



December 15, 2017

Christie Stanifer, Environmental Coordinator
Indiana Department of Natural Resources
Division of Fish and Wildlife
402 West Washington St, Room W273
Indianapolis, IN 46204-2781
(317) 232-8163
cstanifer@dnr.in.gov

RE: request for DFW early coordination/environmental review for Town of Long Beach "Stop 24 Dune Lakeshore Access Overlook & Restoration" project

Dear Ms. Stanifer,

The Town of Long Beach, Indiana, is requesting an early coordination review by the Indiana DNR Division of Fish and Wildlife for a proposed public improvement project known as the "Stop 24 Dune Lakeshore Access Overlook & Restoration." The project is sponsored by the municipality and will be implemented on public, Town-owned property. The project includes coastal dune restoration activities and public access improvements that meet ADA/ABA standards.

We are writing today on behalf of the Town as both their design and grant consultant for the project.

The requested DFW review for this project is required as a component of 2018 Indiana Lake Michigan Coastal Program (LMCP) Coastal Grant Program funding request/proposal for the proposed improvements. The Town's LMCP Grant Pre-Proposal has been approved for final submission; the Final Proposal is due Friday December 15, 2017, by 5:00pm (CST).

Project Location:

2402 Lake Shore Drive, Long Beach IN 46360
LaPorte County
Lat/Long: 41.746761, -86.853794
UTM: 16T 512168, 4621692

Please reference attached map exhibits:

- Exhibit A – USGS Michigan City East Quadrangle map
- Exhibit B – Beacon (LaPorte County) aerial-image parcel map
- Exhibit C – Existing Conditions graphic, including site images

Project Description:

Overview:

"Stop 24" is the Town of Long Beach's only true lakefront park space, and the only natural community open-space of any meaningful size for several miles. The publicly owned fore-, secondary-, and upland-sand dunes present on the site are estimated to be 90% covered in invasive and non-native colonizing species. Degraded vegetation and insufficiently planned/engineered public access is contributing to



erosive dune conditions. Existing non-accessible (non-ADA) conditions provide challenges for accessing the site's core features for those with limited mobility needs, a concern for likely site users (highest State percentile class for aged >64 within 1-1/2 mile radius of site).

The purpose of this project is to provide ABA/ADA-compliant natural resource public access improvements, 0.6-acres of critical native dune vegetation restoration and dune stabilization at the Town of Long Beach's public dune and lakeshore access site. The project will also educate and train Town maintenance staff and others about native dune vegetation including proper maintenance requirements.

Proposed Improvements:

The core focus of this project is providing varied, stable, and sustainable public access site improvements that meet all current State, local and Federal accessibility requirements. Budget funds will be used to provide ADA/ABA-compliant access to the Lake Michigan public beach/lakeshore, to the site's restored fore- and secondary- dune landscape, and to a new public street-level community vista overlook feature.

Universal site access will be achieved by installation of a combination of continuous street-to-beach, ADA-compliant natural permeable gravel aggregate paths with erosion-resistant "geo-grid" underlayment and a new wood boardwalk, sloped at ADA/ABA-compliant maximum slope angles, in addition to a new limited-mobility constructed stairway.

Restoration will occur to reestablish the dune site's pre-settlement ecological habitat, namely whole-site removal of invasive species and replanting of native fore-, secondary-, and upland dune grasslands (marram species dominant) on approximately 0.6-acres of sand dunes.

In addition to flora restoration, dune stabilization of the existing secondary dune slopes most susceptible to dune trampling and wind erosion will be achieved through installation of a cascading series of flat stacked boulders designed to anchor the dune slopes while simultaneously providing passive nature-viewing recreational opportunities for site users.

