

WHITE LAKE TOWNSHIP TOWNSHIP BOARD

REPORT OF THE COMMUNITY DEVELOPMENT DEPARTMENT

TO: Township Board

FROM: Justin Quagliata, Staff Planner

DATE: January 6, 2023

RE: Stanley Park Phase 1 Design

At its February 15, 2022 meeting the Township Board approved a proposal from Beckett & Raeder (BRI) to complete design and engineering services for Stanley Park Phase 1 development. At that time the Board required it approve the plans prior to commencement of construction documents. The plan set submitted is consistent with the improvements required to be completed per the Land and Water Conservation Fund (LWCF) grant approved by the State and Federal government. Also, the Board approved the improvements associated with the LWCF grant request in February 2021 prior to the April 2021 application submittal. At this time, Board approval of the plans is requested to allow BRI to proceed with preparing construction and bid documents, submit for EGLE and OCWRC permits, and submit construction documents to the Michigan Department of Natural Resources (MDNR) for review. Please note the project approval from the U.S. Fish and Wildlife Service (USFWS) requires tree preparation to take place prior to March 31.

Attachment

1. Stanley Park Phase 1 Improvement plans dated January 6, 2023.

STANLEY PARK IMPROVEMENTS

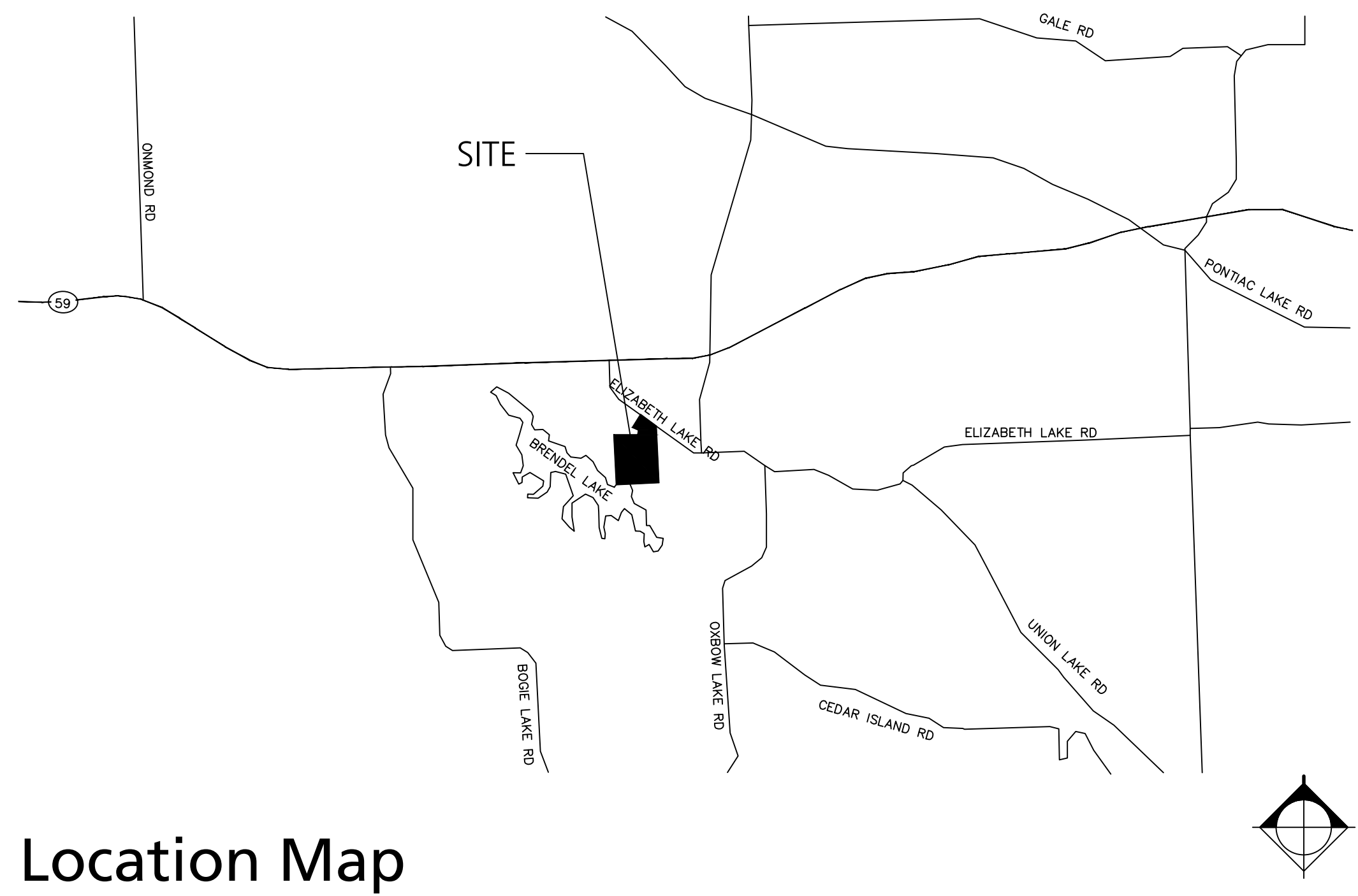
Date Issued: December 14, 2022

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DESIGN DEVELOPMENT

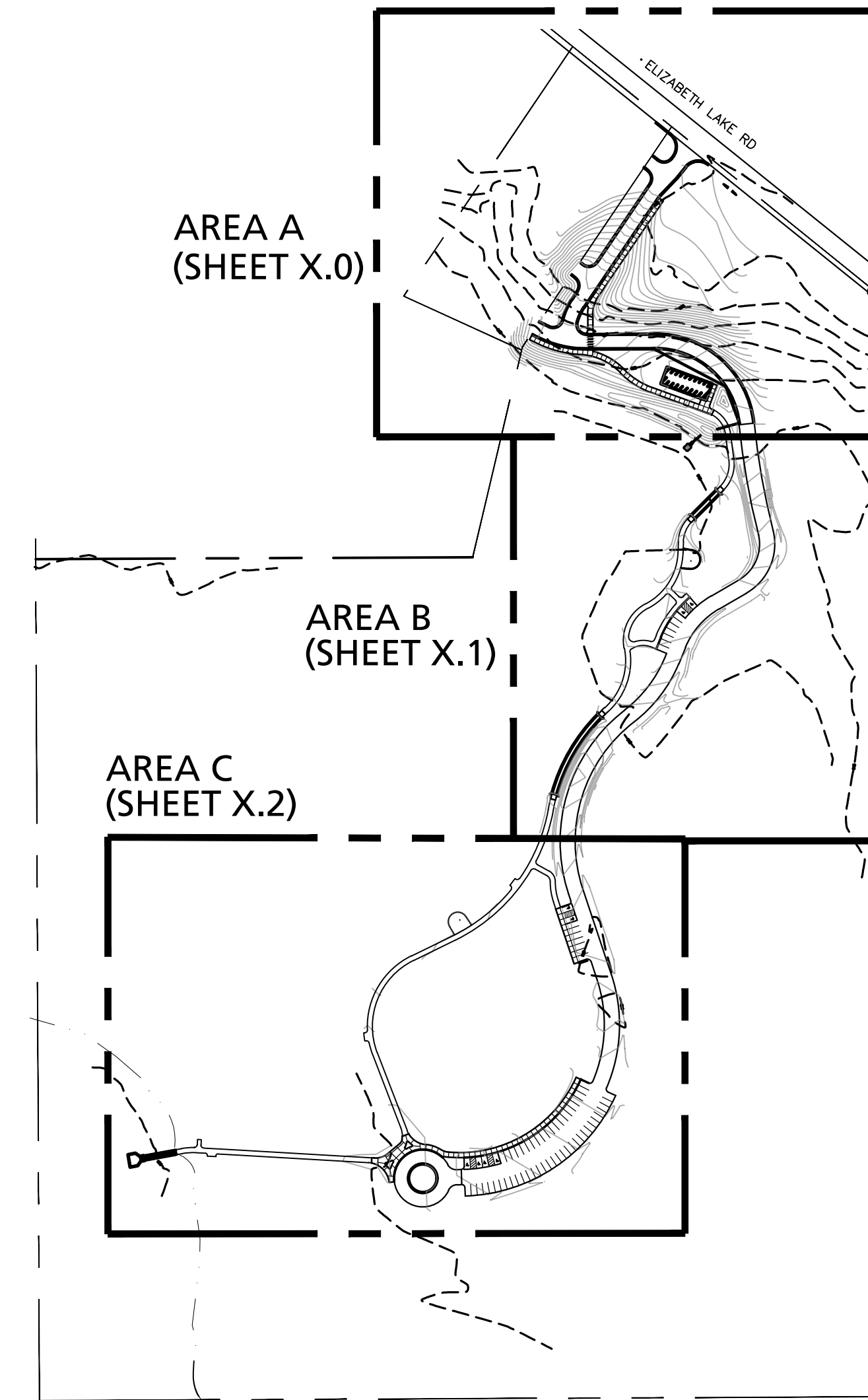
10785 Elizabeth Lake Rd, White Lake Township, Michigan

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Location Map

No Scale



Key Map

No Scale

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Consultant Team

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Bid Alternates

- Alternate 1 - Add pathway/sidewalk connections north and west of remnant building
- Alternate 2 - Add two (2) 9-space parking areas (18 spaces total) in central area of park.
- Alternate 3 - Add timber bollards at roadway shoulders.
- Alternate 4 - Add exercise station in central area of park.

Miss Dig Notes

Contractor shall call Miss Dig (811) a minimum of three working days prior to start of construction, excluding weekends and holidays.

Abbreviations

- SESC - Soil Erosion and Sediment Control
- INV - Inverse Elevation
- TYP - Typical
- EX - Existing
- GV - Gate Valve
- O.C. - On Center
- CAL - Caliper
- LOD - Limit of Disturbance
- DIA - Diameter

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Project Title

White Lake Twp.
Stanley Park
Phase 1 Implementation

White Lake Township, MI

Sheet Title

Dates

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12.14.2022	DRAFT DESIGN DEVELOPMENT
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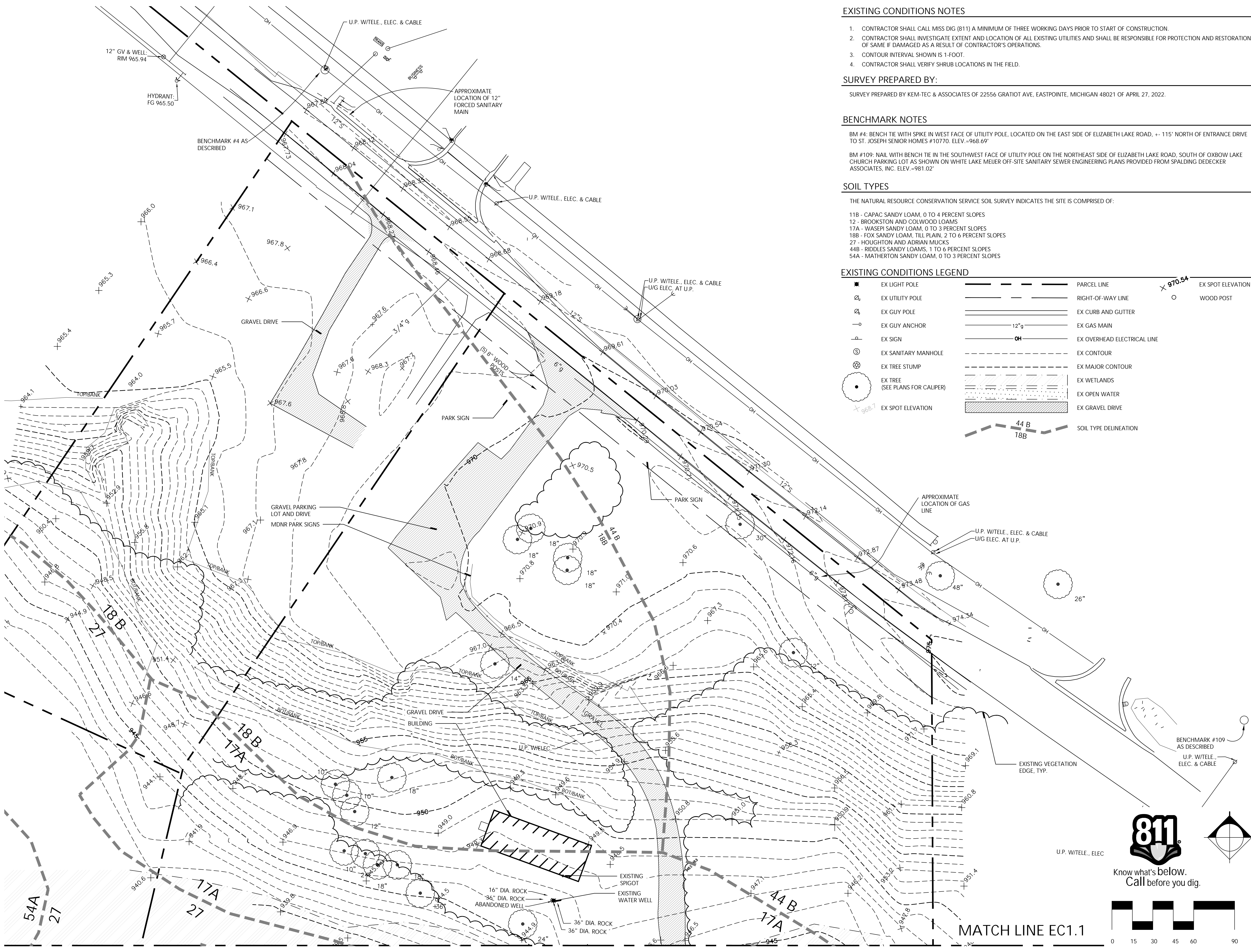
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C0.0 COVER SHEET



EXISTING CONDITIONS NOTES

1. CONTRACTOR SHALL CALL MISS DIG (811) A MINIMUM OF THREE WORKING DAYS PRIOR TO START OF CONSTRUCTION.
2. CONTRACTOR SHALL INVESTIGATE EXTENT AND LOCATION OF ALL EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR PROTECTION AND RESTORATION OF SAME IF DAMAGED AS A RESULT OF CONTRACTOR'S OPERATIONS.
3. CONTOUR INTERVAL SHOWN IS 1-FOOT.
4. CONTRACTOR SHALL VERIFY SHRUB LOCATIONS IN THE FIELD.

SURVEY PREPARED BY:

SURVEY PREPARED BY KEM-TEC & ASSOCIATES OF 22556 GRATIOT AVE, EASTPOINTE, MICHIGAN 48021 OF APRIL 27, 2022.

BENCHMARK NOTES

BM #4: BENCH TIE WITH SPIKE IN WEST FACE OF UTILITY POLE, LOCATED ON THE EAST SIDE OF ELIZABETH LAKE ROAD, +- 115' NORTH OF ENTRANCE DRIVE TO ST. JOSEPH SENIOR HOMES #10770. ELEV. =968.69'

BM #109: NAIL WITH BENCH TIE IN THE SOUTHWEST FACE OF UTILITY POLE ON THE NORTHEAST SIDE OF ELIZABETH LAKE ROAD, SOUTH OF OXBOW LAKE CHURCH PARKING LOT AS SHOWN ON WHITE LAKE MEJUR OFF-SITE SANITARY SEWER ENGINEERING PLANS PROVIDED FROM SPALDING DEDECKER ASSOCIATES, INC. ELEV. =981.02'

SOIL TYPES

THE NATURAL RESOURCE CONSERVATION SERVICE SOIL SURVEY INDICATES THE SITE IS COMPRISED OF:

- 11B - CAPAC SANDY LOAM, 0 TO 4 PERCENT SLOPES
- 12 - BROOKSTON AND COLWOOD LOAMS
- 17A - WASEPI SANDY LOAM, 0 TO 3 PERCENT SLOPES
- 18B - FOX SANDY LOAM, TILL PLAIN, 2 TO 6 PERCENT SLOPES
- 27 - HOUGHTON AND ADRIAN MUCKS
- 44B - RIDDLES SANDY LOAMS, 1 TO 6 PERCENT SLOPES
- 54A - MATHERTON SANDY LOAM, 0 TO 3 PERCENT SLOPES

EXISTING CONDITIONS LEGEND

■	EX LIGHT POLE	---	PARCEL LINE	+	EX SPOT ELEVATION
⊕	EX UTILITY POLE	---	RIGHT-OF-WAY LINE	○	WOOD POST
⊕	EX GUY POLE	---	EX CURB AND GUTTER		
⊕	EX GUY ANCHOR	---	EX GAS MAIN		
⊕	EX SIGN	---	EX OVERHEAD ELECTRICAL LINE		
⊕	EX SANITARY MANHOLE	---	EX CONTOUR		
⊕	EX TREE STUMP	---	EX MAJOR CONTOUR		
⊕	EX TREE (SEE PLANS FOR CALIPER)	---	EX WETLANDS		
+	EX SPOT ELEVATION	---	EX OPEN WATER		
		---	EX GRAVEL DRIVE		
		---	SOIL TYPE DELINEATION		

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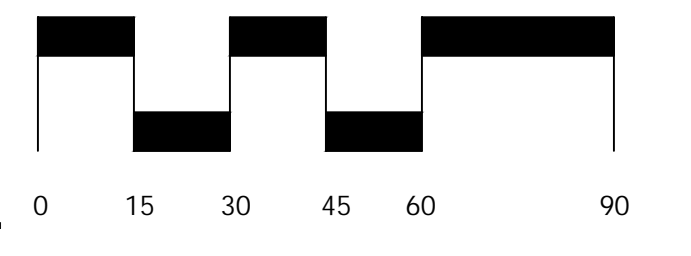
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EC1.0 EXISTING CONDITIONS
 PLAN



MATCH LINE EC1.1

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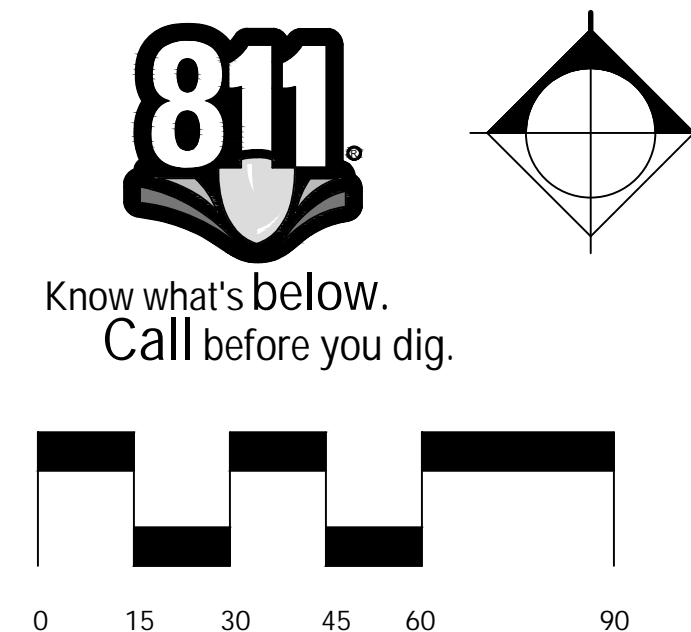
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EC1.1 EXISTING CONDITIONS
 PLAN

MATCH LINE EC1.0



MATCH LINE EC1.2



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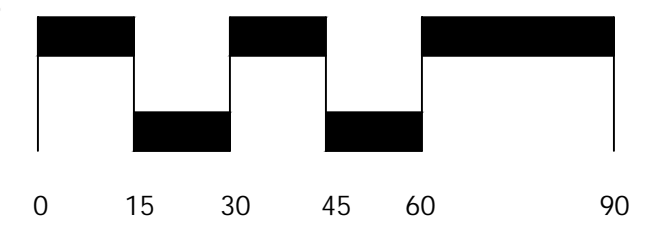
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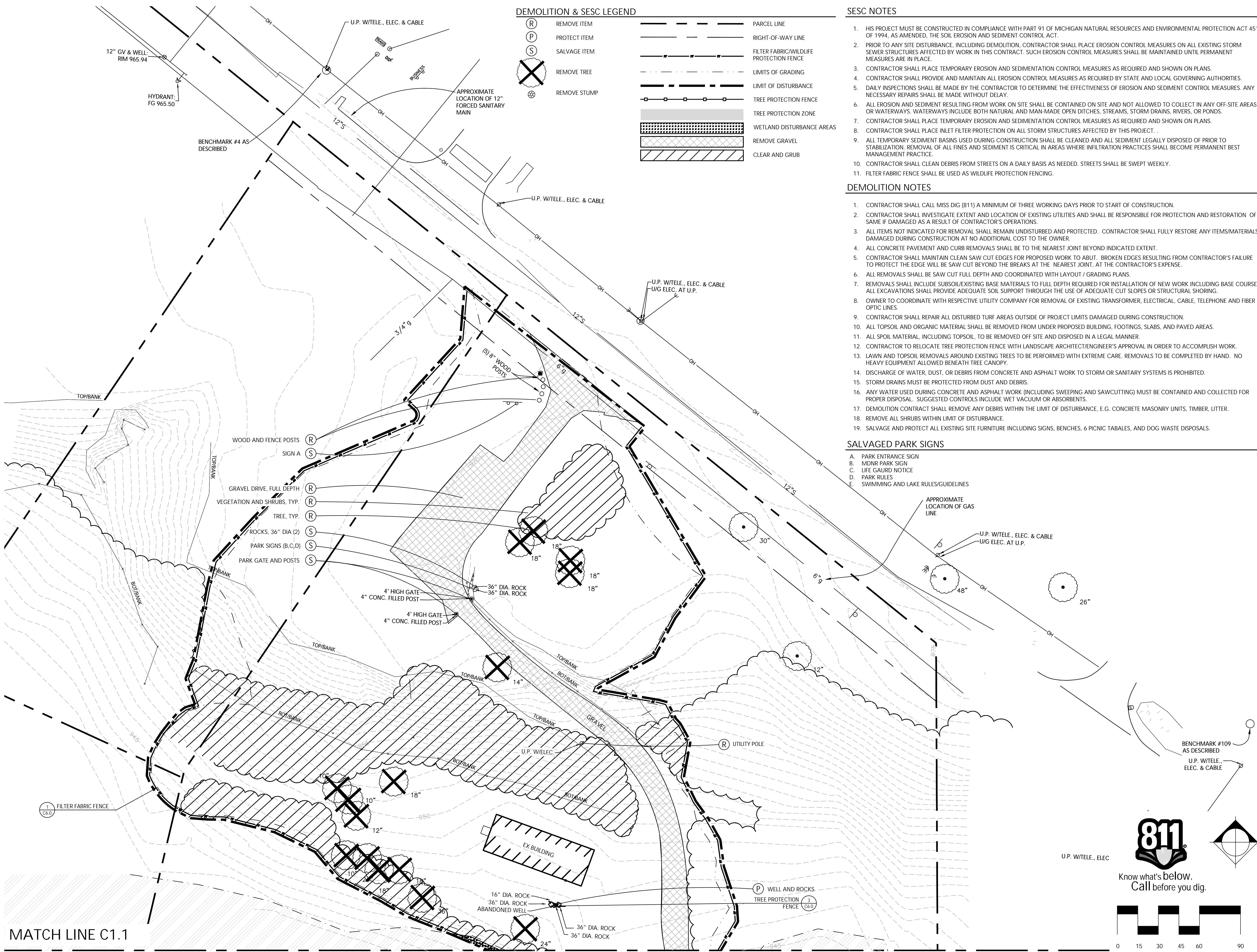
EC1.2 EXISTING CONDITIONS
 PLAN

MATCH LINE EC1.1



Know what's below.
 Call before you dig.





DEMOLITION & SESC LEGEND

- | | | | |
|-----|--------------|-------|---|
| (R) | REMOVE ITEM | --- | PARCEL LINE |
| (P) | PROTECT ITEM | - - - | RIGHT-OF-WAY LINE |
| (S) | SALVAGE ITEM | --- | FILTER FABRIC/WILDLIFE PROTECTION FENCE |
| (X) | REMOVE TREE | --- | LIMITS OF GRADING |
| (S) | REMOVE STUMP | --- | LIMIT OF DISTURBANCE |
| | | --- | TREE PROTECTION FENCE |
| | | --- | TREE PROTECTION ZONE |
| | | --- | WETLAND DISTURBANCE AREAS |
| | | --- | REMOVE GRAVEL |
| | | --- | CLEAR AND GRUB |

SESC NOTES

- HIS PROJECT MUST BE CONSTRUCTED IN COMPLIANCE WITH PART 91 OF MICHIGAN NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT 451 OF 1994, AS AMENDED, THE SOIL EROSION AND SEDIMENT CONTROL ACT.
- PRIOR TO ANY SITE DISTURBANCE, INCLUDING DEMOLITION, CONTRACTOR SHALL PLACE EROSION CONTROL MEASURES ON ALL EXISTING STORM SEWER STRUCTURES AFFECTED BY WORK IN THIS CONTRACT. SUCH EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT MEASURES ARE IN PLACE.
- CONTRACTOR SHALL PLACE TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED AND SHOWN ON PLANS.
- CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL EROSION CONTROL MEASURES AS REQUIRED BY STATE AND LOCAL GOVERNING AUTHORITIES.
- DAILY INSPECTIONS SHALL BE MADE BY THE CONTRACTOR TO DETERMINE THE EFFECTIVENESS OF EROSION AND SEDIMENT CONTROL MEASURES. ANY NECESSARY REPAIRS SHALL BE MADE WITHOUT DELAY.
- ALL EROSION AND SEDIMENT RESULTING FROM WORK ON SITE SHALL BE CONTAINED ON SITE AND NOT ALLOWED TO COLLECT IN ANY OFF-SITE AREAS OR WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, RIVERS, OR PONDS.
- CONTRACTOR SHALL PLACE TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED AND SHOWN ON PLANS.
- CONTRACTOR SHALL PLACE INLET FILTER PROTECTION ON ALL STORM STRUCTURES AFFECTED BY THIS PROJECT.
- ALL TEMPORARY SEDIMENT BASINS USED DURING CONSTRUCTION SHALL BE CLEANED AND ALL SEDIMENT LEGALLY DISPOSED OF PRIOR TO STABILIZATION. REMOVAL OF ALL FINES AND SEDIMENT IS CRITICAL IN AREAS WHERE INFILTRATION PRACTICES SHALL BECOME PERMANENT BEST MANAGEMENT PRACTICE.
- CONTRACTOR SHALL CLEAN DEBRIS FROM STREETS ON A DAILY BASIS AS NEEDED. STREETS SHALL BE SWEEPED WEEKLY.
- FILTER FABRIC FENCE SHALL BE USED AS WILDLIFE PROTECTION FENCING.

