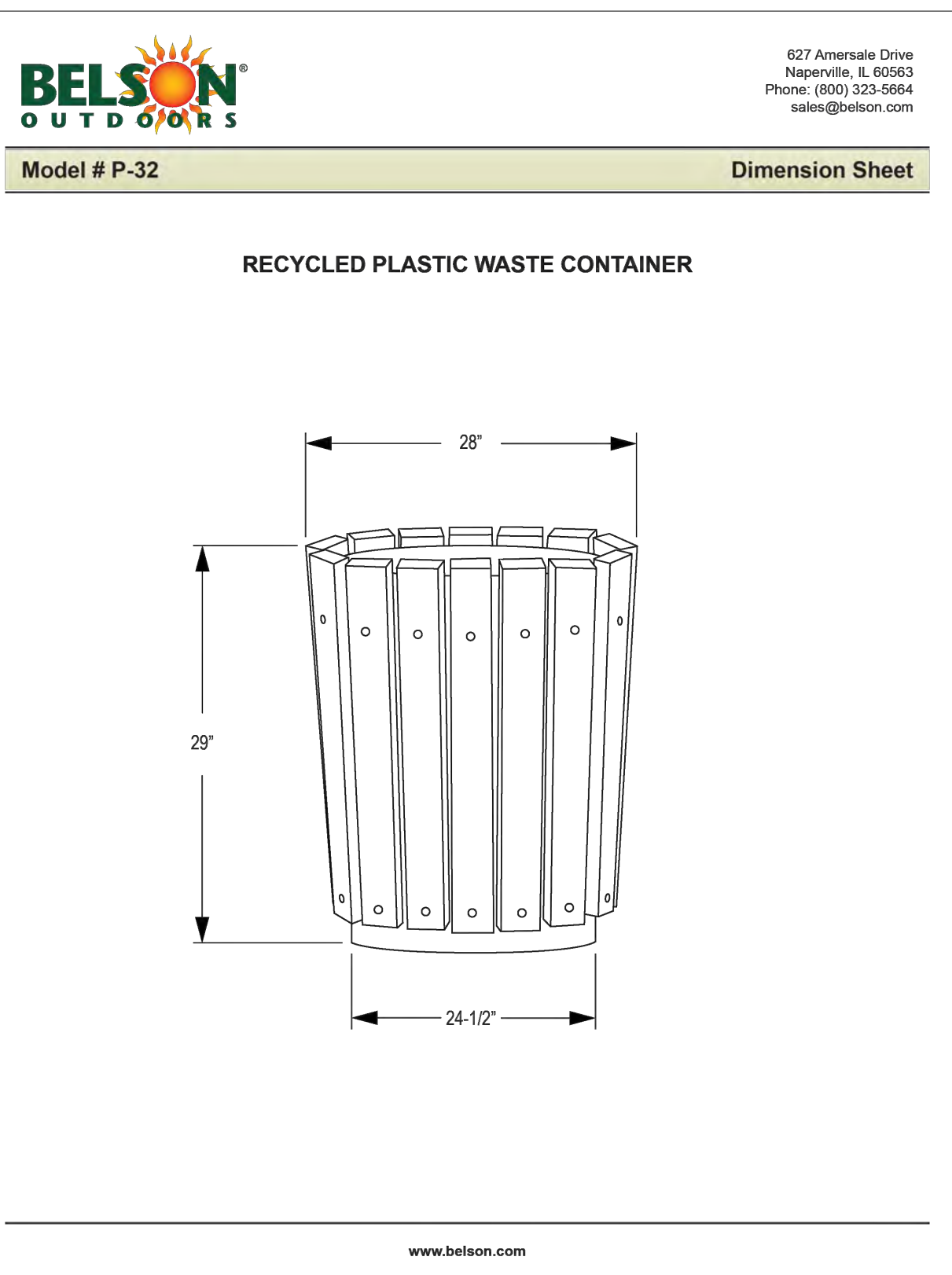
SIGN SURROUND DETAIL
NOT TO SCALE



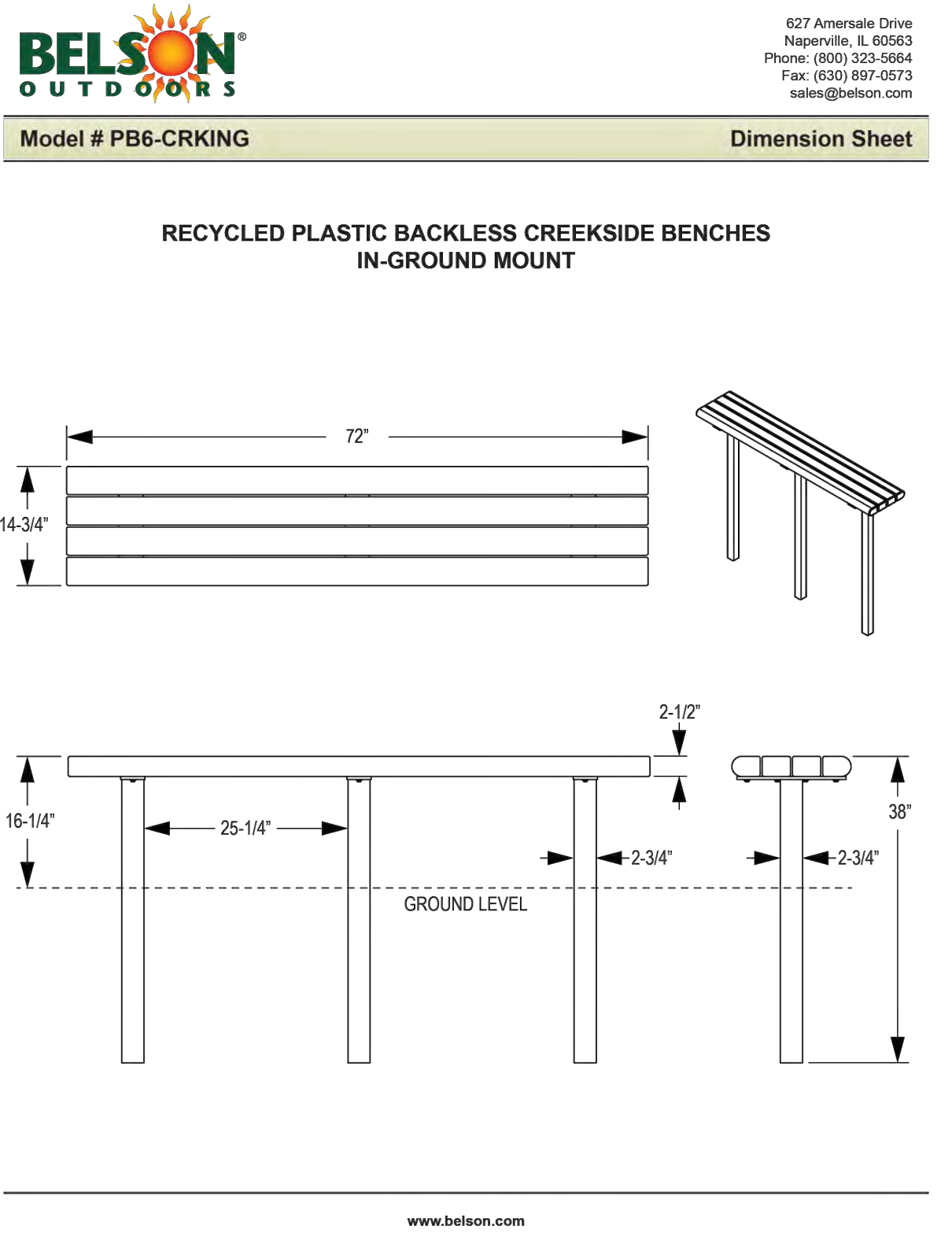
REMOVABLE BOLLARD DETAIL
NOT TO SCALE



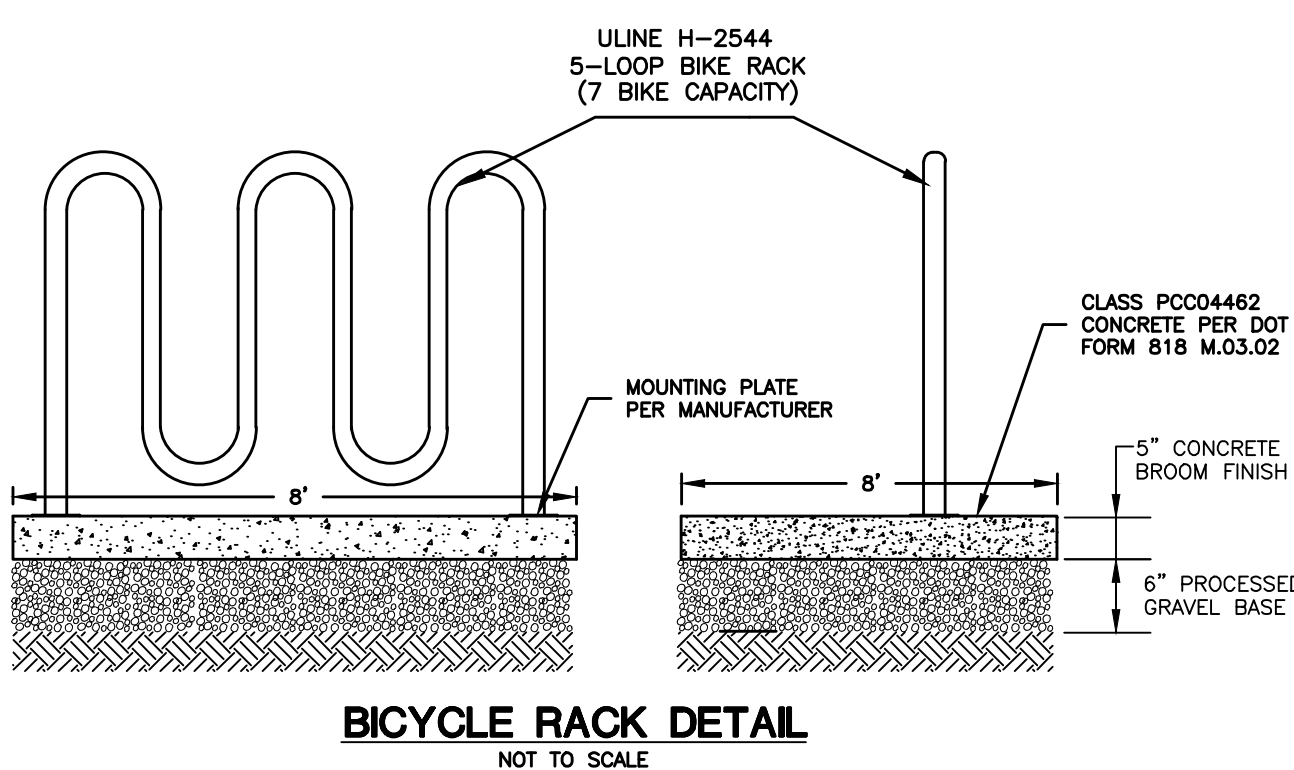
NOTES:
1. FISHING PIER BENCHES SHALL BE RECYCLED PLASTIC SLATTED PARK BENCH MODEL RS6NB-P AS MANUFACTURED BY BELSON OUTDOORS, OR APPROVED EQUAL.
2. COLORS - "WEATHERED WOOD" SEAT, "BLACK" FRAME.
3. SHALL BE INCLUDE ALUMINUM OR STAINLESS STEEL SURFACE MOUNT HARDWARE.
BENCH DETAIL - FISHING PIER
NOT TO SCALE



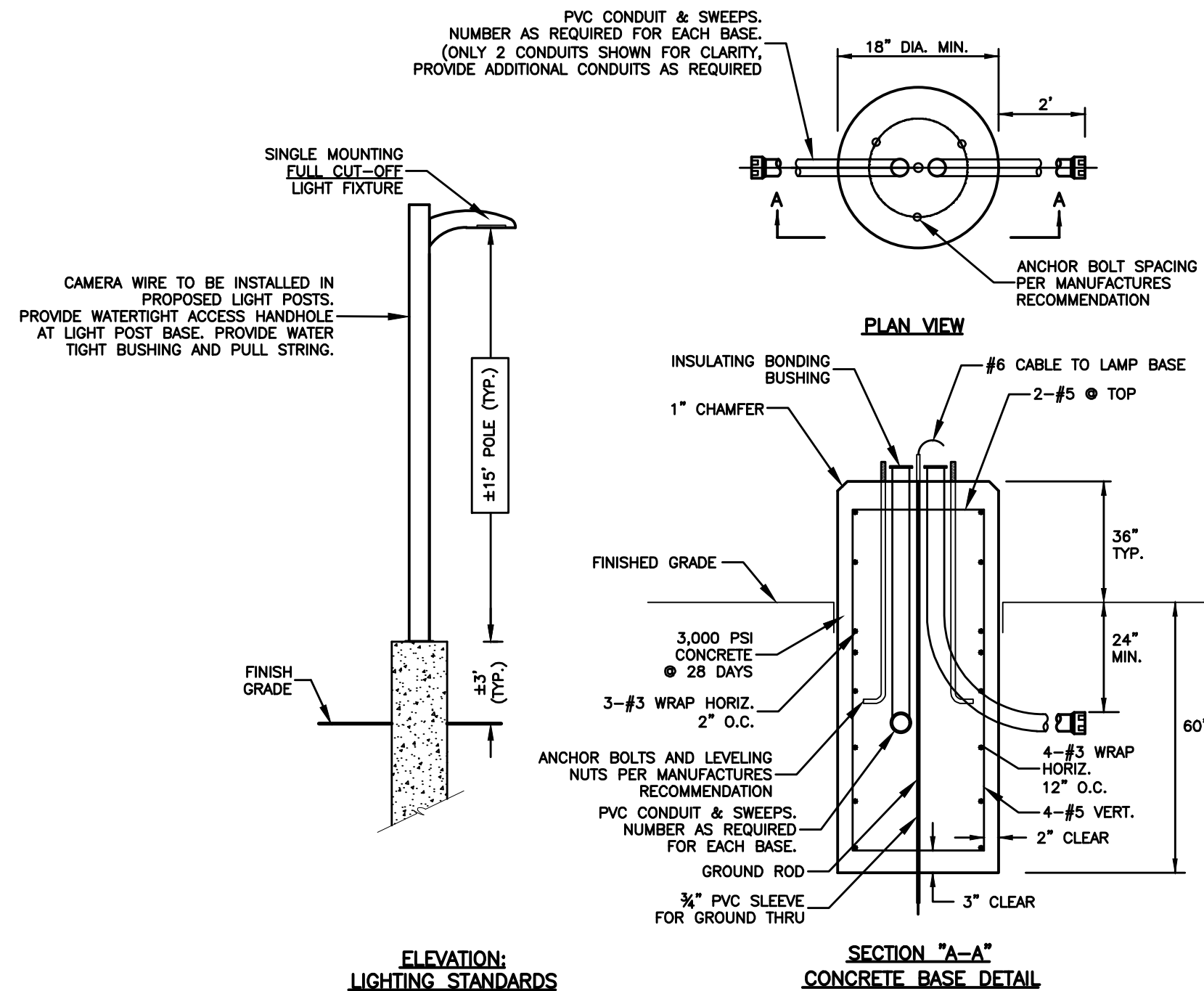
NOTES:
1. TRASH CANS SHALL BE RECYCLED PLASTIC WASTE CONTAINER MODEL P-32 AS MANUFACTURED BY BELSON OUTDOORS, OR APPROVED EQUAL.
2. COLORS - "CEDAR".
3. SHALL BE INCLUDE 32 GALLON PLASTIC LINER, SQUARE DOME TOP LID, AND GALVANIZED PERMANENT MOUNT KIT.
TRASH CAN DETAIL
NOT TO SCALE



NOTES:
1. SITE BENCHES SHALL BE RECYCLED PLASTIC SLATTED PARK BENCH MODEL PB6-CRKG AS MANUFACTURED BY BELSON OUTDOORS, OR APPROVED EQUAL.
2. COLORS - "WEATHERED WOOD" SEAT, "BLACK" FRAME.
BENCH DETAIL - SITE
NOT TO SCALE



BICYCLE RACK DETAIL
NOT TO SCALE



SECTION "A-A"
CONCRETE BASE DETAIL

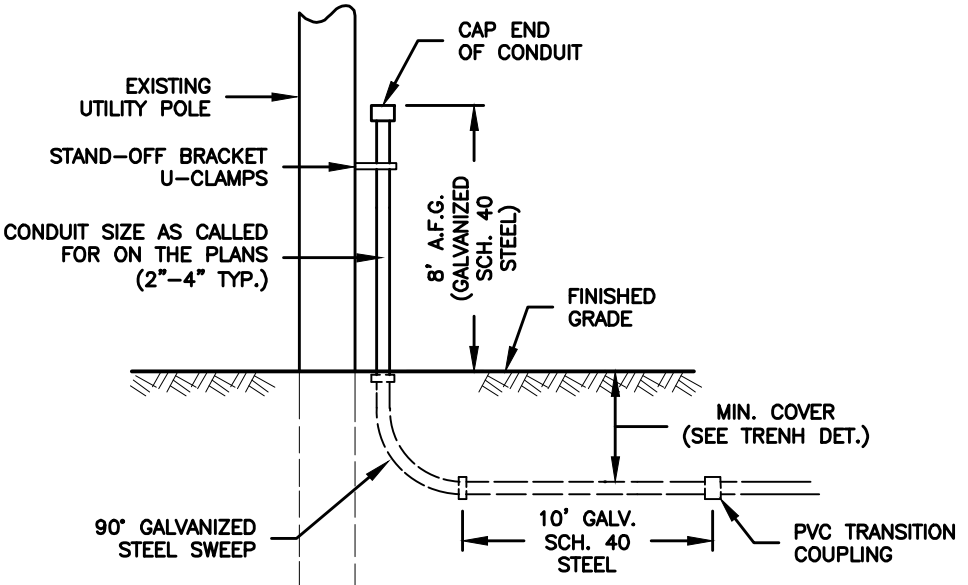
LUMINAIRE SCHEDULE - SEE LIGHTING PLAN									
SYMBOL	QTY.	LABEL	ARRANGEMENT	LUMEN	INPUT WATTS	LLF	BUG RATING	FIXTURE & POLE DESCRIPTION	
☐-○	7	S4	SINGLE	5637	40	0.900	B1-U0-G2	QARD20 ECF-S-32L-36S-WW-G2-AR-4-UNV-TLRPC-FINISH MOUNTED TO SSA-CA-4-125-15-D1-DT5-FINISH	

- NOTES:
1. EACH LUMINAIRE SHALL HAVE AN INDIVIDUAL PHOTOCELL.
2. FIXTURE TILT ANGLE = 0°.
3. HORIZONTAL (FULL CUT-OFF FIXTURES).
4. FIXTURE ROLL ANGLE = 0°.
5. POLES TO MEET 110 MPH SUSTAINED WINDS.
6. SEE UTILITY PLAN FOR LIGHT LOCATIONS.

LIGHTING PLAN AND FIXTURE SPECIFICATIONS PROVIDED BY:
Sylvia A. Perdakis, PLA
Specification Sales / Outdoor Lighting Specialist
sperdakis@apecsolutions.com | c: 860.707.3024



SITE LIGHTING DETAILS
NOT TO SCALE



TYPICAL CONDUIT RISER
NOT TO SCALE

BID DOCUMENT

6 1/8/2025 Issued for Bid		CLA Engineers, Inc. CIVIL • STRUCTURAL • SURVEYING 317 Main Street Norwich, CT 06360 (860) 886-1966 Fax (860) 886-9165	
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No.	DATE	REVISION	
Town of Montville, Connecticut 310-Norwich-New London Tpke, Uncasville, CT 06382			Project No. CLA-7187
Town Boat Launch Improvements and Fishing Pier Construction 55 Dock Road, Uncasville, CT 06382			Proj. Engineer K.J.H.
Construction Details & Notes			Date: May 2022
			Sheet No. 12

PROJECT NOTES

DESCRIPTION OF WORK:

1. THE WORK COVERED UNDER THESE CONTRACT DOCUMENTS, INCLUDING THE DRAWINGS, PROJECT NOTES, AND ALL AMENDMENTS, CONSISTS OF PROVIDING ALL PLANT, LABOR, SUPERVISION, EQUIPMENT APPLIANCES AND MATERIALS AND IN PERFORMING ALL OPERATIONS IN CONNECTION WITH AT LEAST, BUT NOT NECESSARILY LIMITED TO, THE FOLLOWING ITEMS:
- INSTALL NEW CONCRETE HEADWALL
 - FURNISH AND INSTALL NEW PIER
 - COORDINATE WORK WITH OWNER AND PROTECT UTILITIES
2. THE CONTRACTOR SHALL PROVIDE ALL ITEMS AND ACCESSORIES REQUIRED TO COMPLETE ALL ASPECTS OF THE WORK NEEDED FOR A COMPLETE AND PROPER INSTALLATION, ALL IN STRICT ACCORDANCE WITH THE CONTRACT DOCUMENTS.
3. THESE DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, CIVIL, AND MEP DRAWINGS. THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE ARCHITECT SHOULD VARYING INFORMATION OR DISCREPANCIES BE FOUND WITHIN THE DOCUMENTS.

DESIGN BASIS:

1. STRUCTURE DESIGNED IN ACCORDANCE WITH THE 2022 CT STATE BUILDING CODE.
2. THREE (3) WATER BORINGS WERE PERFORMED. REFER TO BORING LOGS FOR SOIL DATA ENCOUNTERED. BORING LOGS PROVIDED ON DRAWING W-2.
3. THE STRUCTURE WAS DESIGNED FOR THE FOLLOWING SERVICE LOADS:
- A. DEAD LOAD: SELF-WEIGHT OF ELEMENTS
 - B. LIVE LOADS:
 - B.1. COMMON AREAS: 100 PSF
 - C. WINDWAVE LOADS:
 - C.1. BASED ON 100-YEAR FREQUENCY TIDAL FLOOD ELEVATIONS AS DEFINED BY FEMA WITH 100-YR FREQUENCY WIND GENERATED WAVE LOADINGS ADJECED FOR LOCAL BATHYMETRY AS FOLLOWS:
 - LATERAL PIER LOAD: 138 POUNDS PER FOOT
 - LATERAL PILE LOAD: 123 POUNDS APPLIED AT T.O. PILE ELEVATION

GENERAL REQUIREMENTS:

1. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD8S)
2. PROPERTY LINES AND UPLAND STRUCTURES TAKEN FROM A DRAWING TITLED "BATHYMETRIC / TOPOGRAPHIC SURVEY PREPARED FOR TOWN OF MONTVILLE PROPERTY OF UNCASVILLE, LLC", DRAWING PREPARED BY CJA ENGINEERS, INC., DATED AUGUST 2021.
3. WORK SHALL COMPLY WITH FEDERAL, STATE, AND LOCAL LAWS AND STATUTES AND THE REQUIREMENTS AND CONDITIONS OF ALL REGULATORY PERMITS ISSUED FOR THE WORK.
4. THESE DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT REGULATORY PERMITS. THE CONTRACTOR SHALL COMPLY TO ALL CONDITIONS OF THOSE PERMITS. THE CONTRACTOR IS ADVISED THAT THE REGULATORY PERMITS FOR THIS PROJECT MAY CONTAIN ADDITIONAL REQUIREMENTS THAT, AFTER ANY ADDENDUM, SUPERSEDE THE DRAWING NOTES. THE CONTRACTOR IS FURTHER ADVISED THAT IN THE CASE OF ANY DISCREPANCIES WITHIN THE CONTRACT DOCUMENTS FOUND BEFORE CONSTRUCTION, THE FINAL DECISION AS TO WHAT INFORMATION TAKES PRECEDENCE WILL BE MADE BY THE ENGINEER OF RECORD ON THE BASIS OF THAT INTENT.
5. EXISTING CONDITIONS AND DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND FABRICATION OR ORDERING OF ANY CONSTRUCTION MATERIALS.
6. SECTIONS AND DETAILS APPLY TO SAME AND SIMILAR CONDITIONS UNLESS SPECIFICALLY NOTED OTHERWISE HEREIN.
7. DAMAGE TO ANY PROPERTY, PRIVATE OR OF PUBLIC TRUST, OCCURRING DURING THE CONSTRUCTION BY THE CONTRACTOR, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER. COMPENSATION TO THE CONTRACTOR WILL NOT BE CONSIDERED.
8. THE CONTRACTOR SHALL SAFEGUARD AND PROTECT ALL EXCAVATIONS.
9. THE CONTRACTOR SHALL USE ADEQUATE NUMBERS OF SKILLED WORKMEN WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND METHODS NEEDED FOR PROPER PERFORMANCE OF THE WORK.
10. THE CONTRACTOR SHALL USE EQUIPMENT ADEQUATE IN SIZE, CAPACITY, AND NUMBERS, AND MAINTAINED TO THE REQUIREMENTS OF ALL FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS TO ACCOMPLISH THE WORK.
11. THE CONTRACTOR SHALL PROTECT ALL WETLANDS AND COASTAL RESOURCES FROM INTRUSION BY TURBID WATERS, CONSTRUCTION DEBRIS, CONSTRUCTION EQUIPMENT, OR PERSONNEL DURING ALL WORK ACTIVITIES.
12. THE CONTRACTOR SHALL OBTAIN AND INCLUDE IN ITS FEE, THE COST FOR NECESSARY LOCAL PERMITS, LICENSES, CERTIFICATES OF INSPECTION, AND LEGAL EXPENSES IN CONNECTION WITH THIS CONTRACT. THE OWNER HAS OBTAINED NECESSARY STATE AND FEDERAL REGULATORY PERMITS REQUIRED FOR THE WORK IN REGULATED AREAS. THE CONTRACTOR SHALL REQUEST COPIES OF THOSE REGULATORY PERMITS AND MAKE PROVISION IN THIS WORK AND IN THE COST OF THE WORK FOR ALL APPLICABLE CONDITIONS OF THOSE PERMITS. FAILURE TO CONSIDER ANY CONDITION OF THE REGULATORY PERMITS AS A PART OF THE BID SHALL NOT RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITY TO APPLY THOSE CONDITIONS TO HIS WORK AND SHALL BE INCLUDED IN THE CONTRACT SUM.
- 13.IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PROTECT FROM DAMAGE ALL UTILITIES, UTILITY STRUCTURES, FUEL LINES & TANKS OR ANY UNKNOWN UTILITIES OR STRUCTURES PRIOR TO ANY WORK.
- 14.LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PERFORM THE WORK THAT, UPON COMPLETION, ARE NOT A PART OF THE WORK, SHALL BE FURNISHED, INSTALLED, AND SUBSEQUENTLY REMOVED FROM THE SITE BY THE CONTRACTOR.
- 15.TEMPORARY WORK SHALL BE SUBJECT TO THE REQUIREMENTS OF THE STATE AND APPLICABLE LOCAL BUILDING CODES.

PROJECT LAYOUT & CONTROLS:

1. THE CONTRACTOR SHALL HAVE A PROFESSIONAL LAND SURVEYOR, LICENSED IN THE STATE OF CONNECTICUT, TO LAYOUT THE PROPOSED STRUCTURE. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH AN "AS-BUILT" DRAWING OF THE WORK CONFORMING TO AN A.2 AND T-2 STANDARDS FOLLOWING THE COMPLETION OF THE WORK AT THE SITE. THE COST FOR SUCH ITEMS SHALL BE INCLUDED IN THE CONTRACT SUM FOR THE WORK.
2. ANY STRUCTURES NOT CONSTRUCTED IN THE POSITIONS DEPICTED ON THE PROJECT PLANS SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

CAST-IN-PLACE CONCRETE:

1. CONCRETE SHALL BE NORMAL WEIGHT WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS.
2. CAST-IN-PLACE CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301 - LATEST EDITION, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS."
3. DETAILING, FABRICATION, AND ERECTION OF REINFORCING STEEL SHALL CONFORM WITH ACI-318 AND ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING, REINFORCED CONCRETE STRUCTURES."
4. READY MIX PLANT EQUIPMENT AND FACILITIES SHALL CONFORM TO THE "CHECK LIST FOR CERTIFICATION OF READY MIXED CONCRETE PRODUCTION FACILITIES" OF THE NRMCA.
5. SUBMIT CONCRETE MIX DESIGN, WITH KNOWN TEST RESULTS, TO THE ENGINEER FOR REVIEW. THE CONCRETE MIX DESIGN SUBMITTAL SHALL CONSIST OF AT LEAST THE FOLLOWING:
- A. TYPE OF CEMENT.
 - B. DRY WEIGHT OF CEMENT.
 - C. SATURATED SURFACE-DRY WEIGHTS OF FINE AND COARSE AGGREGATES.
 - D. SPECIFIC GRAVITY OF FINE AND COARSE AGGREGATES.
 - E. QUANTITIES, TYPE, NAME AND PRODUCER OF ADMIXTURES, AS APPLICABLE.
 - F. TOTAL WEIGHT OF WATER, INCLUDING THE WATER WHICH IS ABSORBED BY AND ON THE SURFACE OF THE AGGREGATES.
 - G. WATER TO CEMENT RATIO.
 - H. SLUMP: MAXIMUM SLUMP, TAKEN AT THE TRUCK, WILL BE DETERMINED BASED ON THE PUMP HOSE LENGTH. THE MIX DESIGNS SHALL INCLUDE THE ANTICIPATED LOSS OF SLUMP PER 100 FOOT LENGTH OF SPECIFIED HOSE SIZE.
 - I. STRENGTH TEST DATA OF THE PROPOSED MIX DESIGN AS SPECIFIED HEREIN.
6. SUBMIT CONCRETE BATCH TICKETS FOR EACH TRUCK DELIVERED TO SITE. EACH TICKET SHALL NOTE AT LEAST THE FOLLOWING DATA: DESIGN MIX STRENGTH, BATCH PROPORTIONS INCLUDING ACTUAL WATER AND AGGREGATE MOISTURE CONTENTS; DATE AND BATCH TIME; ARRIVAL TIME AT SITE; DISCHARGE TIME; CONCRETE VOLUME; AND ANY CHANGE TO CONCRETE MADE AT THE SITE.