Please reference attached construction plans for full description of proposed improvements:

- Exhibit D – schematic site plan graphic
- Exhibit E – scaled construction site plan set (5 pages)

Response Request:

As stated above, this review request is a requirement of the Town's LMCP 2018 grant funding request due December 15, 2017. Please send a copy of your response letter to LMCP Program Manager Maggie Byrne via email: mbyrne@dnr.in.gov

Sincerely, and on behalf of the Town of Long Beach,

Scott Kuchta
Global Engineering
(219) 872-4444 x301
scott@global-landsurveying.com

EXHIBIT A: USGS MAP SITE LOCATION

① Project Site/Location
2402 Lake Shore Dr, Long Beach IN 46360
LaPorte County
Lat/Long: 41.746761, -86.853794
UTM: 16T 512168, 4621692

SOURCE MAP DATA

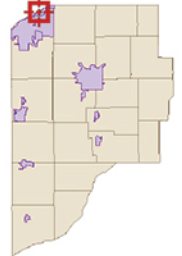
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY
MICHIGAN CITY EAST QUADRANGLE
INDIANA-LAPORTE CO.
7.5-MINUTE SERIES
MICHIGAN CITY EAST, IN 2016
CONTOUR INTERVAL 10 FT
NORTH AMERICAN VERTICAL DATUM OF 1988

SCALE 1 : 2,400





Overview



Legend

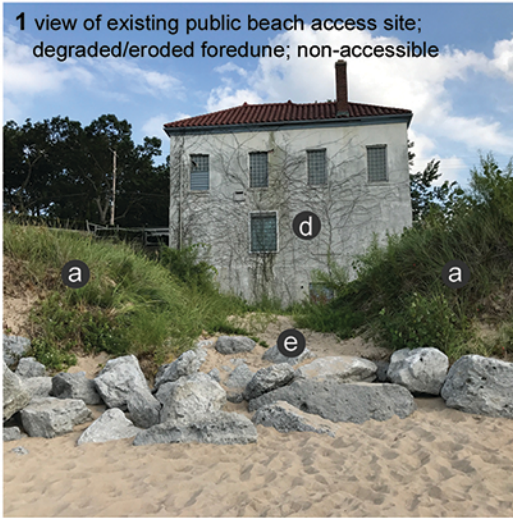
- Road Centerlines
- ▭ Parcels

Date created: 12/13/2017
Last Data Uploaded: 12/13/2017 12:38:44 AM

EXISTING SITE CONDITIONS

- . COMMUNITY'S ONLY LAKEFRONT DUNE/BEACH PARK SPACE
- . 1.5 MILE SERVICE AREA DOMINATED BY EPA'S "ENVIRONMENTAL JUSTICE" CATEGORIES OF AGED 64+ AND LOW-INCOME
- . FORMER WATER MUNICIPAL INFRASTRUCTURE PUMP HOUSE IN PROCESS OF BEING DEMOLISHED, COMPLETELY REMOVED (DEMOLITION INDEPENDENT OF THIS GRANT PROJECT/REQUEST)
- . EXISTING DUNE GRADES AND ECOLOGY REQUIRE RESTORATION
- . ONLY SIGNIFICANT PRESERVED DUNE SITE IN COMMUNITY
- . EXISTING SITE ACCESS FEATURES INACCESSIBLE PER ADA/ABA
- . HEAVILY USED ACCESS ROUTES ARE ERODED, UNSUSTAINABLE

1 view of existing public beach access site; degraded/eroded foredune; non-accessible



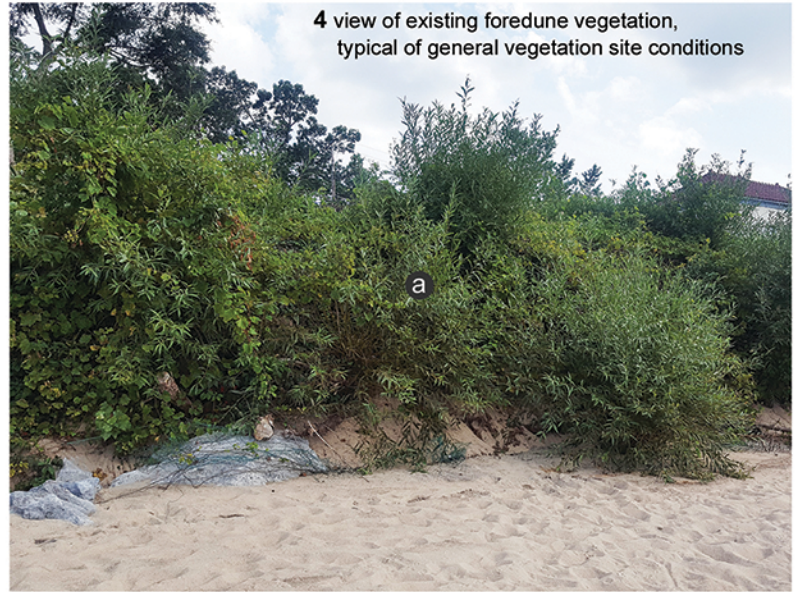
2 view of existing public beach/dune access route(s) and degraded foredune