DEMOLITION NOTES

- CONTRACTOR SHALL CALL MISS DIG (811) A MINIMUM OF THREE WORKING DAYS PRIOR TO START OF CONSTRUCTION.
- CONTRACTOR SHALL INVESTIGATE EXTENT AND LOCATION OF EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR PROTECTION AND RESTORATION OF SAME IF DAMAGED AS A RESULT OF CONTRACTOR'S OPERATIONS.
- ALL ITEMS NOT INDICATED FOR REMOVAL SHALL REMAIN UNDISTURBED AND PROTECTED. CONTRACTOR SHALL FULLY RESTORE ANY ITEMS/MATERIALS DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
- ALL CONCRETE PAVEMENT AND CURB REMOVALS SHALL BE TO THE NEAREST JOINT BEYOND INDICATED EXTENT.
- CONTRACTOR SHALL MAINTAIN CLEAN SAW CUT EDGES FOR PROPOSED WORK TO ABUT. BROKEN EDGES RESULTING FROM CONTRACTOR'S FAILURE TO PROTECT THE EDGE WILL BE SAW CUT BEYOND THE BREAKS AT THE NEAREST JOINT, AT THE CONTRACTOR'S EXPENSE.
- ALL REMOVALS SHALL BE SAW CUT FULL DEPTH AND COORDINATED WITH LAYOUT / GRADING PLANS.
- REMOVALS SHALL INCLUDE SUBSOIL/EXISTING BASE MATERIALS TO FULL DEPTH REQUIRED FOR INSTALLATION OF NEW WORK INCLUDING BASE COURSE. ALL EXCAVATIONS SHALL PROVIDE ADEQUATE SOIL SUPPORT THROUGH THE USE OF ADEQUATE CUT SLOPES OR STRUCTURAL SHORING.
- OWNER TO COORDINATE WITH RESPECTIVE UTILITY COMPANY FOR REMOVAL OF EXISTING TRANSFORMER, ELECTRICAL, CABLE, TELEPHONE AND FIBER OPTIC LINES.
- CONTRACTOR SHALL REPAIR ALL DISTURBED TURF AREAS OUTSIDE OF PROJECT LIMITS DAMAGED DURING CONSTRUCTION.
- ALL TOPSOIL AND ORGANIC MATERIAL SHALL BE REMOVED FROM UNDER PROPOSED BUILDING, FOOTINGS, SLABS, AND PAVED AREAS.
- ALL SPOIL MATERIAL, INCLUDING TOPSOIL, TO BE REMOVED OFF SITE AND DISPOSED IN A LEGAL MANNER.
- CONTRACTOR TO RELOCATE TREE PROTECTION FENCE WITH LANDSCAPE ARCHITECT/ENGINEER'S APPROVAL IN ORDER TO ACCOMPLISH WORK.
- LAWN AND TOPSOIL REMOVALS AROUND EXISTING TREES TO BE PERFORMED WITH EXTREME CARE. REMOVALS TO BE COMPLETED BY HAND. NO HEAVY EQUIPMENT ALLOWED BENEATH TREE CANOPY.
- DISCHARGE OF WATER, DUST, OR DEBRIS FROM CONCRETE AND ASPHALT WORK TO STORM OR SANITARY SYSTEMS IS PROHIBITED.
- STORM DRAINS MUST BE PROTECTED FROM DUST AND DEBRIS.
- ANY WATER USED DURING CONCRETE AND ASPHALT WORK (INCLUDING SWEEPING AND SAWCUTTING) MUST BE CONTAINED AND COLLECTED FOR PROPER DISPOSAL. SUGGESTED CONTROLS INCLUDE WET VACUUM OR ABSORBENTS.
- DEMOLITION CONTRACT SHALL REMOVE ANY DEBRIS WITHIN THE LIMIT OF DISTURBANCE, E.G. CONCRETE MASONRY UNITS, TIMBER, LITTER.
- REMOVE ALL SHRUBS WITHIN LIMIT OF DISTURBANCE.
- SALVAGE AND PROTECT ALL EXISTING SITE FURNITURE INCLUDING SIGNS, BENCHES, 6 PICNIC TABALES, AND DOG WASTE DISPOSALS.

SALVAGED PARK SIGNS

- A. PARK ENTRANCE SIGN
- B. MONUMENT SIGN
- C. LIFE GUARD NOTICE
- D. PARK RULES
- E. SWIMMING AND LAKE RULES/GUIDELINES

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 Stanley Park
 Phase 1 Implementation

White Lake Township, MI

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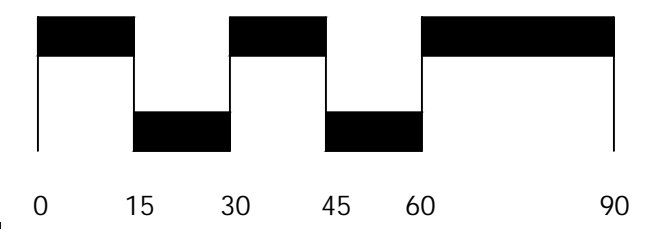
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C1.0 SESC & DEMOLITION PLAN



MATCH LINE C1.1

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C1.1 SESC & DEMOLITION
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MATCH LINE C1.2

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

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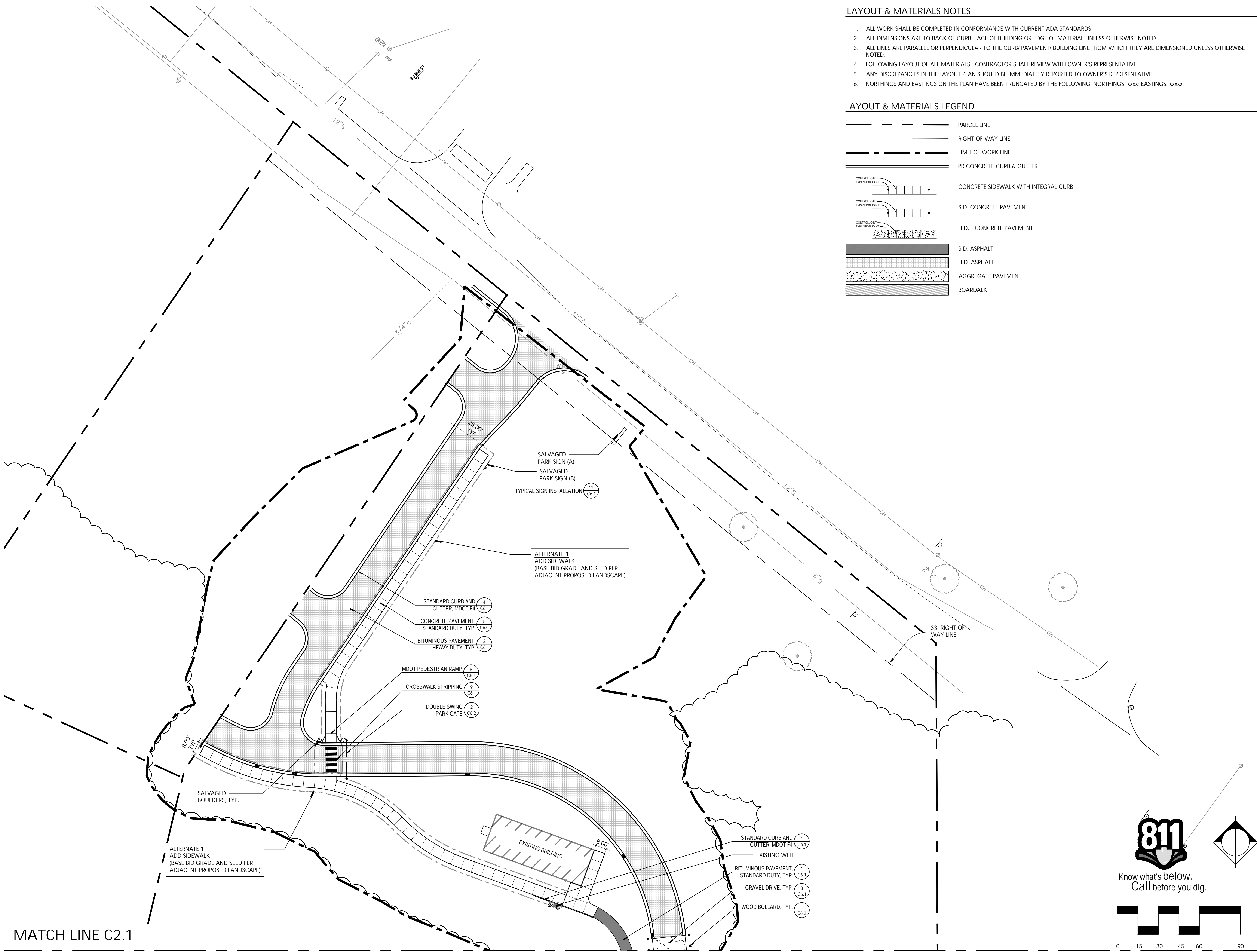
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C1.2 SESC & DEMOLITION
 PLAN

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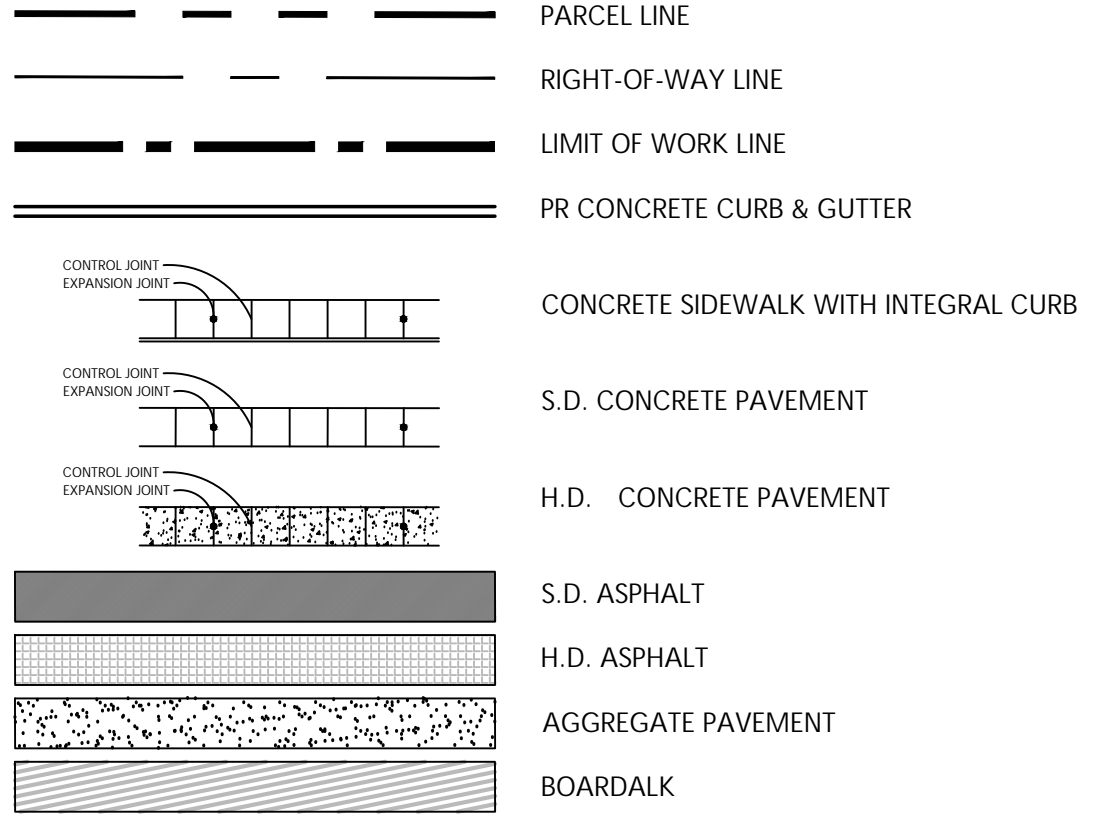




LAYOUT & MATERIALS NOTES

1. ALL WORK SHALL BE COMPLETED IN CONFORMANCE WITH CURRENT ADA STANDARDS.
2. ALL DIMENSIONS ARE TO BACK OF CURB, FACE OF BUILDING OR EDGE OF MATERIAL UNLESS OTHERWISE NOTED.
3. ALL LINES ARE PARALLEL OR PERPENDICULAR TO THE CURB/ PAVEMENT/ BUILDING LINE FROM WHICH THEY ARE DIMENSIONED UNLESS OTHERWISE NOTED.
4. FOLLOWING LAYOUT OF ALL MATERIALS, CONTRACTOR SHALL REVIEW WITH OWNER'S REPRESENTATIVE.
5. ANY DISCREPANCIES IN THE LAYOUT PLAN SHOULD BE IMMEDIATELY REPORTED TO OWNER'S REPRESENTATIVE.
6. NORTHINGS AND EASTINGS ON THE PLAN HAVE BEEN TRUNCATED BY THE FOLLOWING: NORTHINGS: xxxx; EASTINGS: xxxxx

LAYOUT & MATERIALS LEGEND



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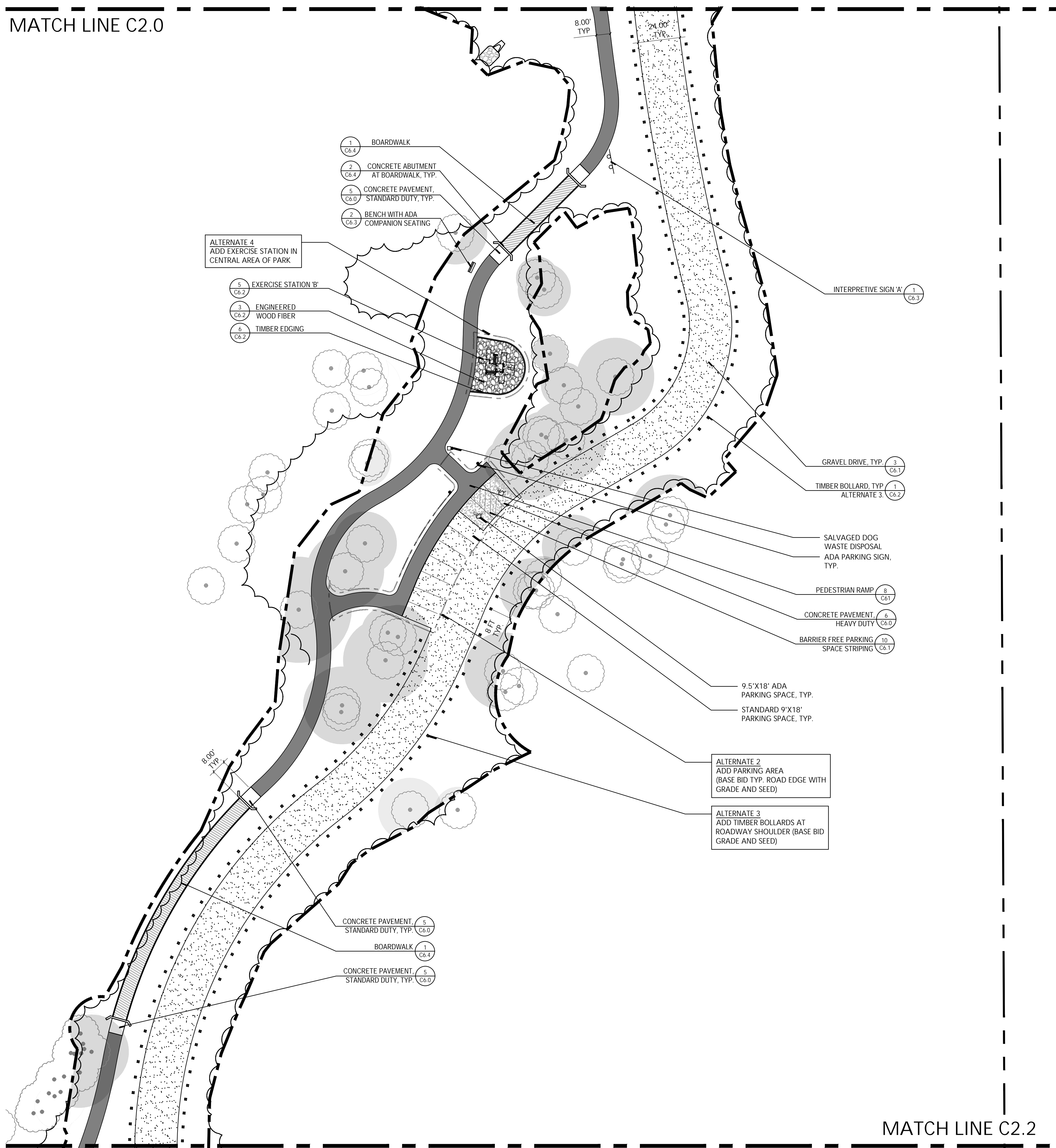
C2.0 LAYOUT & MATERIALS PLAN

811
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0 15 30 45 60 90

MATCH LINE C2.1

MATCH LINE C2.0



MATCH LINE C2.2

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C2.1 LAYOUT & MATERIALS
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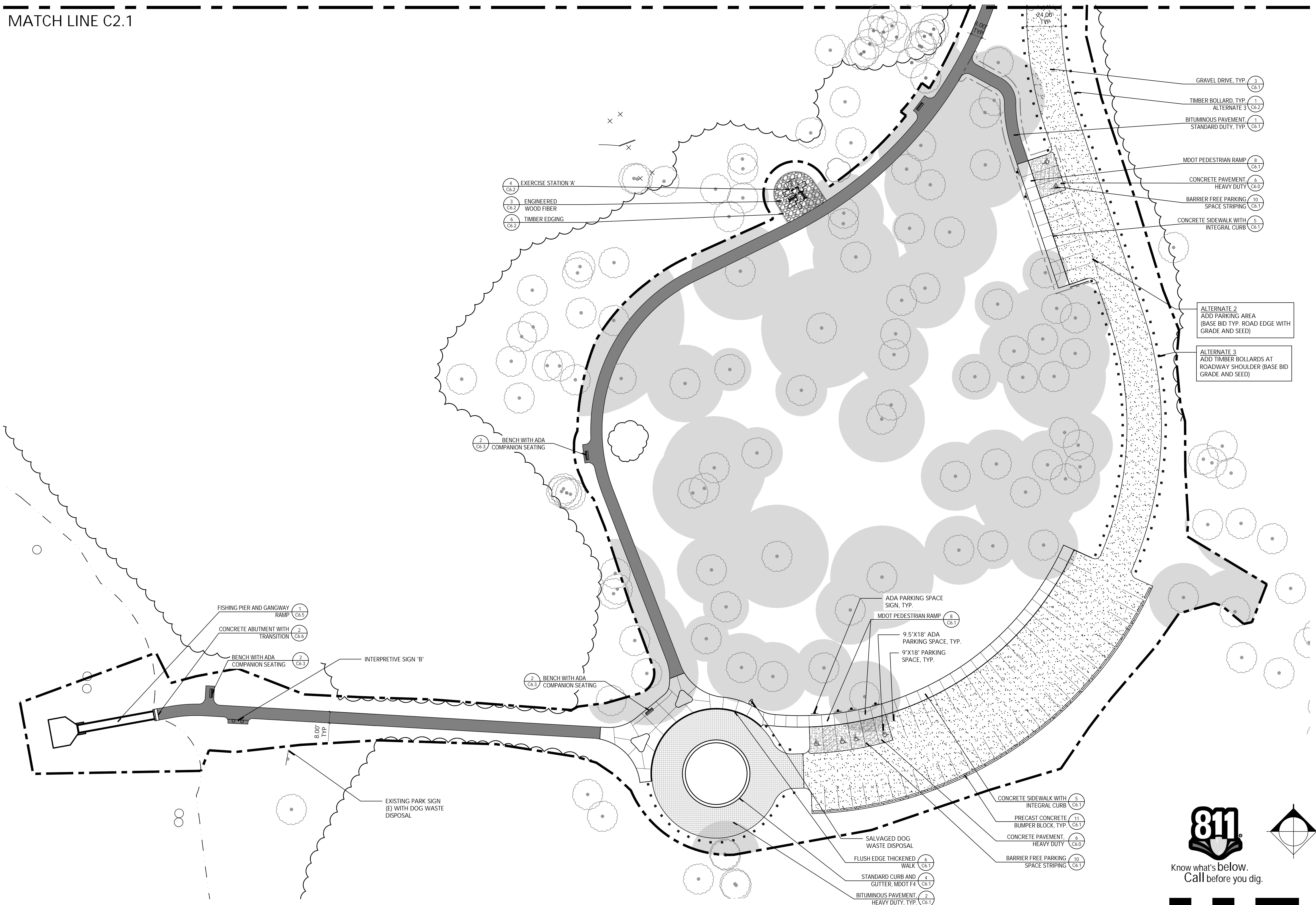
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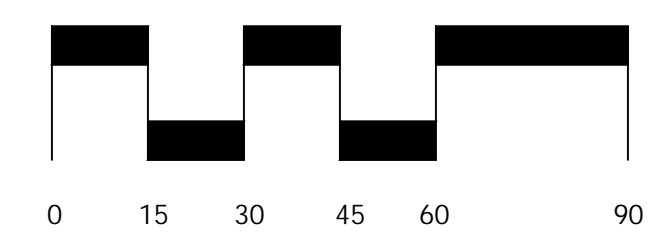
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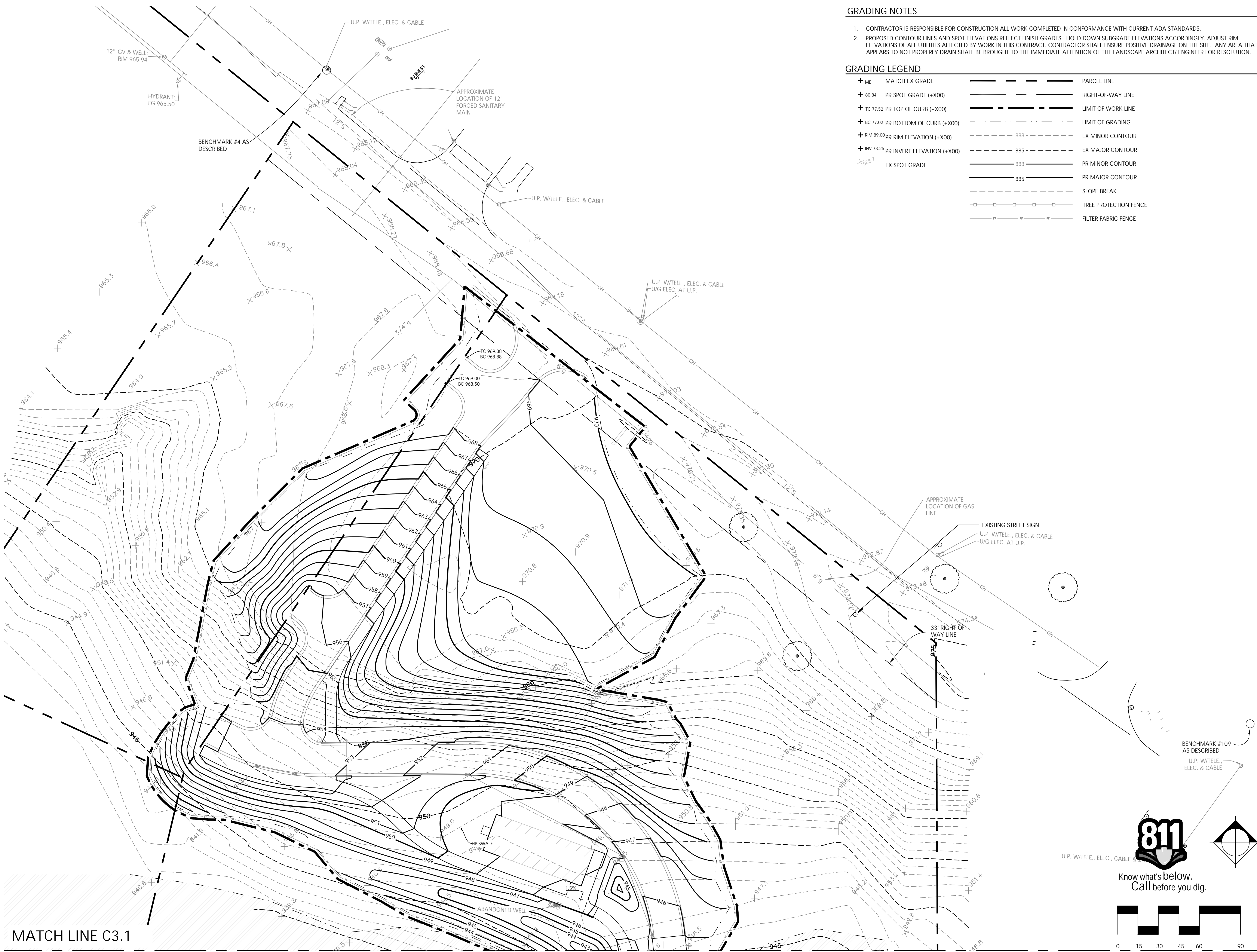
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C2.2 LAYOUT & MATERIALS
 PLAN



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GRADING NOTES

1. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION ALL WORK COMPLETED IN CONFORMANCE WITH CURRENT ADA STANDARDS.
2. PROPOSED CONTOUR LINES AND SPOT ELEVATIONS REFLECT FINISH GRADES. HOLD DOWN SUBGRADE ELEVATIONS ACCORDINGLY. ADJUST RIM ELEVATIONS OF ALL UTILITIES AFFECTED BY WORK IN THIS CONTRACT. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ON THE SITE. ANY AREA THAT APPEARS TO NOT PROPERLY DRAIN SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE LANDSCAPE ARCHITECT/ENGINEER FOR RESOLUTION.