7. CONFORM TO THE RECOMMENDATIONS OF ACI 304 - LATEST EDITION, "RECOMMENDED PRACTICE FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE."
8. CONCRETE SHALL CONSIST OF THE FOLLOWING MATERIALS:
- A. PORTLAND CEMENT: TYPE II - LOW ALKALI CONFORMING TO ASTM C 150, "STANDARD SPECIFICATION FOR PORTLAND CEMENT."
 - B. COARSE AND FINE AGGREGATE SHALL BE NORMAL WEIGHT AND UNIFORMLY GRADED AND CLEAN CONFORMING TO ASTM C33, "STANDARD SPECIFICATION FOR CONCRETE AGGREGATES." DO NOT USE AGGREGATE KNOWN TO CAUSE EXCESSIVE SHRINKAGE.
 - C. COARSE AGGREGATE SHALL BE CRUSHED ROCK OR WASHED GRAVEL WITH A MAXIMUM SIZE OF 3/4".
 - D. FINE AGGREGATE SHALL BE NATURAL WASHED SAND OF HARD AND DURABLE PARTICLES VARYING FROM FINE TO PARTICLES PASSING A 3/8" SCREEN, OF WHICH AT LEAST 12% SHALL PASS A 50-MESH SCREEN.
 - E. WATER SHALL BE CLEAN AND POTABLE.
 - F. KRYSTOL INTERNAL MEMBRANE (KIM) BY KRYTON. BATCHING SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
 - G. AIR ENTRAINING ADMIXTURE SHALL CONFORM TO ASTM C260, "STANDARD SPECIFICATION FOR AIR ENTRAINING ADMIXTURE FOR CONCRETE." THE AIR ENTRAINING AGENT SHALL BE A NON-TOXIC CONCENTRATED SOLUTION OF NEUTRALIZED VINOL RESIN, SUCH AS "DARAIVAR" AS MANUFACTURED BY W.R. GRACE COMPANY OR EQUIVALENT ACCEPTED BY THE ENGINEER.
 - H. WATER REDUCING ADMIXTURE SHALL CONFORM TO ASTM C494 "STANDARD SPECIFICATION FOR CHEMICAL ADMIXTURES FOR CONCRETE." WATER REDUCING AGENT SHALL BE OF TYPE A, B, C, D, E, F, OR G (AS NOTED IN CONCRETE MIX DESIGN) SUCH AS DARACEM-100" OR WRDA-19" AS MANUFACTURED BY W.R. GRACE COMPANY OR EQUIVALENT ACCEPTED BY THE ENGINEER.
 - I. CALCIUM CHLORIDE SHALL NOT BE USED.
9. CURING MATERIALS SHALL CONFORM TO ASTM C309, "STANDARD SPECIFICATION FOR LIQUID MEMBRANE-FORMING COMPOUNDS FOR CURING CONCRETE", WET BURLAP, OR PLASTIC MEMBRANE.
10. CONCRETE SHALL HAVE A MAXIMUM WATER TO CEMENT RATIO OF 0.40.
11. CONCRETE SHALL BE PROPORTIONED TO HAVE A SLUMP OF 4 INCHES, ± 1 INCH, AT THE DISCHARGE END OF THE PUMP HOSE. USE WATER REDUCING AGENT AS REQUIRED TO ACHIEVE DESIRED SLUMP RANGE. ADDITION OF WATER AT SITE WILL NOT BE PERMITTED.
12. CONCRETE SHALL CONTAIN 8% ENTRAINED AIR +/- 1.5%.
13. DESIGN, ERECT, SUPPORT, BRACE, AND MAINTAIN FORMWORK SO IT WILL SAFELY SUPPORT THE CONSTRUCTION PERMITS. THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE ALL FORM MARKS AND PROJECTIONS, PRODUCING A SMOOTH, DENSE SURFACE WITH OUT PITS OR IRREGULARITIES, AND THE PASTE FORMED BY THE RUBBING AS ABOVE DESCRIBED MAY BE FINISHED BY CAREFULLY STRIPPING WITH A CLEAN BRUSH, OR IT MAY BE SPREAD UNIFORMLY OVER THE SURFACE AND ALLOWED TO RESET. AFTER THE CONCRETE HAS SET FOR 7 DAYS OR SUCH PERIOD AS THE ENGINEER MAY DIRECT, THE SURFACE SHALL BE RUBBED AGAIN, WITH A CARBORUNDUM STONE, UNTIL A UNIFORM EVEN COLOR IS OBTAINED. NO MORTAR SHALL BE USED DURING THIS SECOND RUBBING. CURING, AS SPECIFIED ELSEWHERE, SHALL BE COMPLETED IN ALL CASES.
15. SLEEVES, INSERTS, ANCHORS, AND EMBEDDED ITEMS REQUIRED FOR ADJOINING WORK OR FOR ITS SUPPORT SHALL BE PLACED PRIOR TO CASTING CONCRETE. IF EMBEDDED ITEMS SHALL BE POSITIONED ACCURATELY AND SUPPORTED AGAINST DISPLACEMENT.
16. TRANSIT MIX THE CONCRETE IN ACCORDANCE WITH PROVISIONS OF ASTM C94 - LATEST EDITION.
17. DO NOT USE CONCRETE AFTER 90 MINUTES FROM TIME OF INTROCUCTION OF WATER TO THE MIX.
18. CONCRETE CURE SHALL CONFORM TO THE REQUIREMENTS OF ACI 318-LATEST EDITION, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
19. REMOVE FOREIGN MATTER ACCUMULATED IN THE FORMS.
20. RIGIDLY CLOSE OPENINGS LEFT IN THE FORMWORK.
21. WET WOOD FORMS IMMEDIATELY PRIOR TO CONCRETE PLACEMENT. WET WOOD FORMS SUFFICIENTLY TO TIGHTEN UP CRACKS. WET OTHER MATERIAL SUFFICIENTLY TO MAINTAIN WORKABILITY OF THE CONCRETE.
22. USE ONLY CLEAN TOOLS.
23. PERFORM CONCRETE PLACING AT SUCH A RATE THAT CONCRETE WHICH IS BEING INTEGRATED WITH FRESH CONCRETE IS STILL PLASTIC.
24. DEPOSIT CONCRETE AS NEARLY AS PRACTICABLE IN ITS FINAL LOCATION SO AS TO AVOID SEPARATION DUE TO REHANDLING AND FLOWING.
25. DO NOT USE CONCRETE WHICH BECOMES NON-PLASTIC AND UNWORKABLE, OR DOES NOT MEET REQUIRED QUALITY CONTROL LIMITS, OR HAS BEEN CONTAMINATED BY FOREIGN MATERIALS.
26. REMOVE REJECTED AND EXCESS CONCRETE FROM THE JOB SITE.
27. FREE-FALL OF CONCRETE DURING PLACEMENT GREATER THAN EIGHT FEET IS PROHIBITED. THE CONTRACTOR SHALL PLACE CONCRETE WITH A TREMIE TUBE FOR DROPS GREATER THAN EIGHT FEET.
28. DEPOSIT CONCRETE IN HORIZONTAL LAYERS NOT DEEPER THAN 24 INCHES, AND AVOID INCLINED CONSTRUCTION JOINTS.
29. REMOVE TEMPORARY SPREADERS IN FORMS WHEN CONCRETE HAS REACHED THE ELEVATION OF THE SPREADERS.
30. CONSOLIDATE EACH LAYER OF CONCRETE IMMEDIATELY AFTER PLACING, BY USE OF INTERNAL CONCRETE VIBRATORS SUPPLEMENTED BY HAND SPADING, RODDING, OR TAMPING.
31. DO NOT USE VIBRATORS TO TRANSPORT CONCRETE INSIDE THE FORMS.
32. DO NOT USE HORIZONTAL CONSTRUCTION JOINTS, UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS.
33. BEGINNING IMMEDIATELY AFTER PLACEMENT, CONCRETE SHALL BE PROTECTED FROM PREMATURE DRYING, EXCESSIVELY HOT OR COLD TEMPERATURES, AND MECHANICAL DAMAGE AND SHALL BE MAINTAINED WITH MINIMAL MOISTURE LOSS AT A RELATIVE CONSTANT TEMPERATURE FOR THE PERIOD NECESSARY FOR HYDRATION OF THE CEMENT AND HARDENING OF THE CONCRETE.
34. IF COLD-WEATHER CONCRETING IS ANTICIPATED, A PRE-CONSTRUCTION MEETING SHOULD BE HELD TO DEFINE HOW COLD WEATHER CONCRETING METHODS WILL BE USED. WHEN THE MEAN DAILY AMBIENT TEMPERATURE IS AT OR BELOW 40 DEGREES F OR 45 DEGREES F AND FALLING, THE CONTRACTOR SHALL FOLLOW THE REQUIREMENTS OF ACI 306.1 - LATEST EDITION, "STANDARD SPECIFICATION FOR COLD WEATHER CONCRETING":
- A. SET UP PROPER ENCLOSURE AND HEAT TO 50 DEGREES F FOR AT LEAST TWO (2) HOURS BEFORE STARTING ANY POUR. SET UP INDIVIDUAL THERMOMETERS WITHIN ENCLOSURE TO MONITOR AMBIENT TEMPERATURES NEAR THE FACE OF FRESH CONCRETE. THERMOMETERS SHALL BE PLACED AT A MAXIMUM OF 50-FOOT CENTERS, AT MAJOR CORNERS OR RETURNS, AND AT ENDS OF CONCRETE SECTIONS. MONITOR AND RECORD TEMPERATURES IN A LOG AT EARLY MORNING, NOON, AND EARLY EVENING.
 - B. USE A WATER-REDUCING ADMIXTURE WITH AN ACCELERATED SET, BUT DO NOT USE OR RELY UPON ANY MATERIAL AS AN ANTI-FREEZE. USE OF CALCIUM CHLORIDE IS PROHIBITED.
 - C. USE VENTED HEATERS WITH BLOWERS SO PLACED THAT THEY DO NOT PRODUCE LOCALIZED HOT SPOTS WHICH MAY DRY OUT THE CONCRETE. EXPOSURE TO EXHAUST GASES FROM COMBUSTION HEATERS IS PROHIBITED FOR THE FIRST 24 HOURS OF THE CURING PERIOD.
 - D. MAINTAIN THE TEMPERATURE OF THE FORMWORK AT NOT LESS THAN 50 DEGREES F BUT NOT GREATER THAN 70 DEGREES F FOR 48 HOURS AFTER COMPLETION OF POUR. FORMWORK MAY BE STRIPPED AFTER 72 HOURS AFTER COMPLETION OF POUR. AFTER 48 HOURS OF MAINTAINING AT LEAST 50 DEGREES F, THE TEMPERATURE MAY BE ALLOWED TO DROP GRADUALLY AND SHALL BE KEPT ABOVE 32 DEGREES F FOR A PERIOD OF SEVEN (7) DAYS AFTER COMPLETION OF POUR. PROTECTION DURING THIS PERIOD MAY BE PROVIDED BY EXISTING ENCLOSURE OR BY MEANS INDICATED IN NOTE 5 BELOW.
 - E. PROTECTION MAY BE PROVIDED BY USE OF INSULATION METHODS. ADEQUATE INSULATION SHALL CONSIST OF AT LEAST ONE OF THE FOLLOWING:
 - 12" OF DRY EARTH: PROVIDE MOISTURE COVER IF OVER SLAB CONCRETE.
 - 4" OF HAY UNDER ADEQUATE MOISTURE COVER.
 - 1" OF INSULATION BLANKETS WITH VAPOR BARRIER SEAL.
 - OTHER INSULATING MATERIAL ACCEPTABLE TO THE ENGINEER.
- NOTE: EXTREME CONDITIONS OF TEMPERATURE OR WIND MAY REQUIRE MORE PROTECTION.
- F. CONCRETE SHALL NOT BE PLACED ON FROZEN GROUND.

- G. FROZEN CONCRETE SHALL BE REMOVED FROM THE JOB AND REPLACED AT A NO ADDITIONAL COST TO THE OWNER.
35. WHEN THE MEAN DAILY AMBIENT AND SUBSTRATE TEMPERATURE IS ABOVE 80 DEGREES F, THE CONTRACTOR SHALL FOLLOW THE REQUIREMENTS OF ACI 305.1 - LATEST EDITION, STANDARD SPECIFICATION FOR HOT WEATHER CONCRETING. CONCRETE SHALL BE PROTECTED FROM THERMAL DAMAGE, PRODUCTIONS FOR WINDBREAKER SHADING, FOG SPRAYING, SPRINKLING, PONDING, OR WET COVERING WITH A LIGHT COLORED MATERIAL SHALL BE MADE IN ADVANCE OF PLACEMENT AND SUCH PROTECTIVE MEASURES SHALL BE TAKEN AS QUICKLY AS CONCRETE HARDENING AND FINISHING OPERATIONS WILL ALLOW.
- A. NO CONCRETE SHALL BE PLACED WHEN THE AIR TEMPERATURE IS ABOVE 90 DEGREES F UNLESS THE AIR IS STILL AND RELATIVE HUMIDITY IS ABOVE 80%.
 - B. SET UP PROPER WINDBREAKERS FOR CONCRETE SURFACES WHENEVER THE RELATIVE HUMIDITY IS LESS THAN 70% FOR SLIGHT AIR MOTION OR 80% FOR LIGHT BREEZES.
 - C. PROVIDE SHADE FOR POURS OTHERWISE EXPOSED TO THE SUN.
 - D. CONCRETE IS TO BE AT A TEMPERATURE OF 80 DEGREES F OR LESS WHEN PLACED. IF NECESSARY, THE BATCHING PLANT SHALL COOL AGGREGATES BY SPRAYING OR BY USING CHILLED WATER OR ICE. ALL SUCH WATER SHALL BE ACCOUNTED FOR AS PART OF THE MIXING WATER.
 - E. FOR SLABS, MAINTAIN THE REQUIRED MATERIALS FOR CURING ON HAND, SO THEY MAY BE PLACED IMMEDIATELY UPON FINISHING. ALL CONCRETE PLACED IN AMBIENT TEMPERATURES OVER 80 DEGREES F SHALL BE KEPT WET FOR A MINIMUM OF 24 HOURS. INTERMITTENT SPRAYING WILL NOT BE PERMITTED. NO WATER SHALL BE APPLIED BEFORE CONCRETE HAS ACQUIRED ITS FINAL SET. WHEN THE CONCRETE TEMPERATURE OF ANY SLAB GOES ABOVE 100 DEGREES F, PLACE A LAYER OF SAND ON IT AND KEEP IT CONTINUOUSLY WET UNTIL THE TEMPERATURE IS BELOW 80 DEGREES F.
36. REMOVE ALL FINS, BLEMSHES, AND DEFECTIVE CONCRETE AREAS AND PATCH WHERE REQUIRED WITH REWORKED CEMENT MORTAR OF THE SAME PROPORTIONS AS THAT USED IN THE CONCRETE.
37. FORM THE HOLES SHALL BE PLUGGED SOLID WITH REWORKED CEMENT MORTAR OF THE SAME PROPORTIONS AS THAT USED IN THE CONCRETE.
38. TESTS OF CONCRETE SHALL BE MADE BY AN INDEPENDENT TESTING AGENCY AT THE EXPENSE OF THE OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE OWNERS TESTING LAB. TEST SPECIMENS SHALL BE TAKEN FOR EACH 50 CUBIC YARDS, OR PORTION THEREOF, AND EACH DAYS POUR. ALL SPECIMENS SHALL BE PREPARED AND TESTED IN ACCORDANCE WITH ASTM C 39, ASTM C 31, AND ASTM C 172. CONCRETE SLUMP, AIR CONTENT, AND TEMPERATURE SHALL BE MEASURED FOR EACH BATCH IN ACCORDANCE WITH ASTM C 143 AND ASTM C 231.
39. EXPOSED SURFACES, EXCLUDING WALKING SURFACES, OF CONCRETE SHALL HAVE RUB FINISH.
40. TRAVEL SURFACES SHALL HAVE A RAKE FINISH PERPENDICULAR TO THE DIRECTION OF TRAVEL.
41. THE ENTIRE SURFACE SHALL BE THOROUGHLY WET WITH A BRUSH AND RUBBED WITH A NO. 16 CARBORUNDUM STONE OR AN ABRASIVE OF EQUAL QUALITY, BRINGING THE SURFACE TO A PASTE. THE RUBBING SHALL BE CONTINUED SUFFICIENTLY TO REMOVE ALL FORM MARKS AND PROJECTIONS, PRODUCING A SMOOTH, DENSE SURFACE WITH OUT PITS OR IRREGULARITIES, AND THE PASTE FORMED BY THE RUBBING AS ABOVE DESCRIBED MAY BE FINISHED BY CAREFULLY STRIPPING WITH A CLEAN BRUSH, OR IT MAY BE SPREAD UNIFORMLY OVER THE SURFACE AND ALLOWED TO RESET. AFTER THE CONCRETE HAS SET FOR 7 DAYS OR SUCH PERIOD AS THE ENGINEER MAY DIRECT, THE SURFACE SHALL BE RUBBED AGAIN, WITH A CARBORUNDUM STONE, UNTIL A UNIFORM EVEN COLOR IS OBTAINED. NO MORTAR SHALL BE USED DURING THIS SECOND RUBBING. CURING, AS SPECIFIED ELSEWHERE, SHALL BE COMPLETED IN ALL CASES.
42. ALL EXPOSED CORNERS SHALL HAVE A 3/4" CHAMFER, UNLESS OTHERWISE NOTED, OR BE RELIEVED AS APPROVED BY THE ENGINEER.

REINFORCING STEEL:

1. DETAILING, FABRICATION, AND ERECTION OF REINFORCING STEEL SHALL CONFORM WITH ACI-318 AND ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING, REINFORCED CONCRETE STRUCTURES."
2. FABRICATE REINFORCEMENT TO THE REQUIRED SHAPES AND DIMENSIONS, WITHIN FABRICATION TOLERANCES STATED IN THE CRSI "MANUAL OF STANDARD PRACTICES."
3. REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60 UNLESS OTHERWISE NOTED. REINFORCING STEEL REQUIRED TO BE WELDED SHALL BE ASTM A706 GRADE 60.
4. REINFORCING STEEL SHALL CONFORM TO ASTM A767, "STANDARD SPECIFICATION FOR ZINC-COATED STEEL BARS FOR CONCRETE REINFORCEMENT." REINFORCING STEEL SHALL BE CLASS 1 COATING WEIGHT AND SHALL BE FABRICATED PRIOR TO GALVANIZING.
5. WELDABLE REINFORCING SHALL BE UNCOATED, PLAIN BAR.
6. POSITION, SUPPORT, AND SECURE REINFORCEMENT AGAINST DISPLACEMENT BY FORMS, CONSTRUCTION, AND THE CONCRETE PLACEMENT OPERATIONS.
7. REINFORCING STEEL SHALL BE CONTINUOUS UNLESS SPECIFICALLY DETAILED OTHERWISE ON THE CONTRACT DRAWINGS. PROVIDE DOWELS OR LAP SPLICES OF THE APPROPRIATE GLASS TO MAINTAIN CONTINUITY UNLESS OTHERWISE SHOWN ON THE CONTRACT DRAWINGS LAP BARS AS PER TABLE BELOW. DOWELS OR SPLICES SHALL BE SHOWN ON THE SHOP DRAWINGS AND SHALL BE SUBJECT TO THE FIELD REVIEW OF THE ENGINEER. NO MORE THAN 60% OF THE TOTAL NUMBER OF BARS SHALL BE SPLICED AT ONE LOCATION.
- | MINIMUM SPLICE LENGTH (F _c = 5,000PSI) | | |
|---------------------------------------------------|------|----------------|
| | SIZE | GALVANIZED BAR |
| | #4 | 1'-6" |
| | #5 | 1'-10" |
8. MINIMUM CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL BE 3".
9. FORM TIES AND SPREADERS SHALL BE OF SUCH TYPE AS TO LEAVE NO METAL CLOSER THAN SPECIFIED FROM ANY EXPOSED CONCRETE SURFACE.
10. DO NOT USE REINFORCING STEEL HAVING ANY OF THE FOLLOWING DEFECTS:
- A. BAR LENGTHS, DEPTHS, OR BENDS EXCEEDING THE SPECIFIED FABRICATION TOLERANCE.
 - B. BENDS OR KINKS NOT INDICATED ON THE DRAWINGS OR REQUIRED FOR THIS WORK.
 - C. BARS WITH CROSS-SECTION REDUCED DUE ANY CAUSE.
11. CLEAN REINFORCEMENT AND REMOVE LOOSE DUST, EARTH, AND OTHER MATERIALS WHICH REQUIRE BOND OR DESTROY BOND WITH CONCRETE.
12. SPACERS, CHAIRS, BOLSTERS, AND OTHER DEVICES NECESSARY FOR THE PROPER REINFORCING STEEL PLACEMENT SHALL BE HOT DIPPED GALVANIZED.
13. NO CLAY OR CONCRETE OR ANY OTHER MATERIAL OTHER THAN APPROVED CHAIRS SHALL BE USED. ONE CHAIR SAMPLE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
14. ALL REINFORCING STEEL SHALL BE ADEQUATELY TIED WITH THE WIRE AND SUPPORTED AS REQUIRED TO THE SPECIFIED CLEARANCE.

STRUCTURAL STEEL:

1. SUBMIT COMPLETE SHOP DRAWINGS DETAILING ALL MEMBERS, PROFILES, SIZES, SPACING, PROPOSED CUTS, CONNECTIONS, CAMBER, HOLES, OPENINGS, FASTENERS, AND SIMILAR DATA. ERECTION PLANS SHOWING THE LOCATION AND FIELD CONNECTION OF ALL MEMBERS, IDENTIFY MEMBERS BY PIECE NUMBERS WHICH CORRESPOND TO SECTION NUMBERS. STRUCTURE STEEL CONNECTION DETAILS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DETAILED BY THE CONTRACTOR AND INCLUDED WITH SHOP DRAWING SUBMITTALS.
2. SUBMIT MANUFACTURERS CERTIFICATIONS SHOWING THAT THE PRODUCTS MEET OR EXCEED THE REQUIRED STANDARDS FOR BOLTS, INCLUDING NUTS AND WASHERS, THREADED RODS INCLUDING ALL HARDWARE, FILLER MATERIAL AND FLUX FOR WELDING.
3. SUBMIT CERTIFIED MILL TEST REPORTS INDICATING STRUCTURAL STRENGTH, DESTRUCTIVE AND NON-DESTRUCTIVE TEST ANALYSIS, CHEMICAL AND PHYSICAL PROPERTIES OF EACH TYPE OF STEEL AND CONFORMANCE WITH ASTM A6.
4. SUBMIT WELDERS CERTIFICATES CERTIFYING WELDERS EMPLOYED ON THE WORK, VERIFYING AWS QUALIFICATIONS WITHIN THE PREVIOUS TWELVE MONTHS.
5. PERFORM WELDING WITH ELECTRIC ARC PROCESS AND IN ACCORDANCE WITH AWS "CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION".
6. STRUCTURAL STEEL WORK SHALL COMPLY WITH THE AISC MANUAL OF STEEL CONSTRUCTION AS ADOPTED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC 360).
7. STEEL SHALL COMPLY WITH THE FOLLOWING UNLESS OTHERWISE NOTED:
- a. STEEL ANGLES AND PLATES: SHALL CONFORM TO ASTM A572 WITH FY=50 KSI MIN. UNLESS OTHERWISE NOTED.
 - b. THREADED ROUND BAR: SHALL CONFORM TO ASTM A36 WITH FY=36 KSI MIN. UNLESS OTHERWISE NOTED.

- c. CARRIAGE BOLTS AND LAG SCREWS: SHALL CONFORM TO ASTM A307, GRADE A.
- d. HIGH STRENGTH STRUCTURAL BOLTS: SHALL CONFORM TO ASTM A325 WITH HEXAGONAL HEADS
- e. NUTS: SHALL BE HEXAGONAL AND CONFORM TO ASTM A563.
- f. WASHERS [EXCEPT AGAINST TIMBER]: SHALL CONFORM TO ASTM F436.

- ADHESIVE FOR STEEL FASTENERS: ADHESIVE SHALL BE HIT-RE-500-V3 AS MANUFACTURED BY HILTI, INC. OR EQUIVALENT ACCEPTED BY THE ENGINEER.
9. WELDING MATERIALS: TYPE E70XX OR TYPE REQUIRED FOR MATERIALS BEING WELDED IN ACCORDANCE WITH AWS D1.1 STRUCTURAL WELDING CODE.
10. FABRICATE ITEMS OF STRUCTURAL STEEL IN ACCORDANCE WITH AISC SPECIFICATIONS AND AS SHOWN ON THE ACCEPTED SHOP DRAWINGS.
11. PROPERLY MARK MATERIALS FOR FIELD ASSEMBLY AND FOR IDENTIFICATION OF THE STRUCTURE AND LOCATION INTENDED. FABRICATE FOR DELIVERY SEQUENCE WHICH WILL EXPEDITE ERECTION AND MINIMIZE FIELD HANDLING OF MATERIALS.

12. PROVIDE BOLTS, NUTS, AND WASHERS OF ALL TYPES AND SIZES REQUIRED FOR COMPLETION OF FIELD ERECTION.
13. CUT, DRILL, OR PUNCH HOLES PERPENDICULAR TO METAL SURFACES. DO NOT FLAME CUT HOLES OR ENLARGE HOLES BY BURNING. DRILL HOLES IN BEARING PLATES. NO HOLES WILL BE ALLOWED UNLESS FIRST SHOWN ON THE SHOP DRAWINGS AND ACCEPTED BY THE ENGINEER.

14. SHOULD HOLES BE REQUIRED IN ADDITION TO THOSE PROVIDED UNDER THIS SECTION, PROVIDE ALL SUCH HOLES AND STRENGTHEN THE AREA AS REQUIRED TO COMPENSATE BUT ONLY AS ACCEPTED BY THE ENGINEER.

15. ASSEMBLE AND WELD BUILT-UP SECTIONS BY METHODS WHICH WILL PRODUCE TRUE ALIGNMENT OF AXES WITHOUT WARP.

16. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL ITEMS SCHEDULED TO RECEIVE PROTECTIVE COATING SHALL BE FULLY FABRICATED WITH HOLES, CUTS, THREADS, ETC. PRIOR TO RECEIVING PROTECTIVE COATING, PRIOR TO DELIVERY TO SITE.

17. STRUCTURAL STEEL, SCREWS, BOLTS, ANCHOR RODS, NUTS, AND WASHERS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 UNLESS OTHERWISE NOTED. TIMBER SCREWS SHALL BE 316 STAINLESS STEEL.

18. GALVANIZED PARTS SHALL BE HANDLED IN A MANNER THAT DOES NOT DAMAGE THE COATING.

19. DAMAGE TO HOT-DIPPED GALVANIZED COATINGS SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A780 "STANDARD PRACTICE FOR REPAIR OF DAMAGED AND UNCOATED AREAS OF HOT-DIP GALVANIZED COATINGS."

20. FIELD TOUCH-UP SHALL BE PERFORMED USING ZRC GALVILITE GALVANIZING REPAIR COMPOUND OR EQUIVALENT ACCEPTED BY THE ENGINEER. SURFACE PREPARATION AND COATING APPLICATION SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.

TIMBER CONSTRUCTION:

1. THE WORK COVERED UNDER THIS SECTION INCLUDES, BUT IS NOT NECESSARILY LIMITED TO POSTS, DECKING, STRINGERS, PILE CAPS, AND BLOCKING.
2. ALL VISUALLY GRADED STRUCTURAL LUMBER AND WOOD CONSTRUCTION SHALL CONFORM TO THE "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" (ANSI/NFPA NDS - LATEST EDITION), ITS SUPPLEMENT, AND COMMENTARY BY THE AMERICAN FOREST & PAPER ASSOCIATION /AMERICAN WOOD COUNCIL.
3. TIMBER SHALL MEET THE REQUIREMENTS OF THE SOUTHERN PINE INSPECTION BUREAU INSPECTION RULES, LATEST EDITION FOR SOUTHERN YELLOW PINE NO. 1 GRADE MINIMUM.
4. NO LATER THAN THE TIME OF DELIVERY OF MATERIALS TO THE SITE, CONTRACTOR SHALL SUBMIT CERTIFICATES AS TO CONFORMANCE WITH THE SPECIFIED SPECIES, GRADE, AND TREATMENT PRIOR TO INSTALLATION OF ANY VISUALLY GRADED STRUCTURAL LUMBER.
5. TIMBER SHALL BE HANDLED CAREFULLY, WITHOUT SUDDEN DROPPING, BREAKING OF OUTER FIBERS, BRUISING OR PENETRATING THE SURFACE WITH TOOLS.
6. ALL TIMBER SHALL BE CUT AND FRAMED TO A CLOSE FIT IN SUCH A MANNER THAT THE JOINTS SHALL HAVE FULL CONTACT BETWEEN PILES OR MEMBERS. NO SHIMMING WILL BE PERMITTED IN MAKING JOINTS NOR WILL OPEN JOINTS BE ACCEPTED.
7. STRINGERS, BLOCKING, PILE CAPS, AND BRACING SHALL BE PRESSURE TREATED IN ACCORDANCE WITH THE AMERICAN WOOD PRESERVERS ASSOCIATION (AWPA) CATEGORY UGSA WITH A CCA PRESERVATIVE TO A RETENTION OF THE AMOUNT INDICATED IN THE FOLLOWING TABLE:

MEMBER	CCA RETENTION (LBS/FT ³)
STRINGERS	1.5
BLOCKING	1.5
PILE CAPS	1.5
BRACING	1.5

8. ALL CUT ENDS SHALL BE COATED WITH TENIKO COPPER NAPHTHATE SOLUTION MANUFACTURED BY COPPER CARE WPPD PRESERVATIVES, INC. OR APPROVED EQUAL, WITH NO LESS THAN 2% COPPER METAL CONTENT. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW PRIOR TO USE.
9. ALL MATERIAL SHALL BE SOUND, WELL SEASONED, AND STRAIGHT GRAINED, FREE FROM SHAKES AND LARGE OR LOOSE KNOTS, AND SHALL HAVE NO DECAYED WOOD, WORM HOLES, OR ANY OTHER DEFECTS WHICH THE OWNER DETERMINES WILL IMPAIR ITS STRENGTH OR DURABILITY.
10. PIECES OF EXCEPTIONALLY LIGHT WEIGHT WILL NOT BE ACCEPTED.
11. ALL MATERIAL SHALL BE STORED OFF OF THE GROUND IN MANNER TO PREVENT DAMAGE AND TO PERMIT EASY INSPECTION.

12. TIMBER SHALL BE SURFACED FOUR SIDES (S4S) UNLESS OTHERWISE NOTED.

DECKING:

1. TIMBER USED FOR DECKING SHALL MEET THE REQUIREMENTS OF THE "SOUTHERN YELLOW PINE INSPECTION BUREAU INSPECTION RULES," LATEST EDITION, FOR SOUTHERN YELLOW PINE NO. 1 GRADE, SAWN FOUR SIDED (S4S).
2. DECKING SHALL BE PRESSURE TREATED WITH MICRONIZED COPPER AZOLE (MCA) TO A MINIMUM FINAL RETENTION OF 0.7 PCF.
3. DECKING SHALL BE 3X6 (NOM) SOUTHERN YELLOW PINE FASTENED TO EACH STRINGER 3/4" FROM EACH EDGE USING 12 GAUGE 4" LONG GALVANIZED FLAT HEAD SCREWS.
4. SCREW HOLES SHALL BE PRE-DRILLED WITH A 3/4" LEAD HOLE. LEAD HOLE SHALL BE NO LONGER THAN THE SCREW EMBEDMENT.
5. LEAD HOLE SHALL BE COUNTER-SUNK TO ASSURE THAT SCREW HEAD IS FLUSH WITH THE FINISHED DECK SURFACE.
6. DECKING TO HAVE 1/8" GAP BETWEEN ADJACENT BOARDS
7. DECK WOOD SHALL BE STORED IN A CLEAN, DRY, WEATHER PROTECTED LOCATION PRIOR TO INSTALLATION. NO DENTED, STAINED, TWISTED, OR DAMAGED MATERIAL SHALL BE INCORPORATED INTO THE WORK.
8. TOP OF DECK BOARDS SHALL BE FLUSH WITH ADJACENT DECK BOARDS. MAXIMUM ACCEPTABLE DIFFERENCE BETWEEN ADJACENT DECK BOARDS IS 3/4". DEVIATION EXCEEDING THIS AMOUNT SHALL BE CORRECTED BY THE CONTRACTOR. MEANS OF CORRECTING DEVIATION SHALL BE SUBJECT TO THE OWNERS ACCEPTANCE.
9. DECK BOARDS SHALL HAVE 1/2" INCISION 1/2" FROM EDGE OF DECKING FOR DRIP EDGE.

GUARDRAIL:

1. TIMBER USED FOR GUARDRAILS SHALL MEET THE REQUIREMENTS OF THE "SOUTHERN YELLOW PINE INSPECTION BUREAU INSPECTION RULES," LATEST EDITION, FOR SOUTHERN YELLOW PINE NO. 1 GRADE, SURFACED FOUR SIDES (S4S). THE CONTRACTOR SHALL SUBMIT THE SOURCE AND SUPPLIER NAMES, AND MATERIAL SAMPLES TO THE ENGINEER FOR APPROVAL.
2. GUARDRAIL JOINTS SHALL BE KERF CUT, LOCATED AT POSTS & GLUED USING WELDWOOD PLASTIC RESIN GLUE OR APPROVED EQUAL BY THE ENGINEER.
3. COUNTERSUNK HOLES ON TOP OF THE TOP RAIL SHALL BE PLUGGED USING THE SAME MATERIAL AS THE TOP RAIL.
4. CONTRACTOR TO USE WEST SYSTEM 105/205 OR APPROVED EQUAL TO SECURE THE WOOD PLOGS.
5. ONCE PLACED AND CURED CONTRACTOR TO SAND THE TOP RAILS TO A SMOOTH, UNIFORM SURFACE TEXTURE TO MATCH TOP RAIL.

6. FOUR (4) SCREWS SHALL BE USED AT A TOP RAIL JOINT WHEN THE JOINT LANDS ON A POST, (2) PER EACH TOP RAIL.
7. GALVANIZING AND PAINTING OF GUARD POST ANCHORS SHALL BE DONE AND IN CONFORMANCE WITH ASTM D 6386 SPECIFICATIONS.
8. CABLE FOR GUARDRAIL, SHALL BE 3/16 INCH DIAMETER STAINLESS STEEL WIRE ROPE. SPACING OF WIRE ROPE SHALL BE NO MORE THAN 3 INCHES AND TENSIONED APPROPRIATELY TO LIMIT SPREAD OF CABLES SUCH THAT A 4" SPHERE CANNOT PASS BETWEEN CABLES.
9. CABLE LENGTH SHALL NOT EXCEED FIFTY FEET. DECK TOGGLE TURNBUCKLES SHALL BE USED AT ONE END OF CABLE AND DECK TOGGLE CONNECTOR SHALL BE USED AT THE OPPOSITE END. END CONNECTIONS SHALL BE THRU-BOLTED AS PER THE DRAWINGS.
10. FOR CABLE LENGTHS EXCEEDING FIFTY FEET, ONE ADDITIONAL TURNBUCKLE SHALL BE PROVIDED FOR EACH ADDITIONAL FIFTY-FOOT LENGTH OR PORTION THEREOF.