3 view of existing wood stair public beach access; closed due to foredune erosion



4 view of existing foredune vegetation, typical of general vegetation site conditions



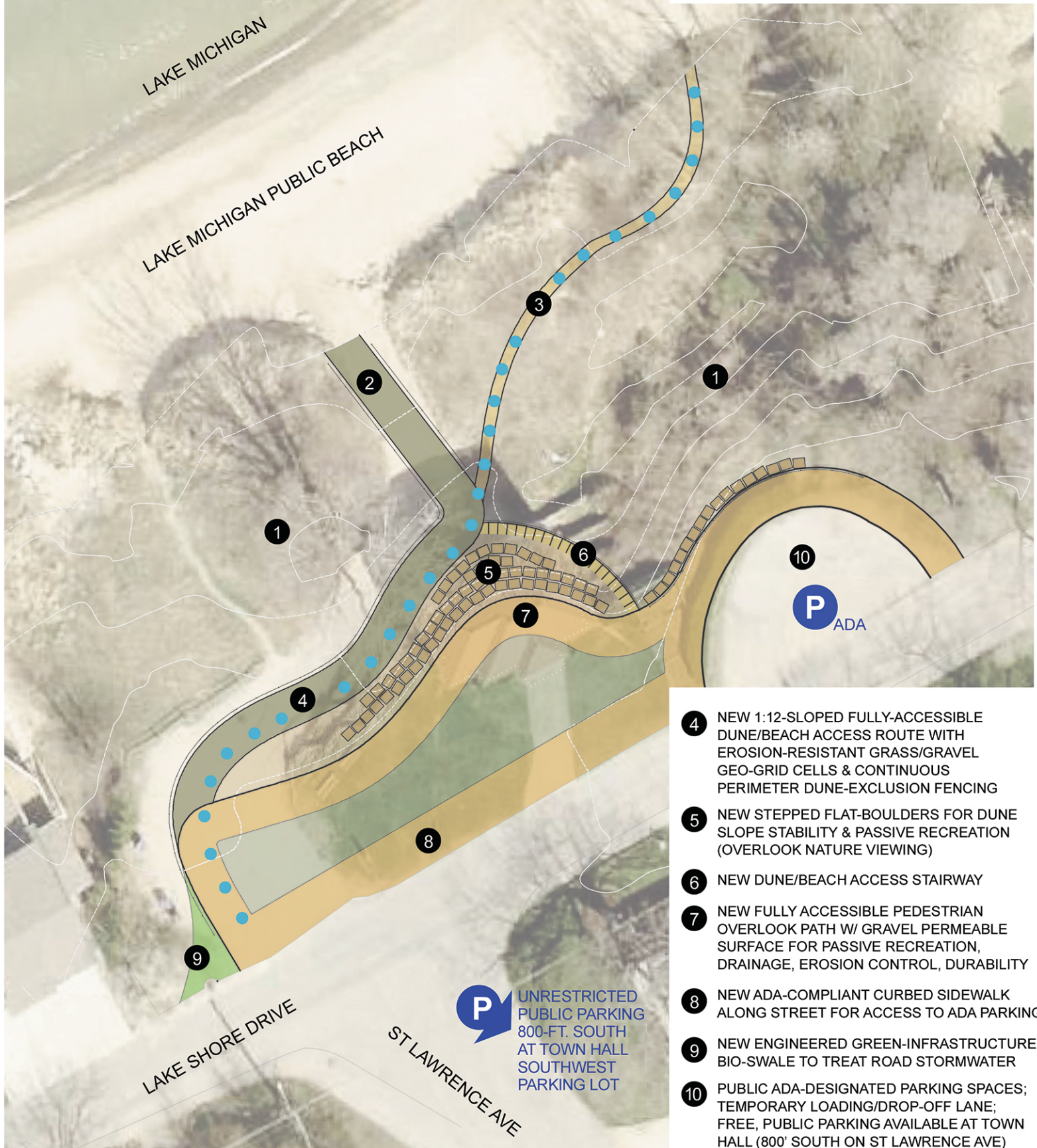
- a 0.6-acres of degraded dune flora; estimated 85% non-native, incl. Tree-of-Heaven, Black Locust, turf grass; additional 10% invasive disturbance species incl. Cottonwood, Grape Vine, Willow
- b existing degraded foot path and wood stair dune/beach access path; to be removed & restricted
- c existing oversized, meandering and erosive gravel parking and pedestrian entrance; to be removed
- d existing Pump House building; Town currently in process of removing structure (*not* part of this grant)
- e existing public beach access route; erosive soils; ill-defined route through meandering foredune cut
- f existing secondary dune; project calls for secondary dune restoration including grade stabilization
- g existing automobile parking and access area; to remain and continue to serve site access