GRADING LEGEND

+ ME	MATCH EX GRADE	---	PARCEL LINE
+ 80.84	PR SPOT GRADE (+X00)	---	RIGHT-OF-WAY LINE
+ TC 77.52	PR TOP OF CURB (+X00)	---	LIMIT OF WORK LINE
+ BC 77.02	PR BOTTOM OF CURB (+X00)	---	LIMIT OF GRADING
+ RIM 89.00	PR RIM ELEVATION (+X00)	---	EX MINOR CONTOUR
+ INV 73.25	PR INVERT ELEVATION (+X00)	---	EX MAJOR CONTOUR
+ 1568.7	EX SPOT GRADE	---	PR MINOR CONTOUR
		---	PR MAJOR CONTOUR
		---	SLOPE BREAK
		---	TREE PROTECTION FENCE
		---	FILTER FABRIC FENCE

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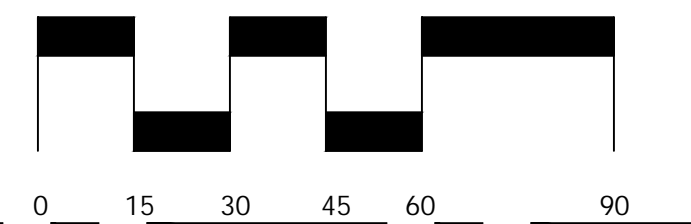
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C3.0 GRADING PLAN



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MATCH LINE C3.0



MATCH LINE C3.2

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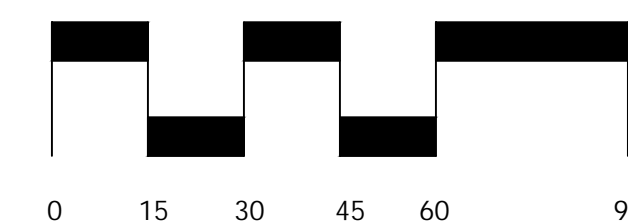
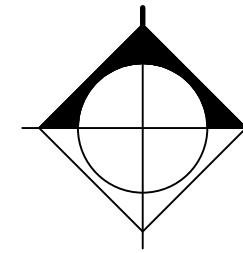
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C3.1 GRADING PLAN



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Approved: BB

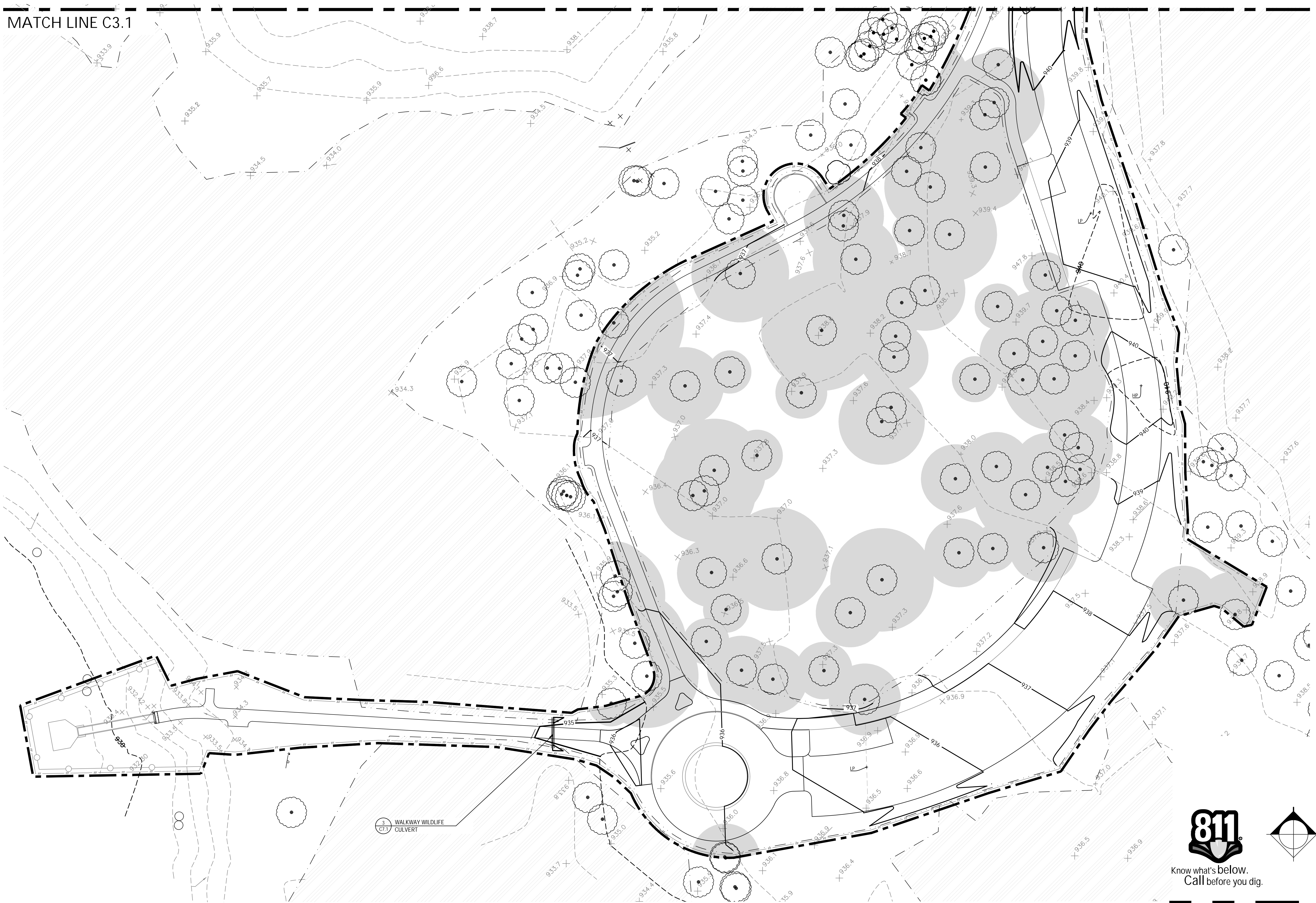
Project Number

2022024

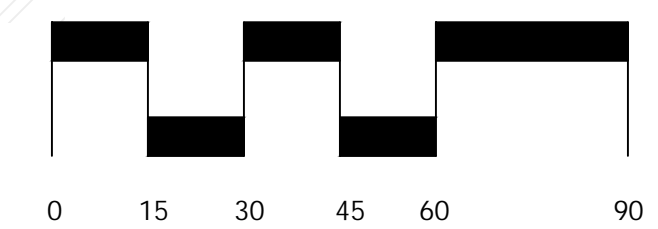
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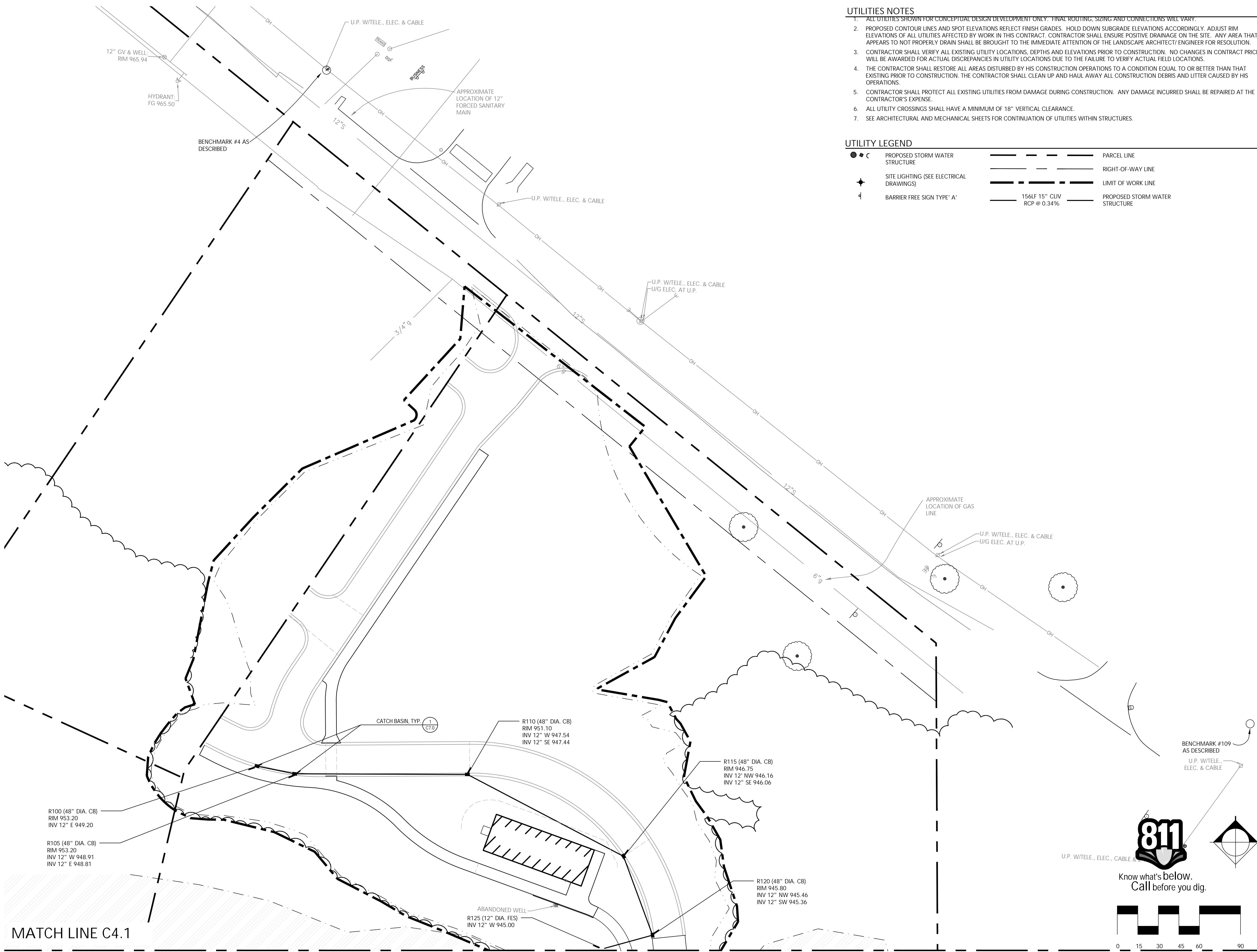
C3.2 GRADING PLAN

MATCH LINE C3.1



Know what's below.
 Call before you dig.





UTILITIES NOTES

1. ALL UTILITIES SHOWN FOR CONCEPTUAL DESIGN DEVELOPMENT ONLY. FINAL ROUTING, SIZING AND CONNECTIONS WILL VARY.
2. PROPOSED CONTOUR LINES AND SPOT ELEVATIONS REFLECT FINISH GRADES. HOLD DOWN SUBGRADE ELEVATIONS ACCORDINGLY. ADJUST RIM ELEVATIONS OF ALL UTILITIES AFFECTED BY WORK IN THIS CONTRACT. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ON THE SITE. ANY AREA THAT APPEARS TO NOT PROPERLY DRAIN SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE LANDSCAPE ARCHITECT/ENGINEER FOR RESOLUTION.
3. CONTRACTOR SHALL VERIFY ALL EXISTING UTILITY LOCATIONS, DEPTHS AND ELEVATIONS PRIOR TO CONSTRUCTION. NO CHANGES IN CONTRACT PRICE WILL BE AWARDED FOR ACTUAL DISCREPANCIES IN UTILITY LOCATIONS DUE TO THE FAILURE TO VERIFY ACTUAL FIELD LOCATIONS.
4. THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED BY HIS CONSTRUCTION OPERATIONS TO A CONDITION EQUAL TO OR BETTER THAN THAT EXISTING PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CLEAN UP AND HAUL AWAY ALL CONSTRUCTION DEBRIS AND LITTER CAUSED BY HIS OPERATIONS.
5. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGE INCURRED SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. ALL UTILITY CROSSINGS SHALL HAVE A MINIMUM OF 18" VERTICAL CLEARANCE.
7. SEE ARCHITECTURAL AND MECHANICAL SHEETS FOR CONTINUATION OF UTILITIES WITHIN STRUCTURES.

UTILITY LEGEND

● ● ◁	PROPOSED STORM WATER STRUCTURE	---	PARCEL LINE
+	SITE LIGHTING (SEE ELECTRICAL DRAWINGS)	---	RIGHT-OF-WAY LINE
⊥	BARRIER FREE SIGN TYPE 'A'	---	LIMIT OF WORK LINE
		---	PROPOSED STORM WATER STRUCTURE

Consultants

Seal

Project Title

White Lake Twp.
 Stanley Park
 Phase 1 Implementation

White Lake Township, MI

Sheet Title

Dates

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1.6.2023	DESIGN DEVELOPMENT

Scale

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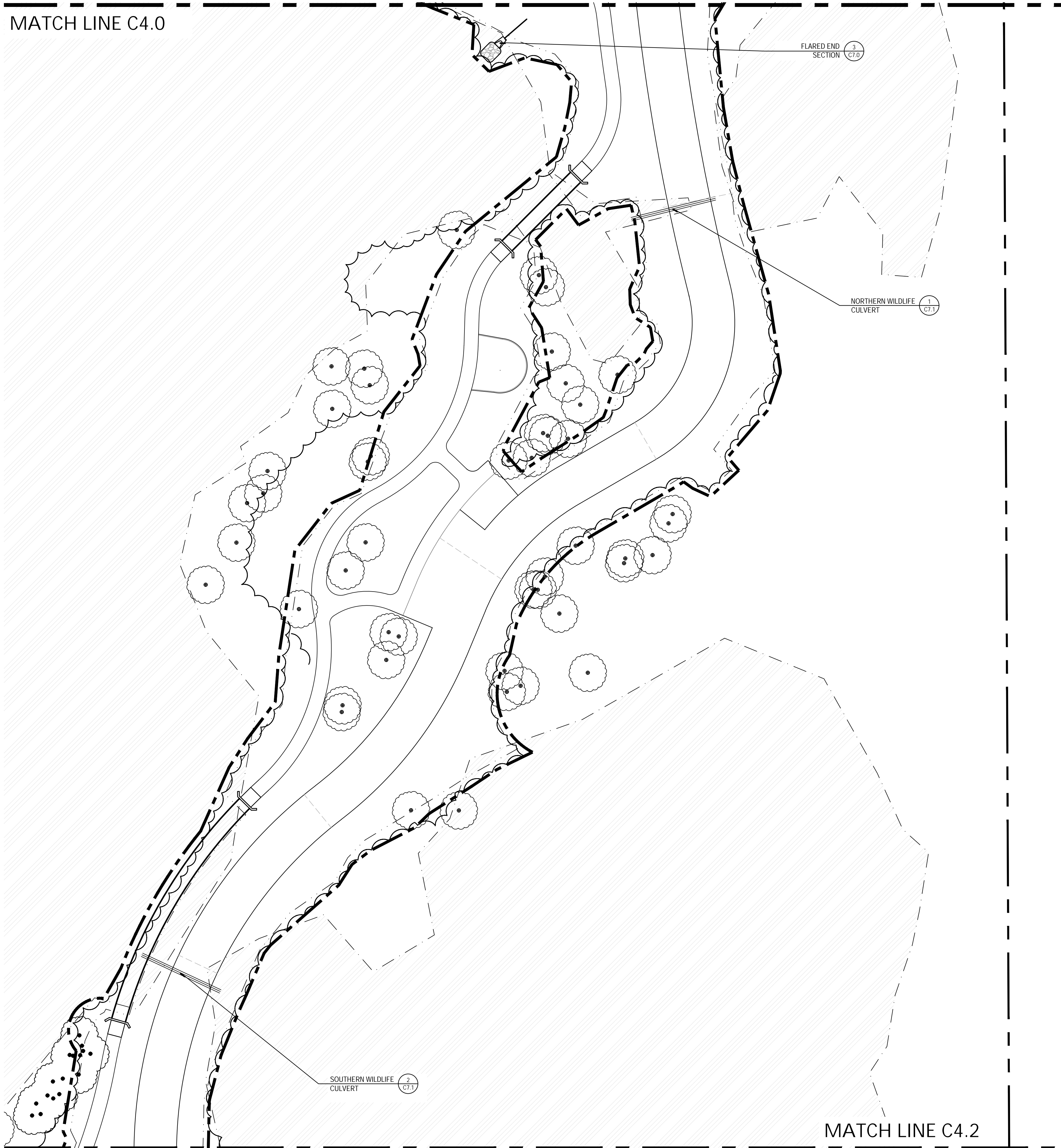
Sheet Number

C4.0 UTILITY PLAN

Know what's below.
 Call before you dig.

MATCH LINE C4.1

MATCH LINE C4.0



MATCH LINE C4.2

B R ¹
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Landscape Architecture
Planning, Engineering &
Environmental Services

Beckett & Raeder, Inc.
535 West William, Suite 101
Ann Arbor, MI 48103
734.663.2622 ph
734.663.6759 fx

Consultants

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Project Title

White Lake Twp.
Stanley Park
Phase 1 Implementation

White Lake Township, MI

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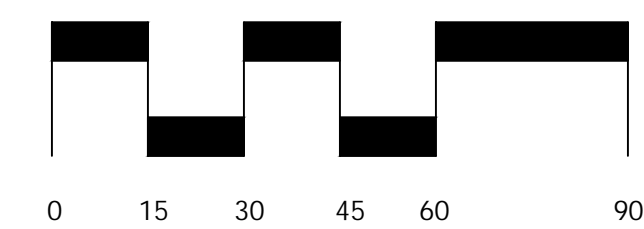
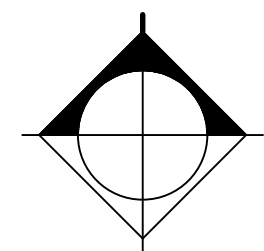
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C4.1 UTILITY PLAN



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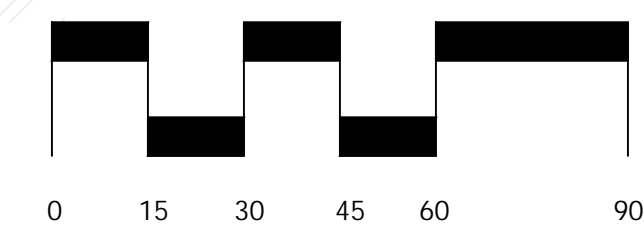
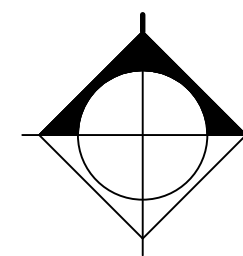
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Sheet Number

C4.2 UTILITY PLAN



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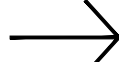

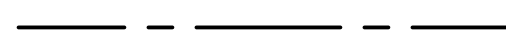


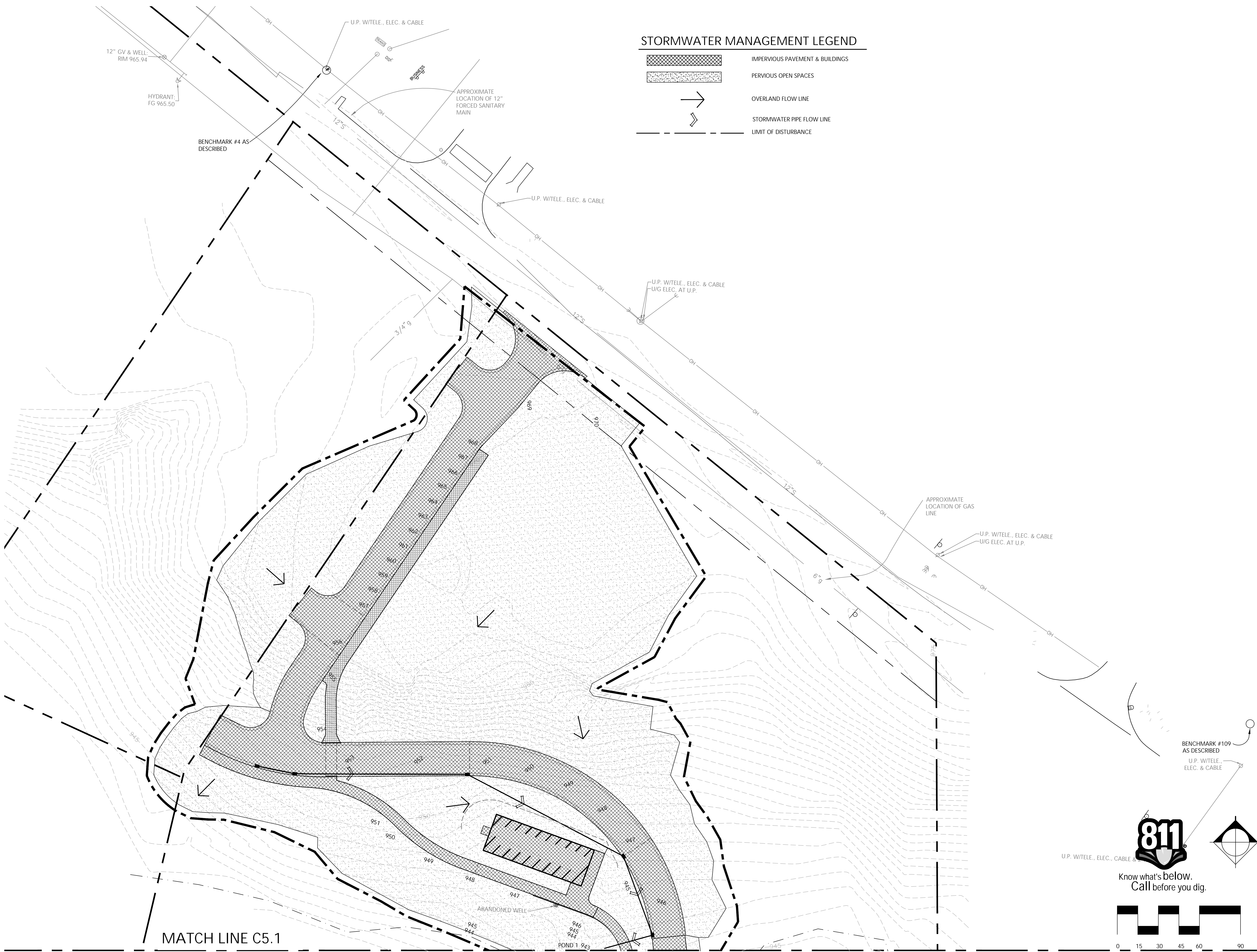
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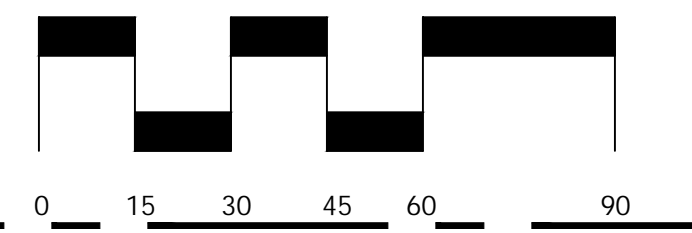
STORMWATER MANAGEMENT LEGEND

	IMPERVIOUS PAVEMENT & BUILDINGS
	PERVIOUS OPEN SPACES
	OVERLAND FLOW LINE
	STORMWATER PIPE FLOW LINE
	LIMIT OF DISTURBANCE

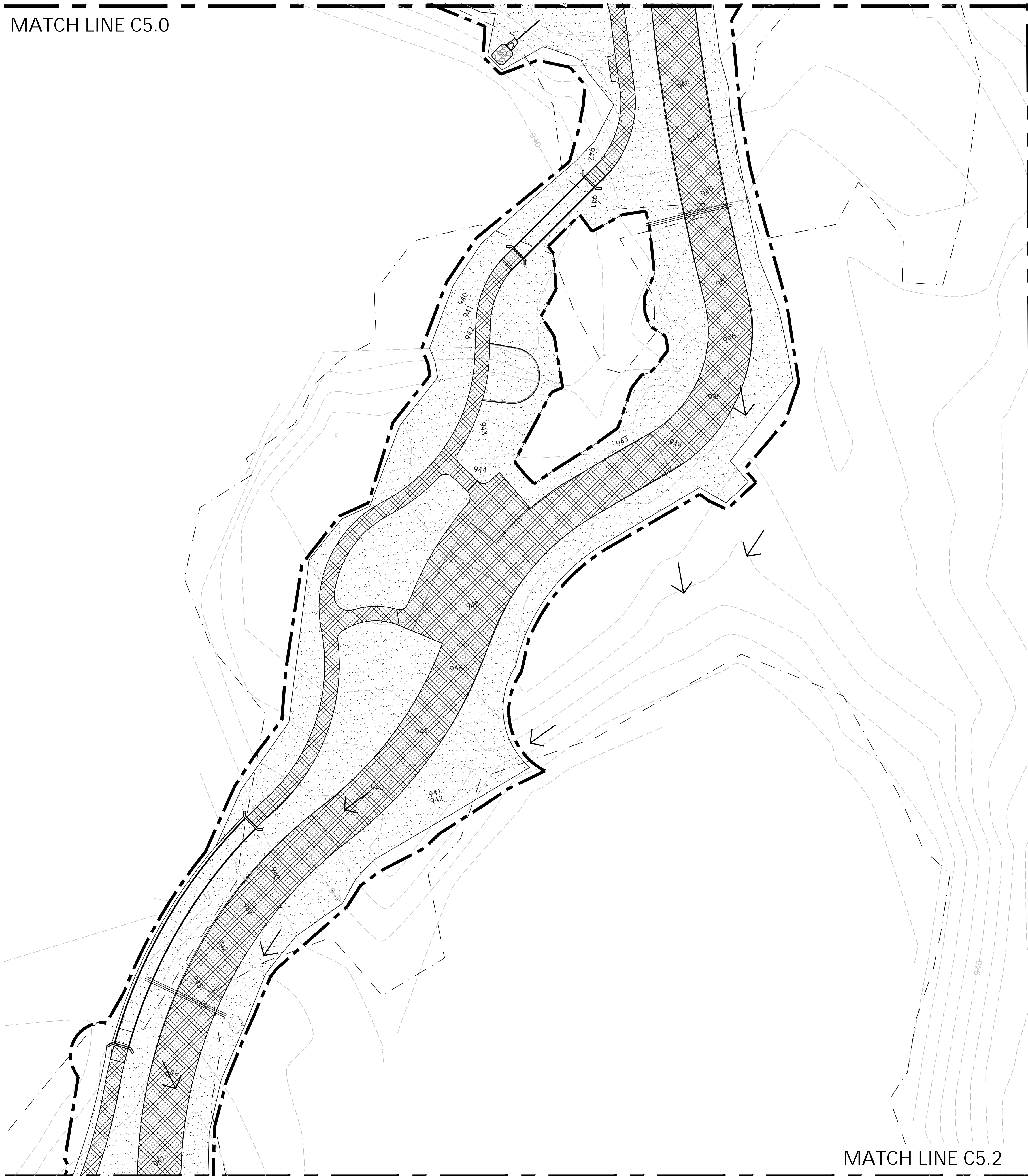


MATCH LINE C5.1

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



MATCH LINE C5.0



MATCH LINE C5.2

STORMWATER SUMMARY:

Area	8.51 ac
Prop. Impervious	2.37 ac
Prop. Pervious	6.14 ac
Infiltration Rate	unk in/hr
Runoff Coefficient, C	0.41
100-yr peak intensity	7.85 in/hr

Land Use Summary:

Characteristic	Existing Conditions	Proposed Conditions
Total Development Area (ac)	8.51	8.51
Impervious Area (ac)	1.04	2.37
Total Pervious Area (ac)	7.47	6.14

Pervious Area Breakdown by Cover Type

Cover Type	Existing Conditions	Proposed Conditions
Meadow		
Predominant NRCS Soil Type (A,B,C,or D)	Type B	Type B
Improved Areas		
Predominant NRCS Soil Type (A,B,C,or D)	Type B	Type B
Wooded Areas		
Predominant NRCS Soil Type (A,B,C,or D)	Type B	Type B
Proposed Pond Area (ac)		3508
Required CPVC Vol. (cft)		16,437
Provided CPVC Vol. (cft)		
Required ED Vol. (cft)		24,023
Provided ED Vol. (cft)		

NOTE FOR REVIEWERS

STORMWATER MANAGEMENT PLAN WILL BE REFINED UPON FURTHER ENGAGEMENT WITH THE OAKLAND COUNTY WATER RESOURCES COMMISSIONER OFFICE DURING THE CONSTRUCTION DOCUMENT PHASE. THE PARK IS A LOW IMPACT DEVELOPMENT AMONG WETLANDS AND SIGNIFICANT HERITAGE TREES. THESE FEATURES MAY WARRANT VARIANCE FROM OCWRC RULES TO REDUCE IMPACT OF DETENTION QUANTITY FACILITIES. THE DESIGN DEVELOPMENT GRADING PLANS REFLECT AN APPROXIMATE EXISTING/PROPOSED "DELTA" APPROACH TO STORMWATER MANAGEMENT. THE VOLUME CALCULATIONS ABOVE ARE BASED ON TOWNSHIP ADOPTED OCWRC RULES AND, IF REQUIRED, WILL RESULT IN ADDITIONAL DETENTION AND GRADING DISTURBANCE THAN CURRENTLY REPRESENTED ON THE DESIGN DEVELOPMENT DRAWINGS.