11. CABLE CONNECTION HARDWARE SHALL BE STAINLESS STEEL AND SHALL BE AS MANUFACTURED BY JOHNSON ARCHITECTURAL HARDWARE, INC., EAST HADDAM, CT OR AN EQUIVALENT ACCEPTED BY THE ENGINEER. SAMPLES OR PRODUCT LITURATURE SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.

GUARDRAIL (IPE ALTERNATIVE):

1. TIMBER USED FOR GUARDRAILS SHALL BE PLANTATION GROWN IPE WOOD. THE CONTRACTOR SHALL SUBMIT THE SOURCE AND SUPPLIER NAMES, AND MATERIAL SAMPLES TO THE ENGINEER FOR APPROVAL.
2. GUARDRAIL JOINTS SHALL BE KERF CUT, LOCATED AT POSTS & GLUED USING WELDWOOD PLASTIC RESIN GLUE OR APPROVED EQUAL BY THE ENGINEER.
3. COUNTERSUNK HOLES ON TOP OF THE TOP RAIL SHALL BE PLUGGED USING THE SAME MATERIAL AS THE TOP RAIL.
4. CONTRACTOR TO USE WEST SYSTEM 105/205 OR APPROVED EQUAL TO SECURE THE WOOD PLOGS.
5. ONCE PLACED AND CURED CONTRACTOR TO SAND THE TOP RAILS TO A SMOOTH, UNIFORM SURFACE TEXTURE TO MATCH TOP RAIL.
6. FOUR (4) SCREWS SHALL BE USED AT A TOP RAIL JOINT WHEN THE JOINT LANDS ON A POST, (2) PER EACH TOP RAIL.
7. GALVANIZING AND PAINTING OF GUARD POST ANCHORS SHALL BE DONE AND IN CONFORMANCE WITH ASTM D 6386 SPECIFICATIONS.

COATING:

1. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL ITEMS SCHEDULED TO RECEIVE PROTECTIVE COATING SHALL BE FULLY FABRICATED WITH HOLES, CUTS, THREADS, ETC. PRIOR TO PRIOR TO GALVANIZING, PRIOR TO DELIVERY TO SITE.
2. HOT ROLLED SECTIONS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123. BOLTS, NUTS, WASHERS, AND OTHER HARDWARE SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153.
3. NO FIELD WELDING, GRINDING, DRILLING OR OTHER MECHANICAL PROCESS THAT CAN DAMAGE THE GALVANIZED COATING IS ALLOWED UNLESS SPECIFICALLY NOTED. FIT UP OF STEEL PARTS SHALL BE DONE IN ADVANCE OF DELIVERY TO ASSURE PROPER FIT UP.
4. GALVANIZED PARTS SHALL BE HANDLED IN A MANNER THAT DOES NOT DAMAGE THE COATING.
5. DAMAGE TO HOT-DIPPED GALVANIZED COATINGS SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A780 "STANDARD PRACTICE FOR REPAIR OF DAMAGED AND UNCOATED AREAS OF HOT-DIP GALVANIZED COATINGS."
6. FIELD TOUCH-UP SHALL BE PERFORMED USING ZRC GALVILITE GALVANIZING REPAIR COMPOUND OR EQUIVALENT ACCEPTED BY THE ENGINEER. SURFACE PREPARATION AND COATING APPLICATION SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.

GEOTEXTILE:

1. THE GEOTEXTILE FABRIC SHALL BE MANUFACTURED WITH FIBERS CONSISTING OF LONG-CHAIN SYNTHETIC POLYMERS COMPOSED OF AT LEAST 95 PERCENT BY WEIGHT OF POLYOLEFINS OR POLYESTERS. THEY SHALL FORM A STABLE NETWORK SUCH THAT THE FILAMENTS OR YARNS RETAIN THEIR DIMENSIONAL STABILITY RELATIVE TO EACH OTHER, INCLUDING SELVAGES.
2. WOVEN SLIT FILM GEOTEXTILE (I.E. GEOTEXTILE MADE FROM YARNS OF A FLAT, TAPE-LIKE CHARACTER) SHALL NOT BE ALLOWED.
3. GEOTEXTILE SHALL MEET OR EXCEED THE FOLLOWING:

TENSILE STRENGTH	ASTM D-4632	375X375 LBS
ELONGATIO AT BREAK	ASTM D-4632	15X6%
GR PUNCTURE	ASTM D-6241	1,200 LBS
TRAPEZOIDAL TEAR	ASTM D-4533	120X120 LBS
WATER FLOW RATE	ASTM D-4491	15 GMIN/FS

PROJECT NOTES

BACKFILL (CONTINUED):

20. SOIL MATERIAL THAT HAS BEEN REMOVED BECAUSE IT IS TOO WET TO PERMIT COMPACTING MAY BE STOCKPILED OR SPREAD AND ALLOWED TO DRY. ASSIST DRYING BY DICING, HARROWING, OR PULVERIZING UNTIL MOISTURE CONTENT IS REDUCED TO A SATISFACTORY VALUE AS DETERMINED BY MOISTURE DENSITY RELATION TESTS REVIEWED BY THE ENGINEER.
21. EACH LIFT SHALL BE COMPACTED BY A MECHANICAL RAMMER OR VIBRATORY PLATE. CONTRACTOR SHALL SUBMIT COMPACTATION EQUIPMENT TO ENGINEER AND OWNER FOR APPROVAL. ENGINEER MAY REDUCE LIFT THICKNESS BASED ON PROPOSED COMPACTATION EQUIPMENT. CONTRACTOR SHALL PROVIDE A SUFFICIENT NUMBER OF PASSES TO DEMONSTRATE THAT THE CRUSHED STONE IS NOT SETTLING UNDER CONTINUED COMPACTATION EFFORT, AND IN NO CASE LESS THAN 4 PASSES.
22. CONTRACTOR SHALL PROTECT FROM DISTURBING OR DAMAGING WETLAND AREAS ADJACENT TO THE WORK SITE.
23. DISTURBED OR DAMAGED AREAS CAUSED BY THE CONTRACTOR SHALL BE RESTORED TO ITS ORIGINAL OR BETTER CONDITION.

EROSION & SEDIMENTATION CONTROLS:

1. CONTRACTOR SHALL PROTECT FROM DISTURBING OR DAMAGE WETLAND AREAS ADJACENT TO WORK AREA.
2. LAND DISTURBANCE SHALL BE KEPT TO A MINIMUM.
3. WHENEVER POSSIBLE, EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION.
4. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL", MAY 2002, ERRATA SEPTEMBER 2007.
5. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
6. ADDITIONAL CONTROL MEASURES SHALL BE INSTALLED DURING THE CONSTRUCTION PERIOD AS NECESSARY AND REQUIRED.
7. THE GENERAL CONTRACTOR SHALL UTILIZE APPROVED METHODS/MATERIALS FOR PREVENTING THE BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES ONTO ADJACENT PROPERTIES AND SITE AREAS.
8. THE GENERAL CONTRACTOR SHALL MAINTAIN A SUPPLY OF SILT FENCE (100' MIN.) ON SITE FOR EMERGENCY PURPOSES.
9. ALL DISTURBED LAWN AREAS OUT OF THE MAJOR CONSTRUCTION AREA THAT ARE TO BE LEFT EXPOSED FOR MORE THAN 30 DAYS SHALL BE PROTECTED WITH A TEMPORARY VEGETATIVE COVER. SEED THESE AREAS WITH PERENNIAL RYE GRASS AT THE RATE OF 40 LBS. PER ACRE (1 LB PER 1,000 SQ. FT.).
10. THE GENERAL CONTRACTOR IS ASSIGNED THE RESPONSIBILITY FOR IMPLEMENTING THIS EROSION AND SEDIMENT CONTROL PLAN. THE RESPONSIBILITY INCLUDES SUPERVISING THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN, NOTIFYING THE CONSERVATION STAFF PERSON OF ANY TRANSFER OF THIS RESPONSIBILITY AND CONVEYING A COPY OF THE CONTROL PLAN IF THE TITLE TO THE LAND IS TRANSFERRED.

TIMBER PILES:

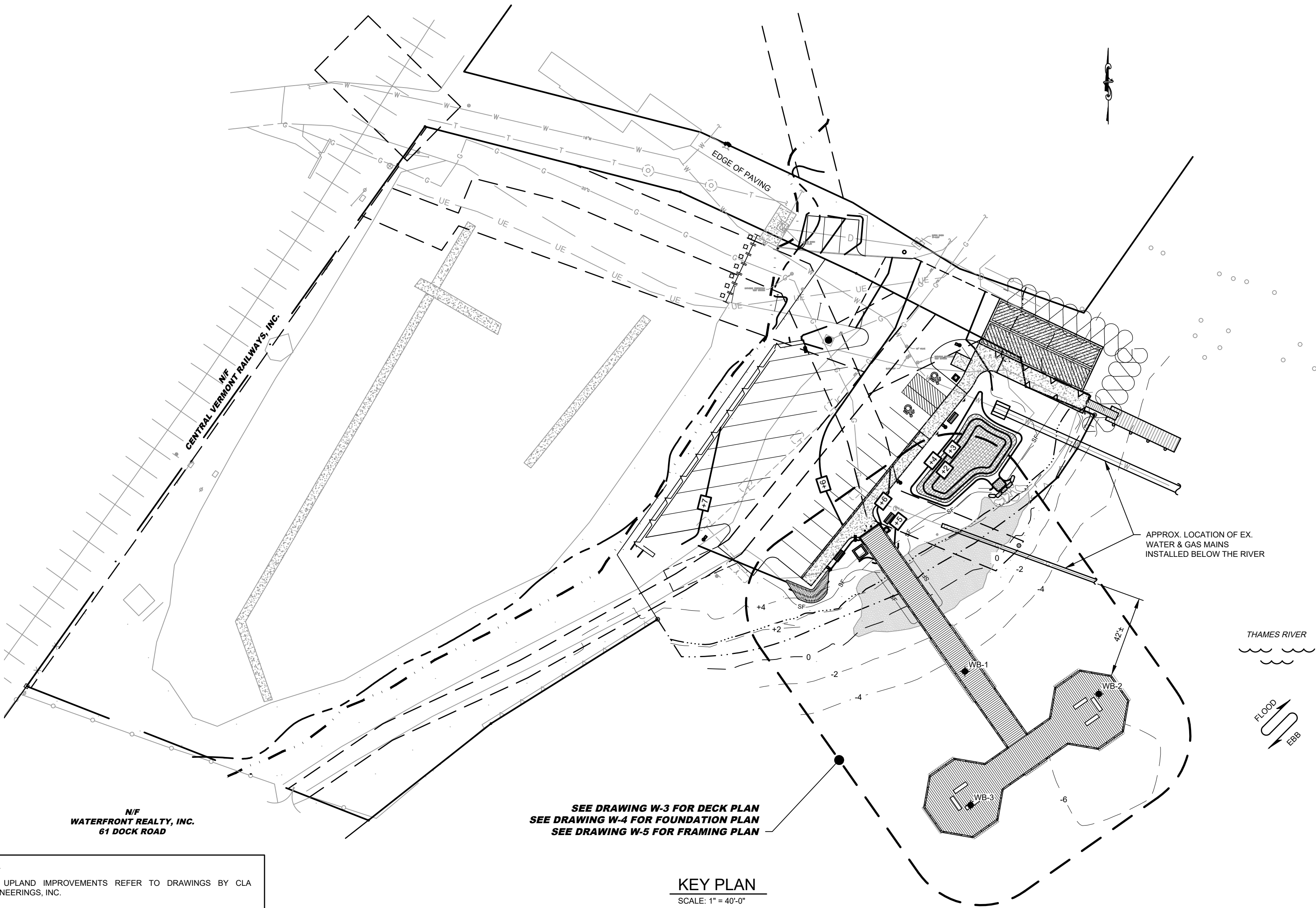
1. ALL TIMBER PILES SHALL CONFORM TO ASTM D25 WITH THE FOLLOWING MINIMUM DIMENSIONS:
- BUTT DIAMETER =12" AND CIRCUMFERENCE = 38"
TIP DIAMETER = 8" AND CIRCUMFERENCE = 25"
2. ALL TIMBER PILES SHALL BE SOUTHERN YELLOW PINE AND TREATED WITH CCA TO A FINAL NET RETENTION OF NOT LESS THAN 1.5 PCF.
3. CUT ENDS SHALL BE COATED WITH A COPPER NAPHTHATE SOLUTION, WITH NO LESS THAN 2% COPPER METAL CONTENT, TO BE APPROVED BY THE ENGINEER PRIOR TO USE.

PILE INSTALLATION:

1. DRIVEN TIMBER PILES SHALL HAVE A "SERVICE LOAD" AS NOTED BELOW, AN IMPACT HAMMER WITH A KNOWN RATING WILL BE REQUIRED TO VERIFY THE CAPACITY. IMPACT HAMMER SPECIFICATIONS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO PILE INSTALLATION. PILES SHALL ALSO BE DRIVEN TO THE FOLLOWING CAPACITY OR MINIMUM EMBEDMENT AS PROVIDED IN NOTE 2 BELOW WHICHEVER IS DEEPER.

- SERVICE LOAD - 10 TONS
- ULTIMATE LOAD - 20 TONS

2. PILES SHALL BE DRIVEN TO A MINIMUM EMBEDMENT BELOW FINISHED GRADE AS NOTED BELOW. EMBEDMENT AND METHODS FOR INSTALLING PILES SHALL BE SUCH THAT PILES ARE INSTALLED IN THEIR PROPER POSITION AND ALIGNMENT.
- TIMBER PILE EMBEDMENT - 20 FT MINIMUM
3. CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IF THE ABOVE CRITERIA IS NOT ABLE TO BE MET DUE TO FIELD CONDITIONS.
4. PILES SHALL BE DRIVEN WITHIN 3 INCHES OF THE POSITIONS INDICATED ON THE DRAWINGS. PILES SHALL BE DRIVEN STRAIGHT AND TRUE WITH DEVIATION FROM LONGITUDINAL AXIS OF NOT MORE THAN 2%.
5. PILES SHALL BE INSTALLED WITH CONSIDERATION FOR STABILITY OF ADJACENT STRUCTURES. PILE DRIVING TECHNIQUE SHALL LEAVE THE STRENGTH OF THE PILES UNIMPAIRED AND IN A STATE WHERE LOAD BEARING RESISTANCE FULLY DEVELOPS AND IS RETAINED. IF CONDITIONS AT THE SITE ARE SUCH THAT THE TIP, THE BODY, OR THE BUTT OF THE PILE IS LIKELY TO SUFFER DAMAGE DURING INSTALLATION, SPECIAL PRECAUTIONS SUCH AS PRE-DRILLING OR SPUDDING MUST BE TAKEN BY THE CONTRACTOR TO AVOID SUCH DAMAGE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE PLACEMENT OF UNDAMAGED PILES TO THE LOADING CAPACITY, REQUIRED TIP ELEVATION, AND EMBEDMENT IN SOUND MATERIAL.
6. ALL PILES SHOWING SIGNS OF HEAVING OR LIFTING OR PILES INSTALLED IN THE WRONG LOCATION SHALL BE EXTRACTED AND REINSTALLED TO THE EMBEDMENT DEPTH AND LOCATION AS SPECIFIED, AT NO ADDITIONAL COST TO THE OWNER.
7. THE PILE DRIVING HAMMER SHALL BE OF SUITABLE SIZE FOR THE PROPER INSTALLATION OF THE PILE AND SHALL BE CAPABLE, IN ANY CASE, OF DELIVERING AN ENERGY PER BLOW AS REQUIRED BY APPROPRIATE DRIVING RESISTANCE METHODS.
8. SUITABLE ANVILS OR CUSHIONS SHALL BE USED TO PREVENT DAMAGE TO THE PILES, AS REQUIRED. ANVIL OR CUSHION TYPES SHALL BE CHOSEN BASED UPON THE PILE SIZE AND MATERIAL TYPE. THE CUSHIONS TO BE USED SHALL PROVIDE SUFFICIENT PROTECTION TO PREVENT DAMAGE TO THE PILE, BUT SHALL NOT ABSORB A SIGNIFICANT AMOUNT OF ENERGY FROM THE HAMMER BLOW. IF NECESSARY, STEEL BANDS OR CAPS SHALL BE USED WHILE DRIVING TO PREVENT PILE DAMAGE.
9. THE BUTT ENDS OF THE PILES SHALL BE CUT SQUARE WITH THE AXIS AND THE EDGES CHAMFERED.
10. PILES WHICH ARE DAMAGED DURING DRIVING SHALL BE REMOVED AND DISPOSED OFF-SITE AND REPLACED WITH NEW PILES. NO ADDITIONAL PAYMENT WILL BE MADE BY THE OWNER FOR REPLACEMENT PILES OR INSTALLATION.
11. PILES SHALL BE DRIVEN TO A STRATUM OF SATISFACTORY MATERIAL AND SHALL BE ACCURATE AS TO LOCATION AND ALIGNMENT. PILE DRIVING SHALL BE CONTINUOUS FOR EACH PILE UNTIL THE REQUIRED RESISTANCE TO DEVELOP THE CAPACITY OF THE PILE IS ACHIEVED OR UNTIL THE MINIMUM EMBEDMENT IS REACHED, WHICHEVER IS DEEPER.
12. THE CONTRACTOR SHALL KEEP AN ACCURATE RECORD OF EACH PILE DRIVEN. THE RECORDS SHALL INCLUDE THE DIAMETER, PILE LENGTH, DESIGN CAPACITY, PENETRATION DURING DRIVING, CUT-OFF LENGTHS, RESULTS OF ANY TESTS, DRILLING OR PROBING INFORMATION, IF ANY, AND ALL OTHER INFORMATION REGARDING EACH PILE DRIVEN. THESE RECORDS SHALL BE SUBMITTED TO THE ENGINEER ON A DAILY BASIS.



NOTES:

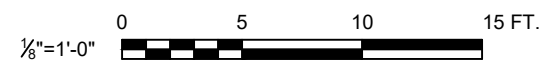
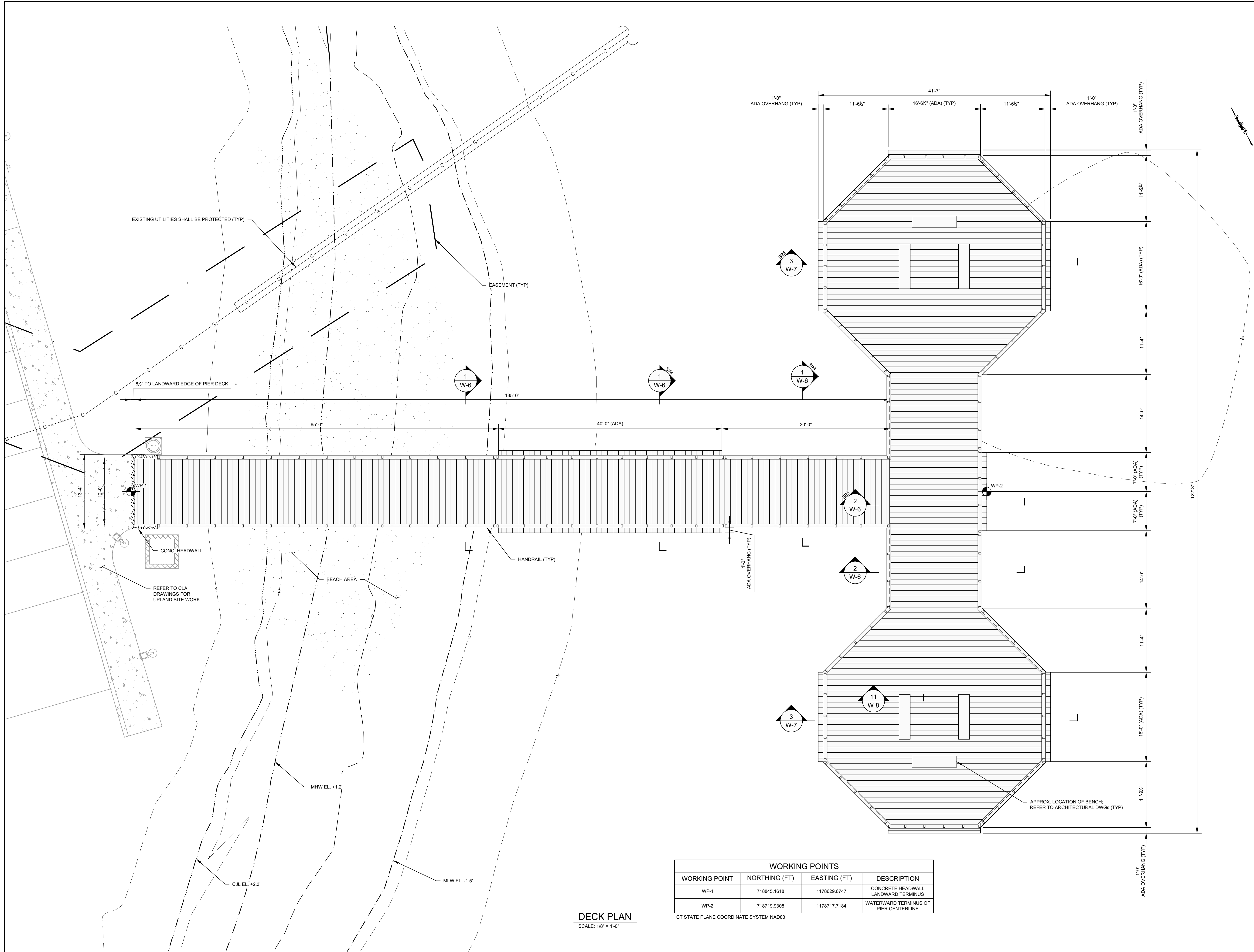
1. FOR UPLAND IMPROVEMENTS REFER TO DRAWINGS BY CLA ENGINEERINGS, INC.

KEY PLAN
SCALE: 1" = 40'-0"

WB-1														
SOIL TEST BORING LOG														
Drilling Contractor:			Project: Montville Fishing Pier			Boring #:			WB-1					
Hardman:			Client: Town of Montville			Page No:			1 of 1					
Drilling Foreman:			RACE Project No.: 2023130			Casing			Sampler					
Tom Hardman			Observed by: M Modica			Type:			Water Depth & Ground Readings					
Weather: Sunny 37"			Location: 55 Dock Rd			Size (ID):			Date					
Date Start: 1/10/2024			Hammer WL: 300			Date			Time					
Date End: 1/10/2024			Hammer Fall: 30			Date			Time					
Ground Elevation (ft): +6.7			Rig Type: CME 45C			Date			Time					
Datum: NAVD 88			Easting: 1178660.957			Date			Time					
Elevation (ft)			Blows/ft on Sampler			Strata			Field Identification of Soil					
Depth (ft)			0-4 6-12 12-18 18-24			ft. Depth								
-7.7 2			1 SS 24 0.5 9 3			MCA MCA MCA MCA								
-10.7 5			2 SS 24 1.7 5 7 3 8 7 10											
-15.7 10			3 SS 24 1.1 10 12 28 25 26 28											
-20.7 15			4 SS 24 0.4 10 17 10 10 10 9											
-25.7 20			5 SS 24 1.5 20 22 5 5 5 5											
Notes:			Water Depth: 7'			Lef: 41-68498								
			Time: 12:38			Lef: 41-68498								
			Lef: 41-68498			Lef: 41-68498								
			Lef: 41-68498			Lef: 41-68498								

WB-2														
SOIL TEST BORING LOG														
Drilling Contractor:			Project: Montville Fishing Pier			Boring #:			WB-2					
Hardman:			Client: Town of Montville			Page No:			1 of 1					
Drilling Foreman:			RACE Project No.: 2023130			Casing			Sampler					
Tom Hardman			Observed by: M Modica			Type:			Water Depth & Ground Readings					
Weather: Cloudy 37"			Location: 55 Dock Rd			Size (ID):			Date					
Date Start: 1/11/2024			Hammer WL: 300			Date			Time					
Date End: 1/11/2024			Hammer Fall: 30			Date			Time					
Ground Elevation (ft): +5.8			Rig Type: CME 45C			Date			Time					
Datum: NAVD 88			Easting: 1178750.403			Date			Time					
Elevation (ft)			Blows/ft on Sampler			Strata			Field Identification of Soil					
Depth (ft)			0-4 6-12 12-18 18-24			ft. Depth								
-7.6 2			1 SS 24 0.8 9 3			MCA MCA MCA MCA								
-10.6 5			2 SS 24 1.5 5 7			MCA MCA MCA MCA								
-15.6 10			3 SS 24 0.9 10 12 10 10 8 5											
-20.6 15			4 SS 24 1.2 15 17 3 3 4 5											
-25.6 20			5 SS 24 0.8 20 22 5 5 5 5											
-30.6 25			6 SS 24 1.3 25 27 4 5 6 6											
-35.6 30			7 SS 24 1.4 30 32 5 5 6 5											
-40.6 35			8 SS 24 1.4 35 37 6 6 4 4											
-45.6 40			9 SS 24 1.5 40 42 5 7 7 10											
-47.6 42														
Notes:			Water Depth: 14'			Lef: 41-68721								
			Time: 10:40			Lef: 41-68721								
			Lef: 41-68721			Lef: 41-68721								
			Lef: 41-68721			Lef: 41-68721								

SOIL TEST BORING LOG																			
Drilling Contractor: Hardman			Project: Montville Fishing Pier Client: Town of Montville			Boring #: WB-3 Page No. 1 of 1													
Drilling Foreman: Tom Hardman			RACE Project No.: 2023130 Observed by: M Modica																
Weather: Sunny 37"			Location: 55 Dock Rd																
Date Start: 1/12/2024			Hammer WL: 300																
Date End: 1/12/2024			Hammer Fall: 30																
Ground Elevation (ft): + 5.1			Rig Type: CME 45C																
Datum: NAVD 83			Hammer Type: Jubay Driver - Safety Drive																
Nothing: 718700.61																			
Easting: 1178660.95																			
			Row# on Sampler																
			Coring Depth (ft)																
			Strata																
			Field Identification of Soil																
			1. Depth																
			Gray Organic SILT																
			ORGANIC SILT																
			Gray/Black Organic SILT																
			-13.1 5																
			Brown coarse to fine SAND and medium to fine GRAVEL																
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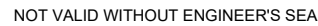



WORKING POINTS			
WORKING POINT	NORTHING (FT)	EASTING (FT)	DESCRIPTION
WP-1	718845.1618	1178629.6747	CONCRETE HEADWALL LANDWARD TERMINUS
WP-2	718719.9308	1178717.7184	WATERWARD TERMINUS OF PIER CENTERLINE

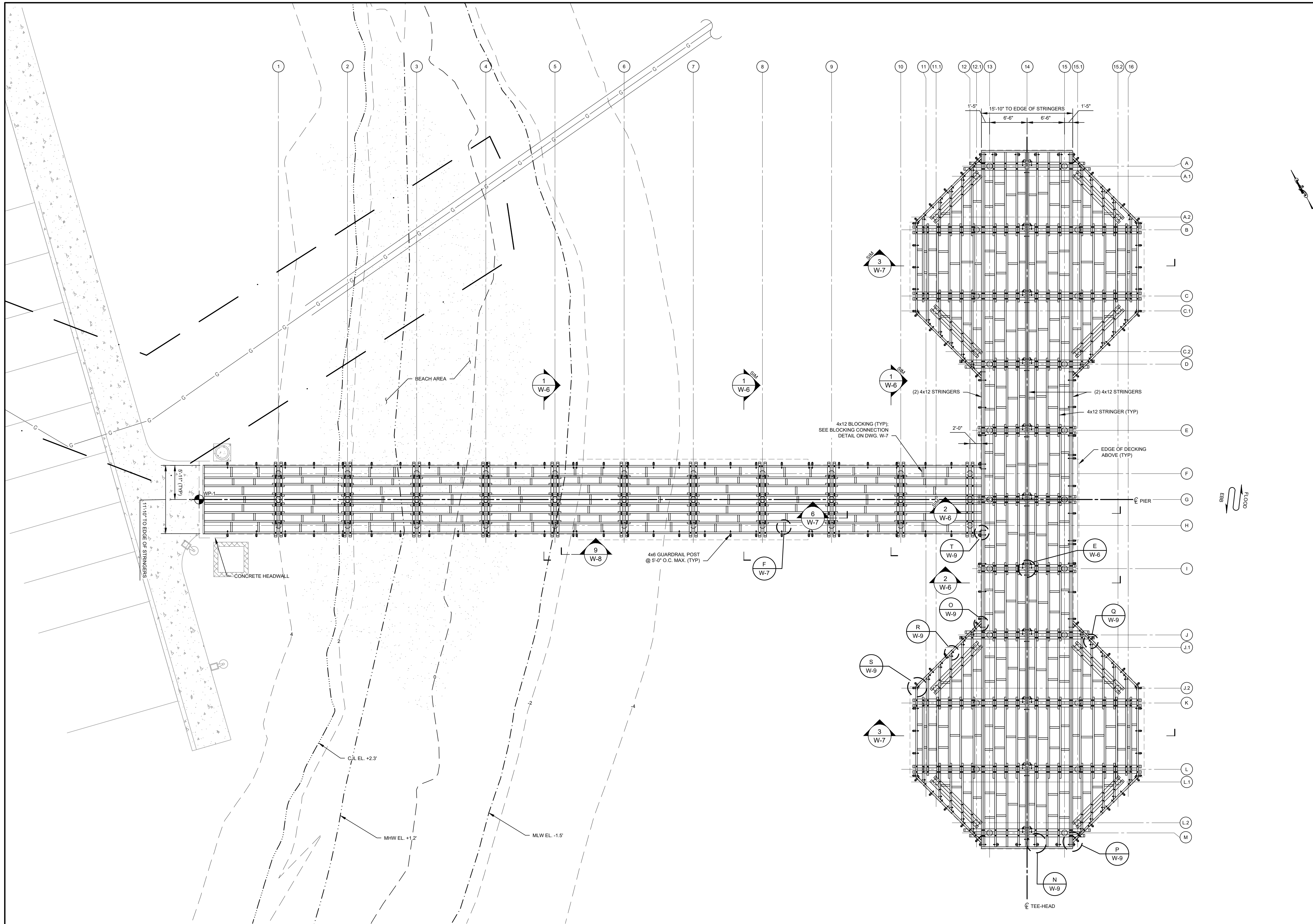
CT STATE PLANE COORDINATE SYSTEM NAD83

DECK PLAN
SCALE: 1/8" = 1'-0"

REV	DATE	DESCRIPTION			
ISSUED FOR BID NOT FOR CONSTRUCTION					
RACE COASTAL ENGINEERING		611 Access Road Stratford, CT 06615 Tel.: 203-377-0663 racecoastal.com			
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THIS DRAWING IS COPYRIGHTED					
Prepared for	TOWN OF MONTVILLE 310 NORWICH-NEW LONDON TPKE MONTVILLE, CT 06382				
Project	FISHING PIER 2 DOCK RD MONTVILLE, CT 06382				
Drawing	DECK PLAN				
Designed	MJHS	Drawn	MJHS	Checked	MRR
Job No.	2023130	Date	3/28/2024	Drawing No.	W-3 of W-9



REV	DATE	DESCRIPTION
<p align="center">ISSUED FOR BID NOT FOR CONSTRUCTION</p>		
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Project <p align="center">FISHING PIER 2 DOCK RD MONTVILLE, CT 06382</p>		
Drawing <p align="center">FOUNDATION PLAN</p>		
Designed	MJHS	Drawn MJHS Checked MRR
Job No.	2023130	Date 3/28/2024 Drawing No. W-4 of W-9



PIER FRAMING PLAN
SCALE: 1/8" = 1'-0"

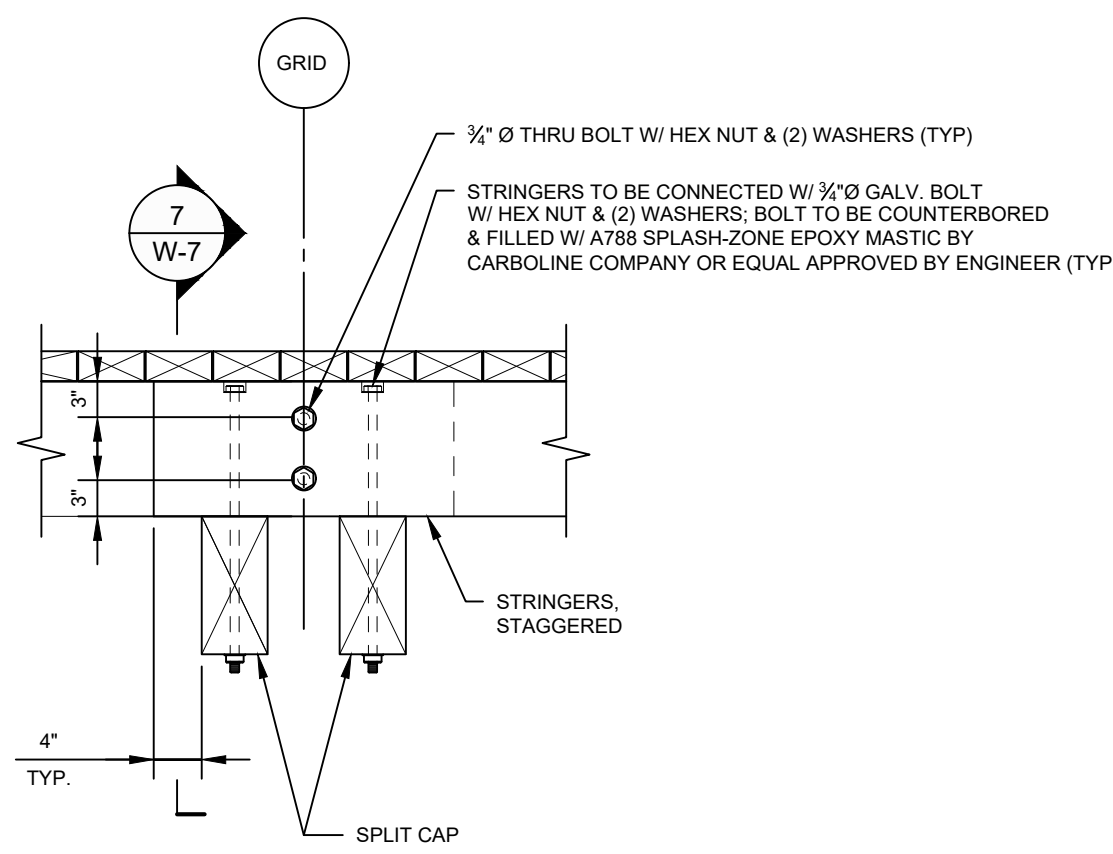
NOTES:

- PIER IS SYMMETRIC WITH RESPECT TO CENTERLINE.
- TEE-HEAD IS SYMMETRIC WITH RESPECT TO CENTERLINE.
- BLOCKING SHALL OCCUR BETWEEN ALL STRINGERS.