SCHEMATIC PROJECT SITE PLAN

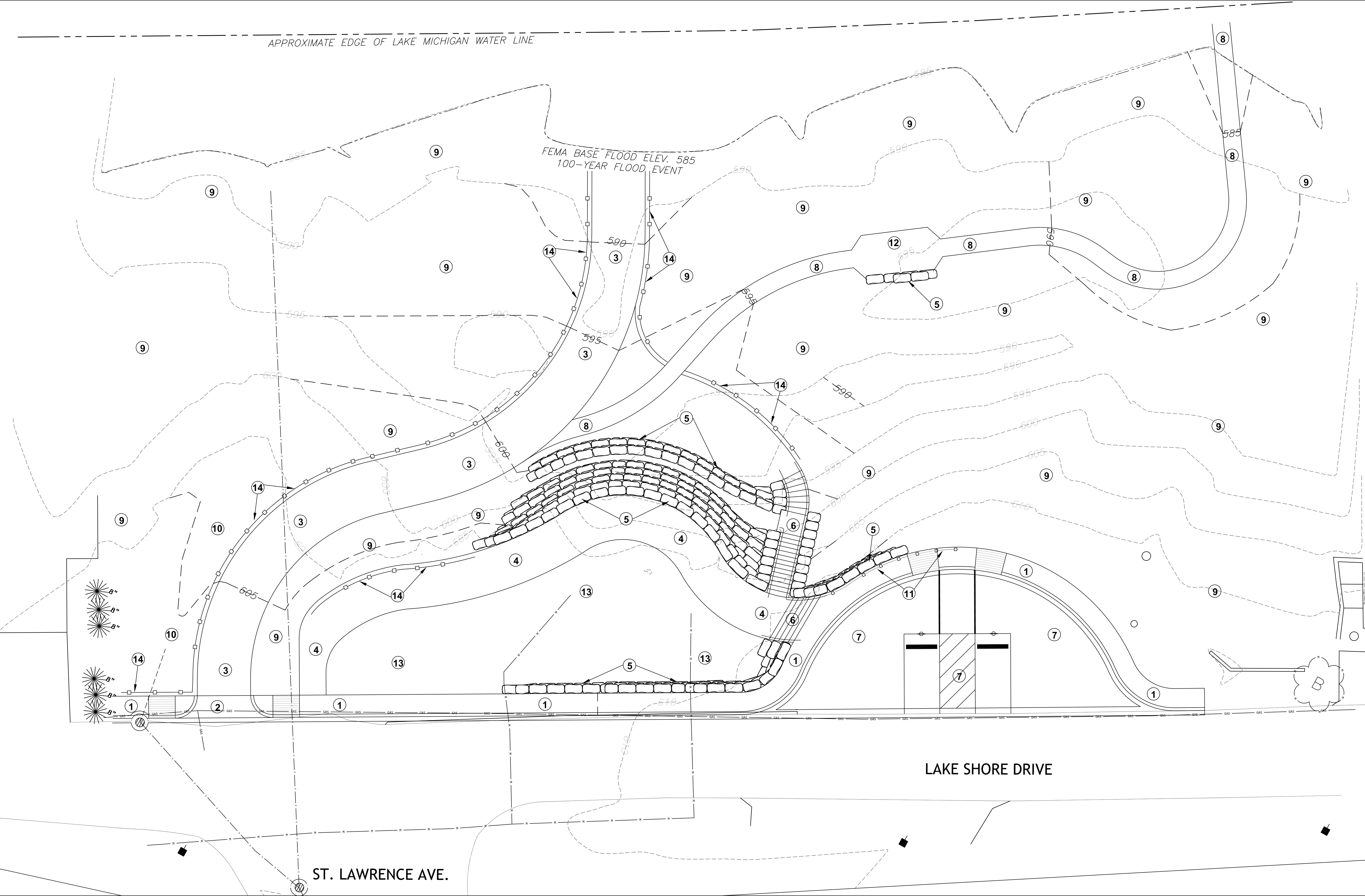


* All proposed accessible design features are fully compliant with the Architectural Barriers Act (Uniform Federal Accessibility Standard) applicable to Federal sites (including the National Parks) for natural resource recreational access projects including standards for accessible overlooks and beach access routes