Consultants

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Stanley Park
Phase 1 Implementation

White Lake Township, MI

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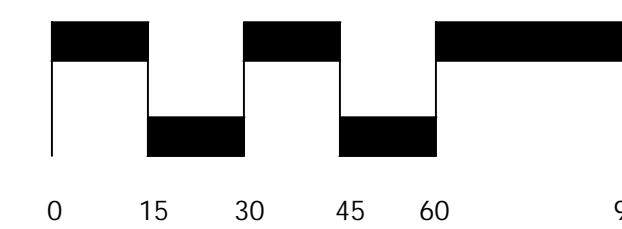
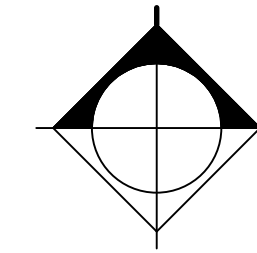
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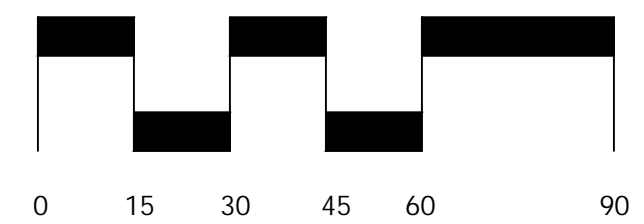
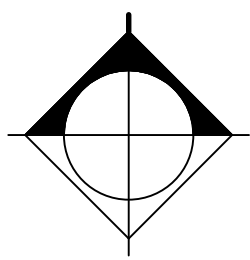
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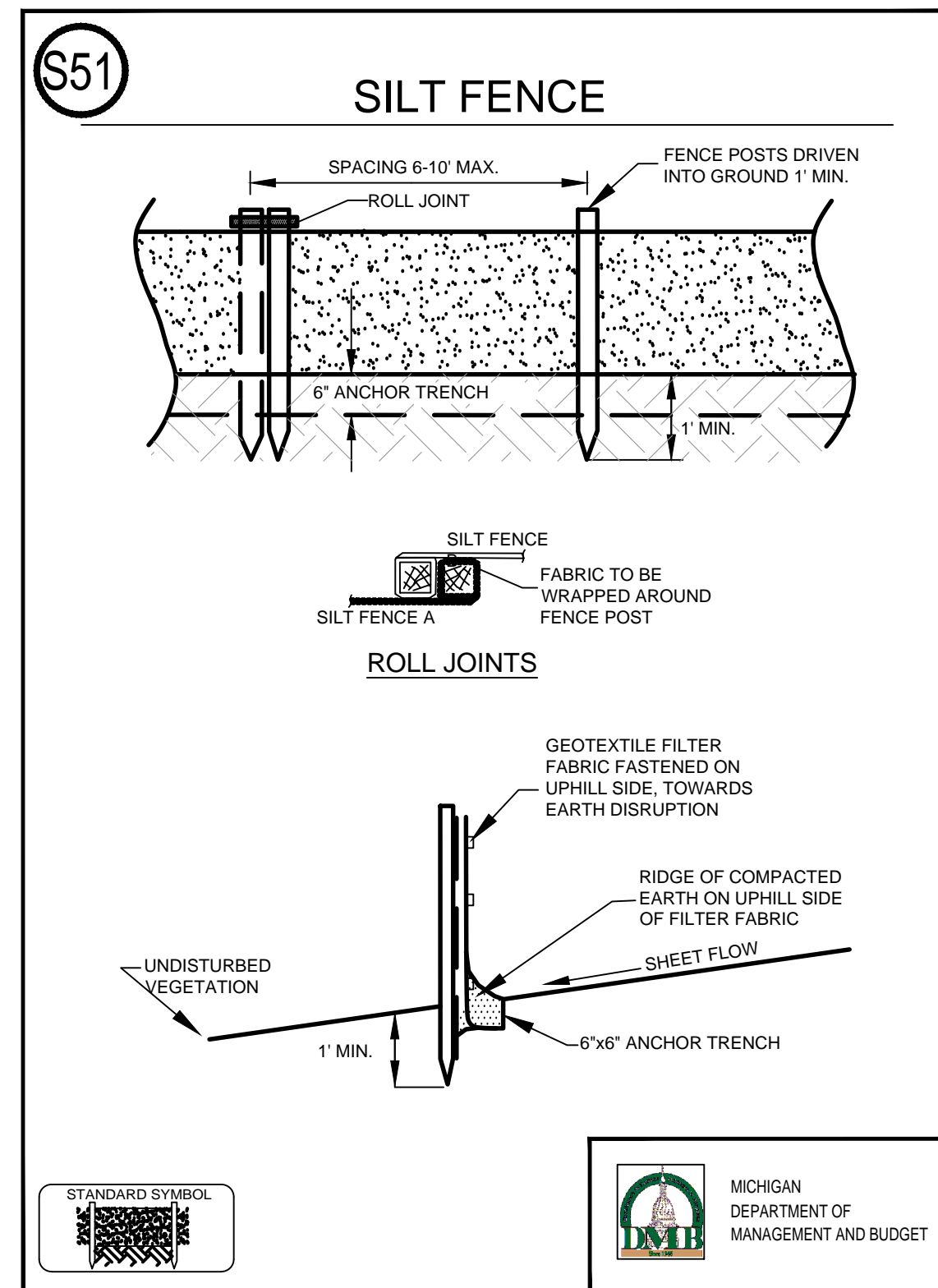
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C5.2 STORM WATER
MANAGEMENT PLAN

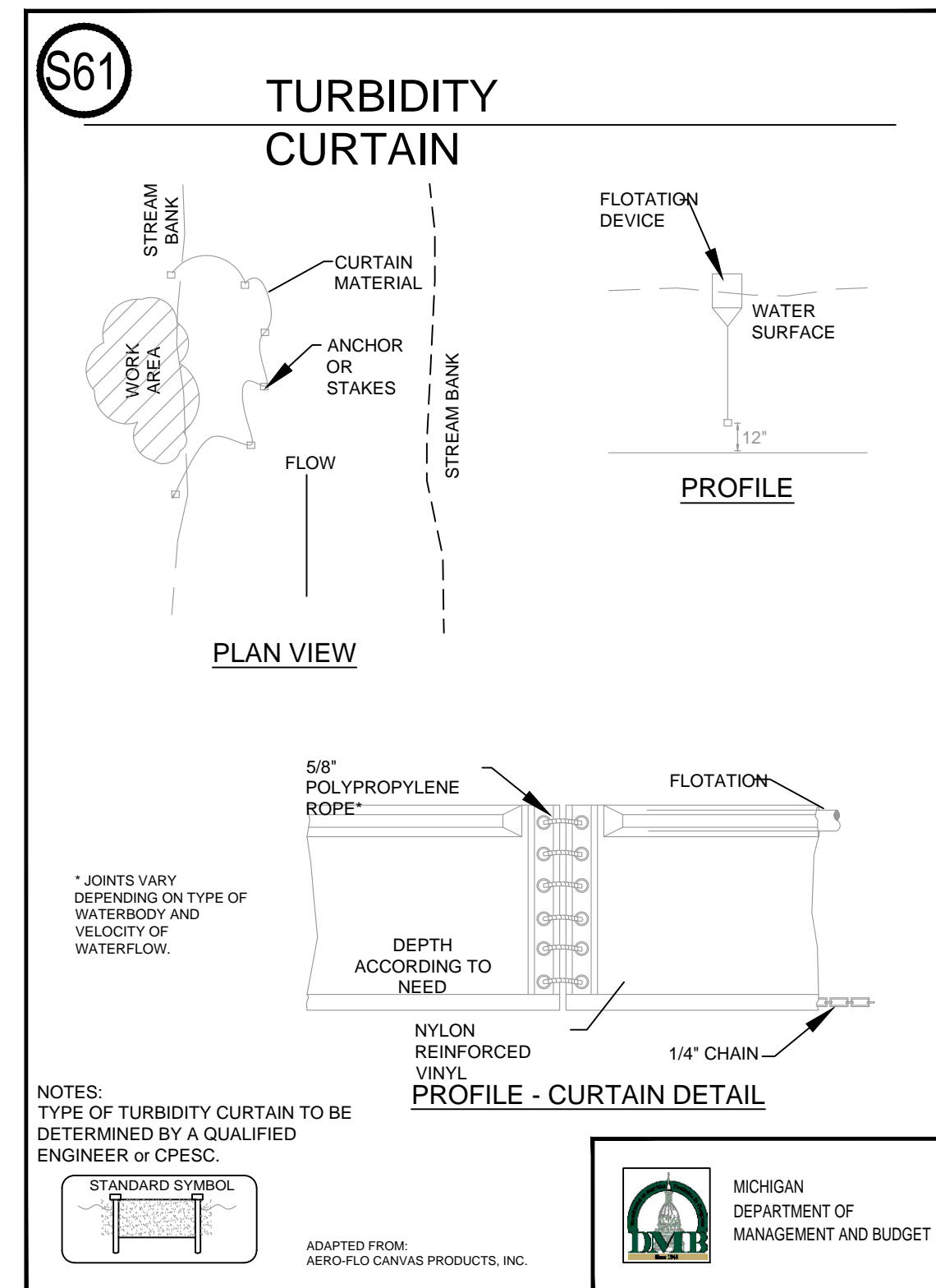


Know what's below.
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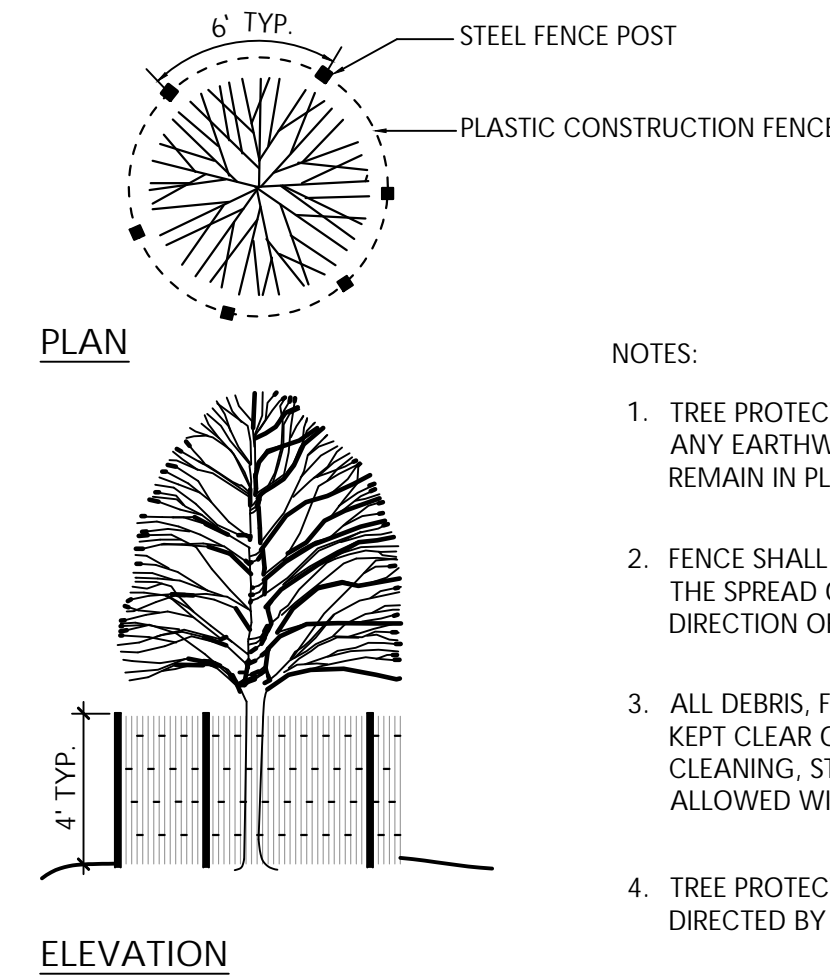




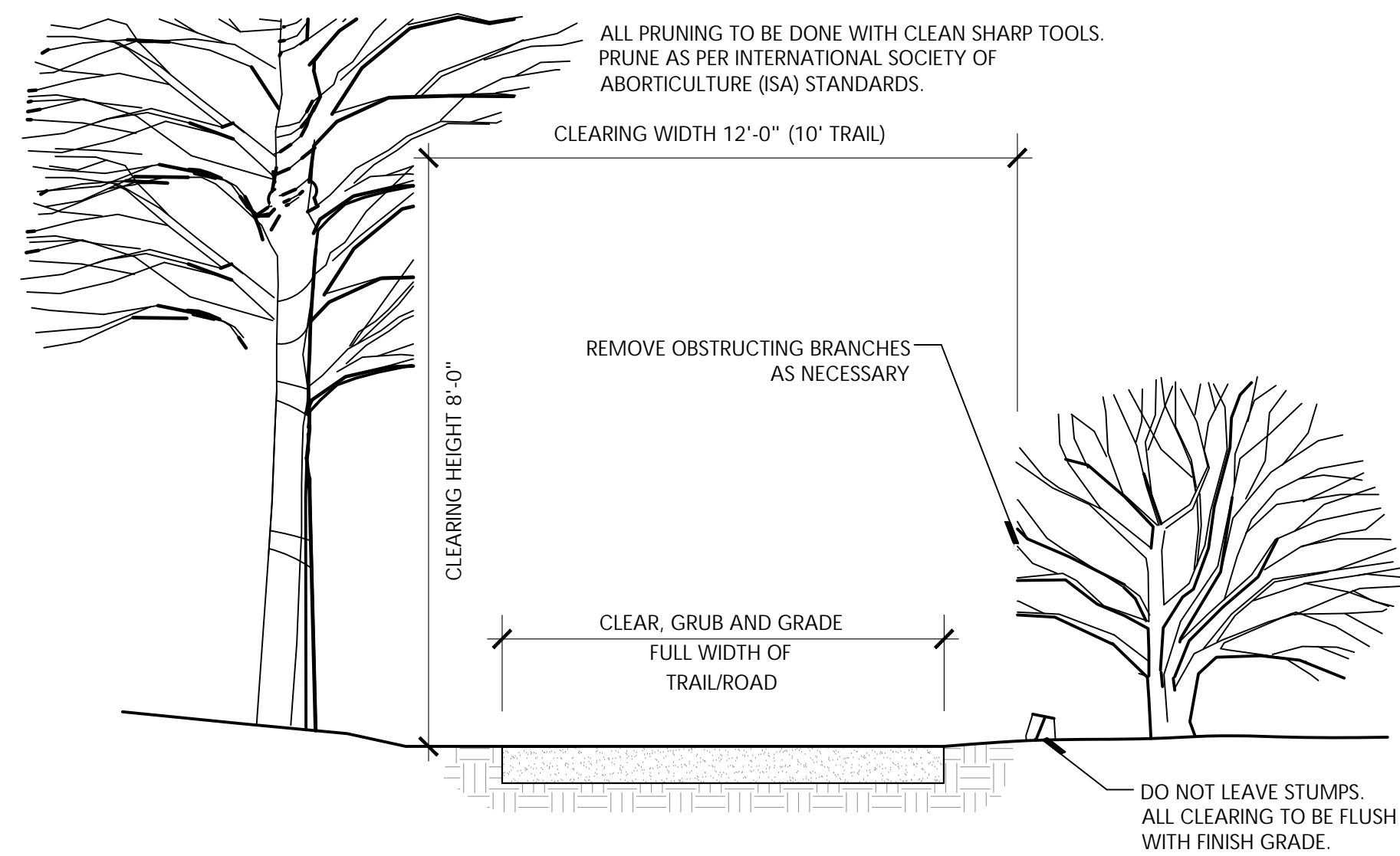
1 Filter Fabric Fence: MDTMB SESC Detail
 NO SCALE



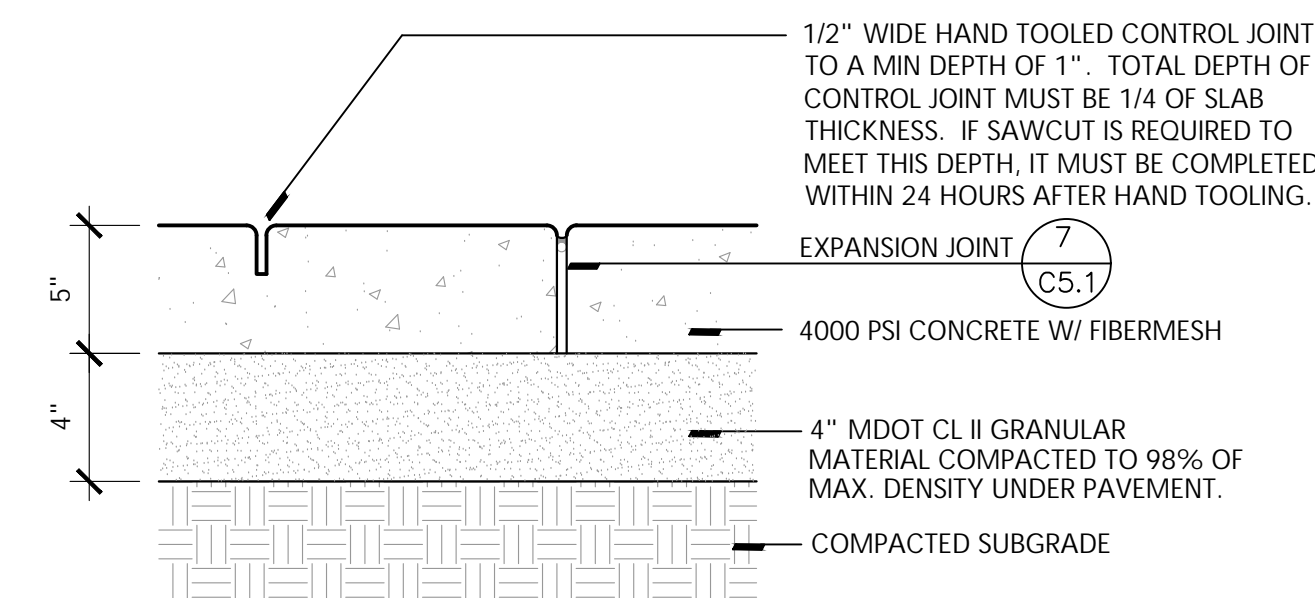
2 Turbidity Curtain: MDTMB SESC Detail
 NO SCALE



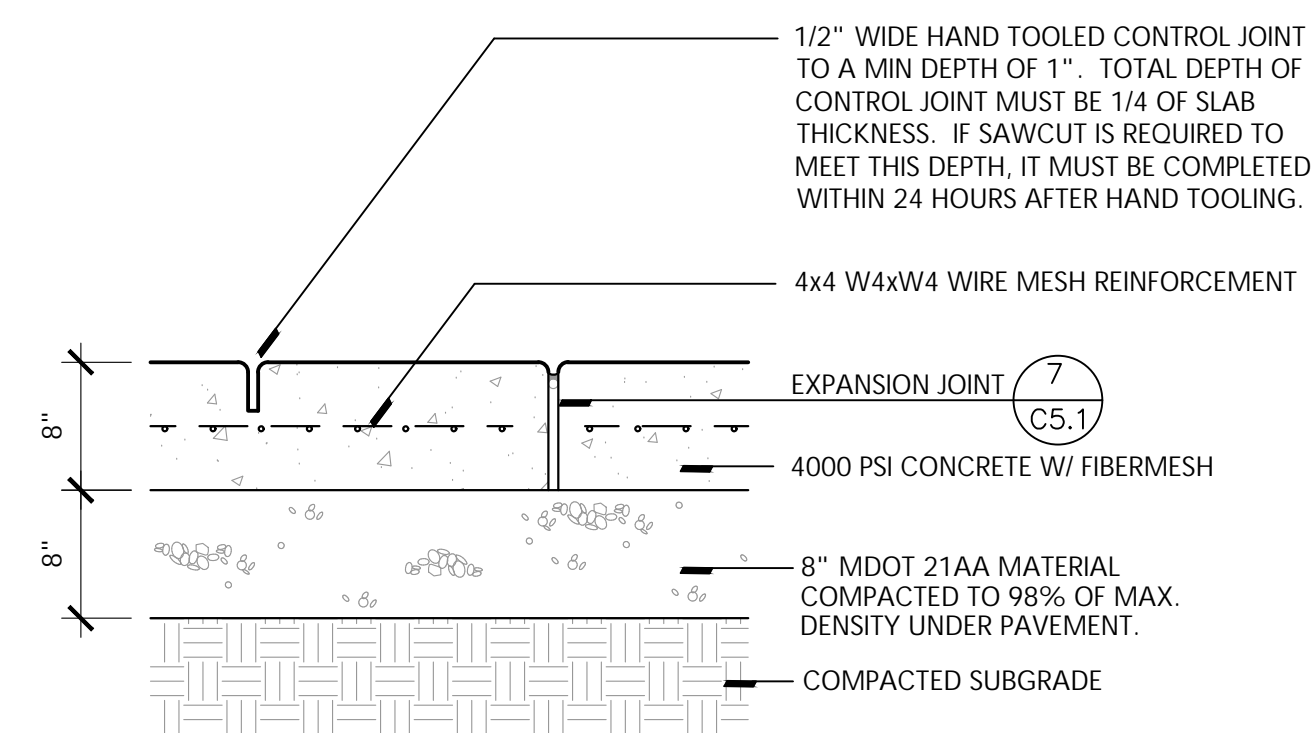
3 Tree Protection Fence
 NO SCALE



4 Clearing and Grubbing Extents
 NOT TO SCALE



5 Concrete Pavement - Standard Duty (S.D.)
 NO SCALE



6 Concrete Pavement - Heavy Duty (H.D.)
 NO SCALE

Seal

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White Lake Twp.
 Stanley Park
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White Lake Township, MI