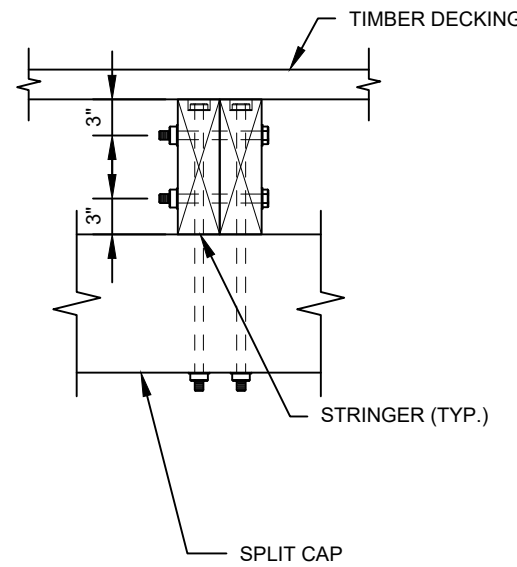
1/8" = 1'-0"

REV	DATE	DESCRIPTION
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RACE COASTAL ENGINEERING		
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Project FISHING PIER 2 DOCK RD MONTVILLE, CT 06382		
Drawing FRAMING PLAN		
Designed MJHS	Drawn MJHS	Checked MRR
Job No. 2023130	Date 3/28/2024	Drawing No. W-5 of W-9

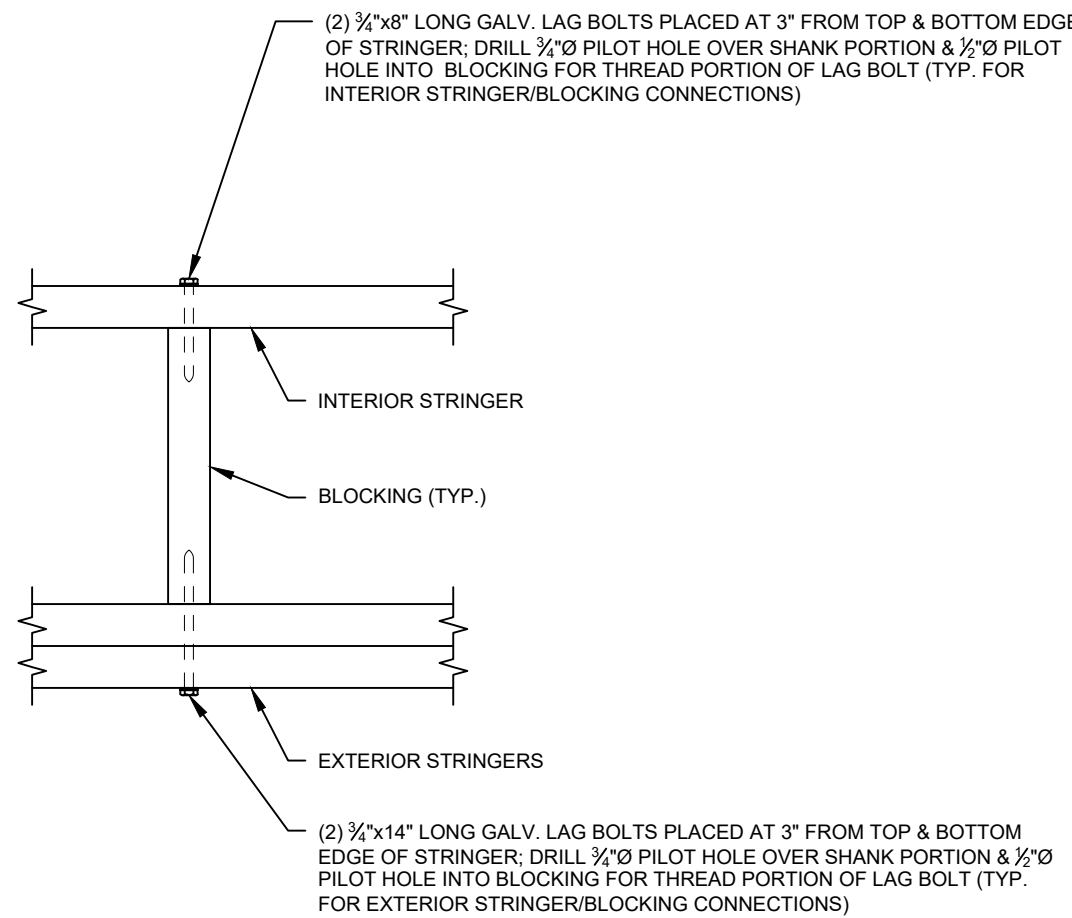
NOT VALID WITHOUT ENGINEER'S SEAL



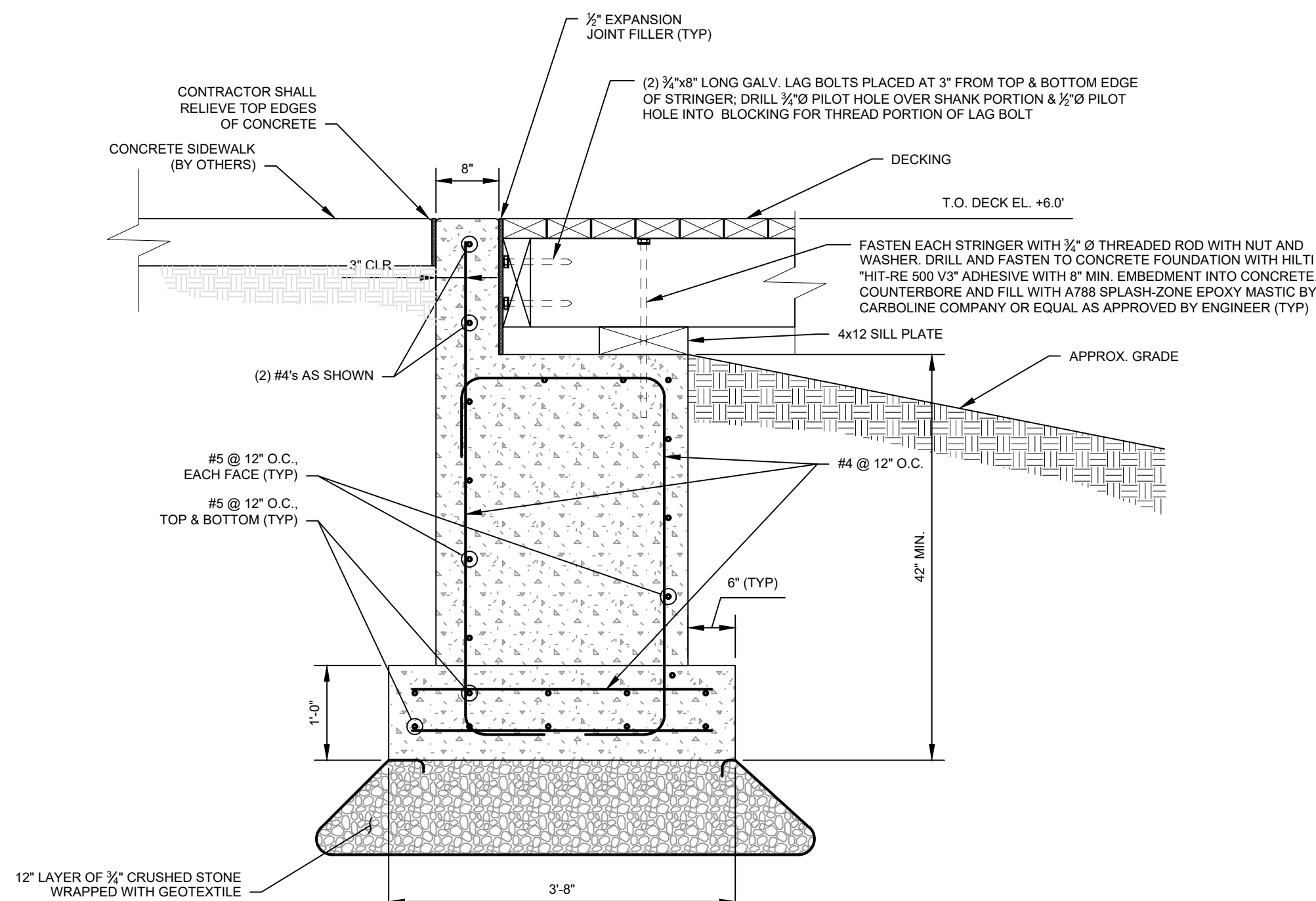
STRINGER CONNECTION DETAIL 6 W-5
SCALE: 3/4" = 1'-0"



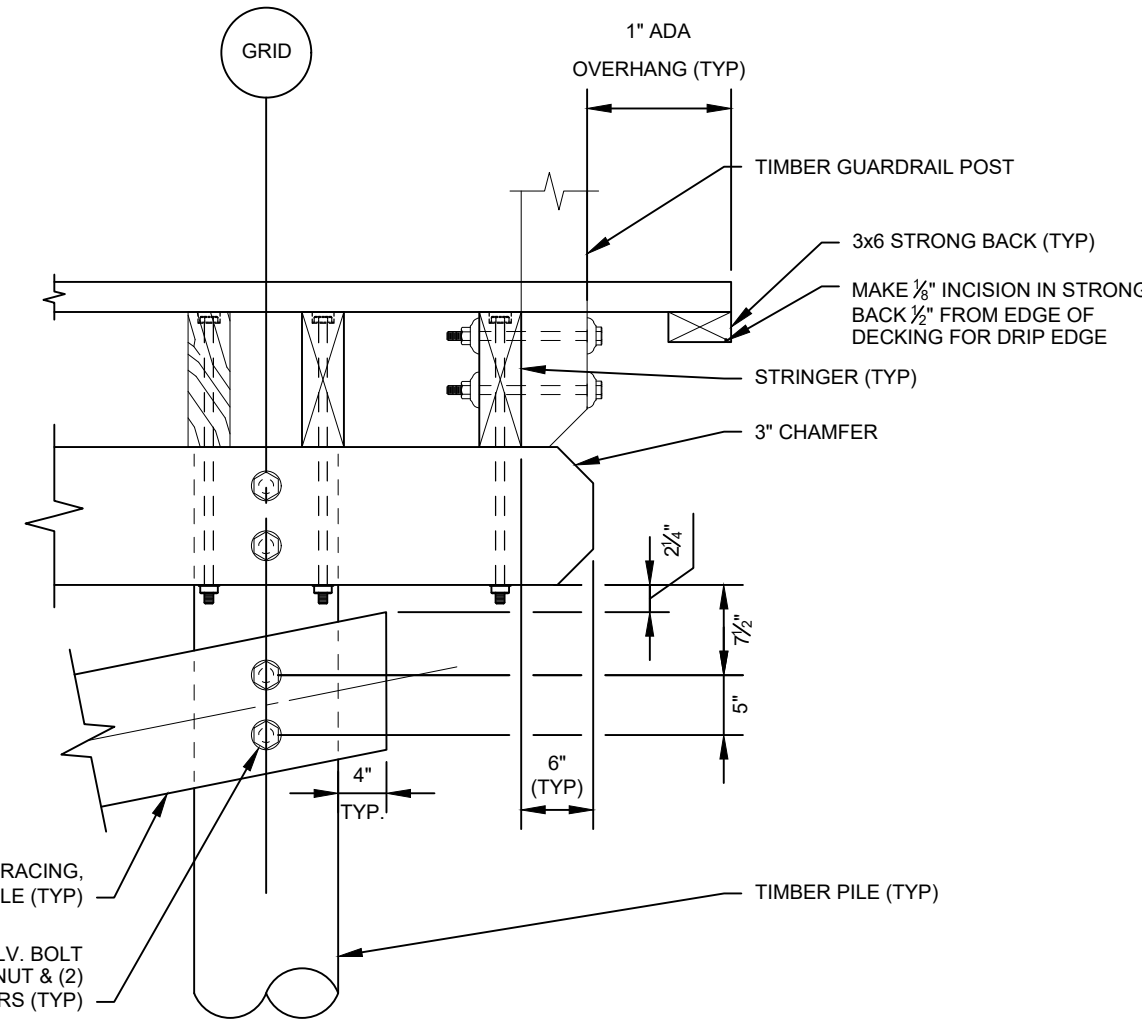
STRINGER CONNECTION DETAIL 7 W-7
SCALE: 3/4" = 1'-0"



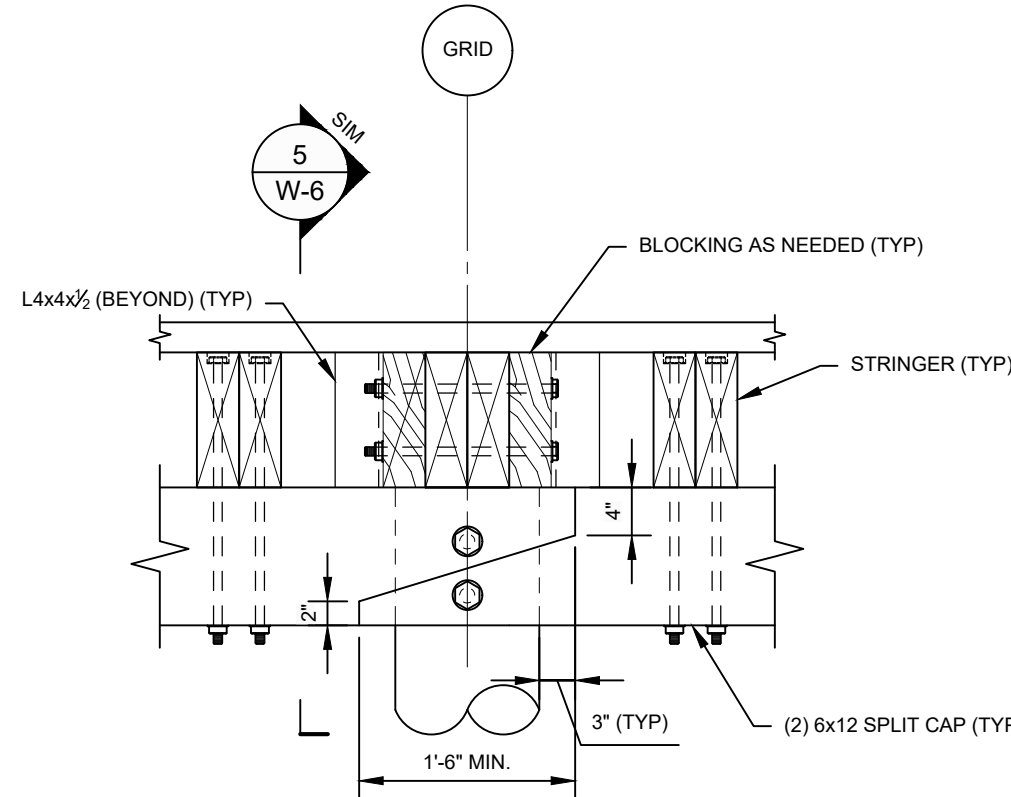
BLOCKING CONNECTION DETAIL F W-5
SCALE: 3/4" = 1'-0"



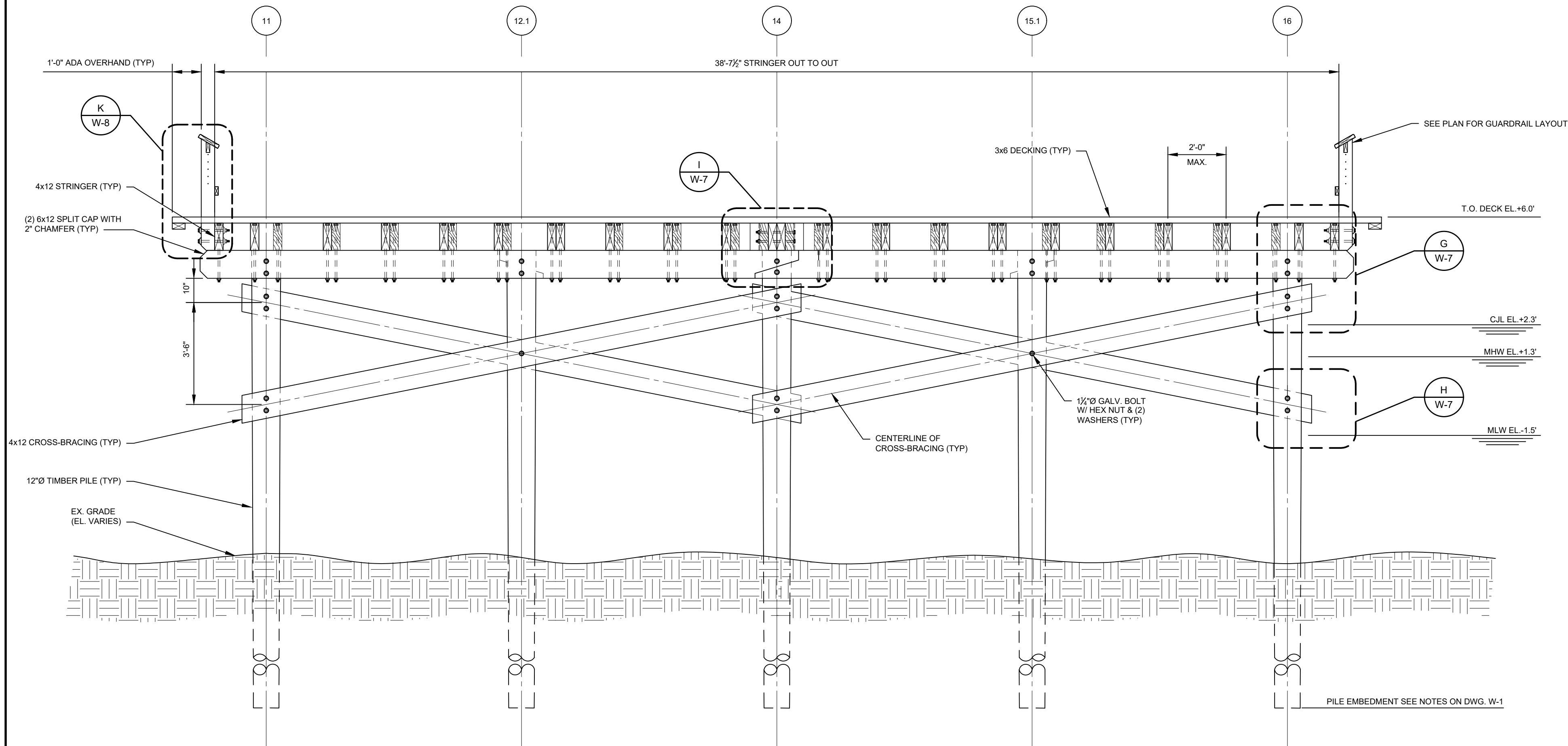
CONCRETE HEADWALL SECTION 8 W-4
SCALE: 3/4" = 1'-0"



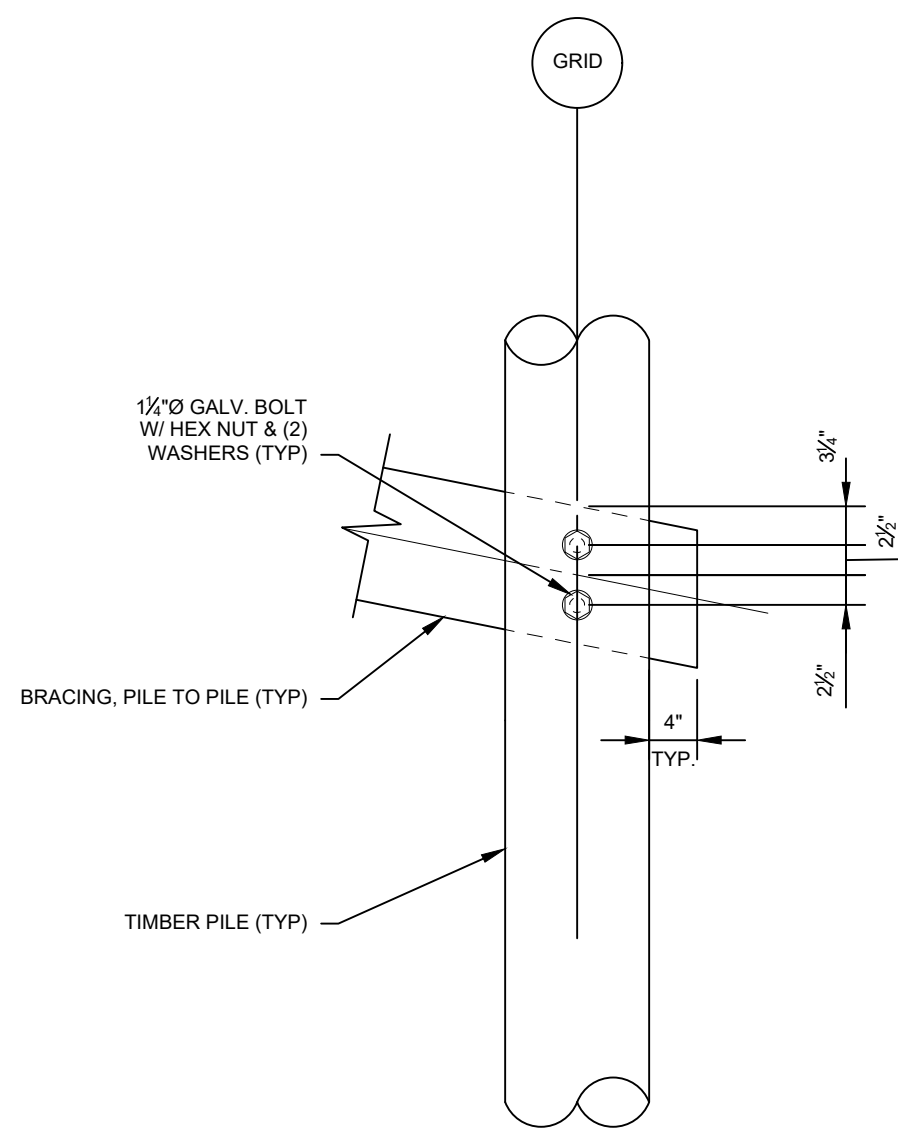
HEXAGON CROSS-BRACING UPPER CONNECTION G W-7
SCALE: 3/4" = 1'-0"



SPLIT CAP SPLICE DETAIL I W-7
SCALE: 3/4" = 1'-0"