- 1 06.-AC. DUNE ECOLOGICAL HABITAT RESTORATION - RESTRICTED AREA
- 2 IMPROVED PUBLIC BEACH ACCESS ROUTE WITH NEW EROSION-RESISTANT INTER-LOCKING GRASS/GRAVEL GEO-GRID CELLS
- 3 NEW 1:12-SLOPE FULLY-ACCESSIBLE DUNE/ 3'-WIDE BEACH ACCESS, INTERPRETATIVE DUNE ECOLOGY BOARDWALK *



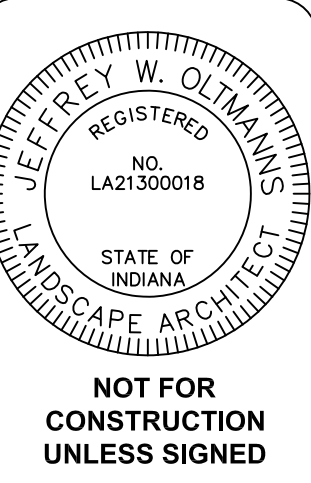
- 4 NEW 1:12-SLOPED FULLY-ACCESSIBLE DUNE/BEACH ACCESS ROUTE WITH EROSION-RESISTANT GRASS/GRAVEL GEO-GRID CELLS & CONTINUOUS PERIMETER DUNE-EXCLUSION FENCING
- 5 NEW STEPPED FLAT-BOULDERS FOR DUNE SLOPE STABILITY & PASSIVE RECREATION (OVERLOOK NATURE VIEWING)
- 6 NEW DUNE/BEACH ACCESS STAIRWAY
- 7 NEW FULLY ACCESSIBLE PEDESTRIAN OVERLOOK PATH W/ GRAVEL PERMEABLE SURFACE FOR PASSIVE RECREATION, DRAINAGE, EROSION CONTROL, DURABILITY
- 8 NEW ADA-COMPLIANT CURBED SIDEWALK ALONG STREET FOR ACCESS TO ADA PARKING
- 9 NEW ENGINEERED GREEN-INFRASTRUCTURE BIO-SWALE TO TREAT ROAD STORMWATER
- 10 PUBLIC ADA-DESIGNATED PARKING SPACES; TEMPORARY LOADING/DROP-OFF LANE; FREE, PUBLIC PARKING AVAILABLE AT TOWN HALL (800' SOUTH ON ST LAWRENCE AVE)



GENERAL NOTES

1. Concrete sidewalk with curb and gutter.
2. Concrete drive approach for beach access.
3. Heavy duty Geocell and gravel for access path.
4. Light duty Geocell and decorative granite stone for plaza.
5. Retaining wall block.
6. Concrete stairs with handrail.
7. Asphalt drop off lane and ADA parking.
8. 36" Boardwalk to beach.
9. Dune grass and wildflower plantings / Restoration area.
10. Bioswale
11. Cable rail guardrail.
12. Gravel resting area.
13. Lawn park area.
14. Wood and Cable exclusion fencing.