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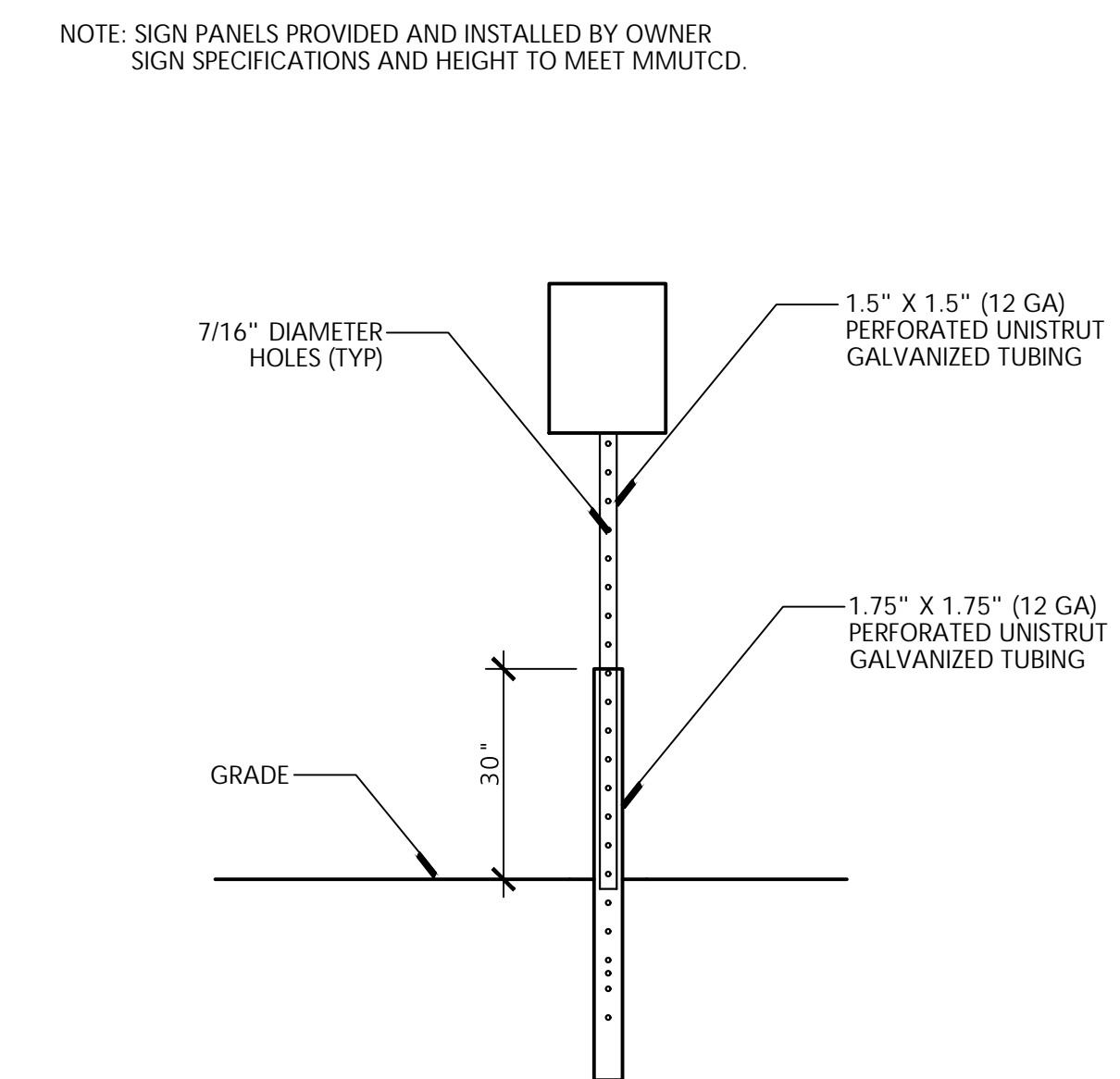
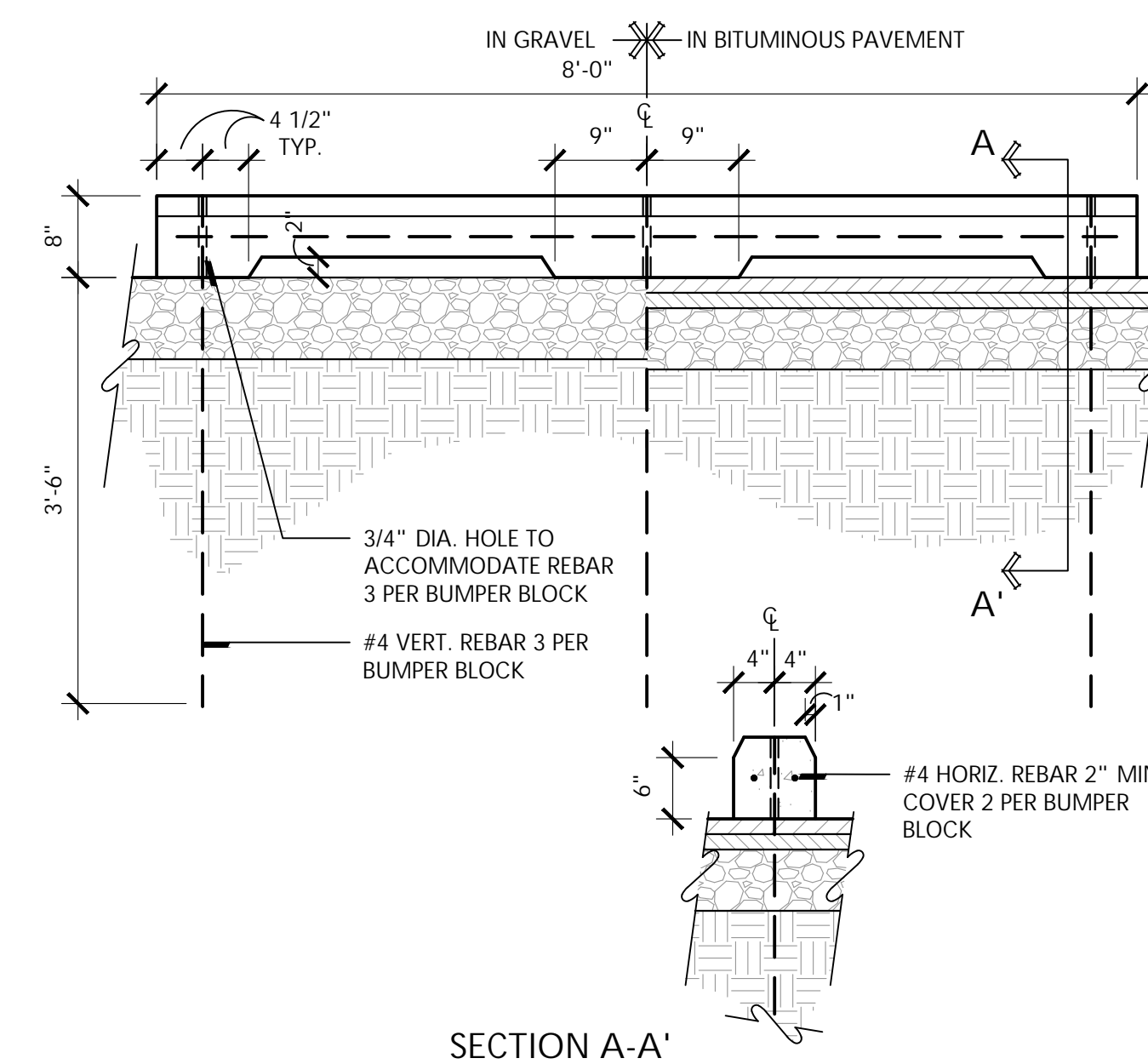
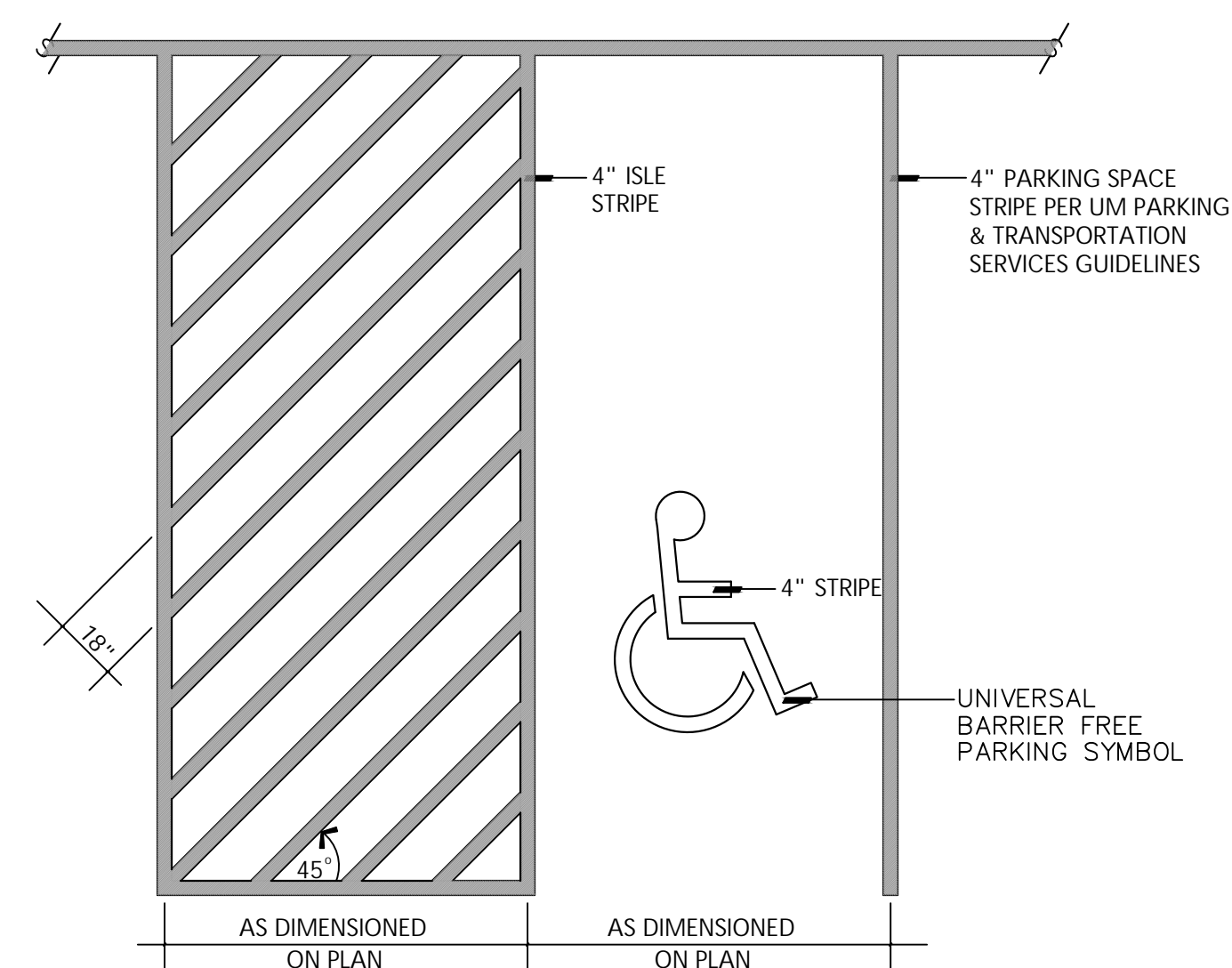
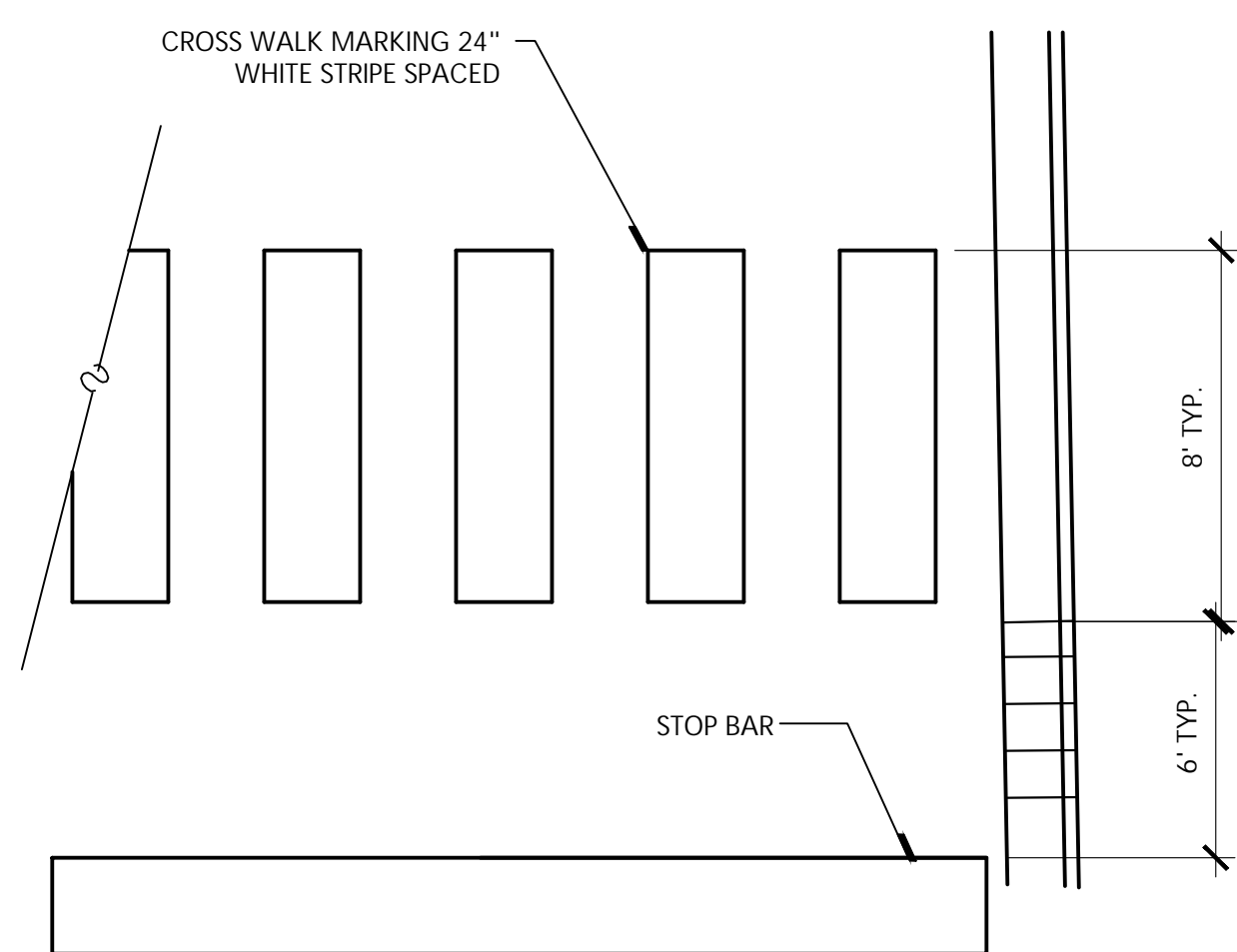
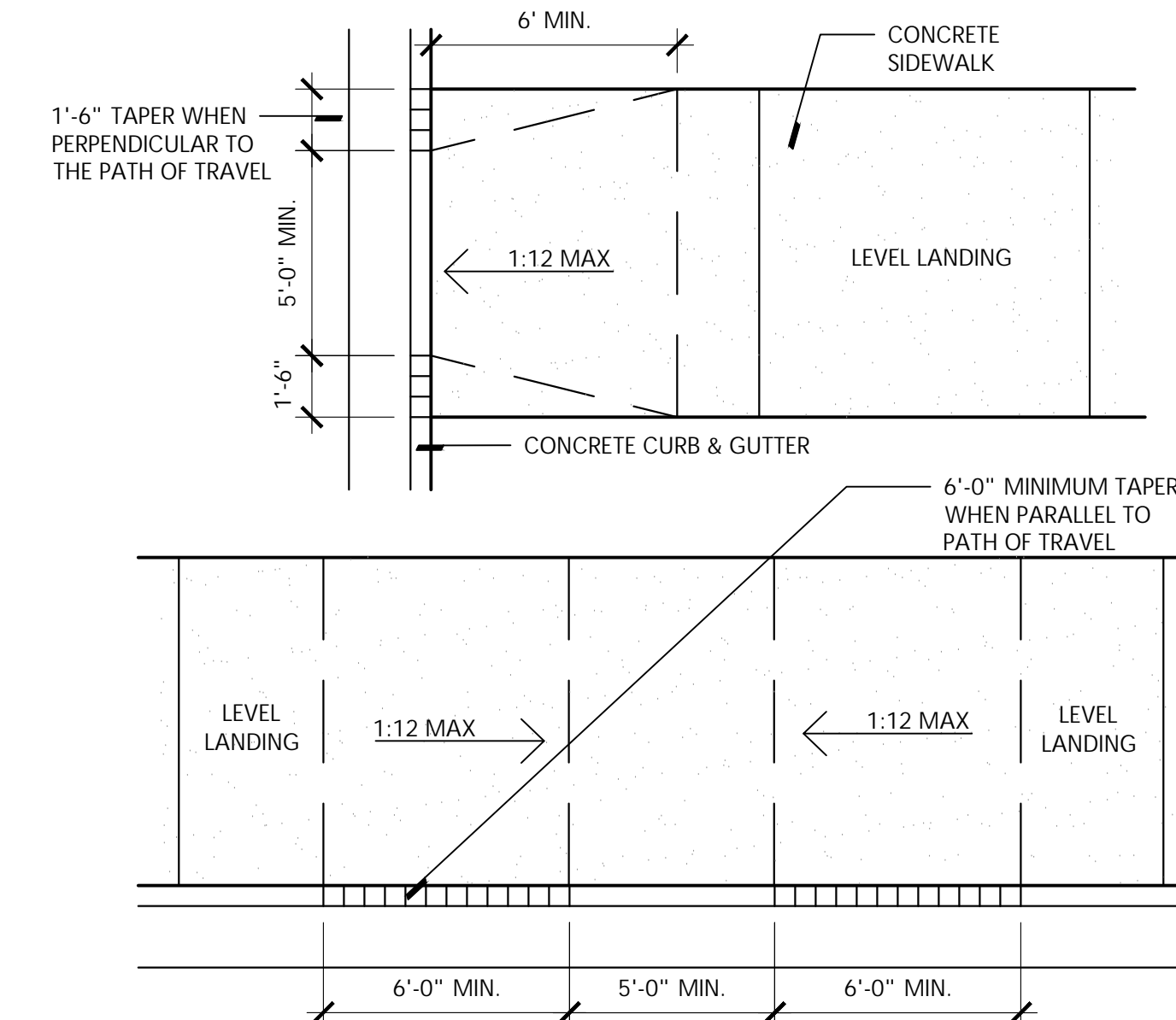
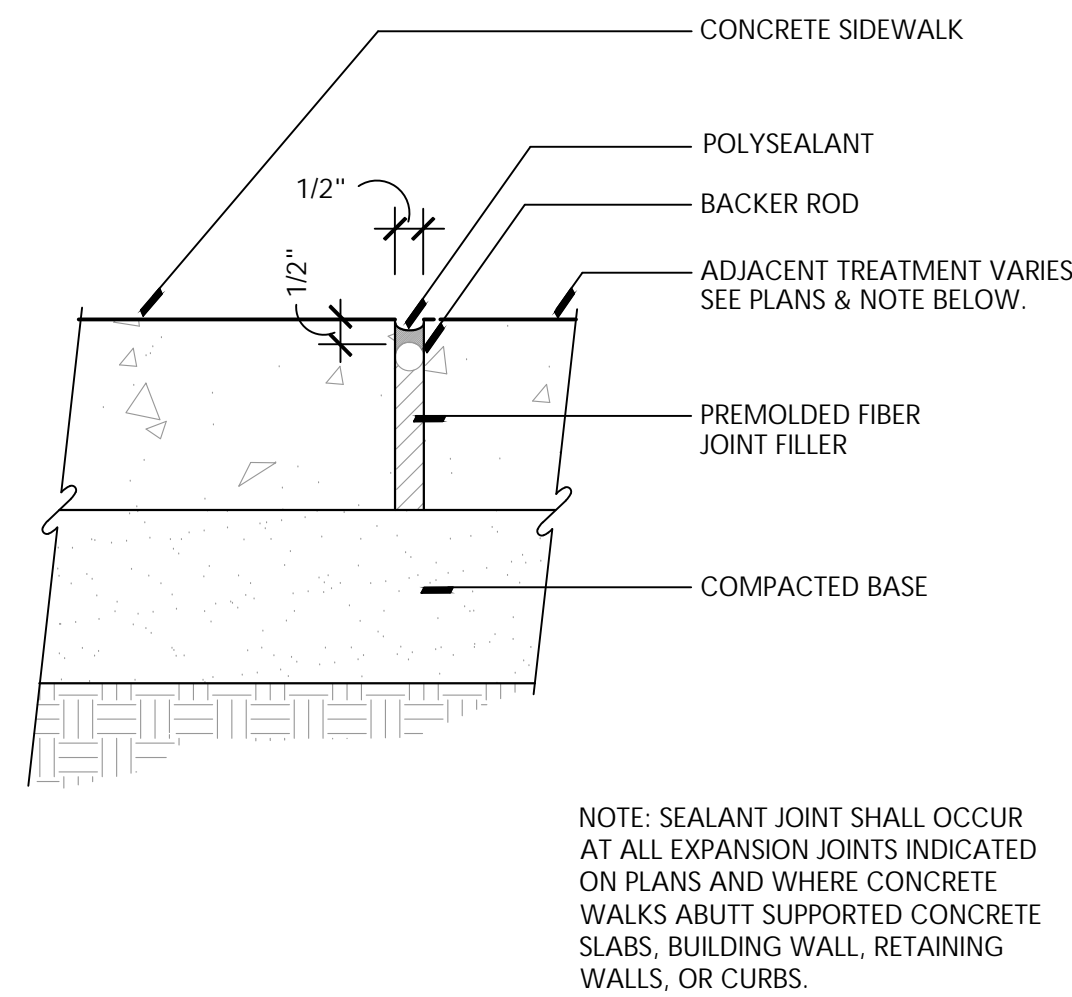
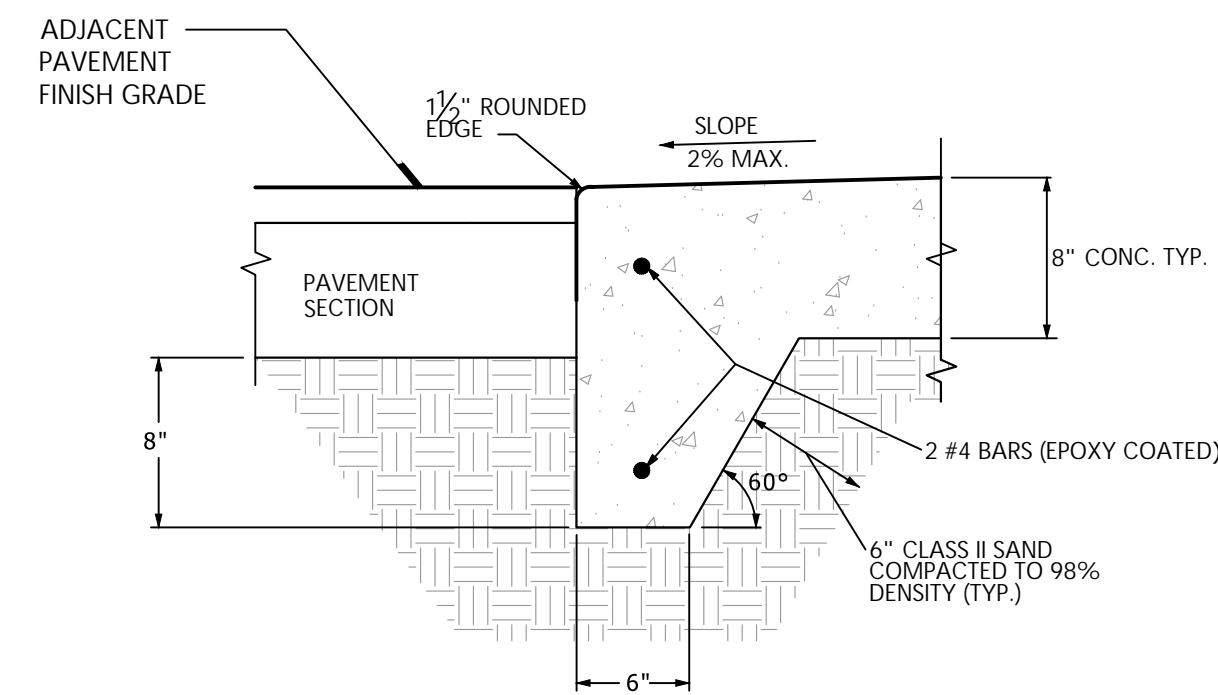
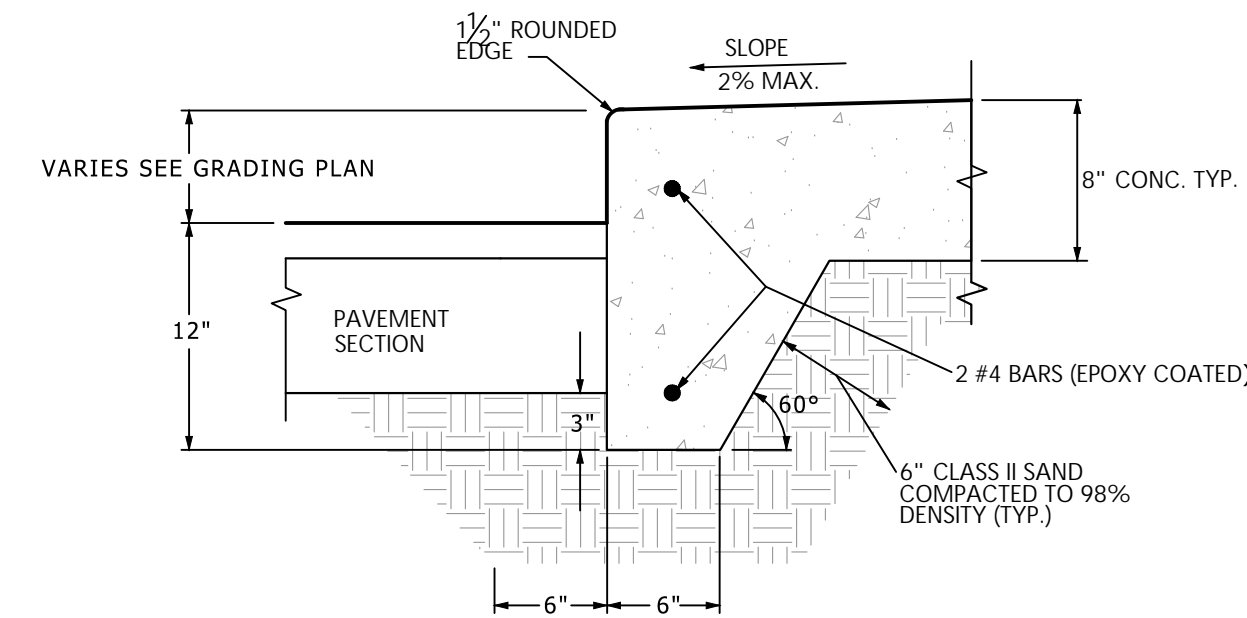
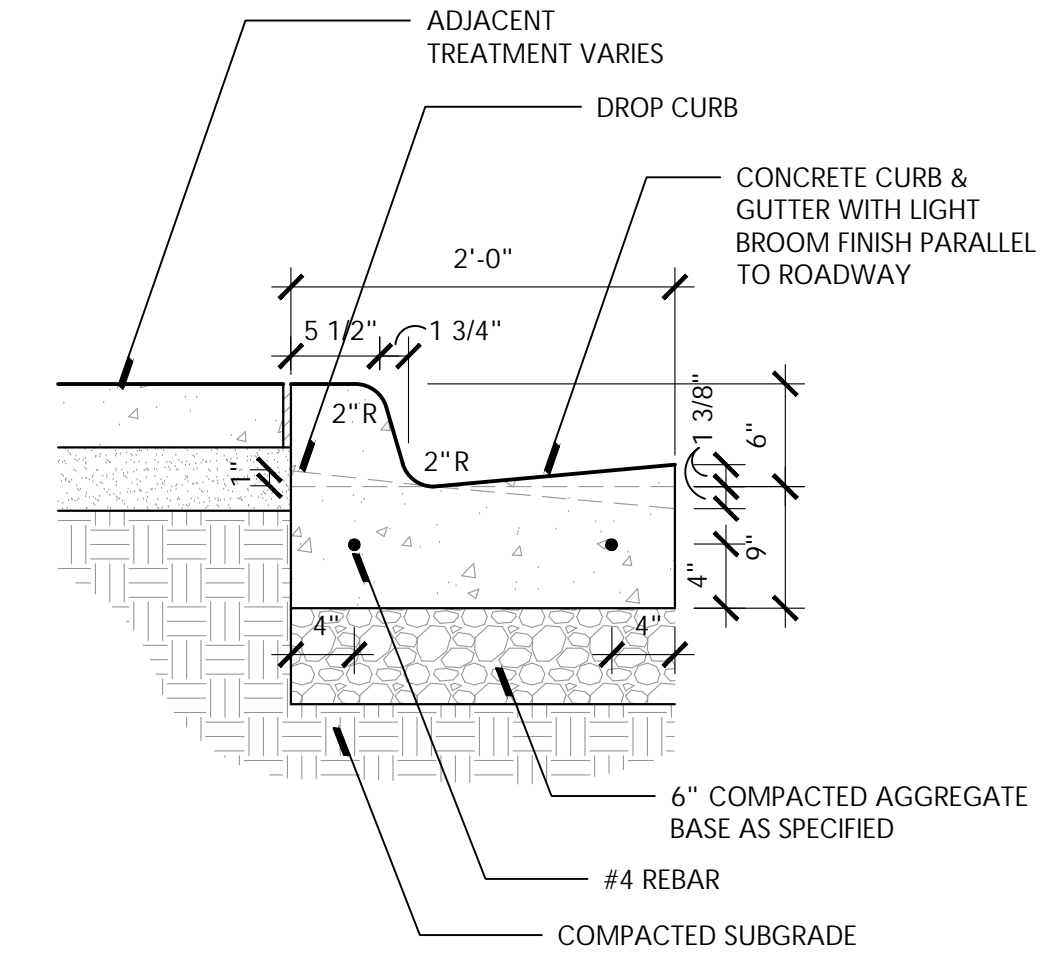
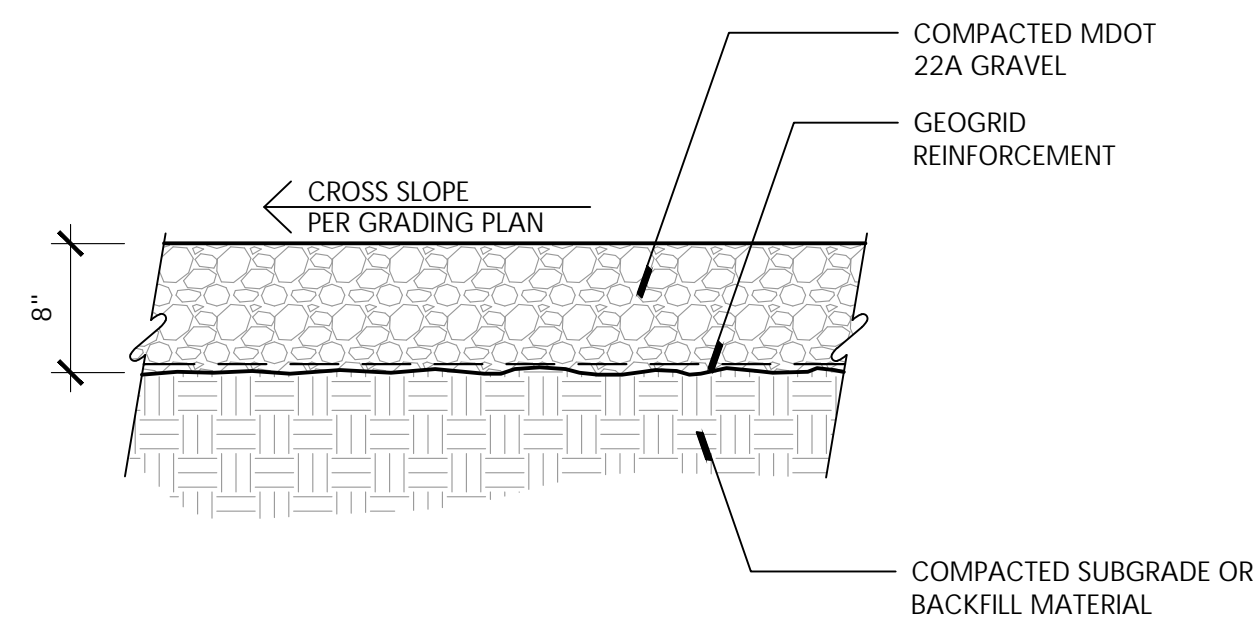
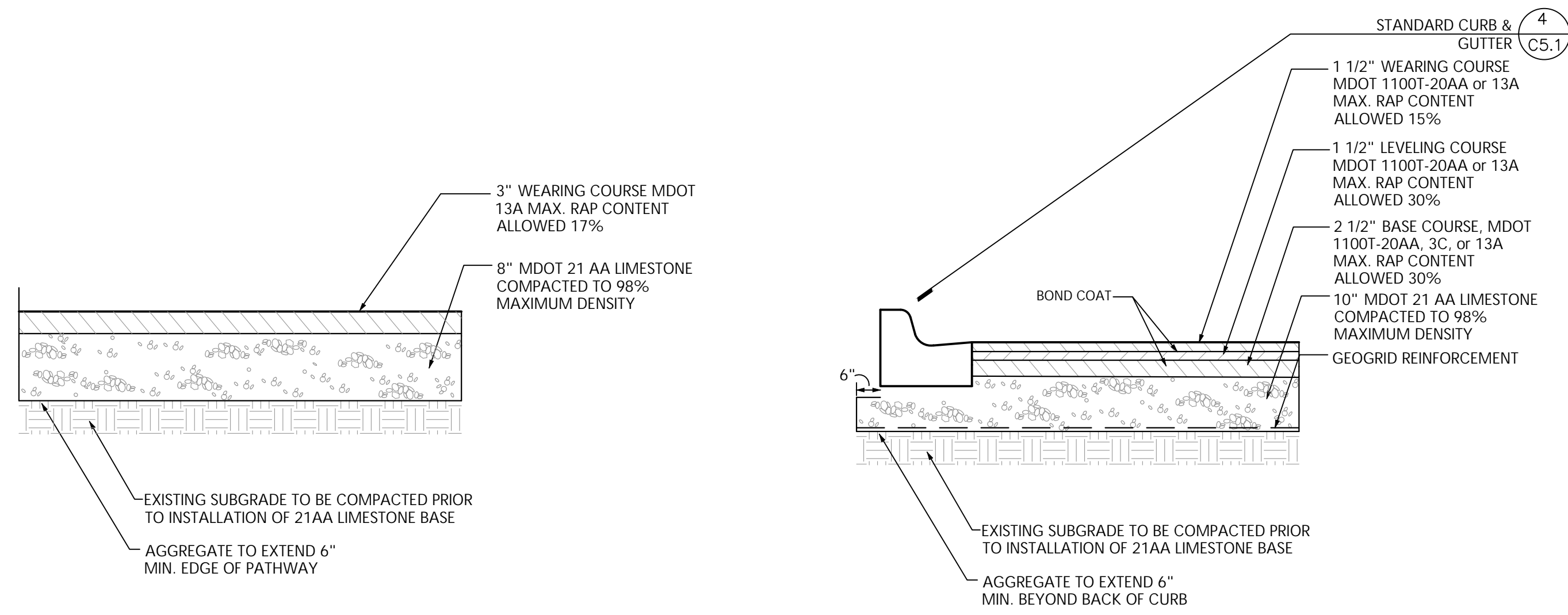
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C6.0 SITE DETAILS