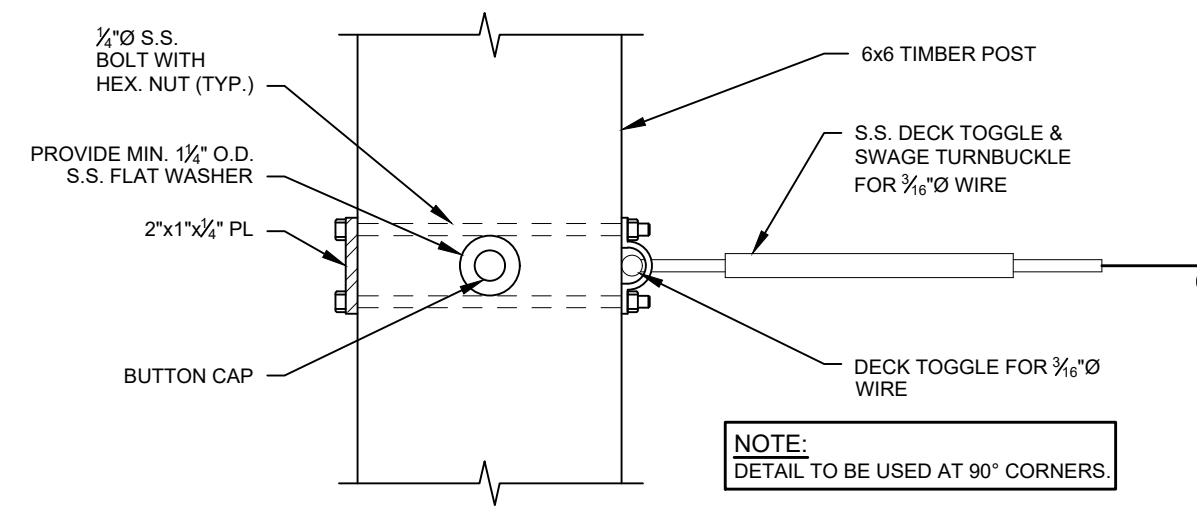
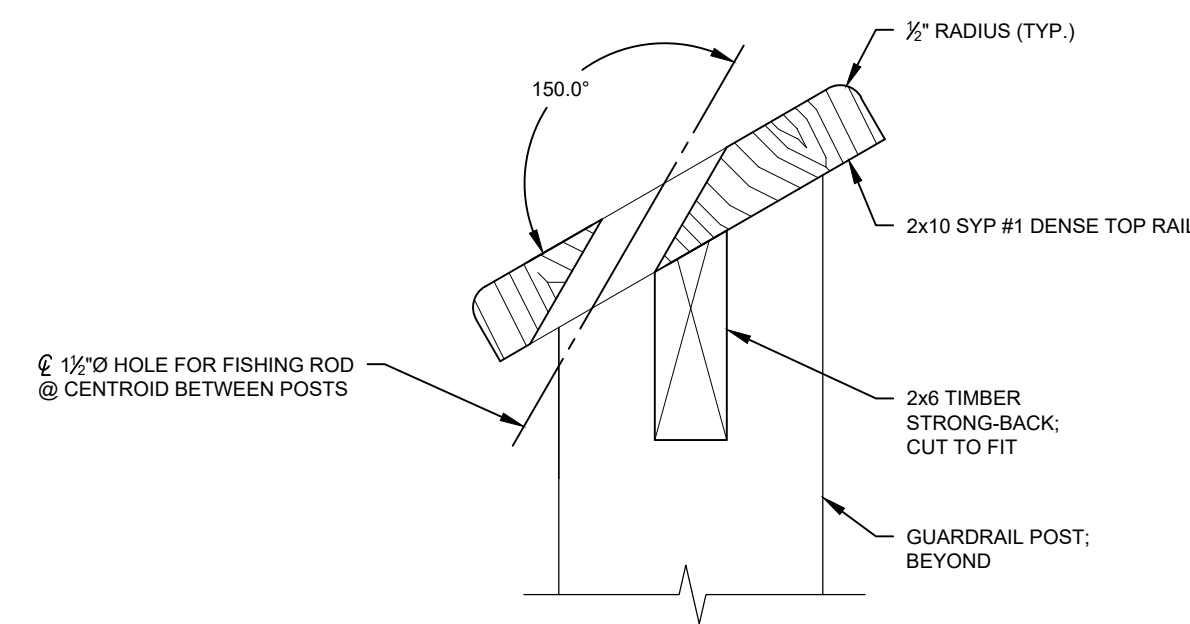
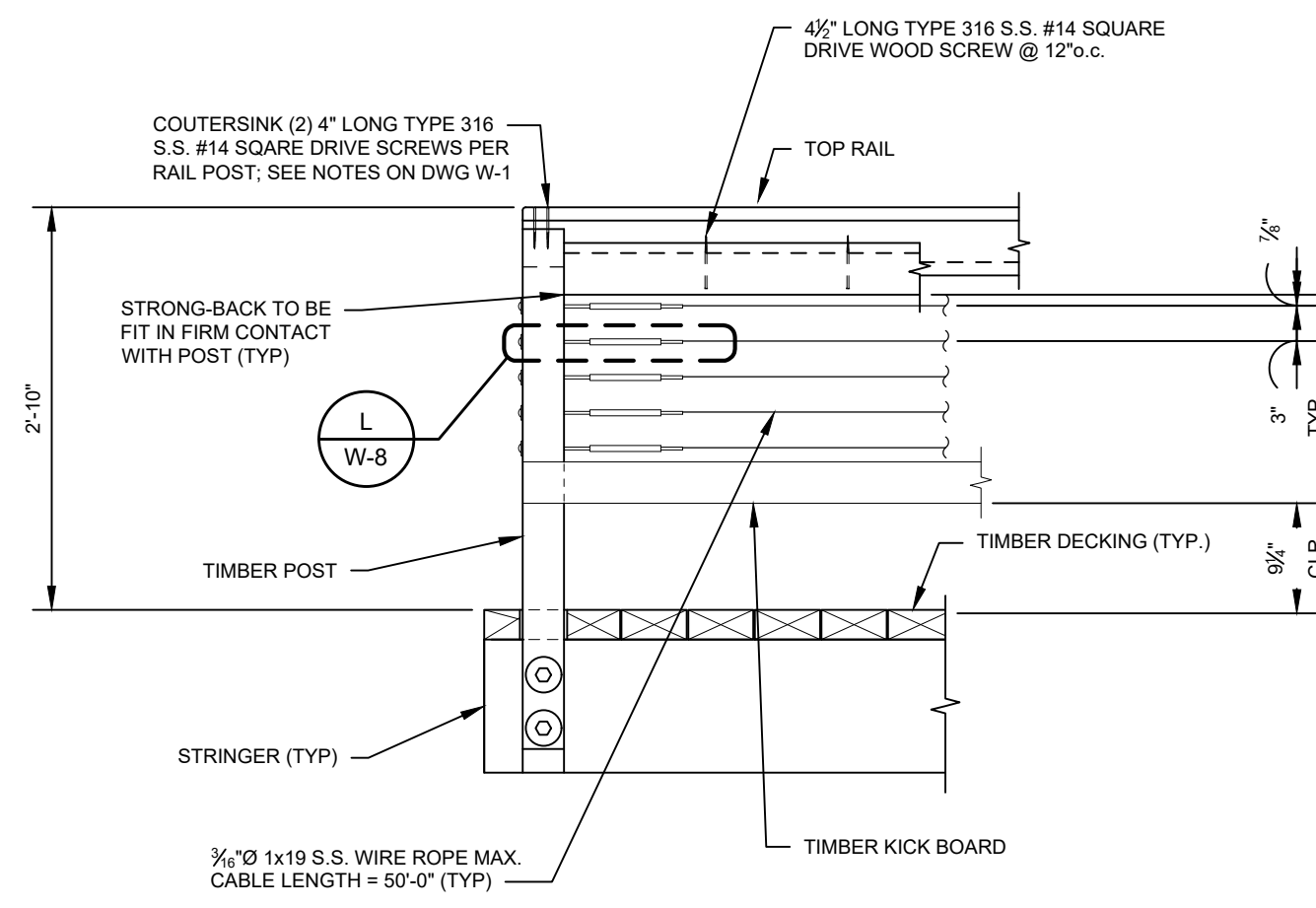
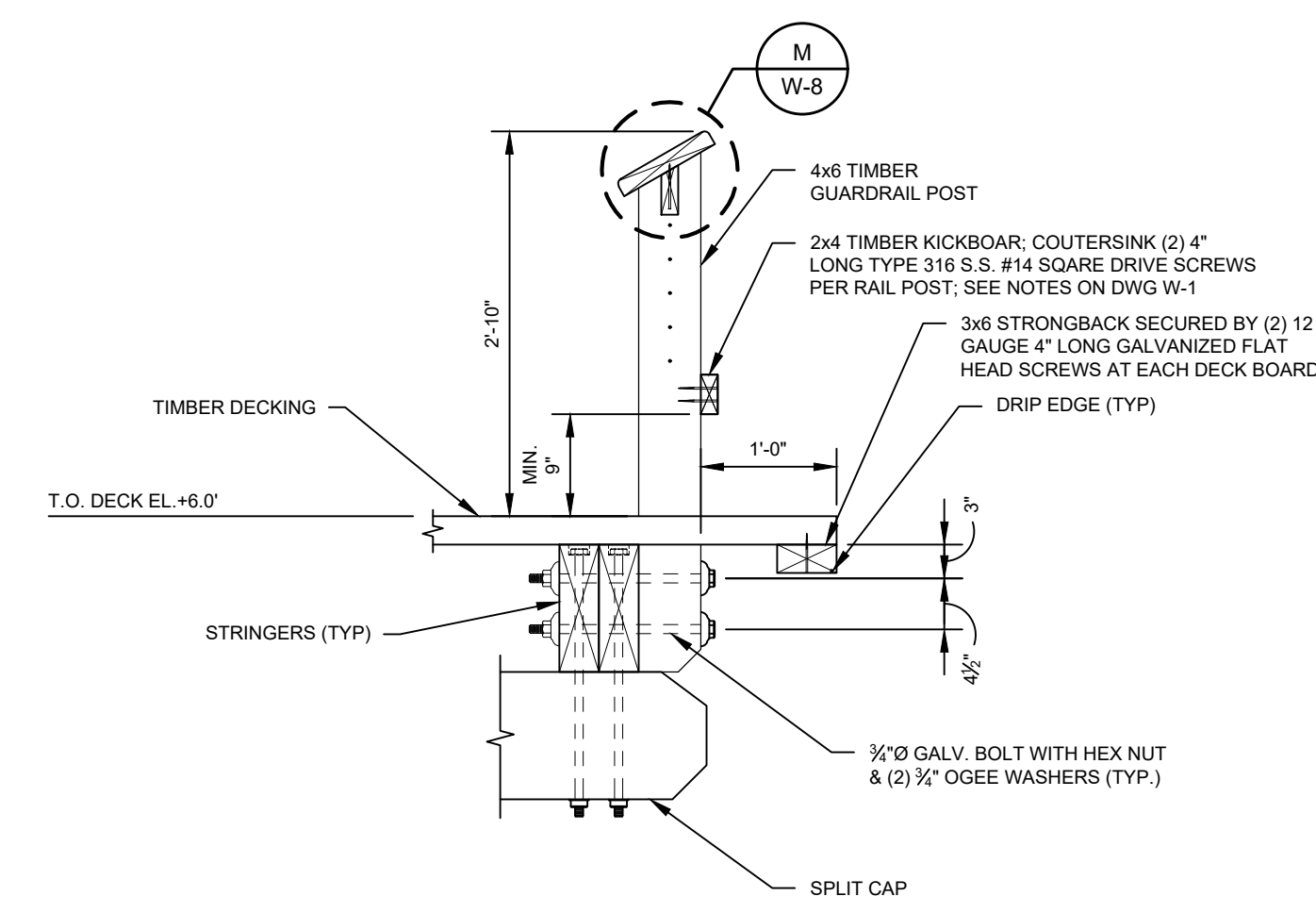
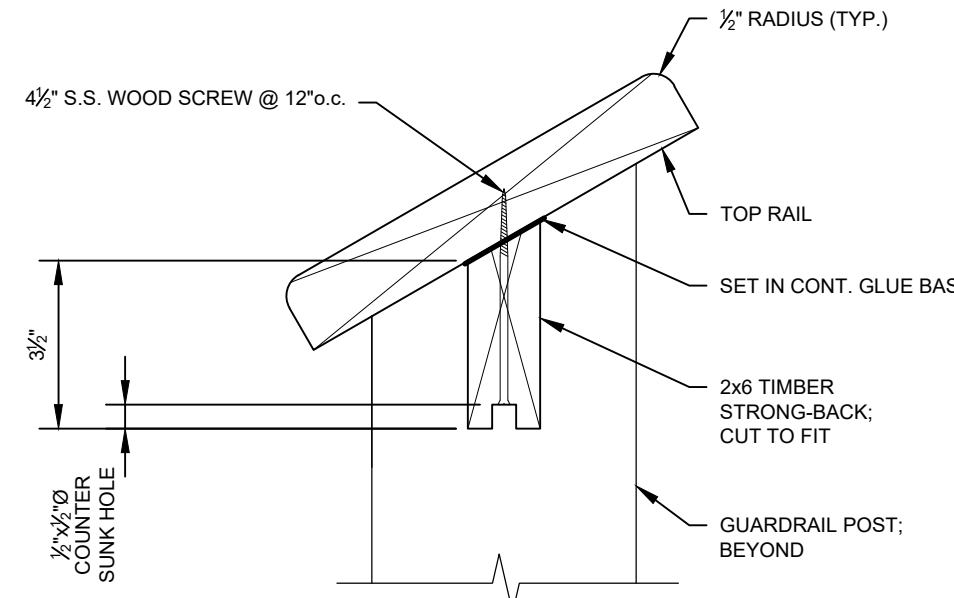
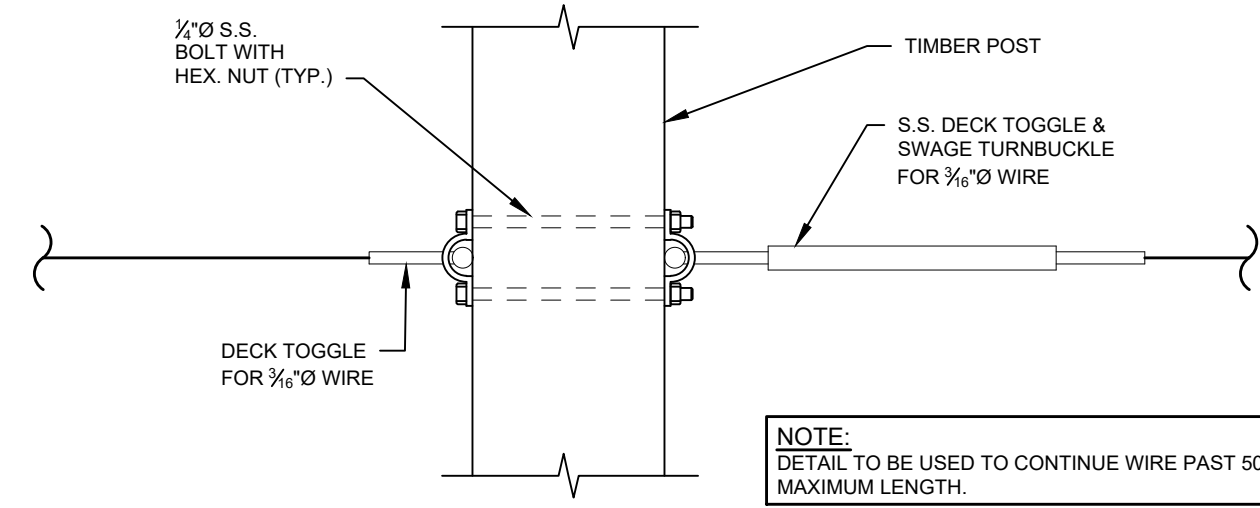
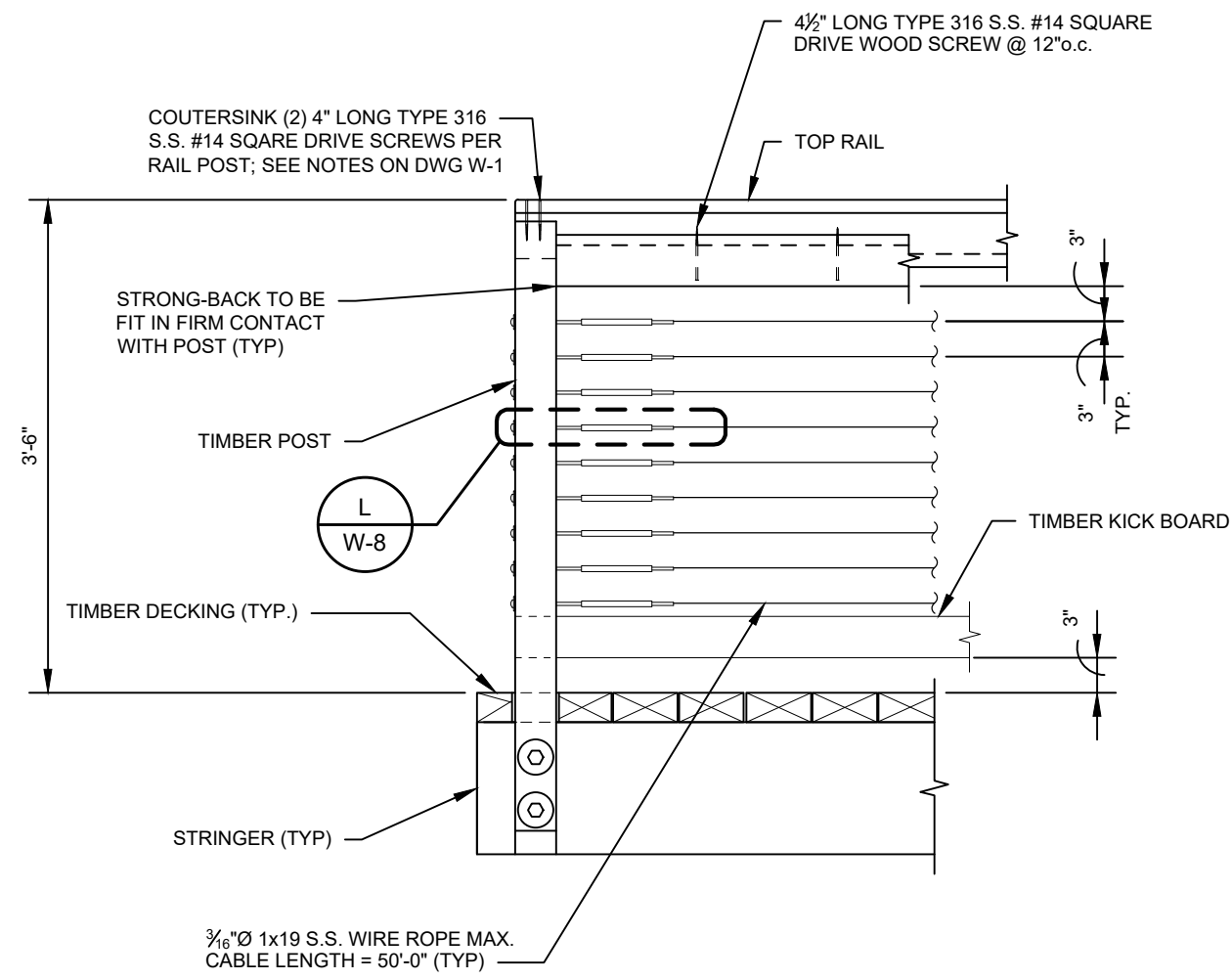
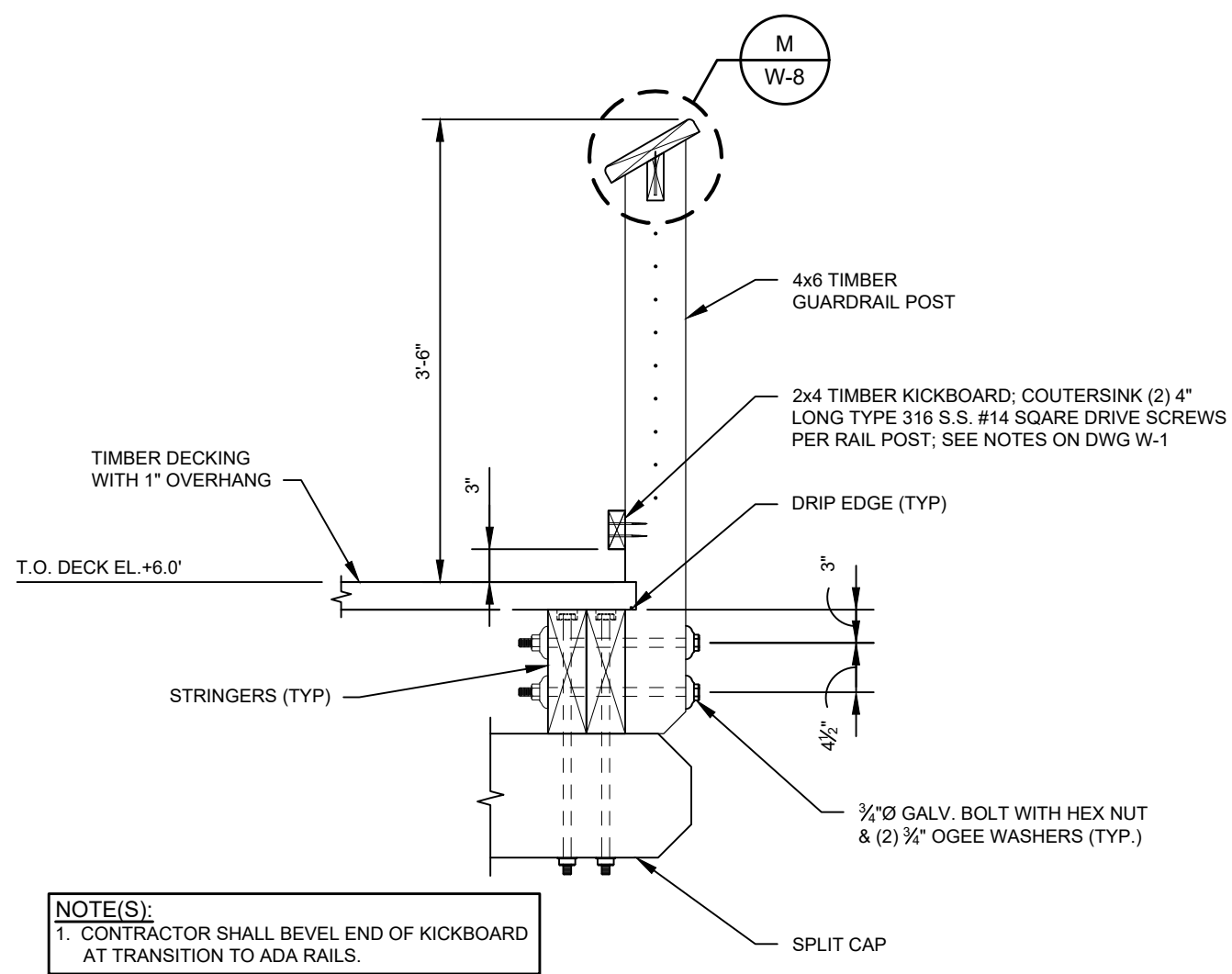


OCTAGON PIER SECTION 3 W-3
SCALE: 3/8" = 1'-0"

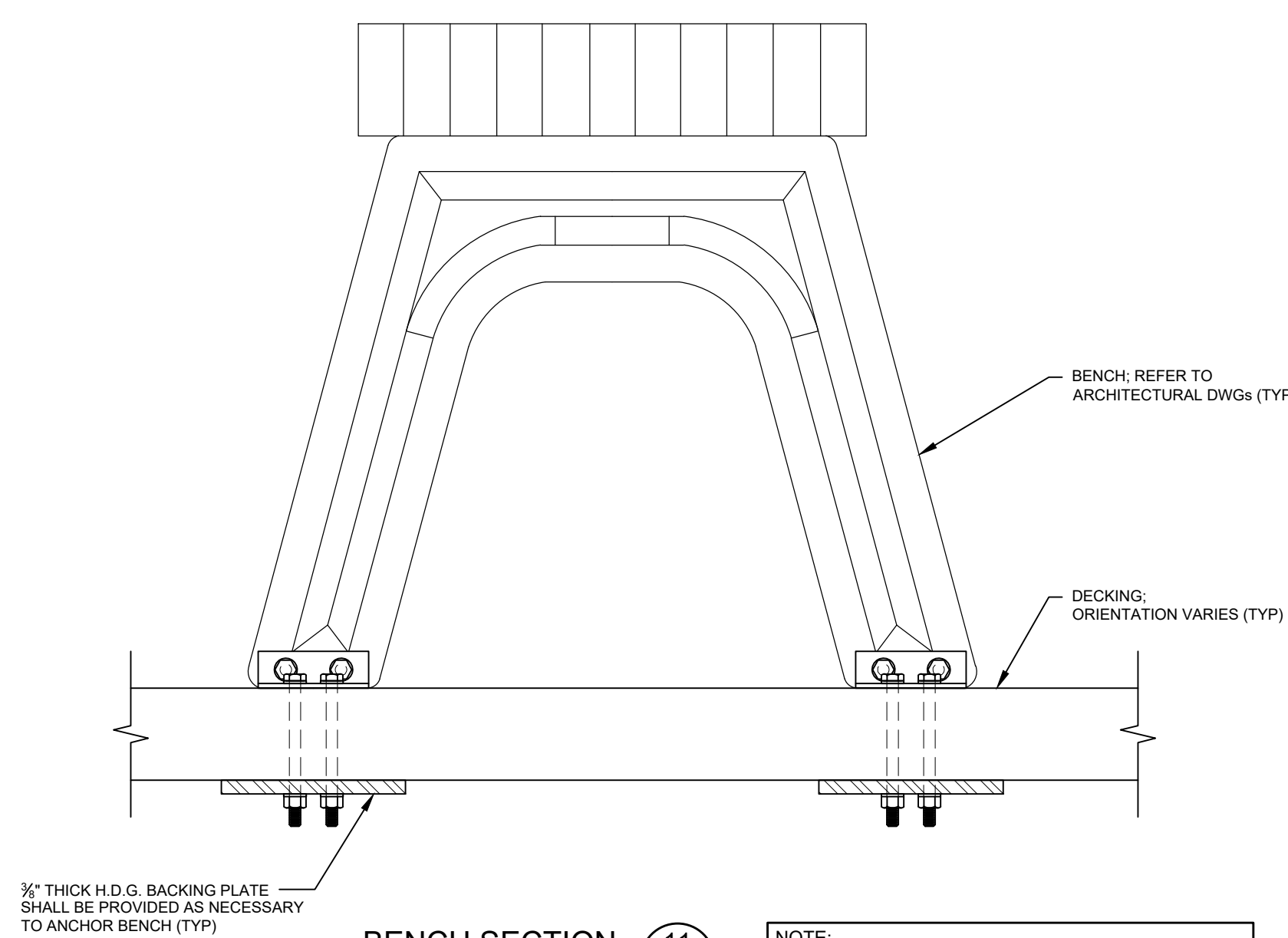
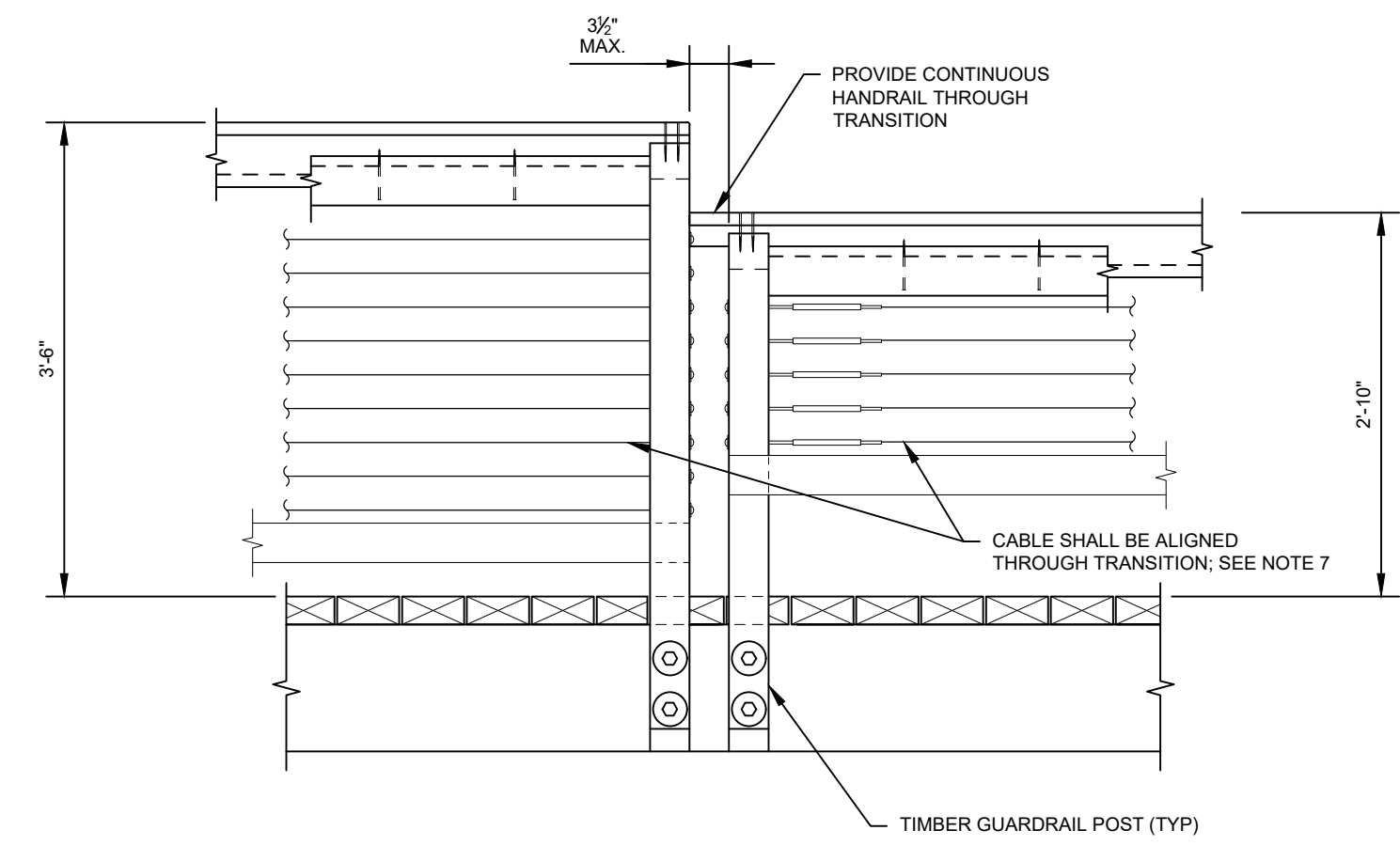
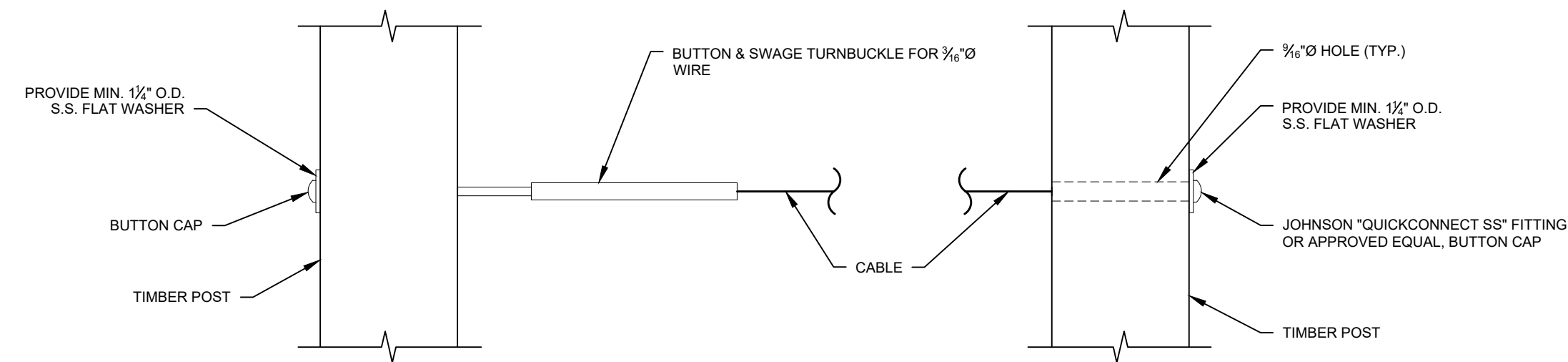



HEXAGON CROSS-BRACING LOWER CONNECTION H W-7
SCALE: 3/4" = 1'-0"

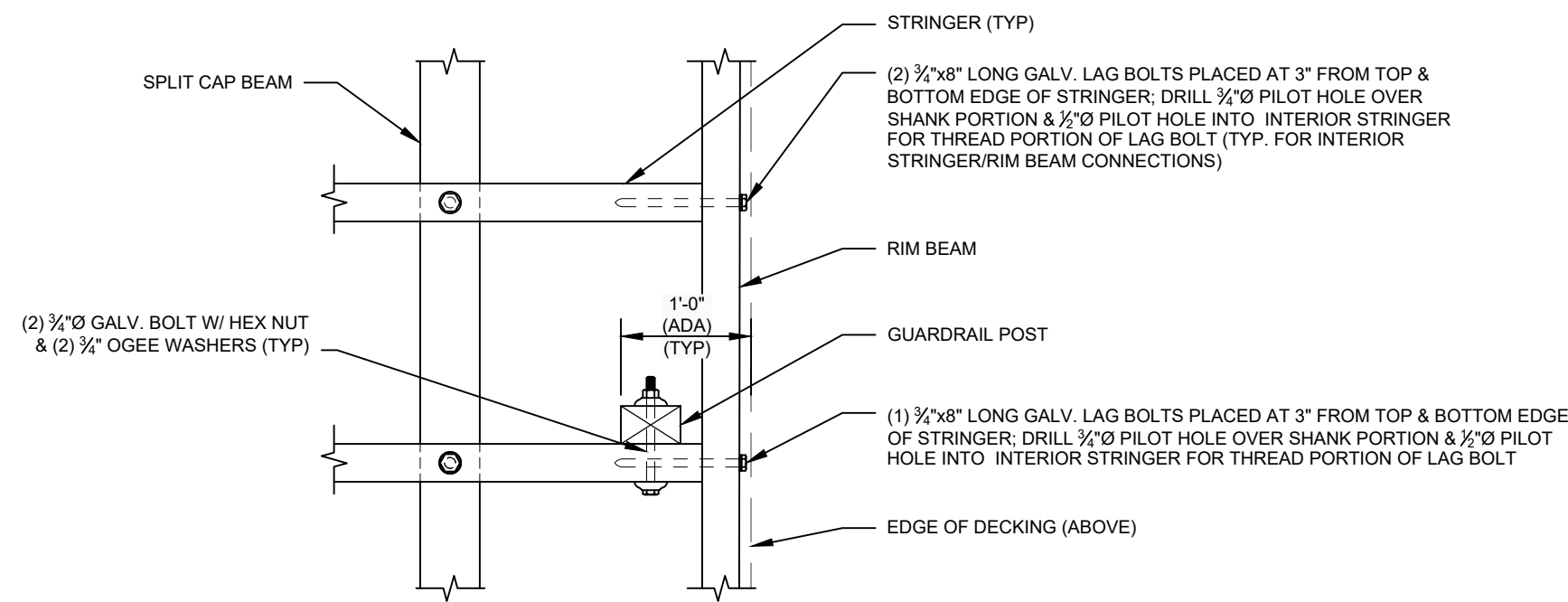
REV	DATE	DESCRIPTION
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Project FISHING PIER 2 DOCK RD MONTVILLE, CT 06382		
Drawing SECTIONS & DETAILS		
Designed MJHS	Drawn MJHS	Checked MRR
Job No. 2023130	Date 3/28/2024	Drawing No. W-7 of W-9



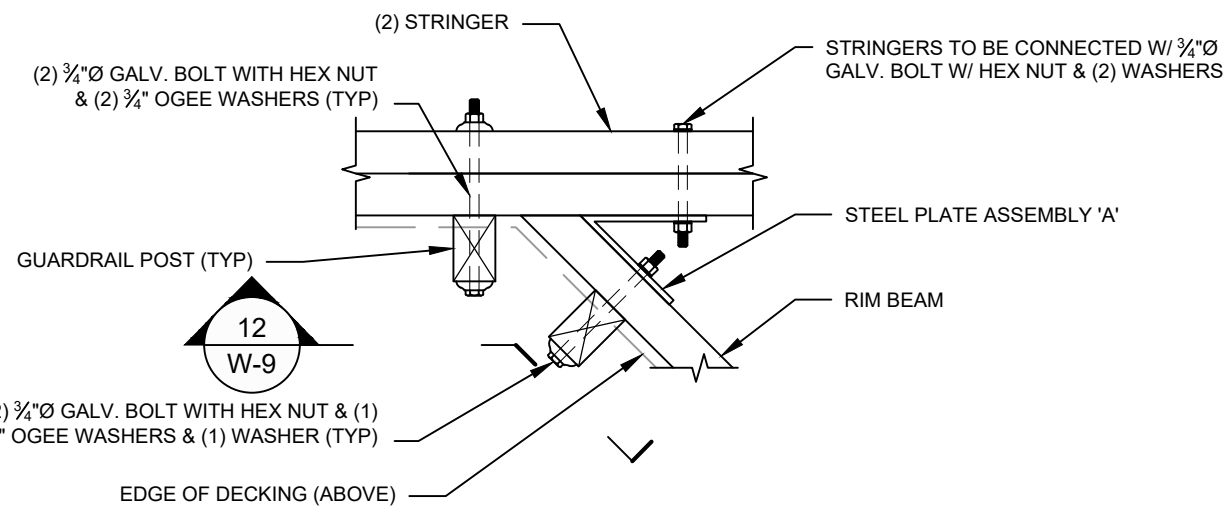
- NOTES:
- ALL RAILING JOINTS SHALL BE KERF CUT, LOCATED AT GUARDRAIL POSTS AND GLUED USING EXTERIOR RATED GLUE.
 - COUNTERSUNK HOLES ON TOP OF THE TOP RAIL SHALL BE PLUGGED USING THE SAME MATERIAL AS THE TOP RAIL.
 - ONCE PLACED AND CURED, CONTRACTOR TO SAND THE TOP RAILS TO A SMOOTH, UNIFORM SURFACE TEXTURE TO MATCH TOP RAIL.
 - FOUR (4) SCREWS SHALL BE USED AT A TOP RAIL JOINT WHEN THE JOINT LANDS ON A POST, (2) PER EACH TOP RAIL.
 - TOP RAILS AND INTERMEDIATE RAILS SHALL BE CONTINUOUS. CONTRACTOR SHALL PROVIDE GLUED, DOWELED AND KERF CUT JOINTS TO PROVIDE CONTINUITY.
 - TERMINATE WIRE AT BENDS IN PIER, TOP RAIL AND KICK PLATE TO BE CONTINUOUS THROUGHOUT PIER.
 - CABLE SHALL BE ALIGNED THROUGHOUT PIER.



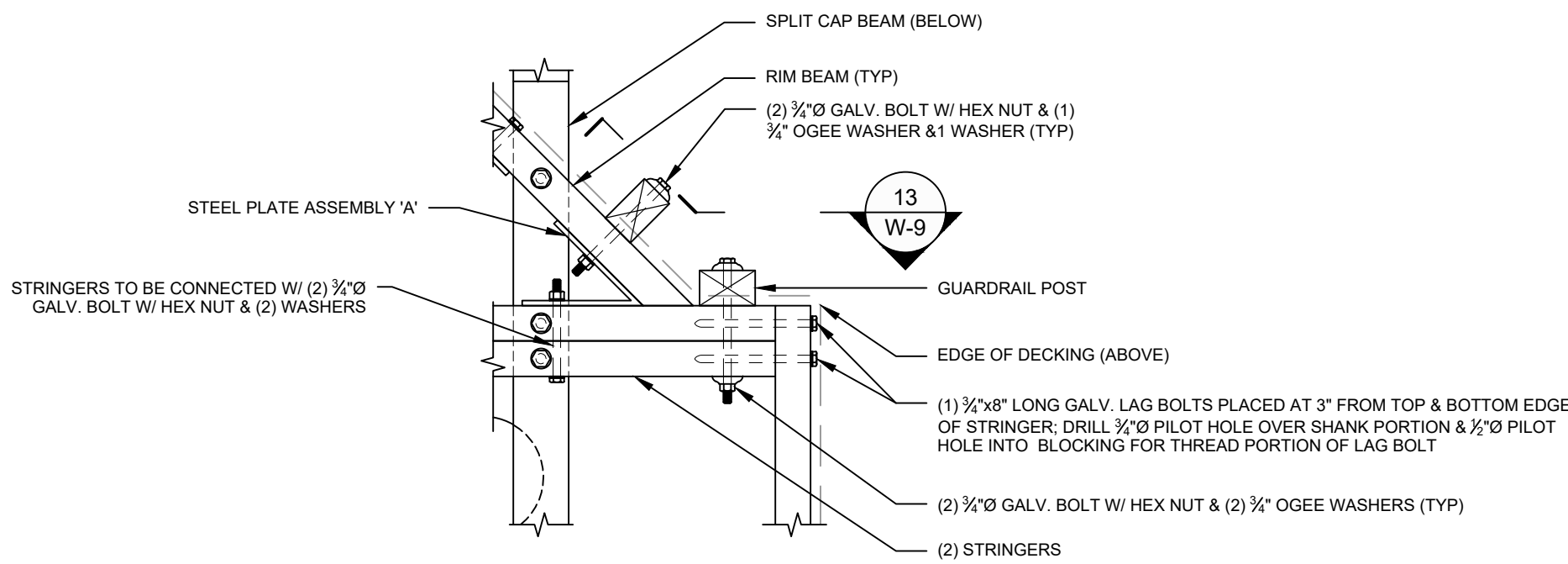
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<div><div><div>RACE</div><div>COASTAL ENGINEERING</div></div><div><div>611 Access Road</div><div>Stratford, CT 06615</div><div>Tel.: 203-377-0663</div><div>racecoastal.com</div></div></div>					
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Project		FISHING PIER 2 DOCK RD MONTVILLE, CT 06382			
Drawing		GUARDRAIL SECTIONS & DETAILS			
Designed	MJHS	Drawn	MJHS	Checked	MRR
Job No.	2023130	Date	3/28/2024	Drawing No.	W-8 of W-9



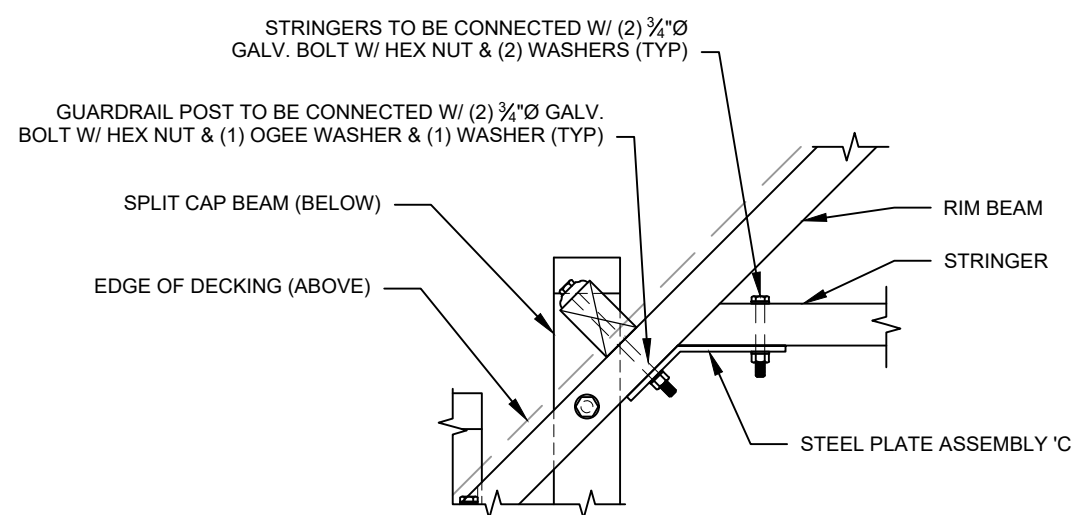
TYPICAL HEXAGON ADA GUARD RAIL CONNECTION (N)
SCALE: 3/4\" = 1'-0"



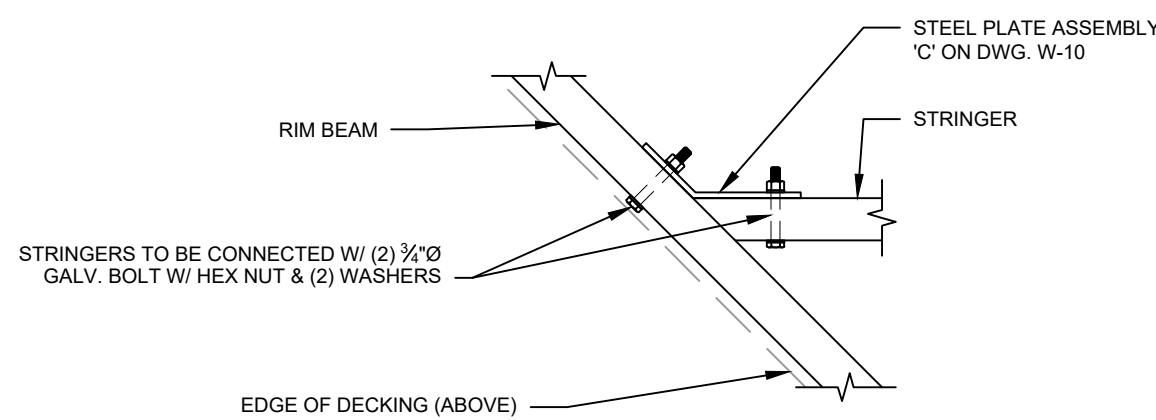
TYPICAL HEXAGON/TEE-HEAD CORNER CONNECTION (O)
SCALE: 3/4\" = 1'-0"



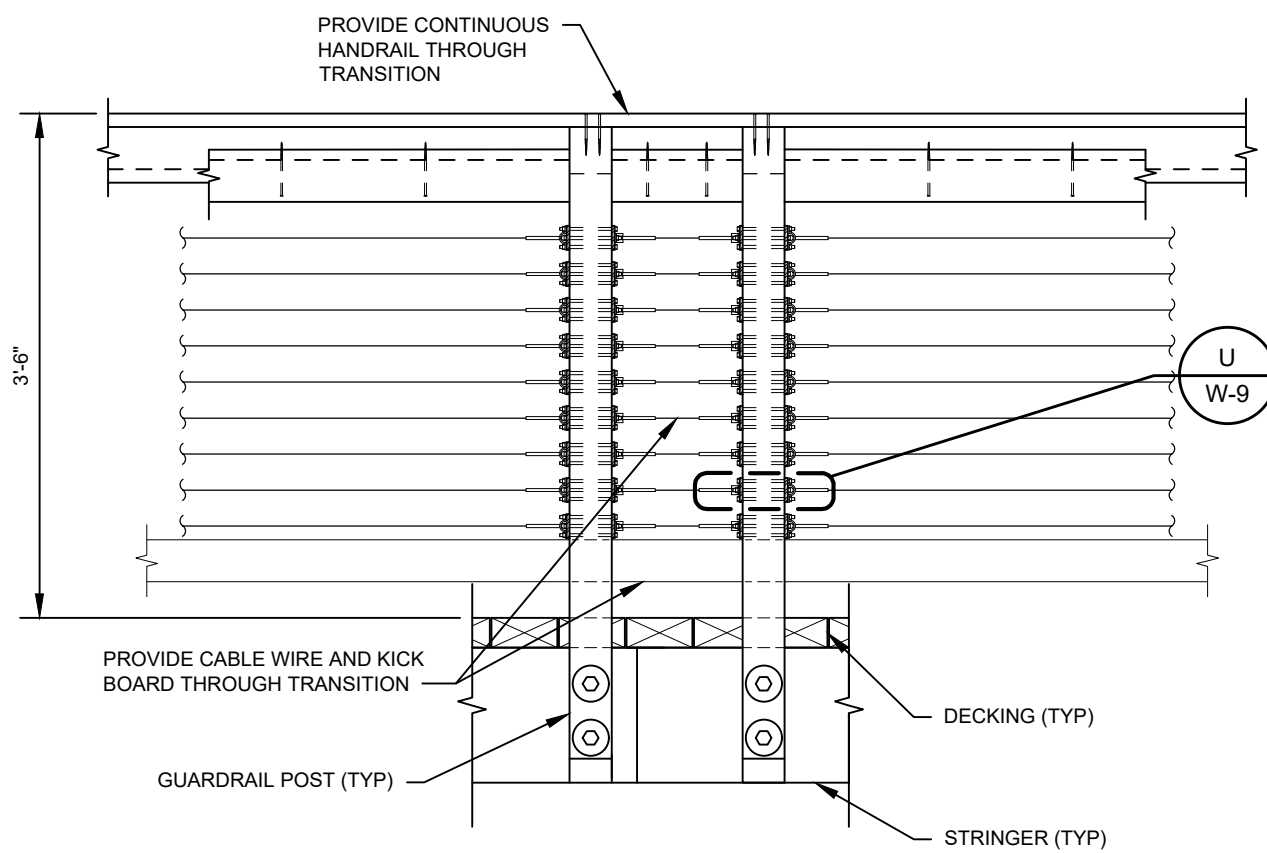
TYPICAL HEXAGON ADA CORNER CONNECTION (P)
SCALE: 3/4\" = 1'-0"



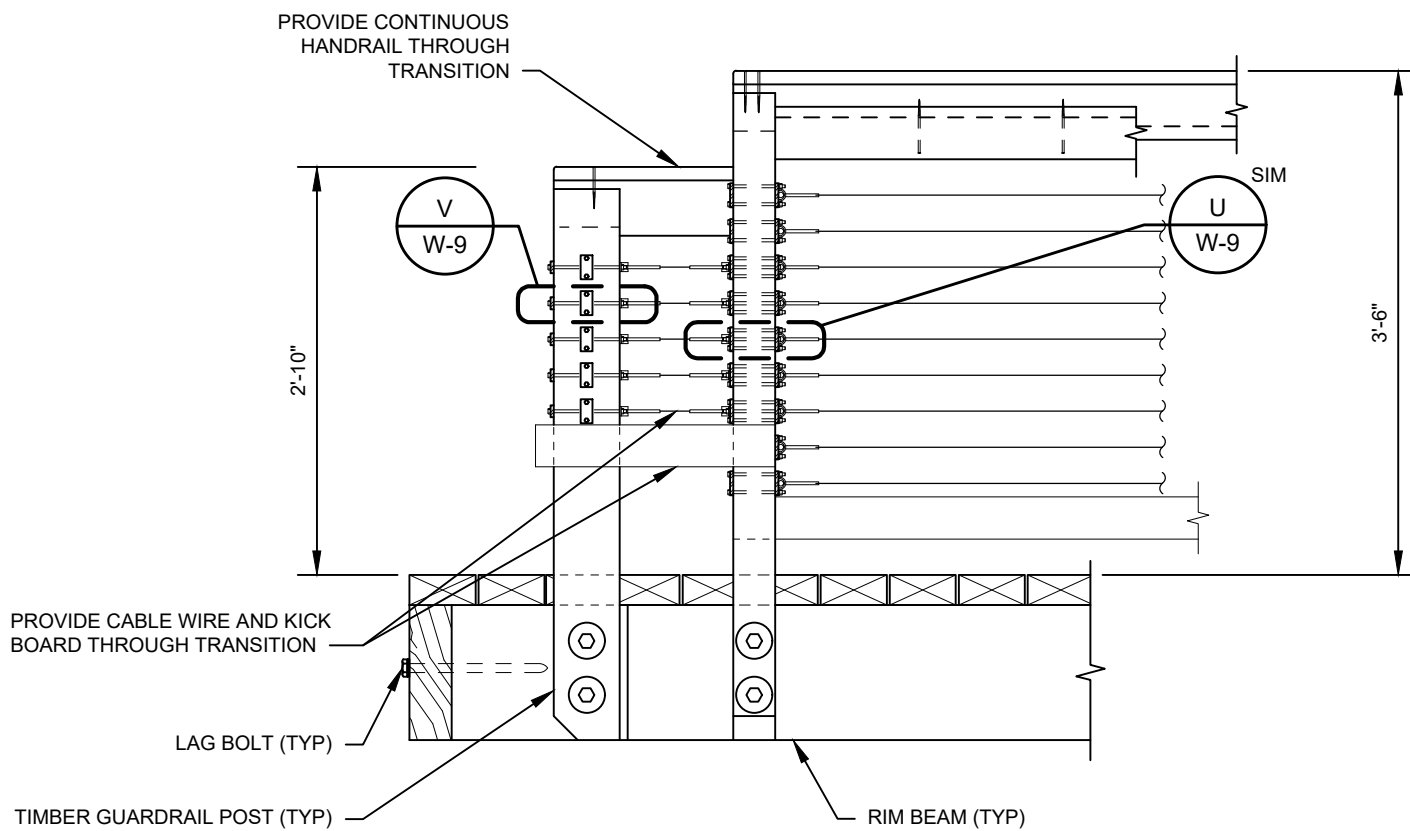
TYPICAL HEXAGON GUARDRAIL/PERIMETER STRINGER CONNECTION (Q)
SCALE: 3/4\" = 1'-0"



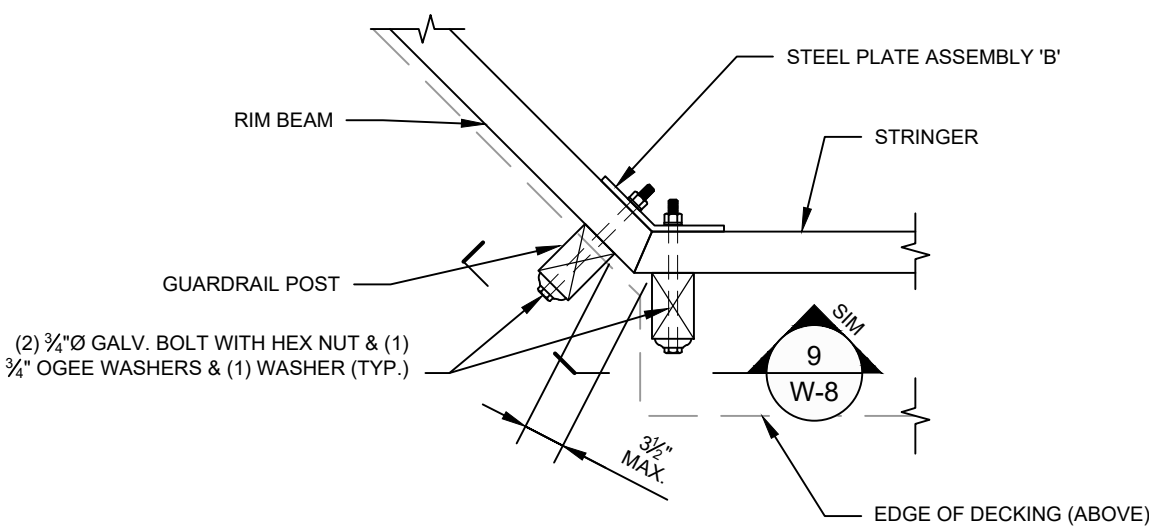
TYPICAL HEXAGON PERIMETER STRINGER CONNECTION (R)
SCALE: 3/4\" = 1'-0"



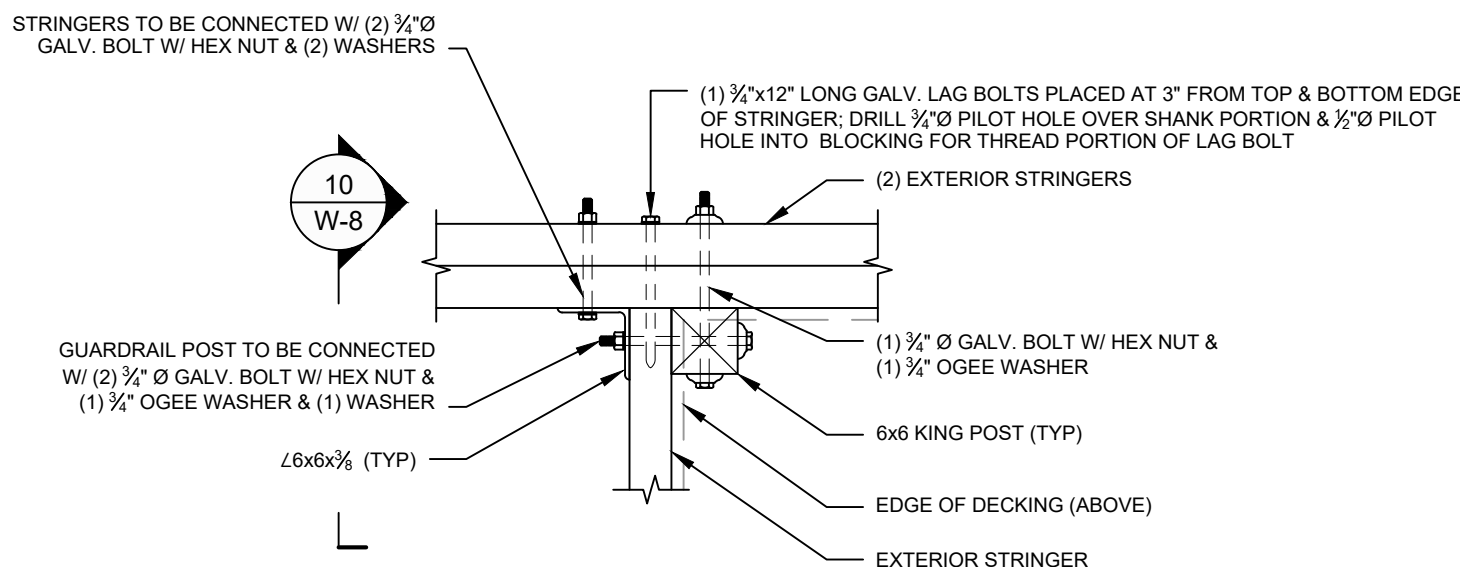
HEXAGON/TEE-HEAD CORNER SECTION (12)
SCALE: 3/4\" = 1'-0"



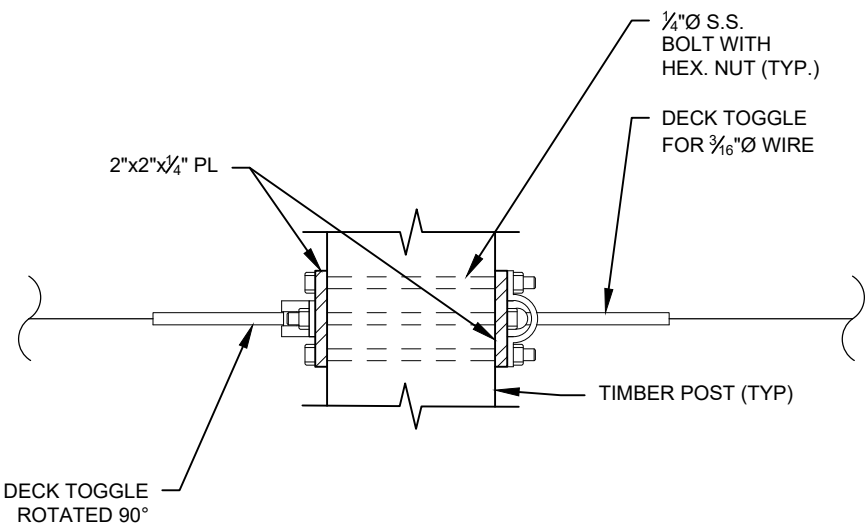
HEXAGON ADA CORNER SECTION (13)
SCALE: 3/4\" = 1'-0"



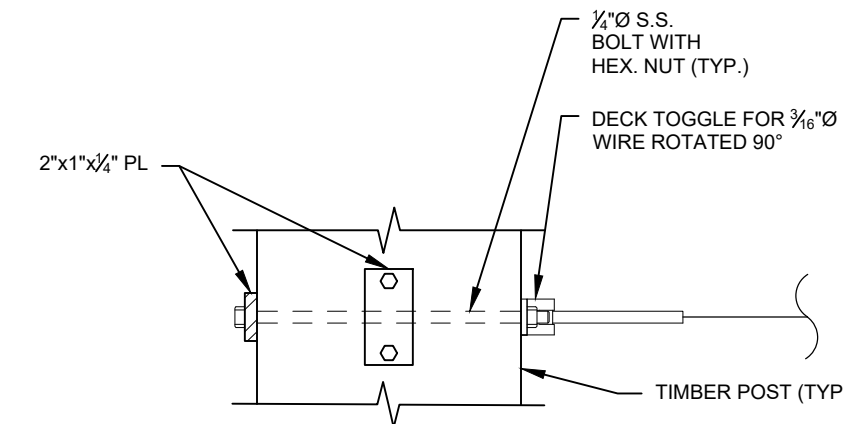
TYPICAL HEXAGON CORNER CONNECTION (S)
SCALE: 3/4\" = 1'-0"



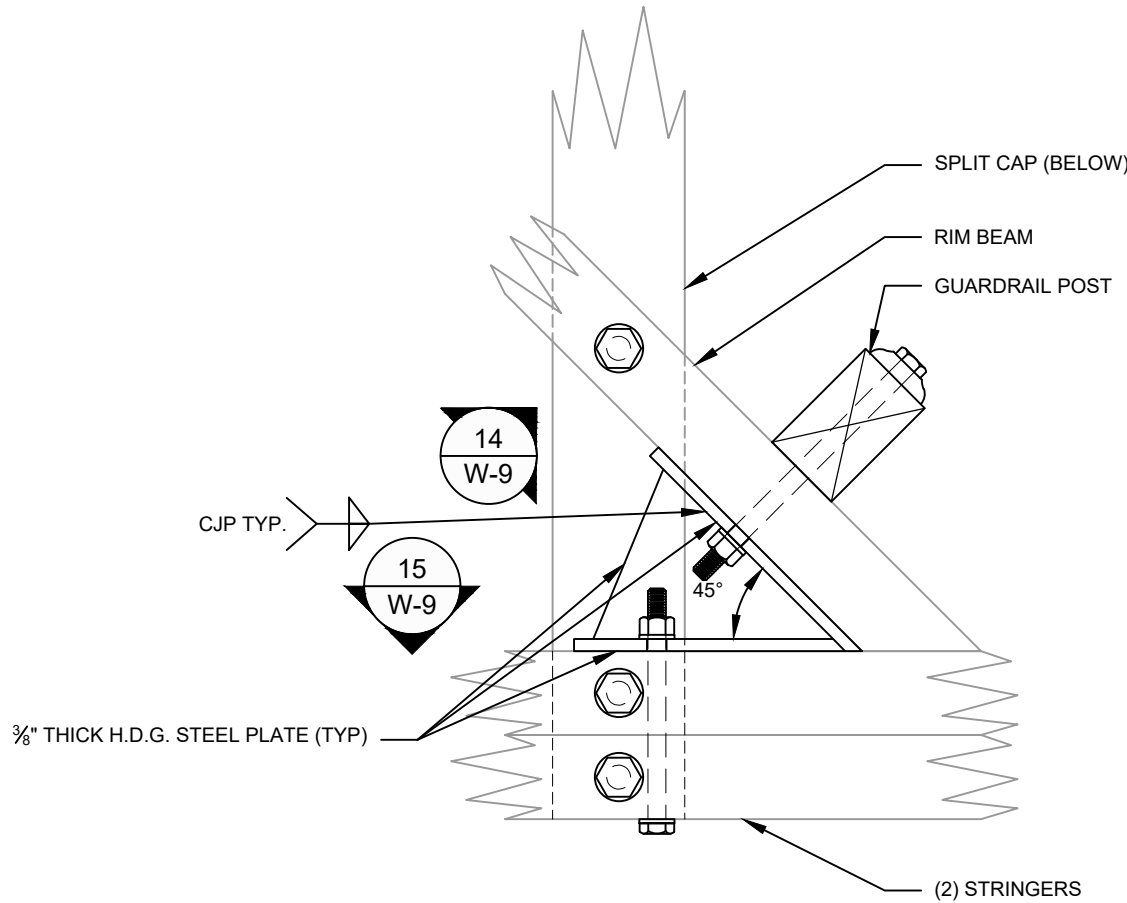
TYPICAL PIER/TEE-HEAD CORNER CONNECTION (T)
SCALE: 3/4\" = 1'-0"



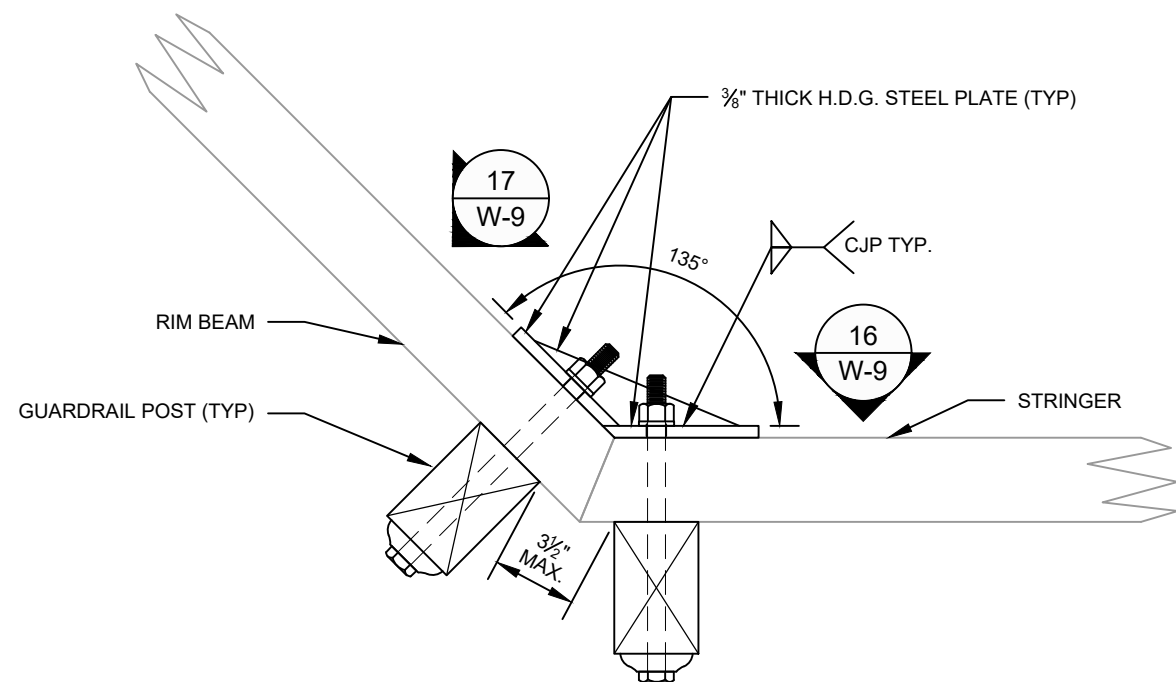
WIRE CONTINUATION AT HEXAGON/TEE-HEAD CORNER (U)
SCALE: 3\" = 1'-0"



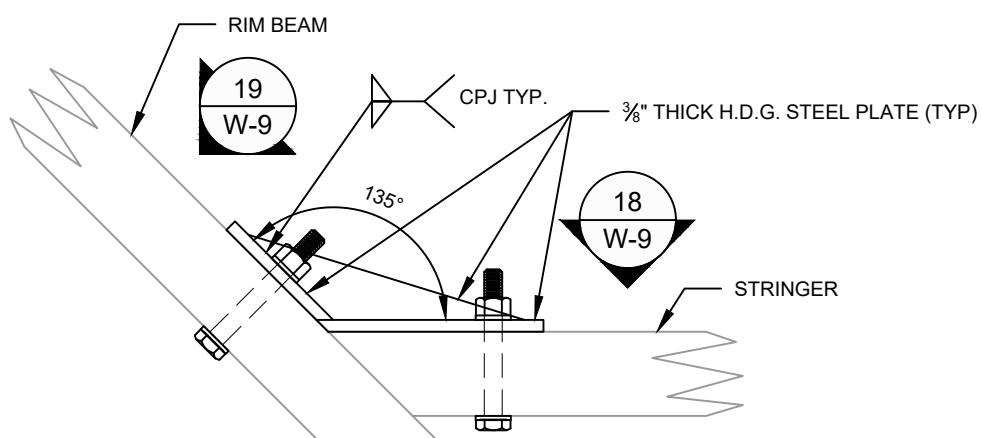
WIRE CONTINUATION AT HEXAGON ADA CORNER (V)
SCALE: 3\" = 1'-0"



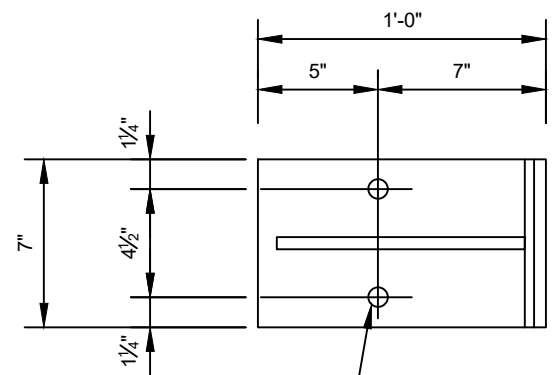
STEEL PLATE ASSEMBLY 'A' (14)
SCALE: 1-1/2\" = 1'-0"



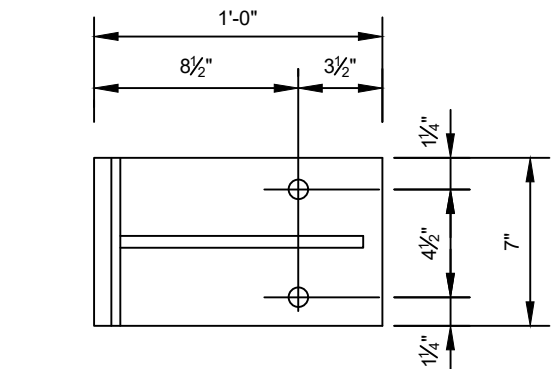
STEEL PLATE ASSEMBLY 'B' (15)
SCALE: 1-1/2\" = 1'-0"



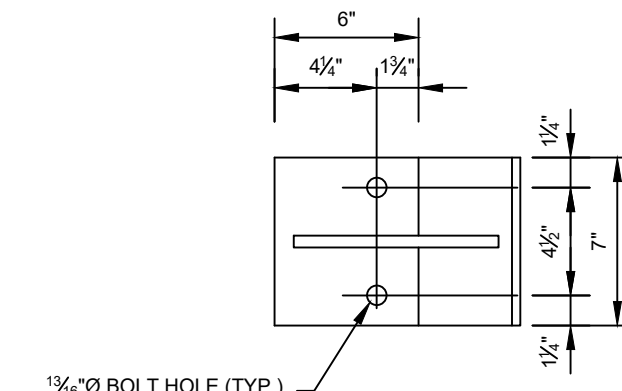
STEEL PLATE ASSEMBLY 'C' (16)
SCALE: 1-1/2\" = 1'-0"



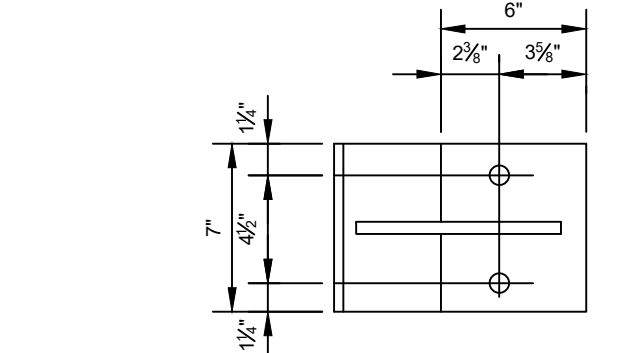
ASSEMBLY 'A' ELEVATION (14)
SCALE: 1-1/2\" = 1'-0"



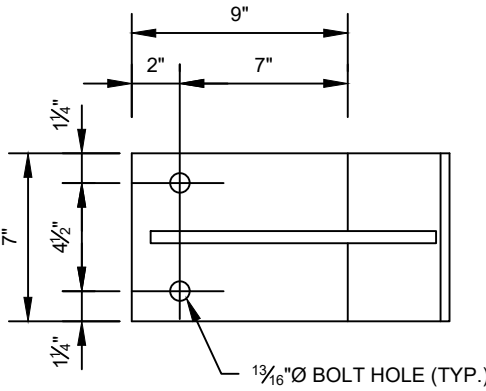
ASSEMBLY 'A' ELEVATION (15)
SCALE: 1-1/2\" = 1'-0"



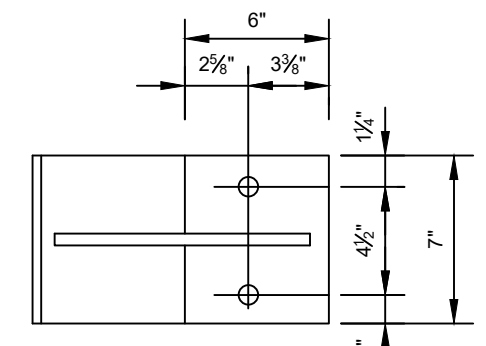
ASSEMBLY 'B' ELEVATION (16)
SCALE: 1-1/2\" = 1'-0"



ASSEMBLY 'B' ELEVATION (17)
SCALE: 1-1/2\" = 1'-0"



ASSEMBLY 'C' ELEVATION (18)
SCALE: 1-1/2\" = 1'-0"



ASSEMBLY 'C' ELEVATION (19)
SCALE: 1-1/2\" = 1'-0"

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Drawing MISCELLANEOUS DETAILS		
Designed MJHS	Drawn MJHS	Checked MRR
Job No. 2023130	Date 3/28/2024	Drawing No. W-9 of W-9