1 Bituminous Pavement - Standard Duty

2 Bituminous Pavement - Heavy Duty

3 Gravel Drive

4 Standard Curb & Gutter / MDOT F4

5 Concrete Sidewalk with Integral Curb

6 Flush Edge Thickened Walk

7 Concrete Expansion & Control Jointing

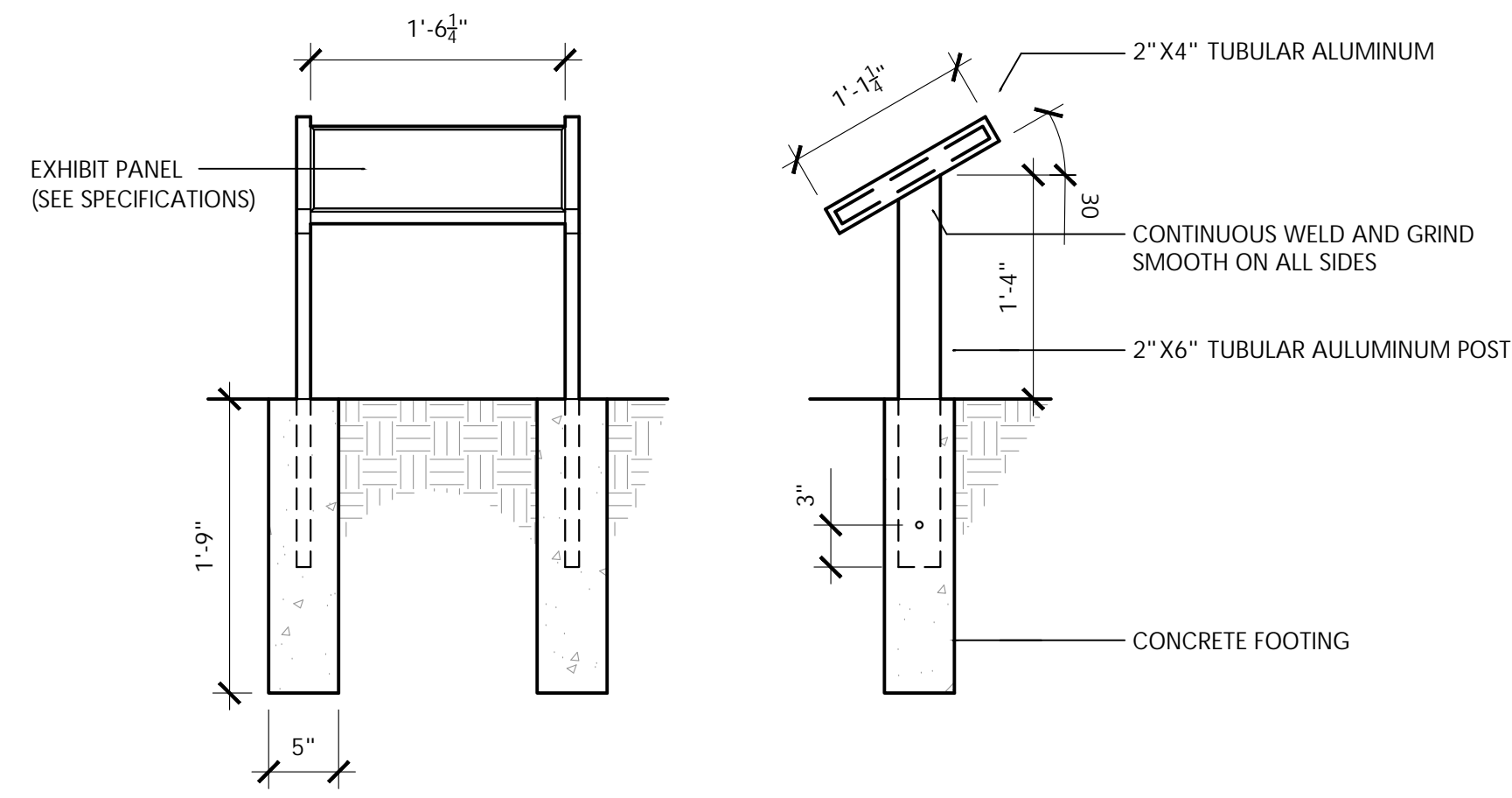
8 MDOT Pedestrian Ramp

9 Crosswalk Striping

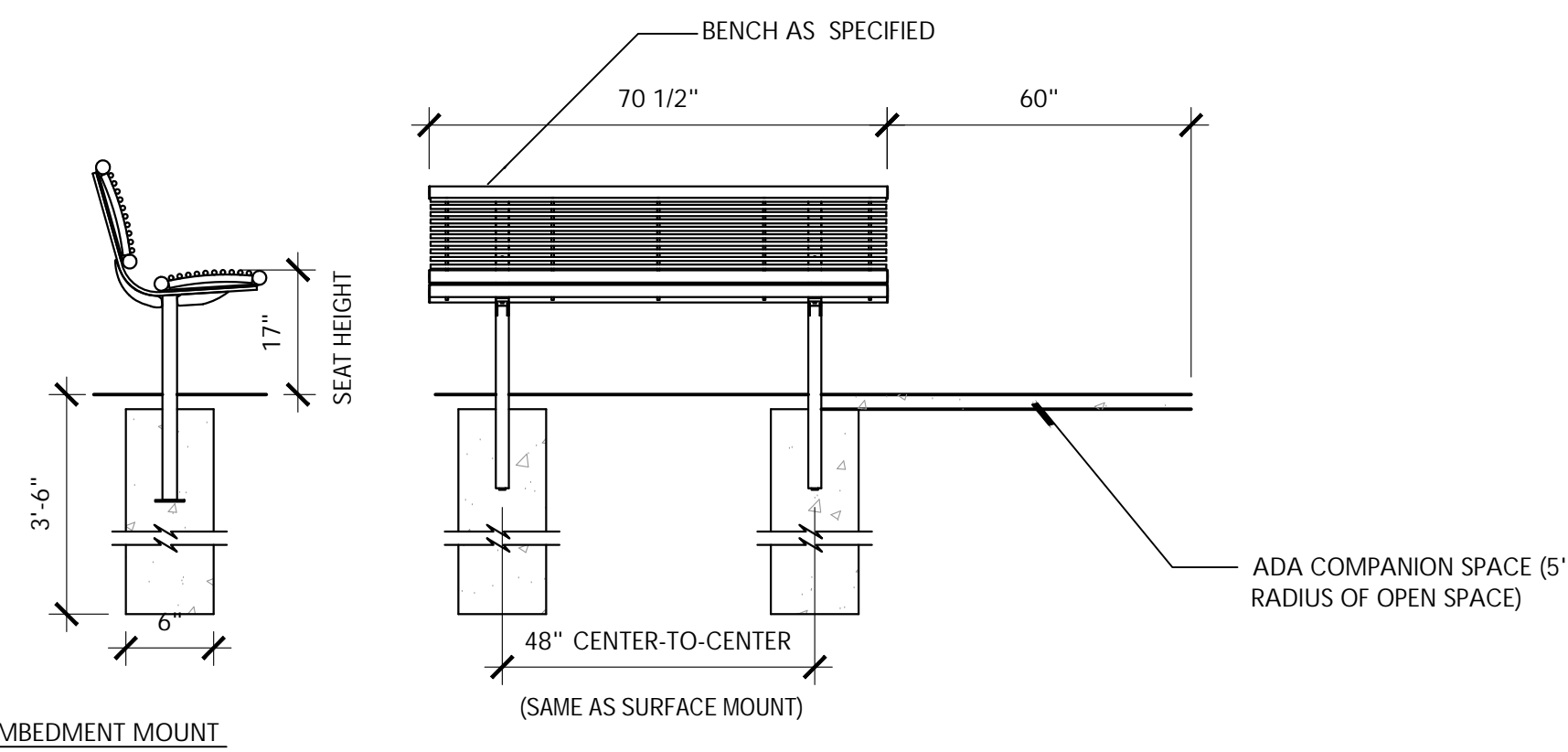
10 Barrier Free Parking Space Striping

11 Precast Concrete Bumper Block

12 Typical Signage Installation



1 Wildlife Interpretive Sign
 SCALE: SEE DETAILS



2 Bench with ADA Companion Seating
 SCALE: SEE DETAILS

Seal

Project Title

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 Stanley Park
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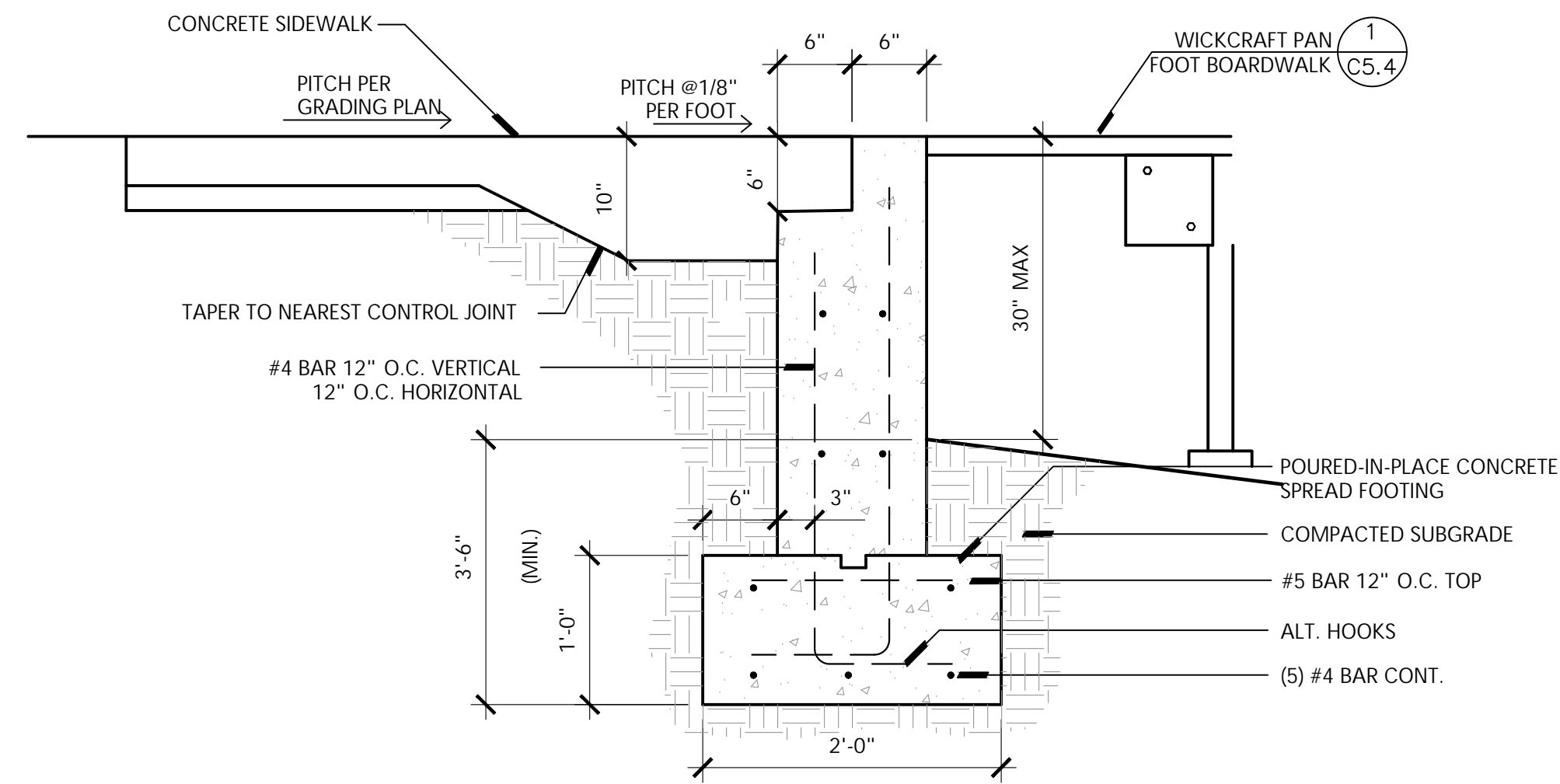
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C6.3 SITE DETAILS

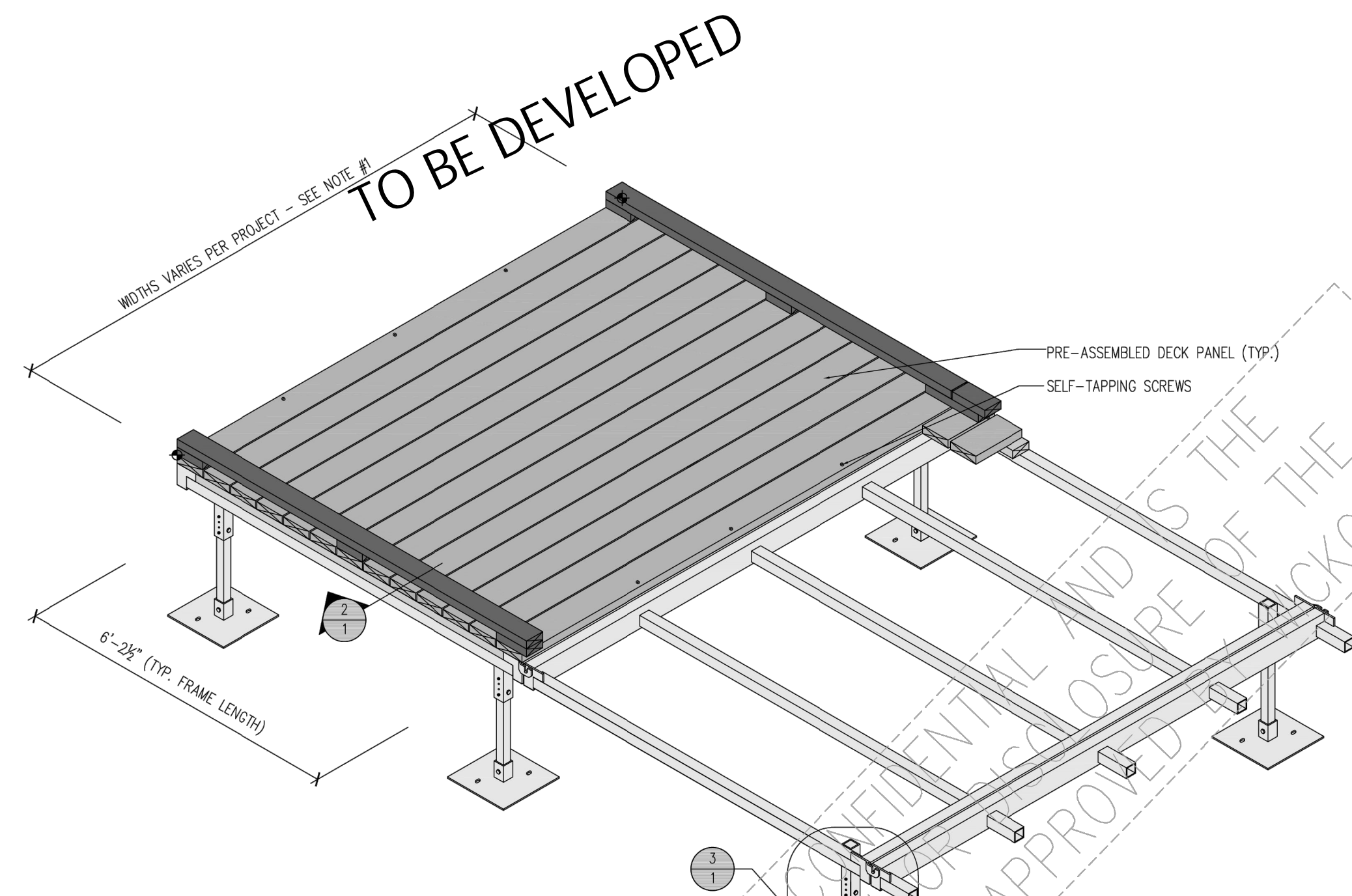
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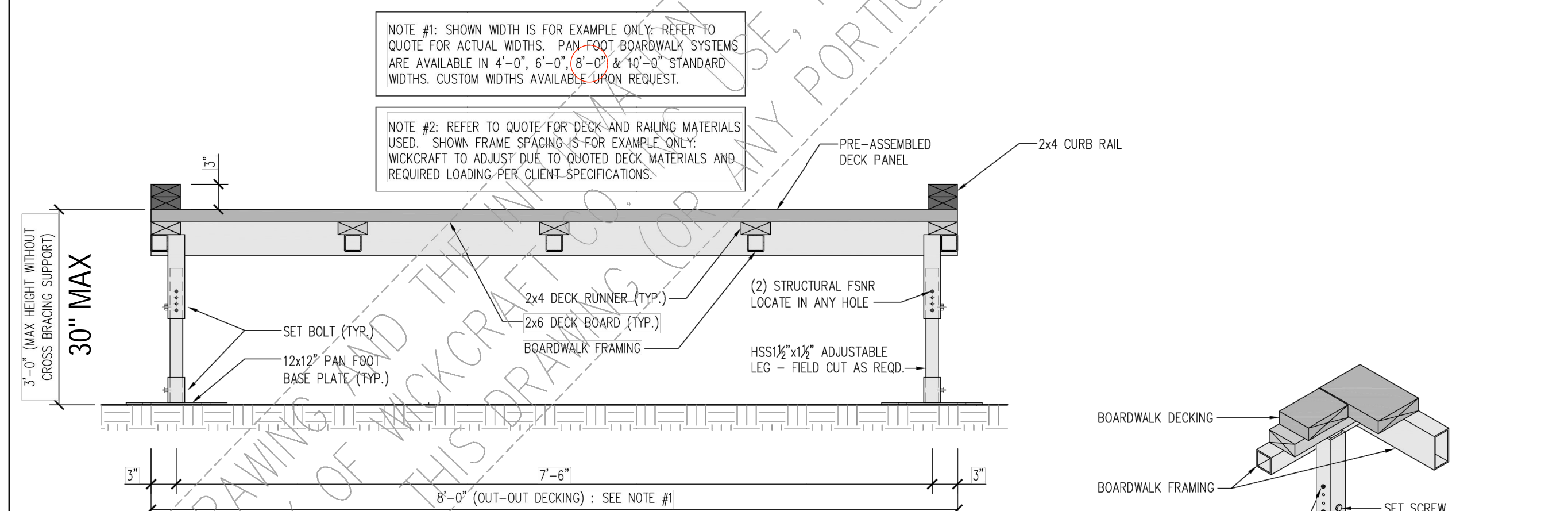
② Concrete Abutment at Boardwalk

SCALE: SEE DETAILS



① PAN FOOT WALKWAY SYSTEM
 w/ 2x4 RUNNER RAIL

SCALE: N.T.S.



① WALKWAY SECTION w/ 2x4 RUNNER RAIL

SCALE: N.T.S.