Autodesk Docs://Montville Fishing Pier_2022/DME_Montville Fishing Pier_2022.rvt

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ELECTRICAL ABBREVIATIONS

A

B

C

1PH or 1 Ø	SINGLE-PHASE
1P	SINGLE POLE
2/C	TWO-CONDUCTOR
3/C	THREE-CONDUCTOR
3PH	THREE-PHASE
4/C	FOUR-CONDUCTOR
4W	FOUR-WIRE
A/C UNIT	AIR CONDITIONING UNIT
A/E	ARCHITECT/ENGINEER
AAP	ALARM ANNUNCIATOR PANEL
AC	ALTERNATING CURRENT OR ARMORED CABLE
ADJ	ADJACENT, ADJOINING
ADO	AUTOMATIC DOOR OPENER
AF	AMPERE FRAME OR AMP FUSE
AFC	ABOVE FINISHED COUNTER, AUTOMATIC FREQUENCY
	ALTERNATE
AFF	CONTROL, OR AVAILABLE FAULT CURRENT
AFG	ABOVE FINISHED GRADE
AH	AMPERE HOUR
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERE INTERRUPTING CAPACITY
ALT	ALTERNATE
AMB OR A	AMBIENT
AMP	AMPERE
ARCH	ARCHITECT
ASC	AMPS SHORT CIRCUIT
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AWG	AMERICAN WIRE GAUGE
AV of A/V	AUDIO VISUAL
BAT	BATTERY
BC	BARE COPPER
BD	BOARD
BFF	BELOW FINISH FLOOR
BIL	BASIC INSULATION LEVEL
BLDG	BUILDING
BPMP	BOILER PLANT INSTRUMENTATION PANEL
BY P	BY PASS
C	CONDUIT
CAB	CABINET
CALC	CALCULATE
CAP	CAPACITY
CAT	CATALOG
CATV	COMMUNITY ANTENNA TELEVISION
CB or C/B	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
cd	CANDELA
CD	CONSTRUCTION DOCUMENTS
CF	CONTRACTOR FURNISHED
CF/CI	CONTRACTOR FURNISHED/CONTRACTOR INSTALLED
CF/IOI	CONTRACTOR FURNISHED/OWNER INSTALLED
CFC	CONTRACTOR FURNISHED EQUIPMENT
CHW	CHILLED WATER
CHWP	CHILLED WATER PUMP
CKT	CIRCUIT
CKT BRKR	CIRCUIT BREAKER
CLF	CURRENT LIMITING FUSE
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
COAX	COAX CABLE
COMM	COMMUNICATION
COMPT	COMPARTMENT
CONC	CONCRETE
CONT	CONTINUE
CONTR	CONTRACTOR

COORD	COORDINATE
CPT	CONTROL POWER TRANSFORMER
CRI	COLOR RENDERING INDEX
CT	CURRENT TRANSFORMER
CTV	CABLE TELEVISION
CU	COPPER
CU FT	CUBIC FEET
CUR	CURRENT
DB	DECIBEL OR DIRECT BURIAL
DC	DIRECT CURRENT
DCP	DIMMER CONTROL PANEL
DEG C	DEGREES CELSIUS
DEG F	DEGREES FAHRENHEIT
DEMO	DEMOLITION
DIAG	DIAGRAM
DISC	DISCONNECT
DISTR	DISTRIBUTION
DISTR PNL	DISTRIBUTION PANEL
DMR SW	DIMMER SWITCH
DN	DOWN
DPDT	DOUBLE POLE, DOUBLE THROW
DPS1	DOUBLE POLE, SINGLE THROW
DRSW	DOOR SWITCH
DS	DISCONNECT SWITCH
DWG	DRAWING
EC or E.C.	ELECTRICAL CONTRACTOR
EG	EQUIPMENT GROUND
EL	ELEVATION
ELEC	ELECTRIC OR ELECTRICAL
ELEV	ELEVATOR
EMCP	EMERGENCY MONITORING CONTROL PANEL
EMER	EMERGENCY
EMI	ELECTROMAGNETIC INTERFERENCE
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EPO	EMERGENCY POWER OFF
EPRF	EXPLOSION PROOF
ESMT	EASEMENT
ETR	EXISTING TO REMAIN
EW	ELECTRIC WATER COOLER
EWL	ELECTRIC WATER HEATER
EXIST	EXISTING
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FABL	FIRE ALARM BELL
FABX	FIRE ALARM BOX
FACP	FIRE ALARM CONTROL PANEL
FC	FOOTCANDLE
FI	FILM ILLUMINATOR
FIKT	FIXTURE
MTS	MANUAL TRANSFER SWITCH
FLA	FULL LOAD AMPS
FLEX or FMC	FLEXIBLE METALLIC CONDUIT
FLT	FLOODLIGHT
FLUOR	FLUORESCENT
FLUOR FIX	FLUORESCENT FIXTURE
FP	FIRE PROTECTION
FT	FEET OR FOOT
FS	FUSED SWITCH
PVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
G OR GND	GROUND
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GTB	GROUND TERMINAL BOX




HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTOMATIC
HP	HORN POWER
HT	HEIGHT
HZ	HERTZ
IESNA	ILLUMINATION ENGINEERING SOCIETY OF NORTH AMERICA
IMC	INTERMEDIATE METAL CONDUIT
INCAND	INCANDESCENT
IR	INFRARED
IWH	INSTANTANEOUS WATER HEATER
J-BOX or JB	JUNCTION BOX
KV	KILOVOLT
kVA	KILOVOLT AMPERE
kVAH	KILOVOLT AMPERE PER HOUR
kVAR	KILOVOLT AMPERE REACTIVE
kW	KILOWATT
kWH	KILOWATT HOUR
kWHM	KILOWATT HOUR METER
LED	LIGHT EMITTING DIODE
LF	LINEAR FEET (FOOT)
LM	LUMEN
LP	LIGHT POLE or LIGHTING PANEL
LPS	LOW PRESSURE SODIUM
LRA	LOCKED ROTOR AMPS
LTCP	LOCAL TEMPERATURE CONTROL PANEL
LT	LIGHT
LTG	LIGHTING
LTG PNL	LIGHTING PANEL
LTNG	LIGHTNING
LV	LOW VOLTAGE
MATV	MASTER ANTENNA TELEVISION SYSTEM
MAX	MAXIMUM
MC	METAL-CLAD
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MG	MOTOR GENERATOR
MH	MANHOLE
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
MLO	MAIN LUGS ONLY
MT	MOUNT
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
MVA	MEGAVOLT-AMPERE
MW	MEGAWATT or MICROWAVE
NA	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NEUT or N	NEUTRAL
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NS	NO SCALE
NTS	NOT TO SCALE

OC	ON CENTER
OD	OUTSIDE DIAMETER
OL	OVERLOAD
P	POLE
PA	PUBLIC ADDRESS
PB	PANELBOARD, PULL BOX, OR PUSHBUTTON
PCB	POLYCHLORINATED BIPHENYL
PEC	PHOTOELECTRIC CELL
PED	PEDESTAL
PEND	PENDANT
PF	POWER FACTOR
PH	PHASE
PNL	PANEL
POD	POWER OPERATED DAMPER
PT	POTENTIAL TRANSFORMER
PTRV	POWER TYPE ROOF VENTILATION
PVC	POLYVINYL CHLORIDE (PLASTIC)
PWR	POWER
RCP	REFLECTED CEILING PLAN
REC	RECESSED
RECP	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RM	ROOM
RMS	ROOT MEAN SQUARE
REQD	REQUIRED
SCC	SHORT CIRCUIT CAPACITY
SES	SERVICE ENTRANCE SECTION
SD	SMOKE DETECTOR
SF	SQUARE FOOT (FEET)
SHT	SHEET
SI	INTERNATIONAL SYSTEM OF UNITS
SPEC	SPECIFICATION
SPST	SINGLE POLE, SINGLE THROW
SURF	SURFACE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TBC	TO BE COORDINATED
TEL	TELEPHONE
TP	TWISTED PAIR
TPS	TWISTED PAIR SHIELDED
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION
Typ	TYPICAL
UFD	UNDERFLOOR DUCT
UGND	UNDERGROUND
UL	UNDERWRITERS LABORATORY
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTIL	UTILITY
V	VOLT
VA	VOLT AMPERE
VAR	VOLT AMPERE REACTIVE
VFD	VARIABLE FREQUENCY DRIVE
VOLT	VOLTAGE
W	WATT
WH	WATER HEATER
WP	WEATHERPROOF
XFER	TRANSFER
XFMR	TRANSFORMER


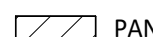
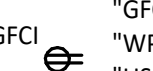


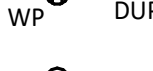

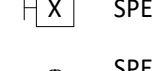

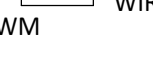
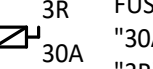
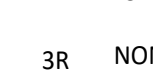
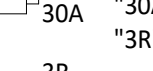
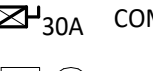
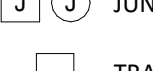



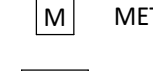
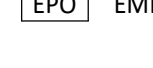


GENERAL NOTES

- FINAL CONNECTIONS TO MOTORS SHALL BE MADE WITH FLEXIBLE CONDUIT. MAXIMUM LENGTH OF FLEXIBLE CONDUIT SHALL BE 6'-0".
- ALL DEVICES, MOTORS, EQUIPMENT, FIXTURES, & THE LIKE, MUST BE GROUNDED BY USE OF A PROPERLY SIZED GROUNDING CONDUCTOR. MECHANICAL/ ELECTRICAL BONDS OF THE METALLIC RACEWAY SYSTEM SHALL ALSO BE MAINTAINED.
- REFER TO MECHANICAL PLANS FOR EXACT LOCATION OF MECHANICAL EQUIPMENT. COORDINATE LOCATION OF DISCONNECT SWITCH ASSOCIATED WITH EACH PIECE OF EQUIPMENT WITH RESPECTIVE CONTRACTOR AND INSTALL IN ACCORDANCE WITH THE NEC.
- REGARDLESS OF THE TEMPERATURE RATING OF THE CONDUCTOR INSULATION, ALL CONDUCTOR AMPACITY RATINGS FOR THIS PROJECT SHALL BE DETERMINED FROM THE 75°C CONDUCTOR TEMPERATURE RATINGS INDICATED IN THE NEC TABLES. WHERE EQUIPMENT OR DEVICES ARE PROVIDED WITH TERMINALS/LUGS RATED FOR 60°C, THE AMPACITY RATING OF THE 75°C CONDUCTOR SHALL BE LIMITED TO ITS ASSOCIATED 60°C RATING AS INDICATED IN THE NEC TABLES. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO INCREASE THE CONDUCTORS AND CONDUIT SIZE AS REQUIRED.
- ALL CONDUITS SHALL CONTAIN A GROUND CONDUCTOR SIZED PER NEC TABLE #250.122.
- ELECTRICAL INSTALLATION REQUIREMENTS FOR ALL HVAC, PLUMBING, FIRE PROTECTION, SPECIAL SYSTEMS AND OWNER EQUIPMENT BEING FURNISHED BY OTHERS SHALL BE REVIEWED AND COORDINATED WITH OTHER TRADES PRIOR TO ROUGH-IN. OBTAIN EQUIPMENT SHOP DRAWINGS FROM INSTALLER/SUPPLIER/CONTRACTOR/OWNER FURNISHING EQUIPMENT, AS REQUIRED, FOR REVIEW AND COORDINATION. CONTACT ARCHITECT/ENGINEER WITH ANY DISCREPANCIES FOUND BETWEEN CONSTRUCTION DRAWINGS AND EQUIPMENT BEING FURNISHED PRIOR TO ROUGH-IN.
- THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL ACCESS PANELS AND THROUGH'S, AS REQUIRED FOR SERVICING AND TESTING, FOR EQUIPMENT AND/OR DEVICES FURNISHED UNDER HIS CONTRACT. THE GENERAL CONTRACTOR SHALL INSTALL ACCESS PANELS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE SIZE AND LOCATION OF EACH ACCESS PANEL WITH THE ARCHITECT AND GENERAL CONTRACTOR PRIOR TO ROUGH-IN.
- ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS BID ALL CUTTING, TRENCHING AND PATCHING ASSOCIATED WITH THE ELECTRICAL INSTALLATION.
- ALL PENETRATIONS THROUGH FIRE RATED WALLS ASSOCIATED WITH THE ELECTRICAL INSTALLATION SHALL BE SLEEVED AND FIRE-STOPPED USING A UL APPROVED METHOD. UL APPROVED METHOD SHALL MEET OR EXCEED FIRE RATING OF STRUCTURE BEING PENETRATED. REFERENCE ARCHITECTURAL PLANS FOR FIRE RATED STRUCTURES.
- NO CONDUIT, BOXES, WIRING, OR CABLES SHALL BE INSTALLED WITHIN 1 1/2" OF THE LOWEST POINT OF THE UNDERSIDE OF THE ROOF DECKING, NOR SHALL THEY BE INSTALLED CONCEALED WITHIN METAL-CORRUGATED ROOF DECKING.
- ALL ELECTRICAL EQUIPMENT AND DEVICES FOR THIS PROJECT MUST BE UL LISTED. DEVICES, EQUIPMENT, SYSTEMS SHALL BE INSTALLED PER N.E.C. REQUIREMENTS AND MANUFACTURER'S INSTRUCTIONS.
- ALL CONDUIT AND CABLING SHALL BE PROPERLY SUPPORTED AS REQUIRED BY THE NATIONAL ELECTRICAL CODE.

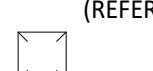


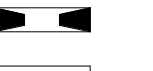



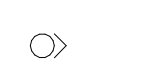

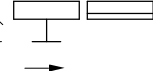


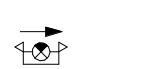
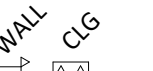



DRAWING NOTATIONS

-  REVISION CLOUD (DRAWING CHANGE)
-  SCOPE OF WORK LIMITS
-  HOLD WORK LIMITS

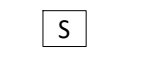
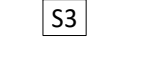
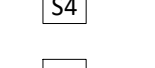



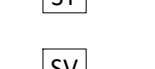




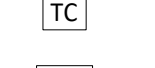
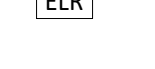

POWER LEGEND

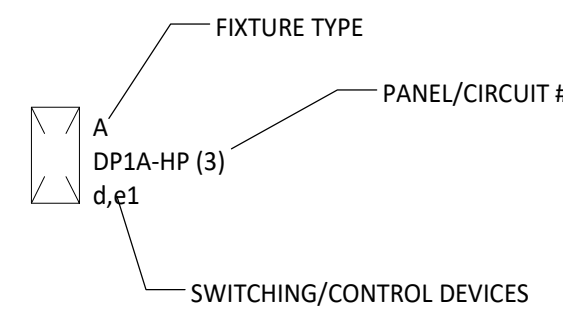
	PANELBOARD - 208Y/120
	PANELBOARD - 480Y/277
	DUPLEX RECEPTACLE. "GFCI" INDICATES GROUND FAULT INTERRUPTOR
	"WP" INDICATES WEATHERPROOF
	"USB" INDICATES WITH (2) USB RECEPTACLES
	"A" INDICATES MOUNTED ABOVE COUNTER
	"C" INDICATES MOUNTED IN CEILING
	QUADRAPLEX RECEPTACLE. REFERENCE DUPLEX RECEPTACLE LABELS.
	SIMPLEX RECEPTACLE
	FLUSH FLOOR MOUNT OUTLET
	SPECIAL PURPOSE RECEPTACLE
	SPECIAL EQUIPMENT POWER CONNECTION EQUIPMENT AS DESIGNATED
	WIREMOLD WITH DEVICES AS NOTED ON PLAN
	FUSED DISCONNECT SWITCH "30A" INDICATES FUSE RATING "3R" INDICATES NAME RATING
	NON-FUSED DISCONNECT SWITCH "30A" INDICATES FUSE RATING "3R" INDICATES NAME RATING
	COMBINATION STARTER/DISCONNECT SWITCH
	JUNCTION BOX
	TRANSFORMER
	MOTOR (WITH DISCONNECT WHERE SHOWN)
	BELL
	METER SOCKET
	EMERGENCY POWER OFF SWITCH

LIGHTING LEGEND

(REFER TO LIGHT FIXTURE SCHEDULE)	
	RECESSED LIGHT FIXTURE
	RECESSED EMERGENCY LIGHT FIXTURE
	SURFACE LIGHT FIXTURE
	SURFACE EMERGENCY LIGHT FIXTURE
	PENDANT LIGHT FIXTURE
	PENDANT EMERGENCY LIGHT FIXTURE
	RECESSED DOWNLIGHT
	EMERGENCY RECESSED DOWNLIGHT
	WALLWASH FIXTURE
	EMERGENCY WALLWASH
	WALL MOUNTED LIGHTING FIXTURE
	ILLUMINATED "EXIT" SIGN CEILING MOUNT WITH DIRECTION AS INDICATED
	ILLUMINATED "EXIT" SIGN WALL MOUNT WITH DIRECTION AS INDICATED
	EXIT/EMERGENCY LIGHT, WALL MOUNT WITH DIRECTION & HEADS AS INDICATED
	EMERGENCY LIGHTING BATTERY UNIT WITH HEADS AS INDICATED
	REMOTE EMERGENCY HEAD FIXTURE
	EXTERIOR WALL MOUNT LIGHT FIXTURE




















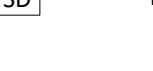


LTG. CONTROL LEGEND

	LIGHTING SWITCH - SINGLE POLE
	LIGHTING SWITCH - 3 WAY
	LIGHTING SWITCH - 4 WAY
	LIGHTING SWITCH - DIMMER
	LIGHTING SWITCH -KEY OPERATED
	LIGHTING SWITCH - MOTION DETECTOR (DUAL TECHNOLOGY)
	LIGHTING SWITCH - TIMER
	LIGHTING SWITCH - VACANCY SENSOR
	LIGHTING SWITCH - LOW VOLTAGE
	OCCUPANCY SENSOR
	PHOTOCELL / DAYLIGHT SENSOR
	VACANCY SENSOR
	LIGHTING TIME CLOCK
	UL924 EMERGENCY RELAY















LIGHT FIXTURE CIRCUIT/SWITCHING KEY





FIRE ALARM LEGEND

	MANUAL PULL STATION
	HORN/SPEAKER WITH LIGHT
	HORN
	STROBE LIGHT
	MINI HORN, LOW FREQUENCY 520HZ
	MINI HORN, LOW FREQUENCY 520HZ WITH 110CD STROBE
	SMOKE DETECTOR
	HEAT DETECTOR
	DUCT SMOKE DETECTOR
	CARBON MONOXIDE DETECTOR
	LOCAL SMOKE ALARM, 120V
	LOCAL COMBINATION SMOKE/CO ALARM, 120V
	FLOW SWITCH
	TAMPER SWITCH
	CONTROL MODULE
	MONITOR MODULE
	FIRE ALARM CONTROL PANEL
	KNOX BOX
	REMOTE ANNUNCIATOR PANEL
	REMOTE TEST SWITCH
	MASTER BOX
	FIRE SMOKE DAMPER

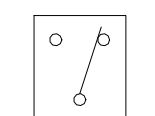
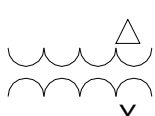
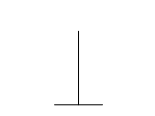
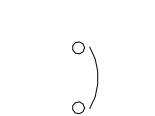
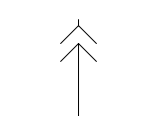
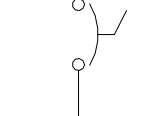
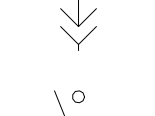
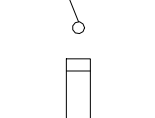
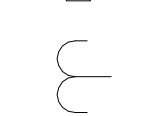
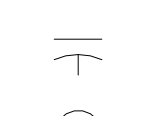
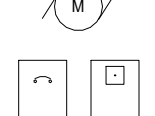
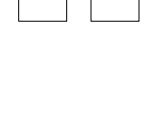
TECHNOLOGY LEGEND

COMMUNICATION OUTLETS SHALL HAVE MINIMUM 1" EMPTY CONDUIT STUBBED TO ABOVE HUNG CEILING. 1 1/4" CONDUIT FOR DOUBLE OUTLETS. OUTLETS MOUNTED 18" AFF UNLESS OTHERWISE NOTED.	
	TELEPHONE OUTLET
	WALL MOUNTED DATA OUTLET
	FLUSH FLOOR DATA/TECH OUTLET
	CEILING MOUNTED DATA OUTLET
	COMBINATION TELE/DATA OUTLET
	TV OUTLET IN MULTI-SERVICE BOX
	WIRELESS ACCESS POINT PROVIDE 2-GANG BACKBOX
	CARD READER
	DOOR CONTACT
	SURVEILLANCE CAMERA
	SPEAKER, FLUSH CEILING MOUNTED
	SPEAKER, FLUSH WALL MOUNTED

GROUNDING LEGEND

	GROUND ROD
	GROUND CONNECTION
	GROUND CONDUCTOR
	EQUIPMENT GROUND

ONELINE LEGEND

	AUTOMATIC TRANSFER SWITCH
	TRANSFORMER CONNECTION INDICATED
	GROUND POINT
	CIRCUIT BREAKER, FIXED
	CIRCUIT BREAKER, DRAWOUT
	DISCONNECT SWITCH
	FUSE
	CURRENT TRANSFORMER
	CAPACITOR
	MOTOR
	PANELBOARD
	MCB, MLO



PROJECT

TOWN OF MONTVILLE, CONNECTICUT

TOWN BOAT LAUNCH IMPROVEMENTS
AND FISHING PIER CONSTRUCTION

A

B

C

D

E

6

1. BRANCH CIRCUIT WIRING AND SWITCH CIRCUIT WIRING IS INDICATED DIAGRAMMATICALLY ONLY FOR CLARITY. CONTRACTOR SHALL INSTALL AND EXTEND BRANCH CIRCUITS AS REQUIRED BETWEEN SPACES AND SHALL TAKE SWITCH CIRCUIT FROM LIGHT FIXTURE WHERE POINT OF CONNECTION OF BRANCH CIRCUIT IS MADE.
2. WIRING SHOWN IN #10, #12 G., IN 3/4" C. UNLESS OTHERWISE NOTED.
3. DEVICE LOCATION SHOWN IS DIAGRAMMATIC. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS. DO NOT SCALE DRAWINGS.
4. REFER TO LIGHTING CIRCUIT SCHEDULE FOR FIXTURE INFORMATION.

1 REFER TO DETAIL 1/E-501 FOR LV TRENCH DETAIL

2 PROPOSED ELECTRICAL ROUTE REFER TO DETAIL 2/E-501 FOR LV TRENCH DETAIL - CONDUIT IN CONCRETE

3 TOWER HELP POINT

PROVIDE:

(1) 120V CKT, DP(6)
(1) DATA DROP

4 REFER TO 6/E-501 FOR CONDUIT PROVISIONS.

5 REFER TO 2/E-502 FOR FREESTANDING ENCLOSURE DETAIL/GENERAL PROVISIONS.
REFER TO SHEET NO. 10 ON CIVIL DRAWINGS
FOR CONCRETE EQUIPMENT PAD DETAILS

PROJECT

TOWN OF MONTVILLE, CONNECTICUT

TOWN BOAT LAUNCH IMPROVEMENTS AND FISHING PIER CONSTRUCTION

55 DOCK ROAD
UNCASVILLE, CT 06382

CONSULTANTS

STAMP



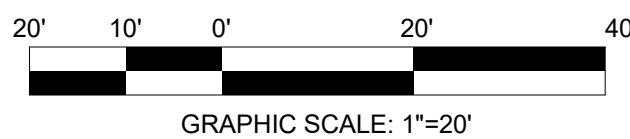
KEY PLAN

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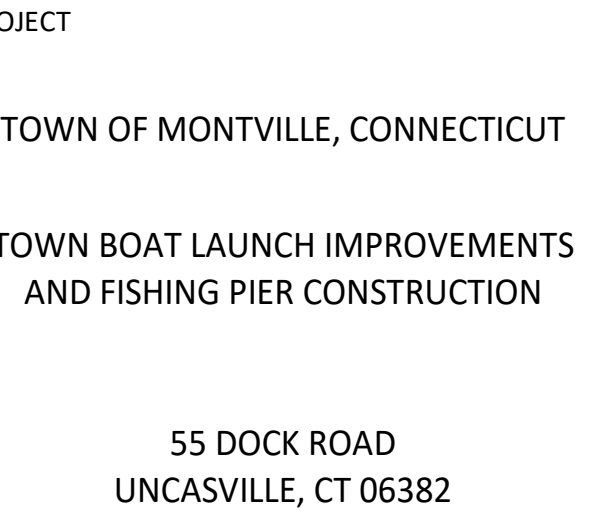
ELECTRICAL ELECTRICAL SITE PLAN

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CHECKED BY:RM
SCALE: As indicated
PROJECT #:T24066

ES-101



E-501



CONSULTANTS

AMP

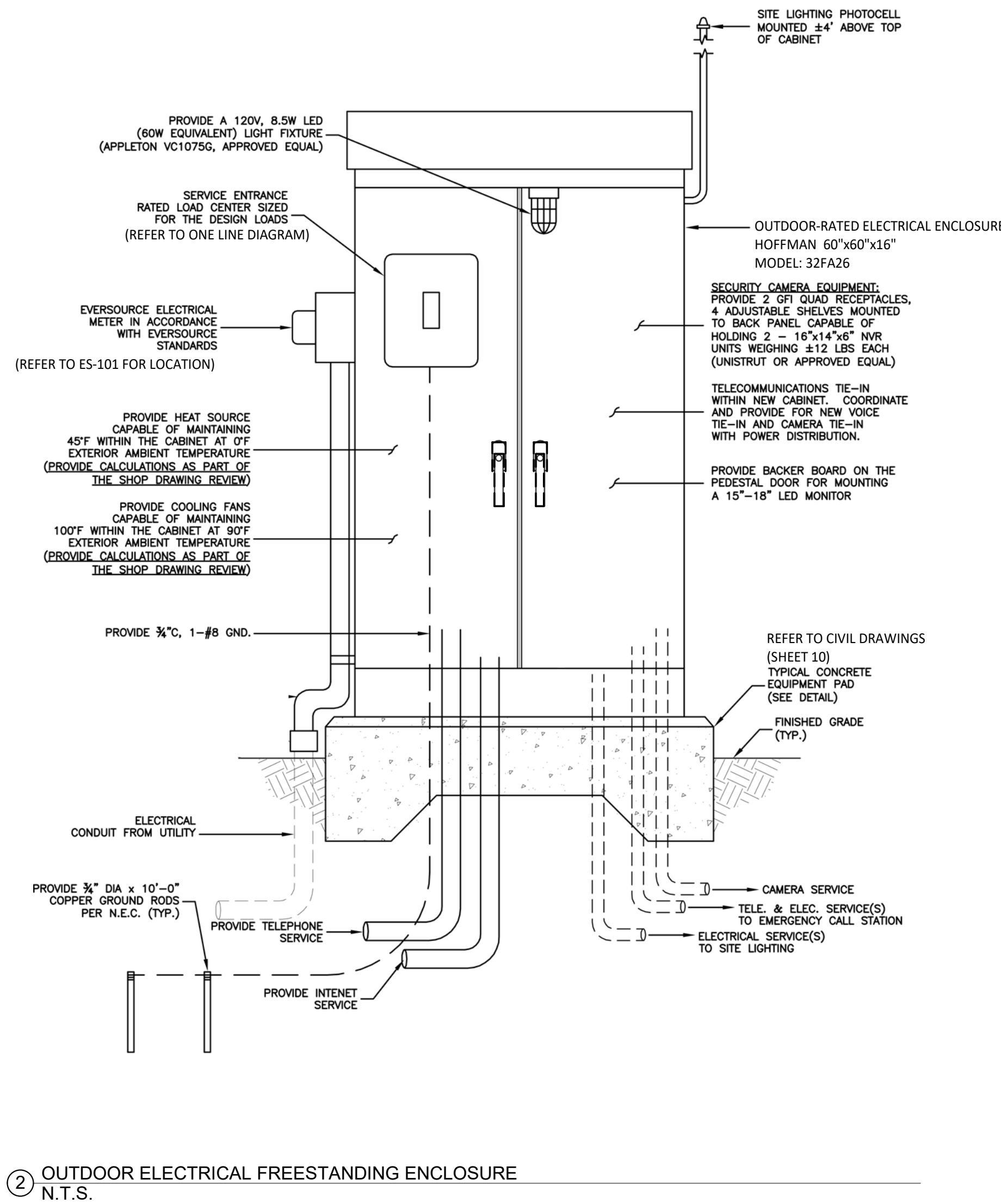
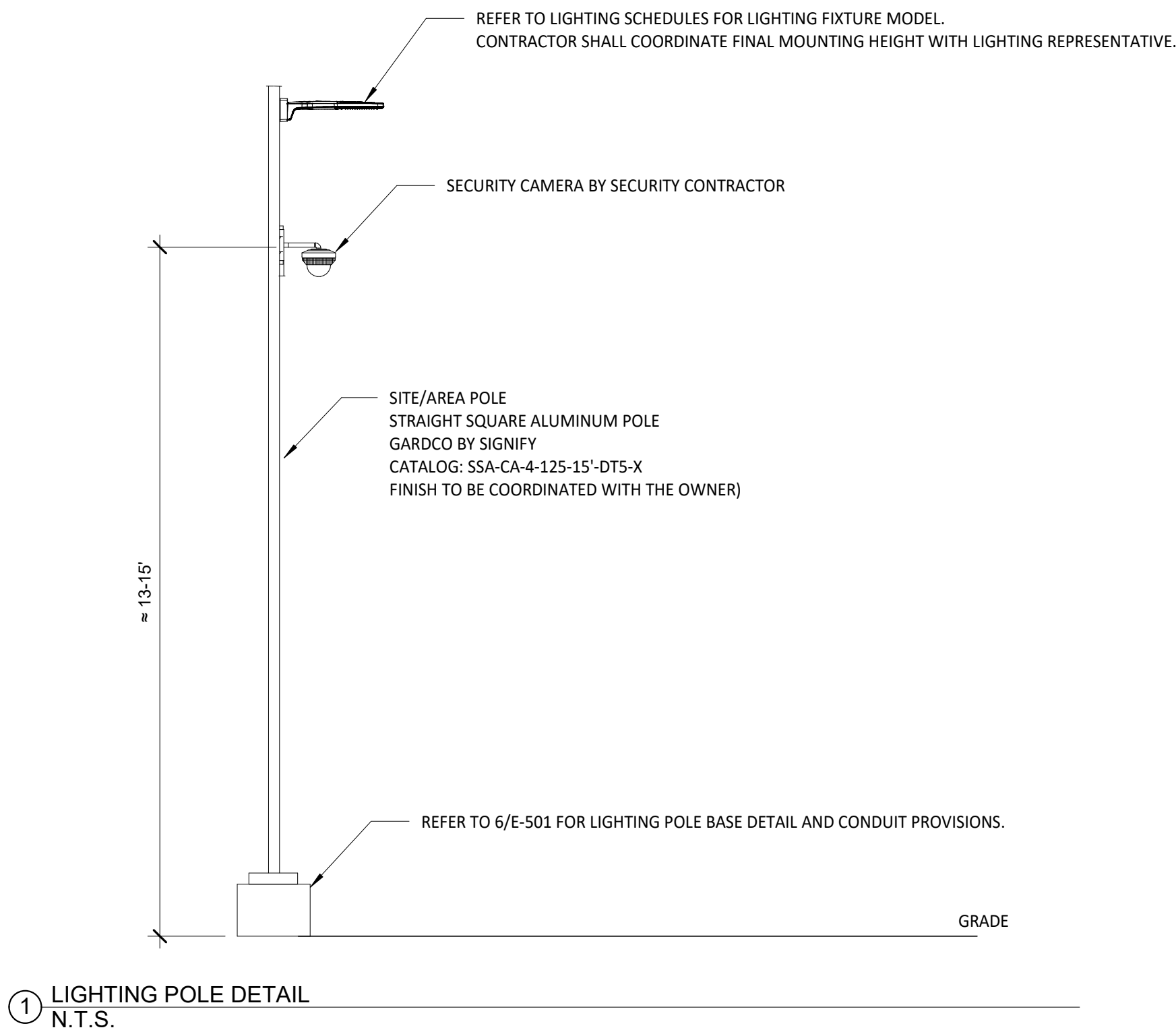
Y PLAN

[illegible]

ELECTRICAL DETAILS

DRAWN BY:DM
CHECKED BY:RM
SCALE: As indicated
PROJECT #:T24066

E-502



C



LIGHT FIXTURE SCHEDULE									
TYPE	MANUFACTURER	CATALOG NO.	DESCRIPTION	SOURCE			WATTAGE	MOUNTING	COMMENTS
				TYPE	COLOR	VOLTAGE			
SL-1	GARDCO	ECF-S-32L-365-WW-G2-AR-4-UNV-TLRPC (COORDINATE FINISH WITH THE OWNER)	AREA LIGHTING FIXTURE	LED	3000 K	120 V	40	POLE	POLE CATALOG: REFER TO 1/E-502 POLE HEIGHT: 15'

dme
DME DESIGN LLC
470 JAMES STREET STE 007
NEW HAVEN, CT 06513

55 DOCK ROAD
UNCASVILLE, CT 06382

CONSULTANTS

STAMP



KEY PLAN

[illegible]

ELECTRICAL ONELINE DIAGRAM & SCHEDULES

DRAWN BY:DM
CHECKED BY:RM
SCALE: 12" = 1'-0"
PROJECT #:T2406

E-701

Autodesk Docs://Montville Fishing Pier_2022/DME_Montville Fishing Pier_2022.rvt

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A

B

C

D

E

1

2

3

4

5

6

ELECTRICAL SPECIFICATION

PART 1: GENERAL

1. GENERAL REQUIREMENTS.

- A. EXAMINE ALL OTHER SECTIONS OF THE SPECIFICATIONS, GENERAL CONDITIONS, AND SUPPLEMENTARY GENERAL CONDITIONS FOR REQUIREMENTS WHICH AFFECTS WORK UNDER THIS SECTION, WHETHER OR NOT SUCH WORK IS SPECIFICALLY MENTIONED IN THIS SECTION.
- B. COORDINATE WORK WITH THAT OF ALL OTHER TRADES AFFECTING OR AFFECTED BY WORK OF THIS SECTION. COOPERATE WHICH SUCH TRADES TO ASSURE THE STEADY PROGRESS OF ALL WORK UNDER THE CONTRACT.
- C. FURNISH ALL TOOLS, MACHINERY, EQUIPMENT, APPURTENANCES AND APPLIANCES NECESSARY FOR THE SATISFACTORY HANDLING AND EXECUTION OF THE WORK.
- D. THE CONTRACTOR SHALL PROVIDE ALL ITEMS, ARTICLES, MATERIALS, OPERATIONS OR METHODS LISTED, MENTIONED OR SCHEDULED ON THE DRAWINGS AND/OR METHODS LISTED, MENTIONED, LABOR SUPERVISOR MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY AND REQUIRED FOR THEIR COMPLETION.
- E. DRAWINGS AND SPECIFICATIONS SHALL BE TAKEN TOGETHER, PROVIDE AS THOUGH MENTIONED IN BOTH, WORK SPECIFIED AND NOT SHOWN, OR WORK SHOWN AND NOT SPECIFIED, ALTHOUGH SUCH WORK IS NOT SPECIFICALLY SHOWN OR SPECIFIED, PROVIDE AS PART OF THIS WORK ALL SUPPLEMENTARY AND MISCELLANEOUS ITEMS, APPURTENANCES, DEVICES OR MATERIAL INCIDENTAL TO OR NECESSARY FOR A SOUND, SECURE AND COMPLETE INSTALLATION.
2. SCOPE OF WORK

- A. THE WORK COVERED BY THIS SECTION OF THE SPECIFICATIONS CONSISTS OF THE FURNISHINGS OF ALL LABOR, MATERIALS, APPLIANCES, EQUIPMENT, TOOLS, TRANSPORTATION, SUPERVISION, AND SERVICES REQUIRED TO FINISH AND INSTALL COMPLETELY TESTED AND OPERATIVE, ALL ELECTRICAL WORK IN ACCORDANCE WITH THESE SPECIFICATIONS AND THE APPLICABLE DRAWINGS INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
- B. PANELS, CONDUIT, WIRE, BOXES, FITTINGS, HANGERS AND SUPPORTS.
- C. GROUNDING, FIRE ALARM, TELECOMMUNICATIONS.
- D. SEAL ALL ELECTRICAL PENETRATIONS WITH FIRE-RETARDANT MATERIAL.
- E. OBTAIN ALL PERMITS AND PAY ASSOCIATED FEES.
3. CODES, RULES, PERMITS AND FEES

- A. MATERIALS FURNISHED, WORK INSTALLED SHALL COMPLY WITH RULES, RECOMMENDATIONS OF THE NFPA, REQUIREMENTS OF THE LOCAL AUTHORITIES HAVING JURISDICTION (AHJ), RECOMMENDATIONS OF THE FIRE INSURANCE RATING ORGANIZATION HAVING JURISDICTION, REQUIREMENTS OF THE GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION.
- B. ANY CHANGES REQUIRED IN THE INTENT OF DRAWINGS AND SPECIFICATIONS BY ANY PROPERLY AUTHORIZED INSPECTION AGENCY SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR REVIEW.

4. MATERIALS

- A. ALL MATERIALS AND EQUIPMENT REQUIRED FOR WORK SHALL BE NEW AND OF FIRST CLASS QUALITY.
- B. EQUIPMENT AND MATERIAL OF SAME TYPE OF CLASSIFICATION USED FOR SAME PURPOSE SHALL BE OF THE SAME MANUFACTURER.
- C. EQUIPMENT ACCESSORIES NOT SPECIFICALLY DESCRIBED OR IDENTIFIED BY MANUFACTURER'S CATALOG NUMBERS SHALL CONFORM TO NEMA OR OTHER APPLICABLE TECHNICAL STANDARDS AND BE SUITABLE FOR MAXIMUM WORKING VOLTAGE AND CURRENT AS INDICATED.
- D. ALL MATERIALS, EQUIPMENT AND DEVICES SHALL BE LISTED BY UNDERWRITERS LABORATORIES, INC. (UL) AND SO LABELED.

5. DRAWINGS AND SPECIFICATIONS

- A. THE ELECTRICAL DRAWINGS ARE GENERALLY DIAGRAMMATIC BUT SHALL BE FOLLOWED AS CLOSE AS ACTUAL CONSTRUCTION, AND WORK OF OTHER CONTRACTORS WILL PERMIT. ALL DEVIATIONS FROM DRAWINGS REQUIRED TO MAKE THE WORK OF THE ELECTRICAL CONTRACTOR CONFORM TO THE BUILDING AS CONSTRUCTION, AND TO THE WORK OF THE OTHER CONTRACTORS SHALL BE MADE BY THE ELECTRICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ALL MEASUREMENTS AT THE BUILDING AND SHALL BE RESPONSIBLE FOR THE CORRECTNESS OF SAME. NO EXTRA COMPENSATION WILL BE ALLOWED BECAUSE OF DIFFERENCES BETWEEN WORK SHOWN ON THE DRAWINGS AND MEASUREMENTS AT THE BUILDING.
- B. THE ELECTRICAL CONTRACTOR SHALL COOPERATE WITH OTHER CONTRACTORS DOING WORK ON THE BUILDING AS MAY BE NECESSARY FOR THE PROPER EXECUTION OF THE WORK OF THE VARIOUS TRADES EMPLOYED IN THE CONSTRUCTION ON THE PROJECT. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE MECHANICAL DRAWINGS FOR THE CONSTRUCTION DETAILS, AND SHALL COORDINATE HIS WORK WITH THAT OF THE OTHER CONTRACTORS TO THE END SO THAT UNNECESSARY DELAYS MAY BE AVOIDED.
6. SHOP DRAWINGS

- A. SHOP DRAWING SHALL BE SUBMITTED FOR THE FOLLOWING ITEMS OF EQUIPMENT:
- B. CONDUIT, WIRE AND MC CABLE
- C. WIRING DEVICES AND FLOORBOXES
- D. LIGHTING FIXTURES AND CONTROLS
- E. PANELBOARDS
- F. HANGERS AND FITTINGS
- G. FIRE ALARM DEVICES, CIRCUIT CALCULATIONS, BATTERY CALCULATIONS

PART 2: PRODUCTS

1. WIRE

- A. ALL WIRING SHALL BE TYPE THHN-THWN, 600V INSULATION, RATED 75 DEG. C. CONDUCTORS SHALL BE SOFT ANNEALED COPPER WITH MINIMUM CONDUCTIVITY OF 90%. THE JACKET SHALL BE ABRASION, MOISTURE, GASOLINE AND OIL RESISTANT NYLON. ALL WIRING SHALL BE UL LISTED AND CONFORM TO THE NEC FOR CONSTRUCTION AND USE.
- B. WIRING INSULATION SHALL BE COLOR CODED PER OWNERS STANDARDS, WHERE NO COLOR CODE IS PRESENT, THE FOLLOWING SHALL BE UTILIZED:
- *240/120V 1-PHASE
PHASE A: BLACK
PHASE B: RED
NEUTRAL: WHITE
GROUND: GREEN

- C. ALL WIRE AND CABLE SHALL BE AS MANUFACTURED BY SOUTHWIRE, ANACONDA, ALLIED OR EQUAL.
- D. ALL WIRING SHALL BE INSTALLED PER MANUFACTURERS PUBLISHED INSTALLATION INSTRUCTION. ALL BENDS SHALL BE MADE SO AS NOT TO DAMAGE THE CABLE.
- E. TYPE MC CABLE MAY BE USED FOR LIGHTING CIRCUITS WHERE CONCEALED ABOVE HUNG CEILINGS OR WHERE FISHED DOWN WITHIN STUD WALLS.
- F. NON-METALLIC CABLE (NM CABLE, ROMEX) OR SER CABLE ARE NOT ALLOWED.

2. CONDUIT

- A. ELECTRICAL METALLIC TUBING (EMT), INCLUDING ELBOWS AND BENDS, SHALL BE ZINC-COATED MILD STEEL. THE INTERIOR AND EXTERIOR SURFACES OF THE TUBING SHALL HAVE A CONTINUOUS ZINC COATING. EMT FITTINGS SHALL BE STEEL DOUBLE SET SCREW TYPE.
- B. ALUMINUM CONDUIT SHALL NOT BE UTILIZED ON THE PROJECT.
- C. LIQUDTIGHT FLEXIBLE CONDUIT SHALL BE PLASTIC JACKETED, GALVANIZED STEEL, SEALTITE TYPE EF FOR SIZES UP TO 1-1/4" AND TYPE UA FOR SIZED OVER 1-1/4". LIQUID TIGHT FLEXIBLE METAL CONDUIT SHALL BE HIGH TEMPERATURE, PLASTIC JACKETED GALVANIZED STEEL FOR HIGH TEMPERATURE LOCATIONS. LIQUDTIGHT FLEXIBLE METAL CONDUIT SHALL BE USED IN SHORT RUNS TO CONNECT MOTORS, OR TRANSFORMERS WHERE MOVEMENT AND VIBRATION REQUIRED A FLEXIBLE CONNECTION. MAXIMUM LENGTH NOT TO EXCEED 5'-0".
- D. MINIMUM SIZE CONDUIT SHALL BE 3/4".
- E. CONDUIT SHALL BE AS MANUFACTURED BY ANACONDA, ALLIED, REPUBLIC, WHEATLAND OR APPROVED EQUAL.
- F. ALL INTERIOR BRANCH CIRCUITS SHALL BE EMT. MAKE CONNECTIONS TO MOTORS AND EQUIPMENT WITH PVC JACKETED FLEXIBLE METALLIC CONDUIT AND LIQUID-TIGHT CONNECTORS.
- G. CONDUIT AND EMT RUNS SHALL BE MECHANICALLY AND ELECTRICALLY CONTINUOUS. CONDUIT SHALL ENTER AND BE SECURED TO CABINET, JUNCTION BOX, PULL BOX, OR OUTLET BOX WITH LOCKNUT OUTSIDE AND BUSHING INSIDE, OR WITH LIQUDTIGHT, THREADED, SELF-LOCKING, COLD-WELD WEDGE ADAPTER.

3. PANELBOARDS

- A. FURNISH AND INSTALL ALL PANELBOARDS AS SCHEDULED ON PLANS AND DESCRIBED HEREIN.
- B. PANELBOARDS SHALL BE UL LISTED (UL 67) AND SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NEC AND NEMA.
- C. PANELBOARDS SHALL BE PROVIDED WITH TYPEWRITTEN DIRECTORIES OF THE CIRCUIT NUMBERS, EQUIPMENT SERVED, AND AREA SERVED. EACH PANEL SHALL HAVE AN ENGRAVED NAMEPLATE FOR EACH SECTION.
- D. PANELBOARDS SHALL BE OF DEAD FRONT CONSTRUCTION WITH THERMAL MAGNETIC CIRCUIT BREAKERS.

3.1 PANELBOARD RATINGS

- A. PANELS SHALL HAVE NOT LESS THAN THE SHORT CIRCUIT RATINGS AVAILABLE FROM THE POWER SOURCES. NOT SERIES RATINGS SHALL BE APPLIED ON PANELS. ALL 3P CIRCUIT BREAKERS IN PANELS SHALL BE FULLY RATED.
- B. PANELBOARDS RATED 240VAC OR LESS SHALL HAVE SHORT CIRCUIT RATINGS NO LESS THAN 30KAIC.
- C. PANELBOARDS SHALL BE LABELED WITH A UL SHORT-CIRCUIT RATING.

3.2 PANELBOARD CONSTRUCTION

- A. INTERIORS SHALL BE COMPLETELY FACTORY ASSEMBLED. THEY SHALL BE DESIGNED SUCH THAT SWITCHING AND PROTECTIVE DEVICES AND BE REPLACED WITHOUT DISTURBING ADJACENT UNITS AND WITHOUT REMOVING THE MAIN BUS CONNECTORS.
- B. TRIMS FOR BRANCH CIRCUIT PANELBOARDS SHALL BE SUPPLIED WITH A HINGED DOOR OVER ALL CIRCUIT BREAKER HANDLES. DOORS IN PANELBOARD TRIMS SHALL NOT UNCOVER ANY LIVE PARTS. DOORS SHALL HAVE A SEMI FLUSH CYLINDER LOCK AND CATCH ASSEMBLY. DOOR-IN-DOOR TRIM SHALL BE PROVIDED.
- C. SURFACE TRIMS SHALL BE SAME HEIGHT AND WIDTH AS BOX. FLUSH TRIMS SHALL OVERLAP THE BOX BY 3/4" ON ALL SIDES.
- D. ALL LOCKS SHALL BE KEYED ALIKE.

3.3 BUS

- A. BUS BARS SHALL BE CURRENT DENSITY RATED AND MEET UL 67 TEMPERATURE RISE LIMITS THROUGH ACTUAL TEST.
- B. MAIN BUS BARS SHALL BE COPPER, OR ALUMINUM, SIZED IN ACCORDANCE WITH UL STANDARDS TO LIMIT TEMPERATURE RISE ON ANY CURRENT CARRYING PART TO A MAXIMUM OF 65 DEG. C. ABOVE AN AMBIENT OF 40 DEG. C. MAXIMUM.
- C. A SYSTEM GROUND BUS SHALL BE INCLUDED IN ALL PANELS.
- D. FULL-SIZE (100%-RATED) INSULATED NEUTRAL BARS SHALL BE INCLUDED FOR PANELBOARDS SHOWN WITH NEUTRAL BUS BAR TAPS FOR PANELS WITH SINGLE-POLE BRANCHES SHALL BE ARRANGED FOR SEQUENCE PHASING OF THE BRANCH CIRCUIT DEVICES. NEUTRAL BUSING SHALL HAVE A SUITABLE LUG FOR EACH OUTGOING FEEDER REQUIRING A NEUTRAL CONNECTION.

4. NOT USED.

5. HANGERS AND SUPPORTS

A. INSTALLATION OF HANGERS AND SUPPORTS

1. PROVIDE ALL REQUIRED HANGERS, SUPPORTS, SLEEVES, CLAMPS, ETC., AS REQUIRED FOR ALL EQUIPMENT INDICATED ON THE DRAWINGS.
2. ALL HORIZONTAL RUNS OF CONDUITS SHALL BE PROPERLY GROUPED, ALIGNED, USING SUBSTANTIAL HANGERS, STRAPS, ETC. HANGERS AND SUPPORTS SHALL BE INSTALLED AT INTERVALS NOT EXCEEDING NEC RECOMMENDATIONS.
3. SUPPORTING RODS SHALL BE THREADED AT ENDS WITH ALLOWANCE FOR ADJUSTMENT. WIRE AND STRAP HANGERS WILL NOT BE PERMITTED. ALL CONDUIT AND FITTINGS SHALL BE SUPPORTED BY HANGERS, CHANNELS, ETC., USING BOLTS AND/OR LEAD EXPANSION SLEEVES.
4. LIGHTING FIXTURES SHALL BE SUPPORTED AND HUNG FROM BUILDING STEEL OR MASONRY, INDEPENDENT OF THE CEILING CONSTRUCTION EITHER USING RODS, CHAIN HANGERS, OR MECHANICAL SUSPENSION CHANNEL. ALL PENDANT LIGHTING FIXTURES SHALL BE SUSPENDED BY USING THREADED CONDUIT 1/2" MINIMUM, WITH CANOPY KIT AND PAINTED PER ARCHITECT'S SELECTION.
5. STRUCTURAL SUPPORT INTERFACE.
6. ALL CONDUIT, RACEWAYS, ELECTRICAL EQUIPMENT AND OTHER SIMILAR SYSTEM COMPONENTS WHICH ARE SUPPORTED BY ROOF JOINTS SHALL BE HUNG FROM THE TOP CHORD OR BOTTOM CHORD PANEL POINT OR A PANEL POINT SHALL BE PROVIDED BY APPLYING A VERTICAL WEB MEMBER. THE MAXIMUM LOAD SHALL NOT EXCEED 250 LBS.

B. RACEWAYS SUPPORTS AND HANGERS

1. RACEWAYS SHALL BE SECURELY FASTENED TO THE STRUCTURE, WITH SUPPORT MECHANISMS SPACED AS DICTATED BY THE NEC OR AS SPECIFIED BELOW, WHICHEVER IS MORE STRINGENT.

6. LIGHTING

- A. PROVIDE LIGHT FIXTURES OF THE TYPES SHOWN AND SCHEDULED ON THE DRAWINGS. COMPLETE WITH LAMPS.

- B. THE LIGHT FIXTURE SCHEDULE IS INTENDED TO INDICATE STYLE, QUALITY, AND PERFORMANCE FOR EACH FIXTURE TYPE LISTED. IN ALL CASES THE BASE SPECIFIED FIXTURE SHALL SERVE AS THE STANDARD BY WHICH PROPOSED EQUAL FIXTURES WILL JUDGED. IT SHALL BE INCUMBENT UPON THE CONTRACTOR TO DEMONSTRATE THE EQUALITY OF ANY PROPOSED SUBSTITUTE FIXTURE, INCLUDING EQUIVALENT LUMEN OUTPUT AND PERFORMANCE.

C. LAMPS/LEDS AND BALLASTS/DRIVER SHALL BE COMPATIBLE WITH, AND LISTED FOR USE WITH EACH OTHER.

- D. LAMPS SHALL BE NEW, OF TYPE, WATTAGE, VOLTAGE, AND SIZE AS INDICATED ON THE LIGHTING FIXTURE SCHEDULE. FLUORESCENT LAMPS OR LEDS SHALL BE WHITE COLOR TEMPERATURE 3500K. LAMPS/LEDS SHALL BE AS MANUFACTURED BY SYLVANIA, GENERAL ELECTRIC, PHILIPS, OR APPROVED EQUAL.

- E. FURNISH TO OWNER ON DATE OF FINAL ACCEPTANCE OF PROJECT, ONE HALF DOZEN SPARE LAMPS OF EACH WATTAGE AND TYPE OF LAMP AND THREE SPARE BALLASTS/DRIVERS FOR EACH TYPE OF BALLAST/DRIVE. REFER TO LIGHTING FIXTURE SCHEDULE FOR LAMP/LED AND BALLAST/DRIVER DATA.

- F. PROVIDE FRAME KITS AS REQUIRED FOR FIXTURES RECESSED IN SHEET ROCK CEILINGS. PROVIDE SPECIAL FITTINGS AND MATERIALS AS REQUIRED TO PROPERLY SUPPORT FIXTURES. INSTALL FIXTURES SO THAT THE WEIGHT OF THE FIXTURE IS SUPPORTED, EITHER DIRECTLY OR INDIRECTLY, BY A SOUND AND SAFE STRUCTURAL MEMBER OF THE BUILDING, USING ADEQUATE NUMBER AND TYPE OF FASTENINGS TO ASSURE A SAFE INSTALLATION IN CONFORMANCE WITH CODE.

- G. BRANCH CIRCUIT WIRING AND ARRANGEMENT OF HOME RUNS HAS BEEN DESIGNED FOR MAXIMUM ECONOMY, CONSISTENT WITH ADEQUATE SIZING FOR VOLTAGE DROPS, CIRCUIT AMPACITIES AND OTHER CONSIDERATIONS. INSTALL THE WIRING WITH CIRCUITS ARRANGED AS SHOWN ON THE DRAWINGS, EXCEPT AS APPROVED IN ADVANCE BY THE ARCHITECT AND ENGINEER. DO NOT MAKE CHANGES AND REARRANGE CIRCUITS WITHOUT PRIOR APPROVAL. PROVIDE A SEPARATE NEUTRAL CONDUCTOR FOR EACH 120V OR 277V SINGLE PHASE CIRCUIT DO NOT USE A COMMON NEUTRAL FOR GROUPS OF CIRCUITS. PROVIDE A SEPARATE GROUND WIRE FOR EACH CIRCUIT.

7. WIRING DEVICES

- A. ALL DEVICES SHALL BE FURNISHED IN HUBBELL OR APPROVED EQUAL IN COOPER, PASS & SEYMOUR, OR LEVITON. DEVICES SPECIFIED HEREIN ARE BASED ON HUBBELL, UNLESS OTHERWISE NOTED. RECEPTACLE AND SWITCH COLORS SHALL BE AS DIRECTED BY THE ARCHITECT.

LIGHTING SWITCHES SHALL BE TOGGLE TYPE, HEAVY DUTY SPECIFICATION GRADE, 20 AMP, #CS1221 FOR SINGLE POLE.

RECEPTACLES SHALL BE HEAVY DUTY SPECIFICATION GRADE, 2 POLE, 3 WIRE GROUNDING, NEMA 5-20R, RATED 20 AMPS AT 125 VOLTS AC, #HBL5361 FOR SINGLE RECEPTACLES, #HBL5362 FOR DUPLEX RECEPTACLES, TWO (2)#HBL5362 FOR QUADRUPEX RECEPTACLES, #GF5362 FOR DUPLEX GFCI RECEPTACLES. WALL PLATES SHALL BE TYPE 302 STAINLESS STEEL, FINISH TO BE DETERMINED BY ARCHITECT. FURNISH WALL PLATES IN SAME MANUFACTURER AS DEVICES.

LIGHTING CONTROLS: REFER TO DRAWINGS.

PART 3 EXECUTION

1. GUARANTEE

- A. GUARANTEE BY ACCEPTANCE OF CONTRACT, THAT WORK INSTALLED WILL BE FREE FROM DEFECTS IN WORKMANSHIP AND THAT MATERIALS AND APPARATUS WILL FUNCTION WITHIN THE CAPACITIES AND CHARACTERISTICS SPECIFIED. IF, DURING PERIOD OF ONE YEAR, OR AS OTHERWISE SPECIFIED, FROM DATE OF CERTIFICATE OF ACCEPTANCE OF WORK, ANY SUCH DEFECTS IN WORKMANSHIP, MATERIAL OR PERFORMANCE APPEAR, SUCH DEFECTS SHALL BE CORRECTED WITHIN REASONABLE TIME AS SPECIFIED IN NOTICE FROM THE ENGINEER. IN DEFAULT THEREOF, THE OWNER MAY HAVE SUCH WORK DONE AND CHARGE THE COST TO THE CONTRACTOR.

2. GENERAL

- A. ALL SYSTEMS SHALL BE TESTED FOR SHORT CIRCUITS AND GROUNDS PRIOR TO ENERGIZING. ANY DEFECTS FOUND SHALL BE CORRECTED.
- B. ALL WORK SHALL BE GROUNDED IN ACCORDANCE WITH CODE REQUIREMENTS. COMPLETE EQUIPMENT GROUNDING SYSTEM (INSULATED GREEN WIRE) SHALL BE INSTALLED IN ALL BRANCH CIRCUITS.
- C. CIRCUIT BREAKERS USED TO CONTROL HEATER, AIR CONDITIONS AND REFRIGERATION EQUIPMENT SHALL BE UL LISTED TYPE HACR RATED.
- D. CLEAN OUT CONDUIT BEFORE INSTALLATION OF CONDUCTOR.
- E. ALL CONDUITS SHALL BE PROPERLY SUPPORTED IN ACCORDANCE WITH CODE REQUIREMENT.

3. CONNECTIONS TO EQUIPMENT

- A. WHERE CONNECTIONS ARE MADE IN EXISTING PANELS, THE PANEL INDEX SHALL BE REVISED TO INDICATE THE NEW LOADS SERVED. NEW CIRCUIT BREAKERS ADDED TO EXISTING PANELS SHALL BE THE SAME FRAME SIZE, VOLTAGE RATING AND INTERRUPTING CAPACITY AS EXISTING PANEL AND CIRCUIT BREAKERS.
- B. CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH ALL SECTIONS OF THESE SPECIFICATIONS IN ORDER TO PROVIDE NECESSARY ELECTRICAL CONNECTIONS TO ALL EQUIPMENT WHETHER OR NOT SUCH EQUIPMENT SHALL BE CONNECTED, COMPLETE, READY FOR OPERATION IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- C. PROVIDE ALL POWER WIRING COMPLETE FROM POWER SOURCE TO MOTOR OR EQUIPMENT JUNCTION BOX INCLUDING POWER WIRING THROUGH STARTERS.
- D. SAFETY DISCONNECT SWITCHES SHALL BE PROVIDED FOR ALL MOTORS WHERE REQUIRED BY THE NATIONAL ELECTRICAL CODE WHETHER SHOWN ON THE DRAWINGS OR NOT.
3. CORPORATION WITH OTHER TRADES

- A. COOPERATE WITH OTHER TRADES IN ORDER THAT ALL SYSTEMS MAY BE INSTALLED IN THE BEST ARRANGEMENT. COORDINATE AS REQUIRED WITH ALL OTHER TRADES TO SHARE SPACE IN COMMON AREAS AND TO PROVIDE THE MAXIMUM OF ACCESS TO EACH SYSTEM.

4. CLEANING

- A. CONTRACTOR SHALL REMOVE ANY MATERIALS NOT INSTALLED IN HIS WORK WHICH WOULD INTERFERE WITH THE WORK OF BUILDING PERSONNEL OR OTHER CONTRACTORS, IF SO DIRECTED BY THE OWNER. AT THE COMPLETION OF WORK EACH DAY, THE ELECTRICAL CONTRACTOR SHALL CLEAN UP AND REMOVE FROM THE PREMISES ALL DEBRIS AND MATERIALS NOT INSTALLED.

5. CONDUITS

- A. UTILIZE ELECTRICAL METALLIC TUBING EXPOSED IN FINISHED AREAS AND MECHANICAL ROOMS. FOR ALL FEEDERS, ABOVE HUNG CEILINGS AND IN OTHER LOCATIONS NOT LISTED AS DAMP, WET, OR SUBJECT TO PHYSICAL ABUSE.
- B. ALL CONDUIT RUNS IN MECHANICAL ROOMS (UP TO 8'-0" AFF) SHALL BE EMT. EXTERIOR CONDUIT RUNS SHALL BE GALVANIZED STEEL CONDUITS (GRSC).
- C. FOR EXPOSED RUNS IN AREAS SUBJECT TO WEATHER, ATTACH SURFACE MOUNT CONDUIT WITH CLAMPS. UTILIZE GALVANIZED STEEL STRAPS AND STAINLESS STEEL HARDWARE FOR ALL EXPOSED WORK IN DAMP LOCATIONS. ALLOW 1/16" CLEARANCE AT ALL SUPPORTS FOR EXPANSION AND DEFLECTION.

6. PANELBOARDS

- A. PANELBOARDS SHALL BE INSTALLED IN LOCATIONS AS SHOWN ON THE DRAWINGS. PANELBOARDS SHALL BE MOUNTED SUCH THAT THE HANDLE OF THE HIGHEST CIRCUIT BREAKER DOES NOT EXCEED 6'-6" AFF. PANEL BOARD CABINETS SHALL BE INSTALLED SURFACE MOUNTED AS INDICATED BY TRIM TYPE AS SHOWN ON THE DRAWING, NO PIPING, DUCTWORK, OR OTHER MECHANICAL EQUIPMENT SHALL BE ALLOWED TO PASS THROUGH THE AREA EXTENDING FROM THE FLOOR TO THE STRUCTURED CEILING WITH THE WIDTH EQUAL TO WIDTH OF THE PANEL PLUS 6" ON EITHER SIDE OF PANEL.
- B. SURFACE MOUNTED PANELBOARDS SHALL BE MOUNTED INDEPENDENT OF THE WALL AND CONNECTING RACEWAYS. FURNISH STEEL CHANNEL SUPPORTS MOUNTED ON THE WALL AND ATTACH THE PANELBOARDS TO THIS SUPPORT.
- C. PANELBOARD DOORS SHALL CONTAIN HOLDERS FOR DIRECTORY CARDS WITH PLASTIC PROTECTOR. PANELBOARD DIRECTORY CARDS SHALL BE TYPEWRITTEN TO INDICATE AREAS AND/OR DEVICES SERVED BY EACH CIRCUIT.
- D. PANELBOARDS SHALL BE INSTALLED WITH CLEAR WORK SPACE AS REQUIRED BY NEC.
- E. PANELBOARDS LOCATED IN SPACES SUBJECT TO STORAGE SHALL HAVE THE CLEAR WORKING SPACE PER NFPA 70, "ELECTRIC ACCESS - NOT FOR STORAGE" SHALL BE PERMANENTLY MARKED ON THE FLOOR AND WALL ABOUT THE PANEL. PANELBOARDS SHALL NOT BE LOCATED IN EGRESS CORRIDORS.
- F. PROVIDE BAKELITE NAMEPLATES WITH LABELING ON ALL ELECTRICAL EQUIPMENT. NAMEPLATES SHALL BE SECURED TO PANELBOARDS AND EQUIPMENT. BLACK BACKGROUND WITH LETTERS, 1" X 3" WITH 3/8" HIGH LETTERS ON 1/16" THICK PLATE.

7. NOT USED

8. RACEWAY FIREPROOFING, SUPPORTS AND HANGERS

- A. RACEWAYS SHALL BE SECURELY FASTENED TO THE STRUCTURE, WITH SUPPORT MECHANISMS SPACED AS DICTATED BY THE NEC OR AS SPECIFIED BELOW, WHICHEVER IS MORE STRINGENT:
- B. 1/2" THRU 1": 6'-0"
- C. 1 1/4" THRU 1 1/2": 8'-0"
- D. 2" THRU 4": 10'-0"
- E. FLEXIBLE METAL CONDUIT: 4'-0"
- F. WIREWAYS: 5'-0"
- B. SUPPORT EMT CONDUITS WITHIN 3'-0" OF EVERY JUNCTION BOX, PULLBOX OR TERMINATION. SUPPORT FLEXIBLE CONDUIT WITHIN 12" ON EACH SIDE OF EVERY OUTLET BOX OR FITTING.
- C. SUPPORT CONDUITS BY PIPE STRAPS, WALL BRACKETS, HANGERS OR CEILING TRAPEZE. DO NO WELD CONDUITS OR PIPE STRAPS TO STEEL STRUCTURES UNLESS SPECIFICALLY INDICATED.
- D. FASTENERS ATTACHED TO CONCRETE SHALL BE VIBRATION AND SHOCK RESISTANT.
- E. WHEN PENETRATING RATED FLOORS OR WALLS, PROVIDE FIREPROOFING TO MATCH EXISTING.

9. AS-BUILT DRAWINGS

- A. A COMPLETE SET OF AS-BUILT DRAWINGS FOR THE PROJECT SHALL BE DELIVERED TO THE ENGINEER FOR APPROVAL AND ALL DEVIATIONS NOTED BY THE ENGINEER SHALL BE CORRECTED BY THE CONTRACTOR AND RETURNED TO THE ENGINEER FOR FURTHER DELIVERY TO THE OWNER.



PROJECT

TOWN OF MONTVILLE, CONNECTICUT

TOWN BOAT LAUNCH IMPROVEMENTS
AND FISHING PIER CONSTRUCTION

55 DOCK ROAD
UNCASVILLE, CT 06382

CONSULTANTS

STAMP



KEY PLAN

REV	DESCRIPTION	DATE

ELECTRICAL
SPECIFICATIONS

DRAWN BY:DM
CHECKED BY:RM
SCALE: N.T.S.
PROJECT #T24066

E-901