③ ADJUSTABLE LEG DETAIL

SCALE: N.T.S.

WICKCRAFT BOARDWALKS
 WICKCRAFT BOARDWALKS
 2317 DANIELS ST. MADISON, WI 53718
 (608) 244-9177

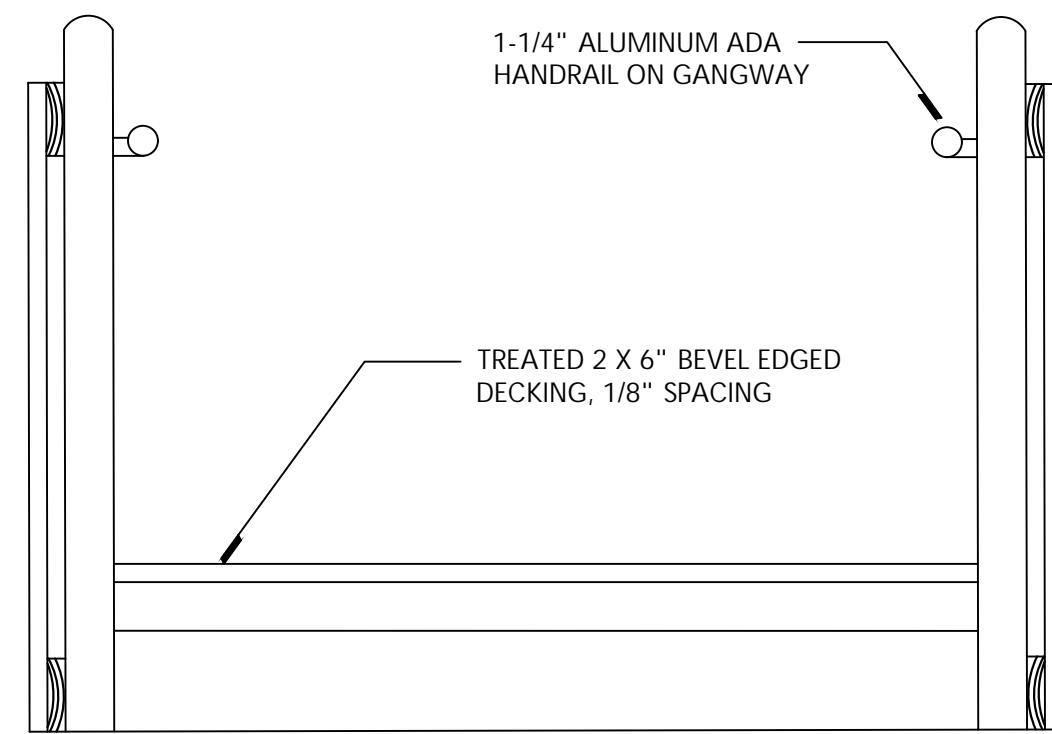
TITLE
 PAN FOOT w/ 2x4 RUNNER RAIL

DRAWN BY: JLL DATE: 11/09/22 DWG. NO. 1

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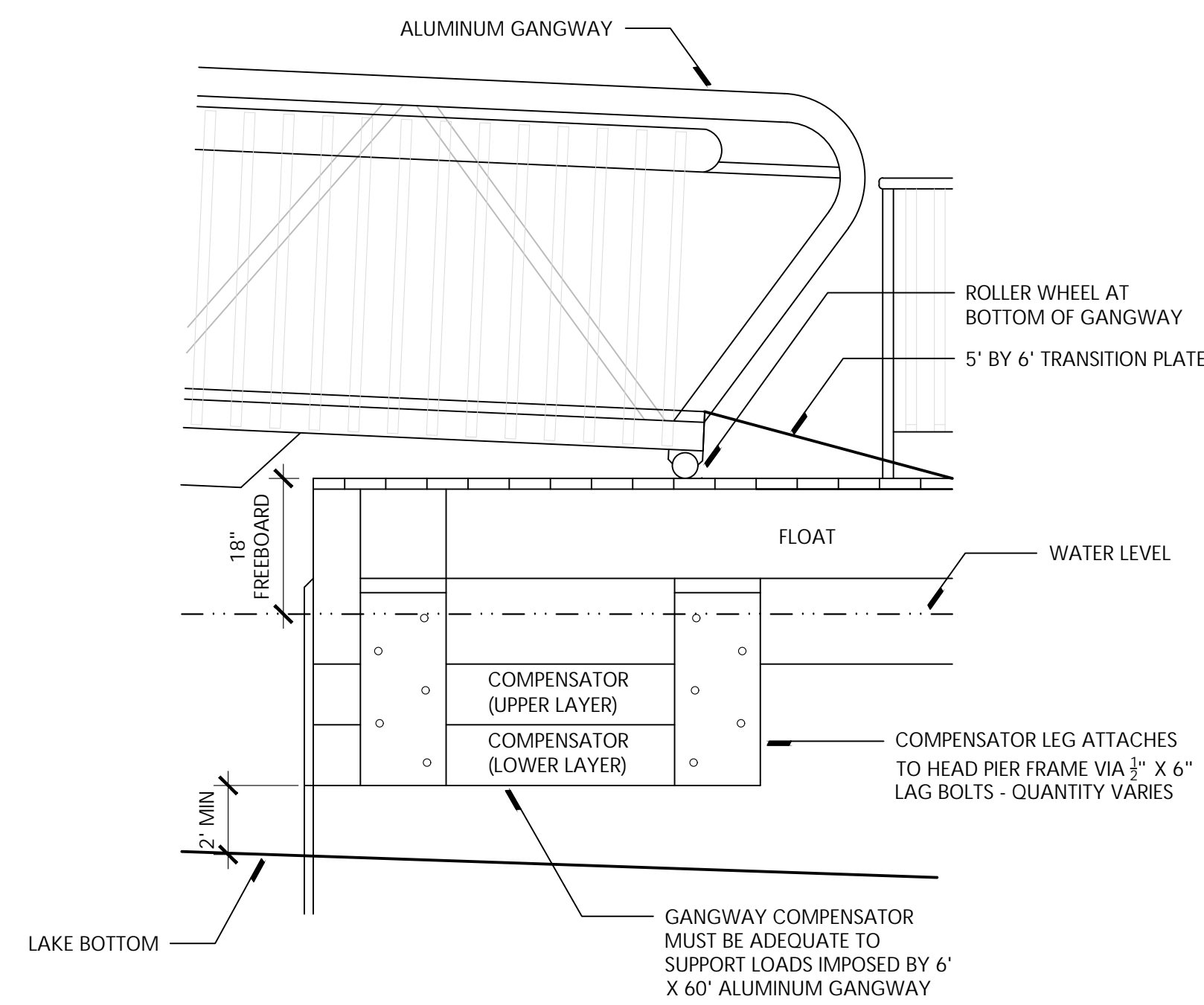
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GANGWAY SECTION ELEVATION

NOT TO SCALE

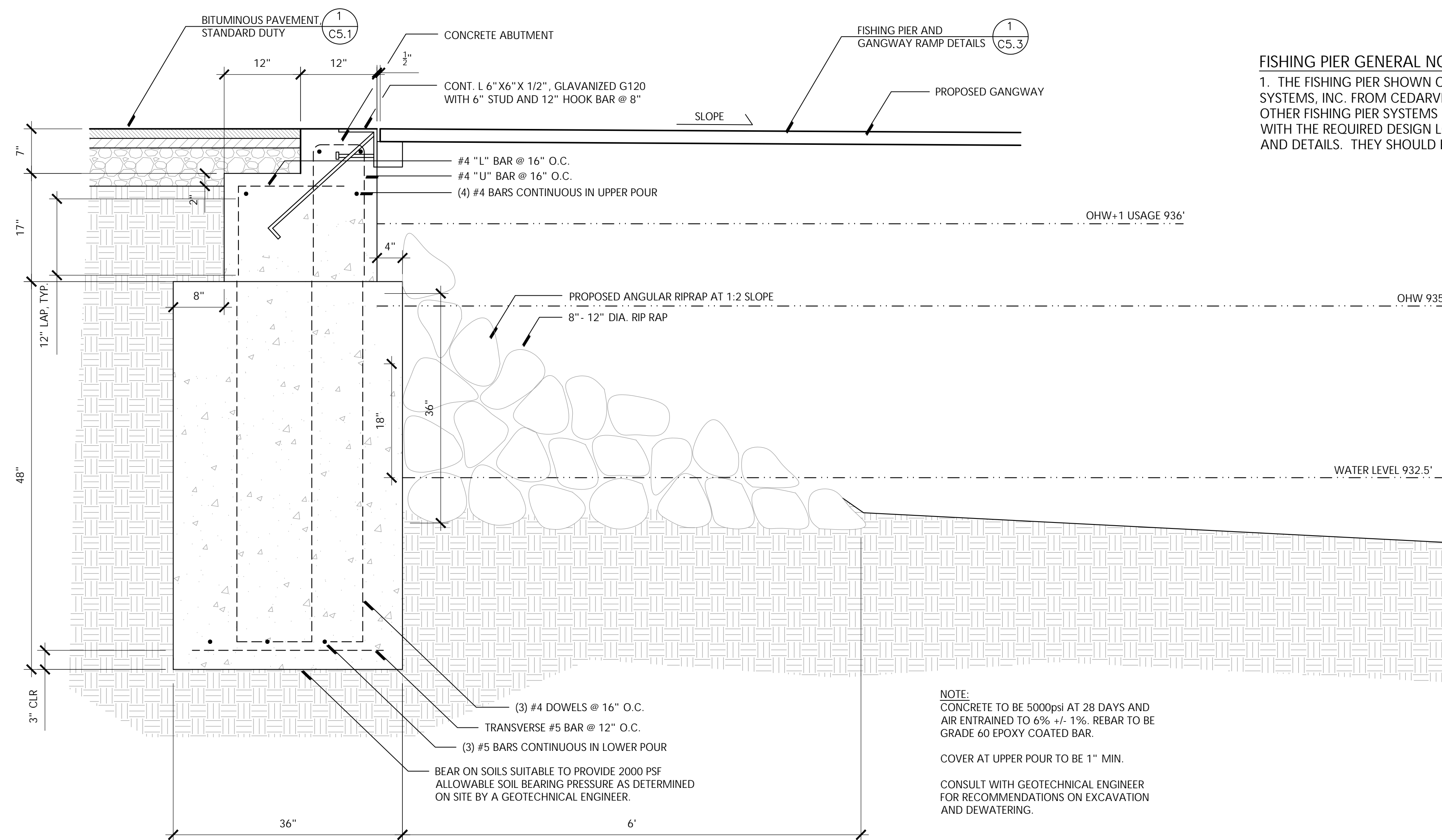


DROP DECK GANGWAY LANDING

NOT TO SCALE

1 Fishing Pier and Gang Way Ramp Details (Cont.)

NO SCALE



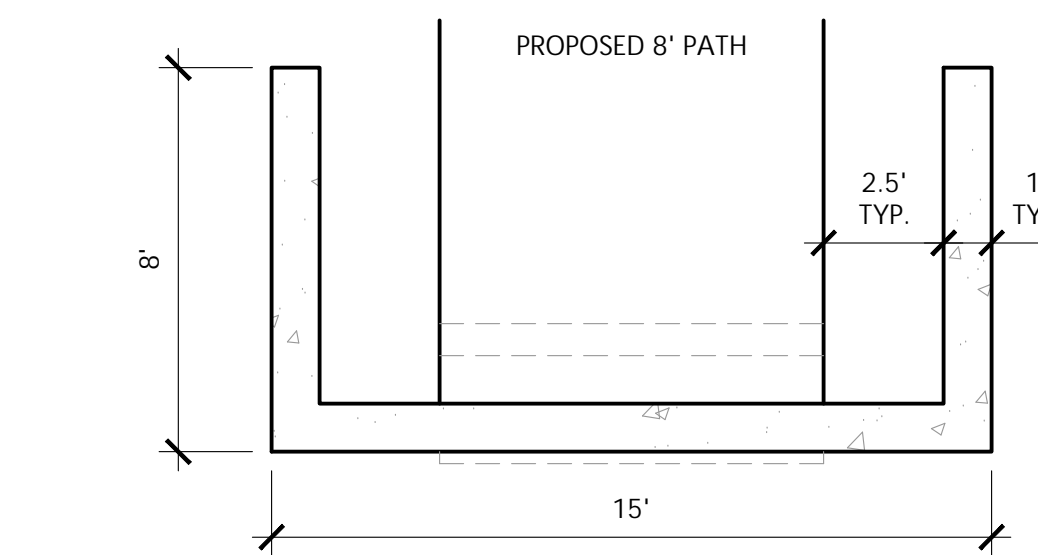
SECTION VIEW
 SCALE: 1" = 1'-0"

2 Concrete Abutment with Transition

SCALE: SEE DETAILS

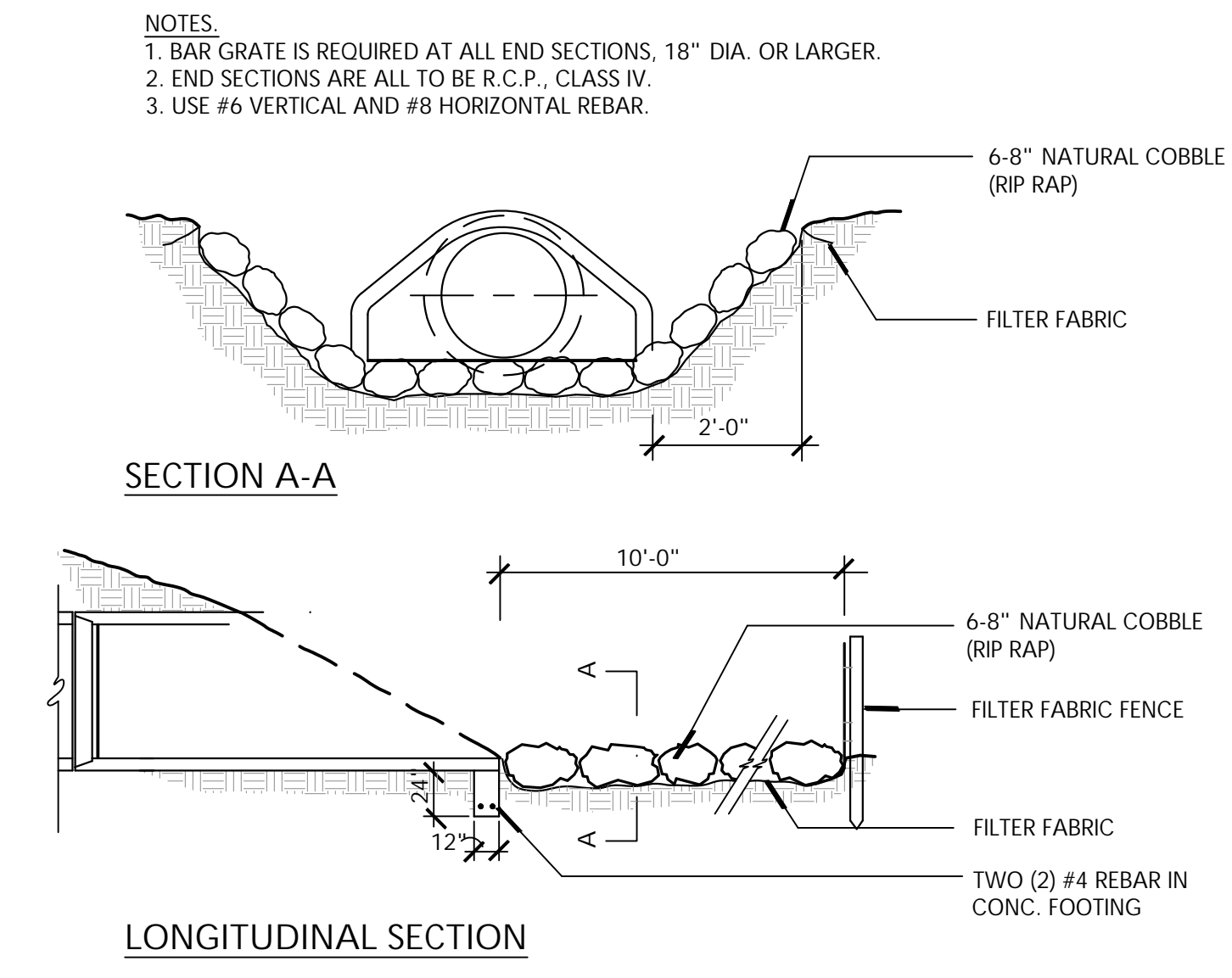
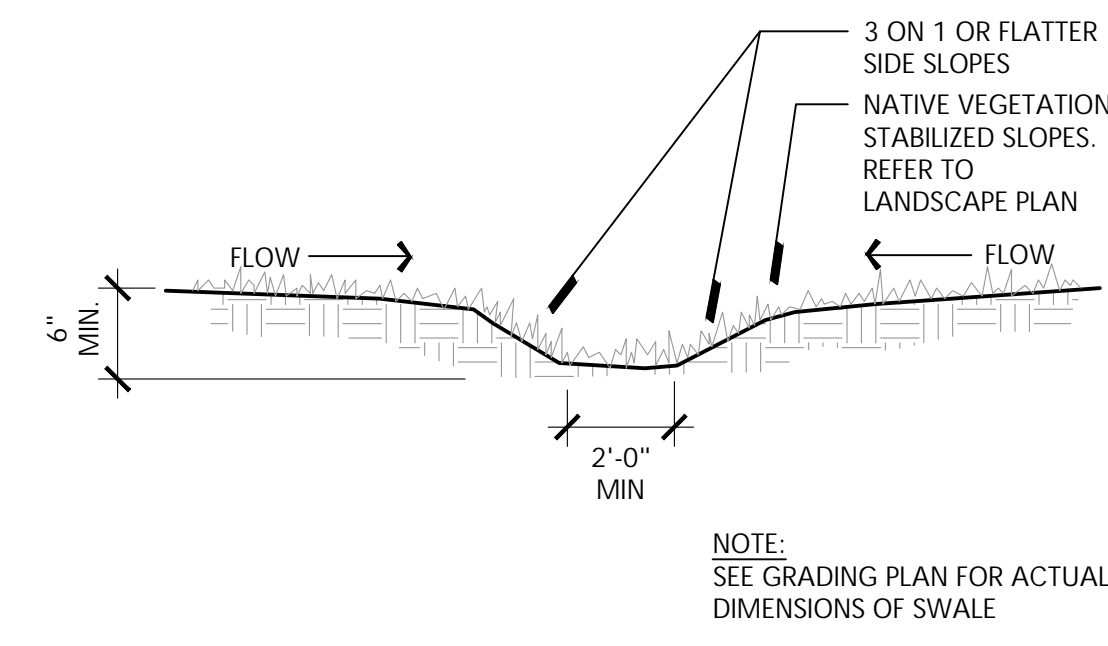
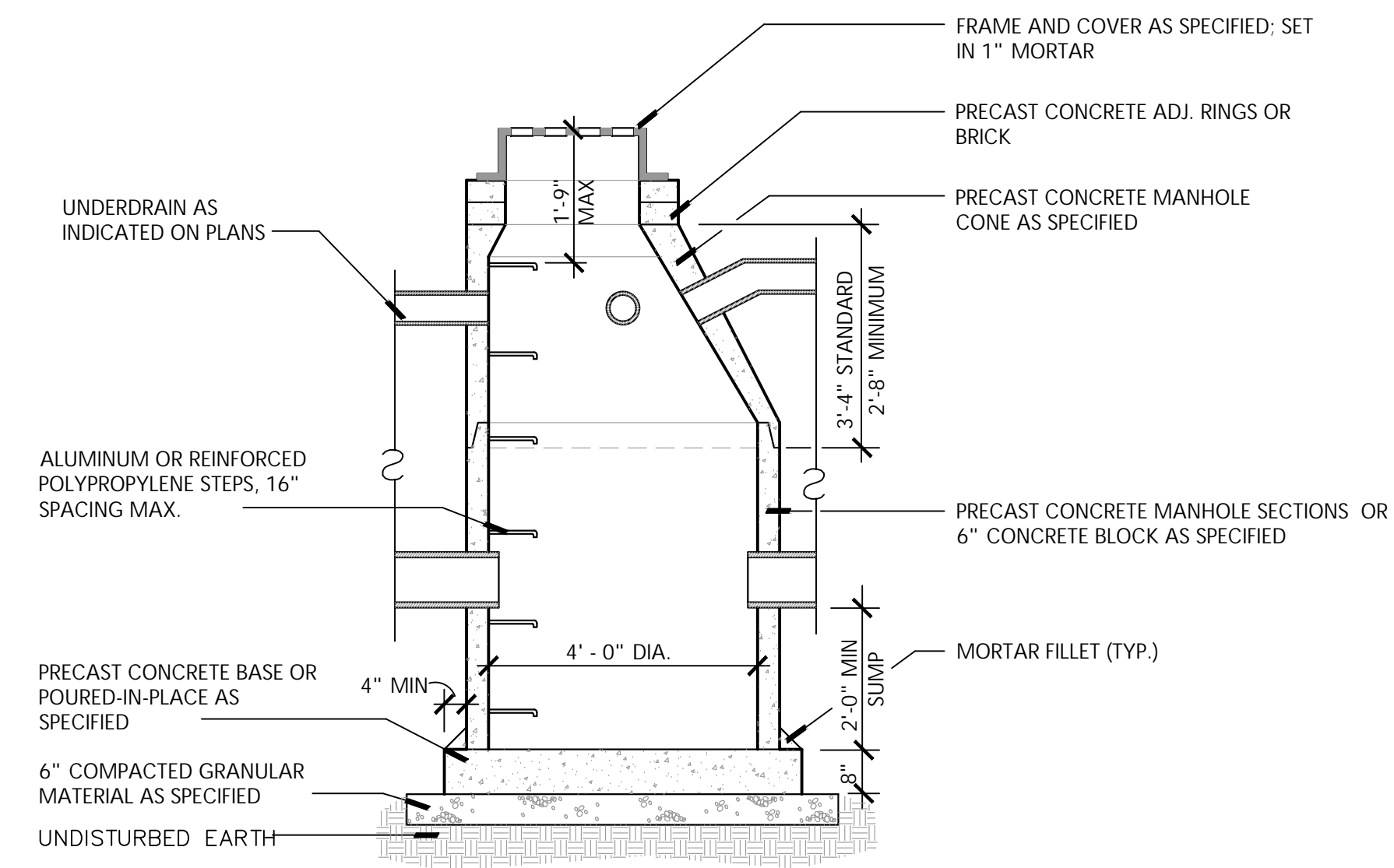
FISHING PIER GENERAL NOTES:

1. THE FISHING PIER SHOWN ON THIS SITE DETAIL SHEET ARE BASED OFF A PIER BY FLOTATION DOCKING SYSTEMS, INC. FROM CEDARVILLE, MICHIGAN (906.484.3422). IT IS NOT THE INTENT TO PRECLUDE ANY OTHER FISHING PIER SYSTEMS FROM A DIFFERENT MANUFACTURER. HOWEVER, THEY SHOULD COMPLY WITH THE REQUIRED DESIGN LOADS, DIMENSIONS AND BE CONSTRUCTED WITH THE SPECIFIED MATERIALS AND DETAILS. THEY SHOULD BE OF A QUALITY EQUAL TO OR BETTER THAN THE SPECIFICATIONS PROVIDED.



PLAN VIEW
 SCALE: 1/4" = 1'-0"

SECTION VIEW: ABUTMENT VIEWED FROM WATER
 SCALE: 1/4" = 1'-0"



NOTES:
 1. BAR GRATE IS REQUIRED AT ALL END SECTIONS, 18" DIA. OR LARGER.
 2. END SECTIONS ARE ALL TO BE R.C.P., CLASS IV.
 3. USE #6 VERTICAL AND #8 HORIZONTAL REBAR.

1 Catch Basin
NOT TO SCALE

2 Vegetated Swale
NOT TO SCALE

3 Flared End Section
NO SCALE

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 Stanley Park
 Phase 1 Implementation

White Lake Township, MI

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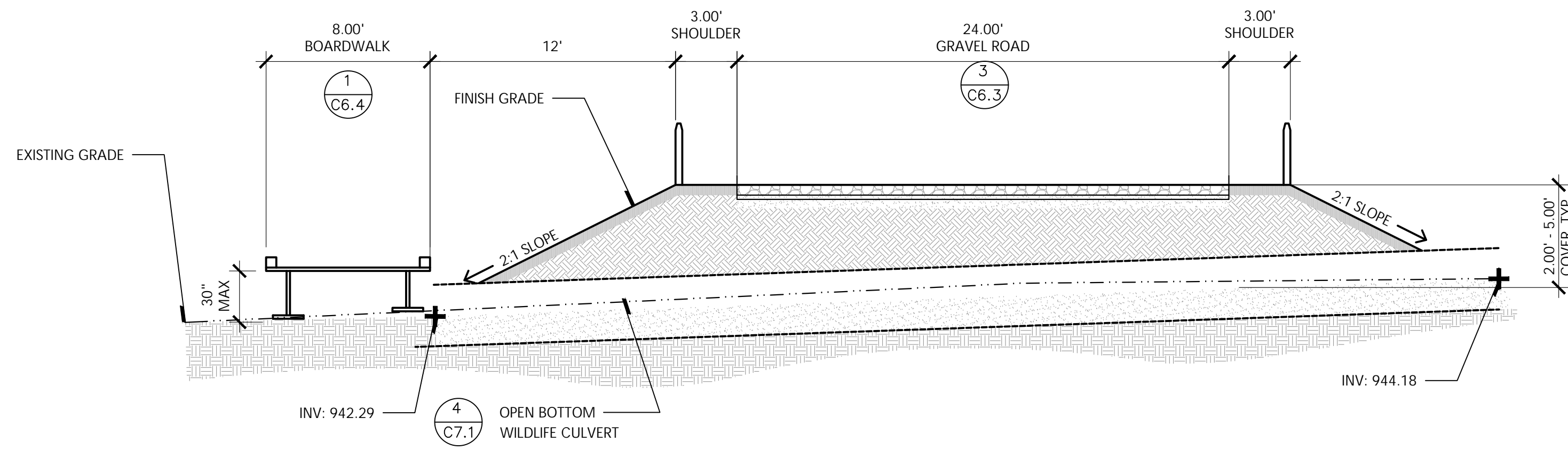
Project Number
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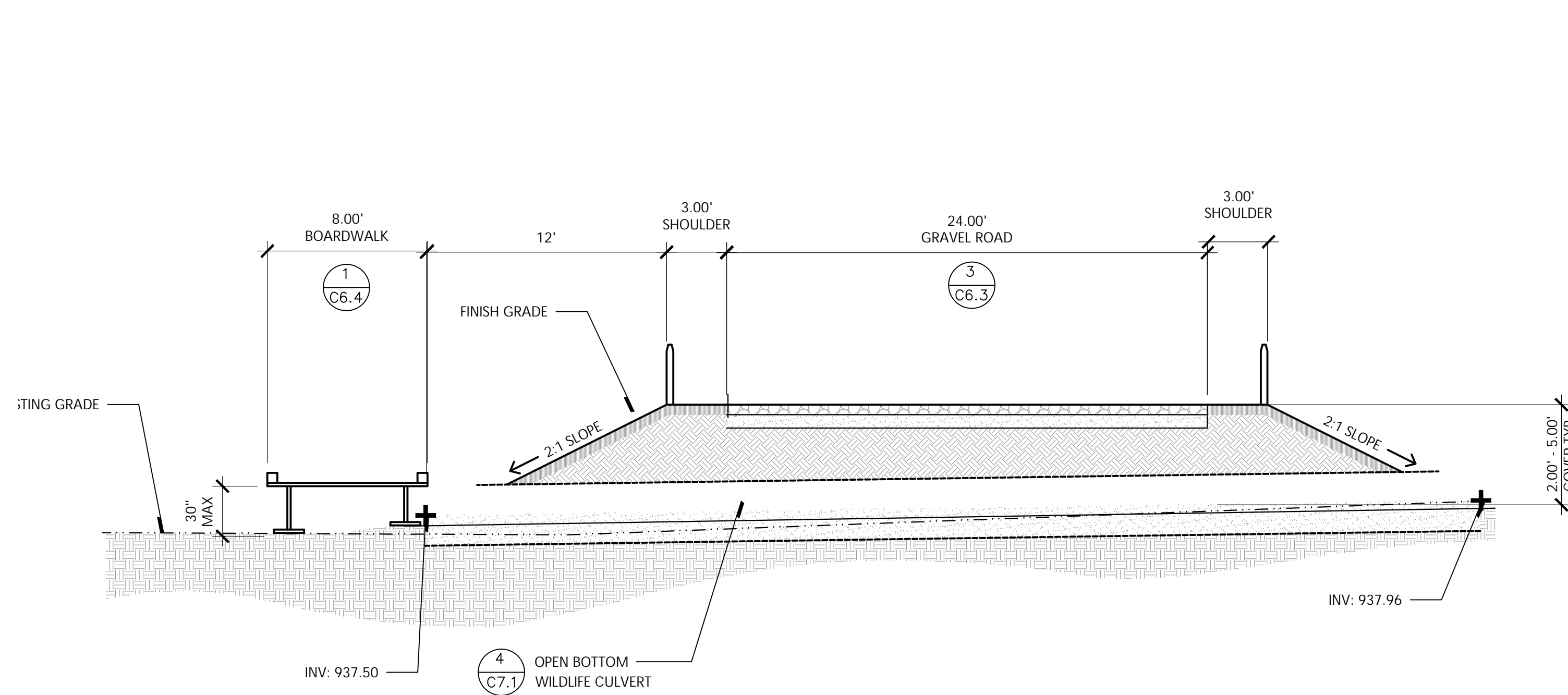
C7.0 UTILITY DETAIL

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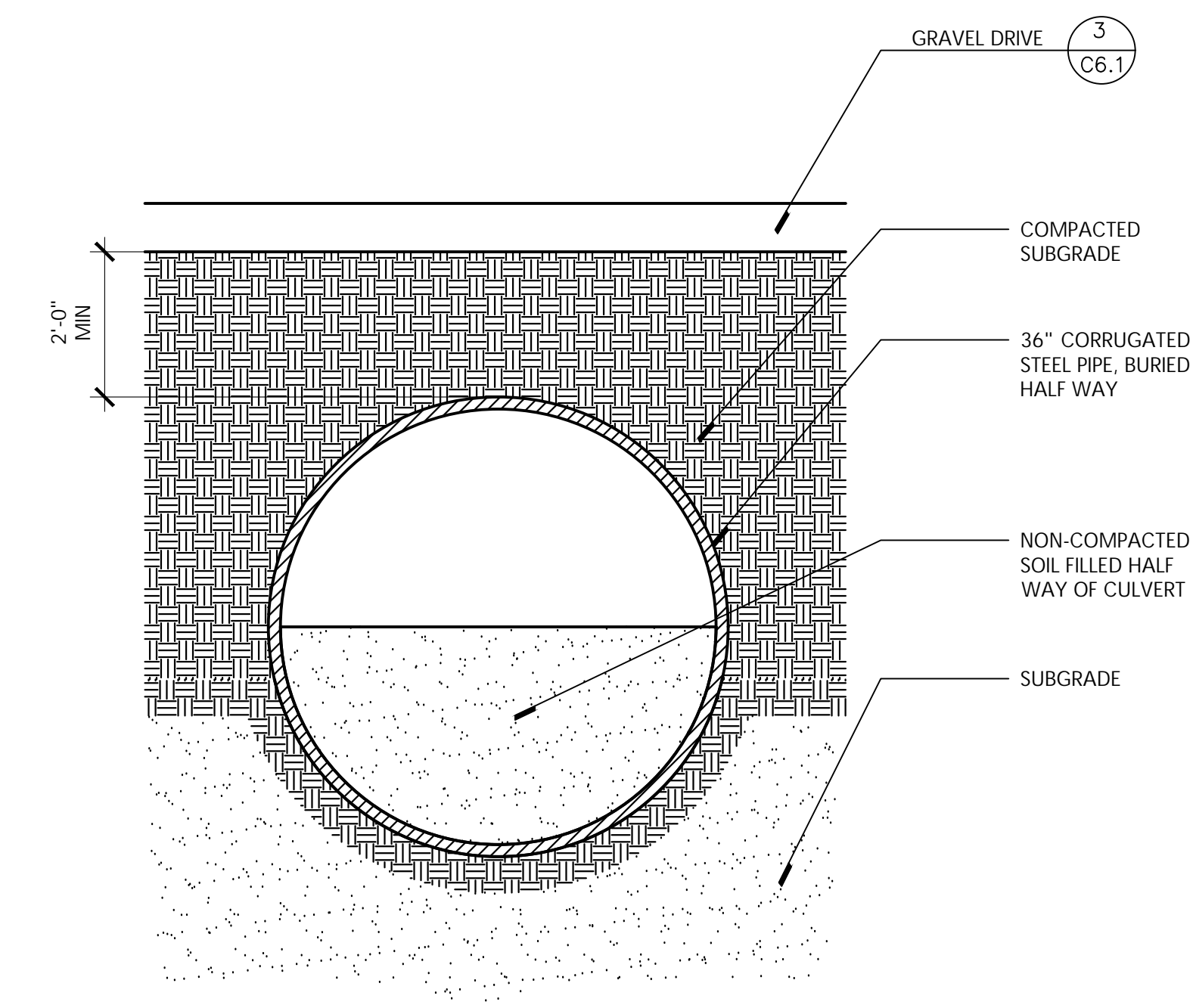
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Checked:	LDS, BB
Approved:	BB



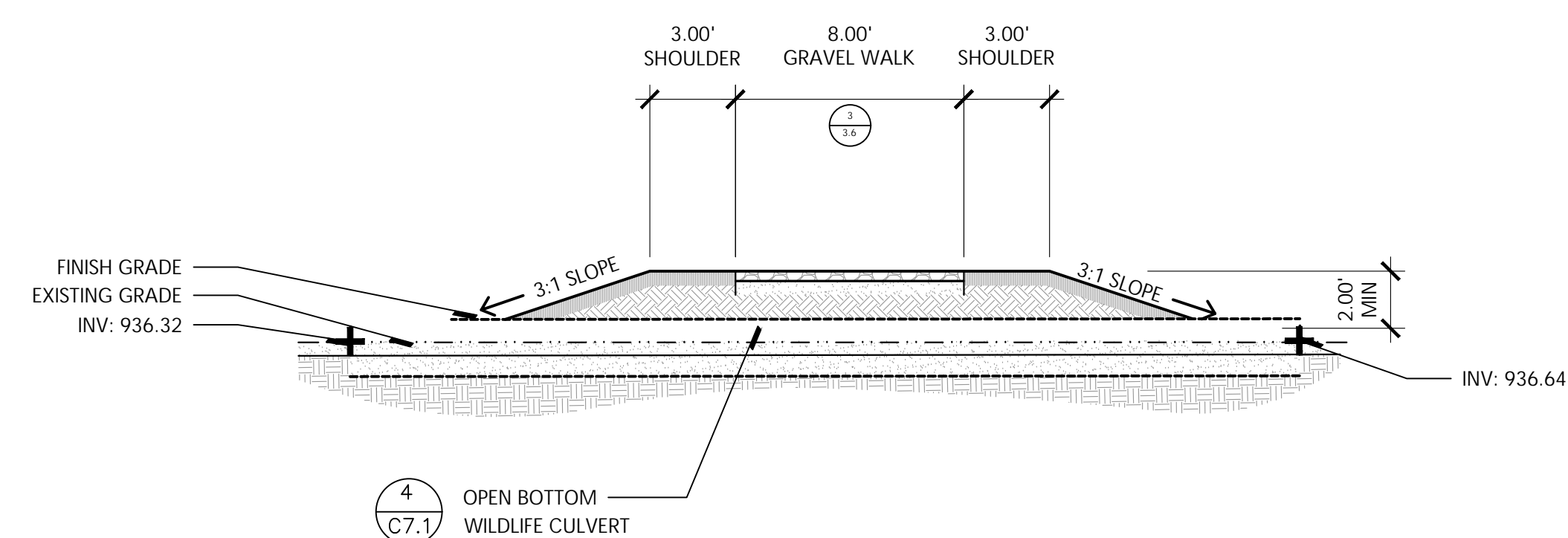
1 Northern Wildlife Culvert Section
NOT TO SCALE



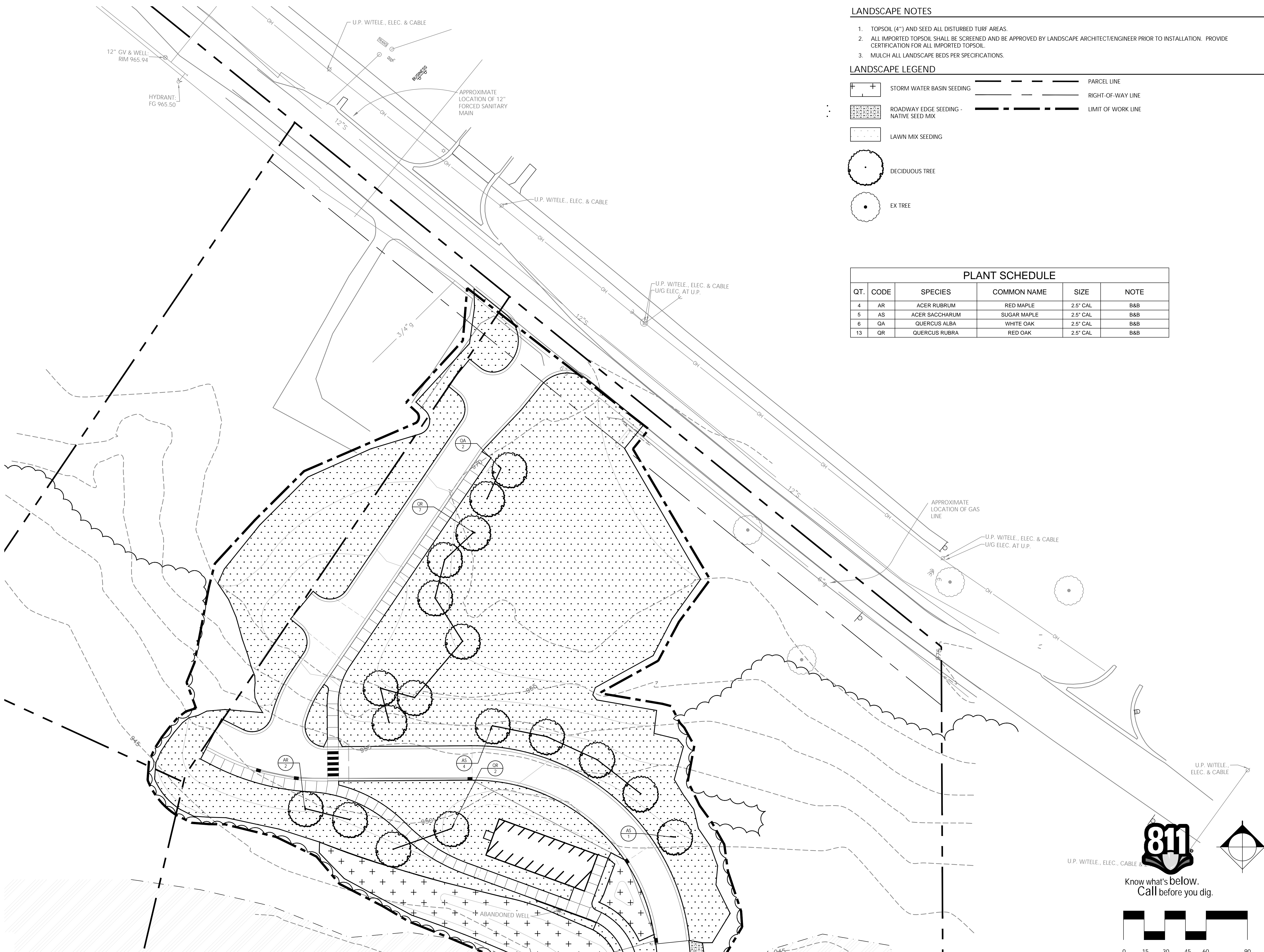
2 Southern Wildlife Culvert Section
NOT TO SCALE



4 Open Bottom Wildlife Culvert
NOT TO SCALE



3 Walkway Wildlife Culvert Section
NOT TO SCALE



LANDSCAPE NOTES

1. TOPSOIL (4") AND SEED ALL DISTURBED TURF AREAS.
2. ALL IMPORTED TOPSOIL SHALL BE SCREENED AND BE APPROVED BY LANDSCAPE ARCHITECT/ENGINEER PRIOR TO INSTALLATION. PROVIDE CERTIFICATION FOR ALL IMPORTED TOPSOIL.
3. MULCH ALL LANDSCAPE BEDS PER SPECIFICATIONS.

LANDSCAPE LEGEND

	STORM WATER BASIN SEEDING		PARCEL LINE
	ROADWAY EDGE SEEDING - NATIVE SEED MIX		RIGHT-OF-WAY LINE
	LAWN MIX SEEDING		LIMIT OF WORK LINE
	DECIDUOUS TREE		
	EX TREE		

PLANT SCHEDULE

QT.	CODE	SPECIES	COMMON NAME	SIZE	NOTE
4	AR	ACER RUBRUM	RED MAPLE	2.5" CAL	B&B
5	AS	ACER SACCHARUM	SUGAR MAPLE	2.5" CAL	B&B
6	QA	QUERCUS ALBA	WHITE OAK	2.5" CAL	B&B
13	OR	QUERCUS RUBRA	RED OAK	2.5" CAL	B&B

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Project Title

White Lake Twp.
 Stanley Park
 Phase 1 Implementation

White Lake Township, MI

Sheet Title

Dates

Dates	Issued for
12.14.2022	DRAFT DESIGN DEVELOPMENT
1.6.2023	DESIGN DEVELOPMENT

Scale

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 Approved: BB

Project Number

2022024

Sheet Number

L1.0 LANDSCAPE PLAN

MATCH LINE L1.0



MATCH LINE L1.2

B R
Beckett & Raeder

Landscape Architecture
Planning, Engineering &
Environmental Services

Beckett & Raeder, Inc.
535 West William, Suite 101
Ann Arbor, MI 48103
734.663.2622 ph
734.663.6759 fx

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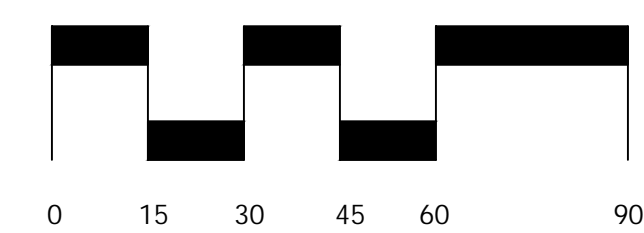
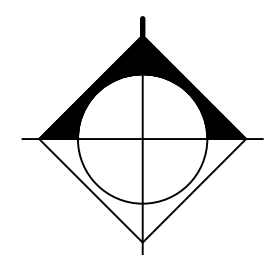
2022024

Sheet Number

L1.1 LANDSCAPE PLAN



Know what's below.
Call before you dig.



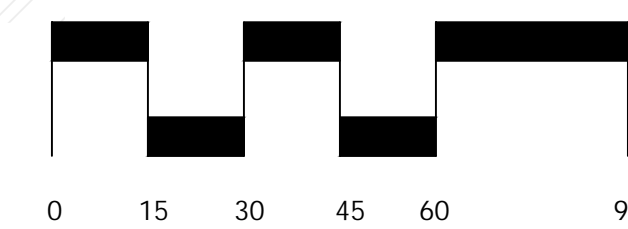
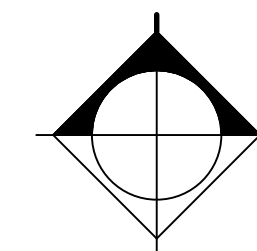
MATCH LINE L1.1



APPROXIMATE
WATERS' EDGE
ELEV. = ±932.5'
SURVEYED
04/15/22



Know what's below.
Call before you dig.



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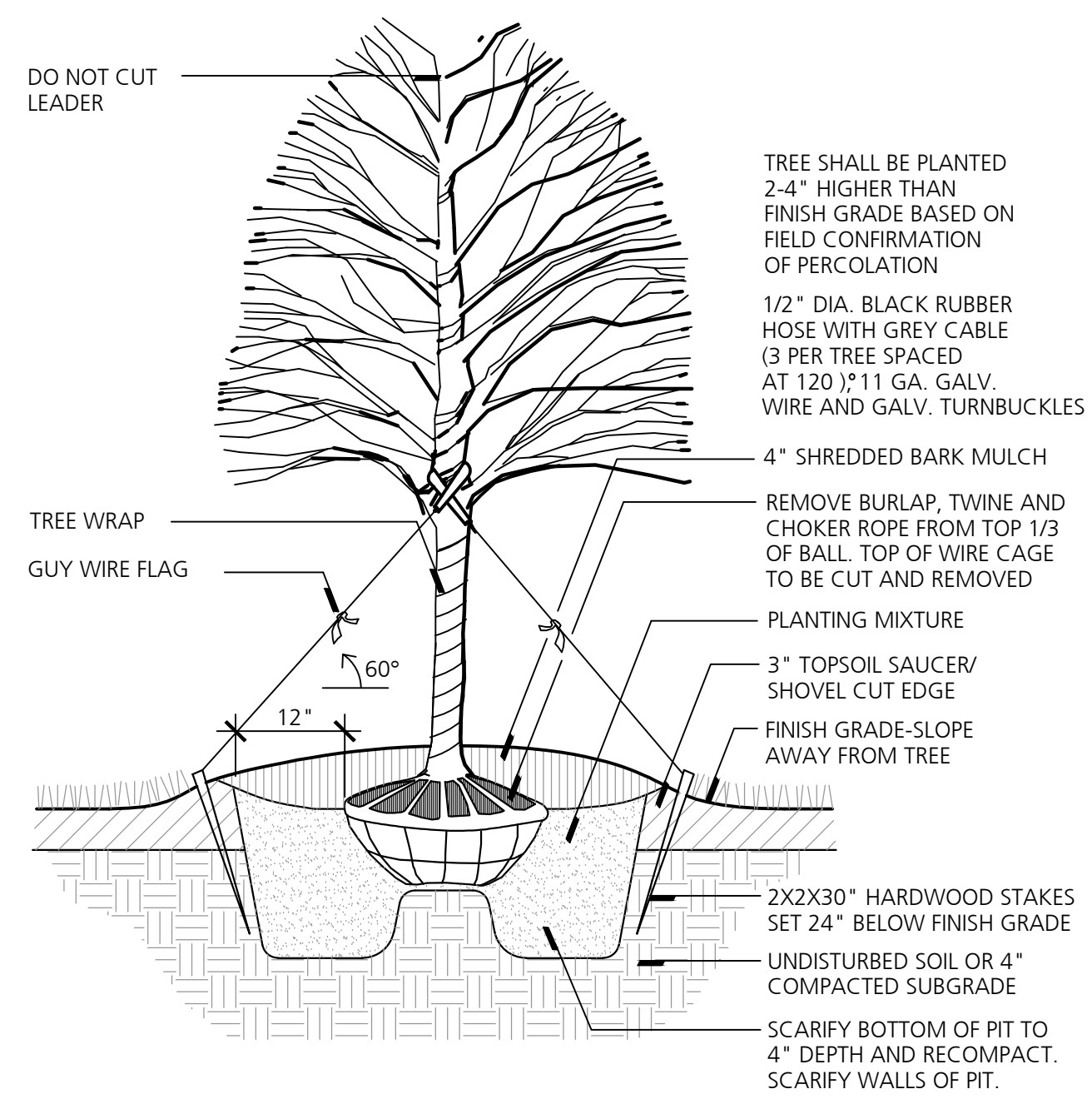
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Approved: BB

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L1.2 LANDSCAPE PLAN



TREE SHALL BE PLANTED 2-4" HIGHER THAN FINISH GRADE BASED ON FIELD CONFIRMATION OF PERCOLATION

1/2" DIA. BLACK RUBBER HOSE WITH GREY CABLE (3 PER TREE SPACED AT 120)#11 GA. GALV. WIRE AND GALV. TURNBUCKLES

4" SHREDDED BARK MULCH

REMOVE BURLAP, TWINE AND CHOKER ROPE FROM TOP 1/3 OF BALL, TOP OF WIRE CAGE TO BE CUT AND REMOVED

PLANTING MIXTURE

3" TOPSOIL SAUCER/ SHOVEL CUT EDGE

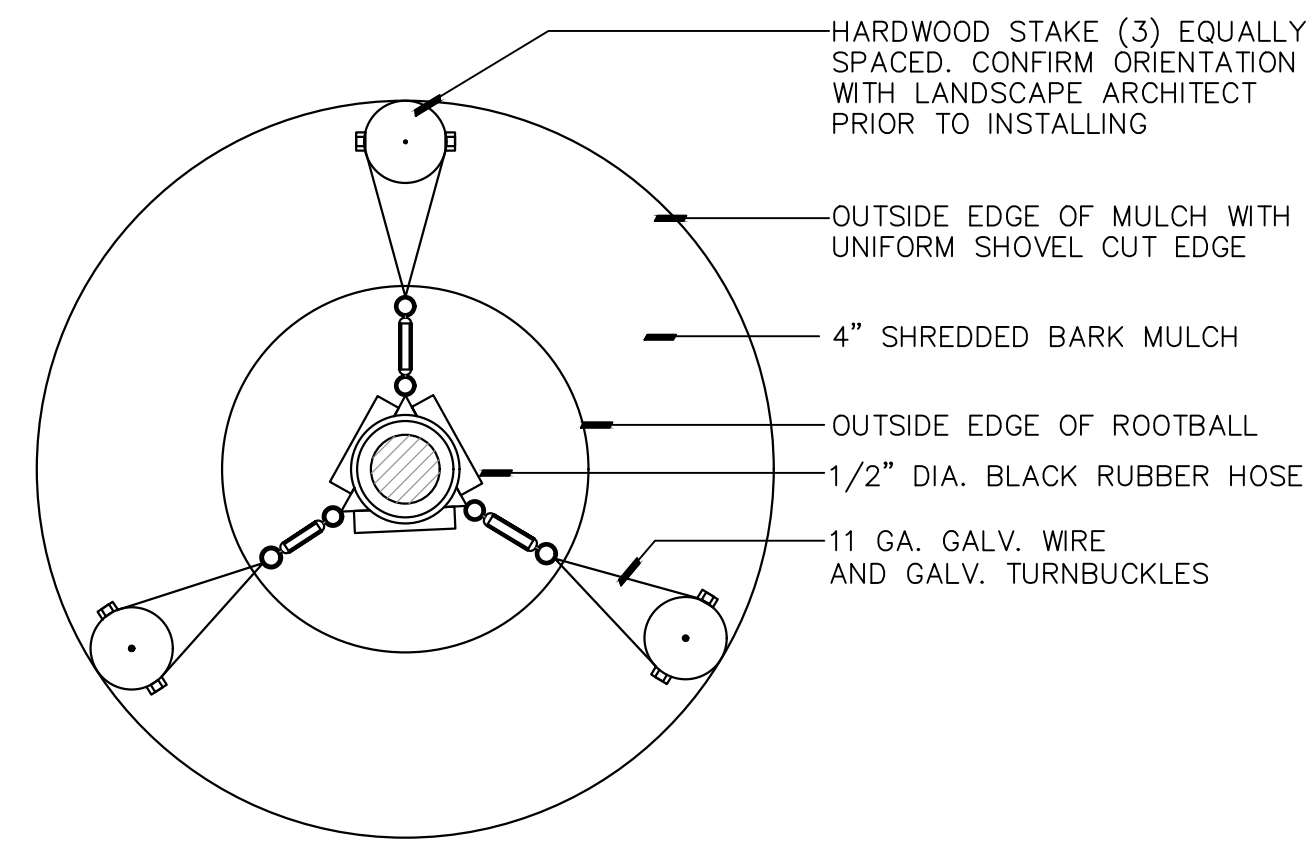
FINISH GRADE-SLOPE AWAY FROM TREE

2X2X30" HARDWOOD STAKES SET 24" BELOW FINISH GRADE

UNDISTURBED SOIL OR 4" COMPACTED SUBGRADE

SCARIFY BOTTOM OF PIT TO 4" DEPTH AND RECOMPACT. SCARIFY WALLS OF PIT.

1 Deciduous Tree Planting
NO SCALE



2 Tree Staking
NOT TO SCALE

Seal

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Stanley Park
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L2.0 LANDSCAPE DETAIL