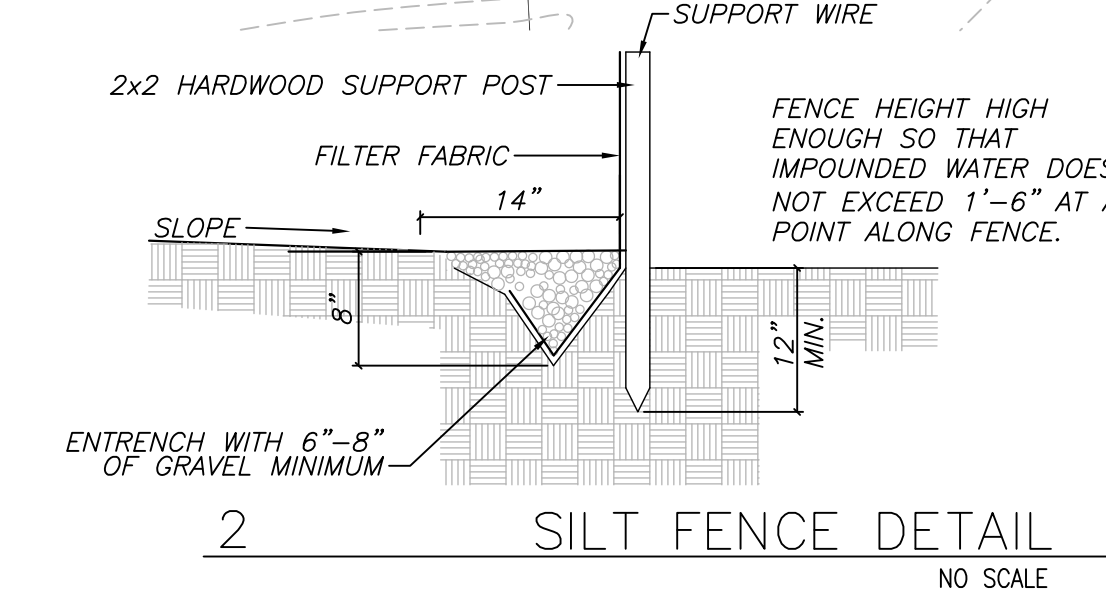
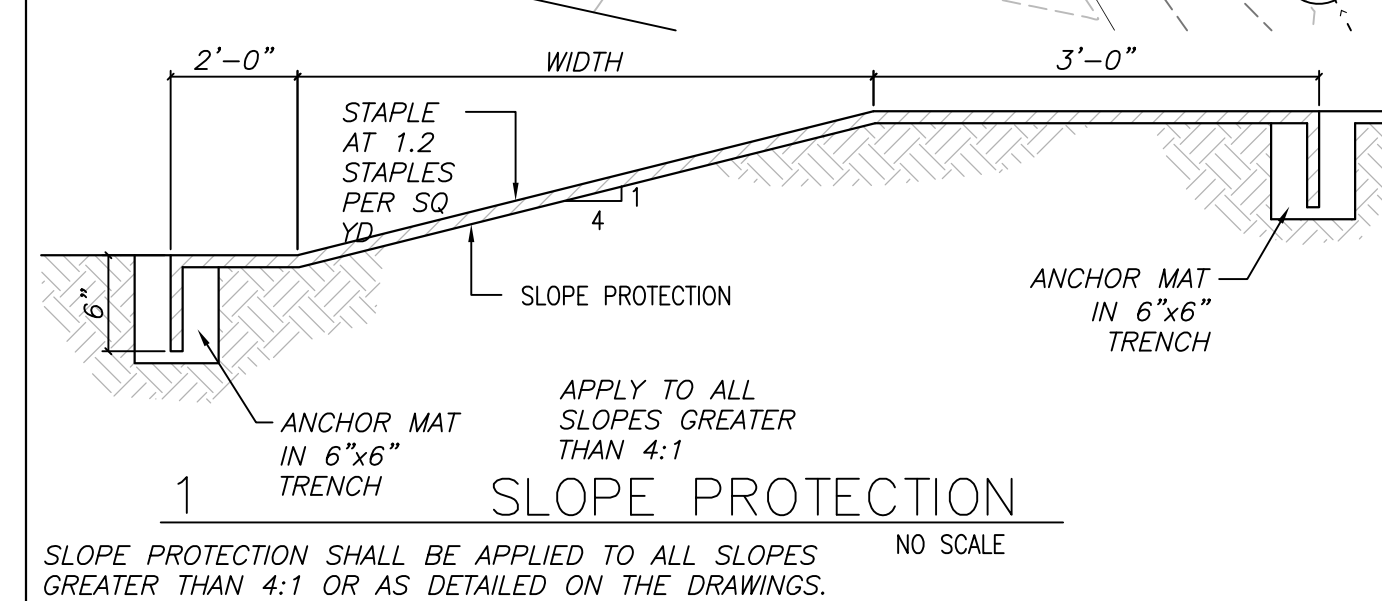
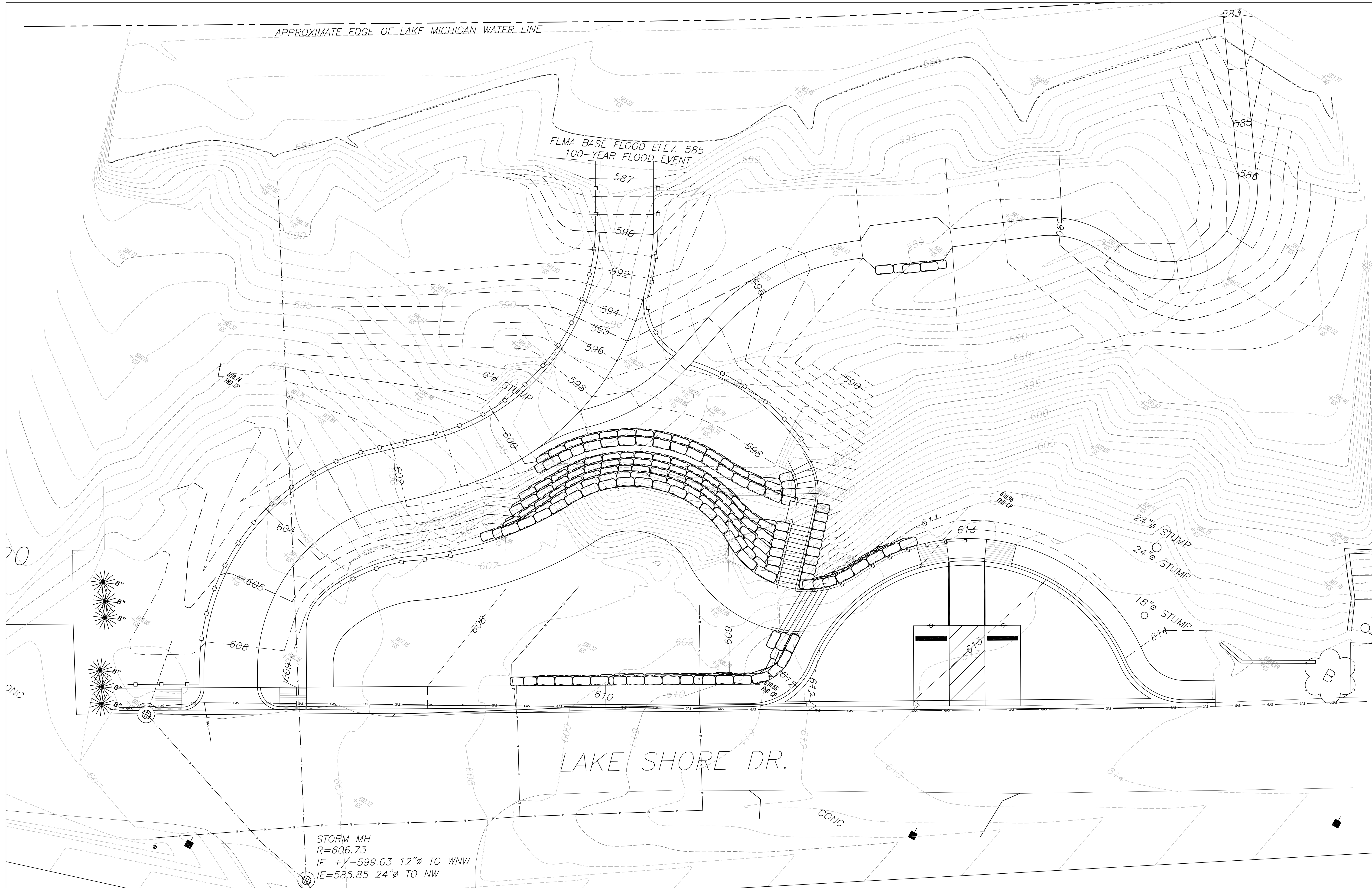
NO.	DATE	REVISION DESCRIPTION	BY



JOB NO.: INT7004	CERTIFIED BY:	DATE: DECEMBER 15, 2017
DRAWN BY: JWO	CHECKED BY: HK	SCALE: 1" = 10'-0"

PROJECT NAME: STOP 24 DUNE LAKESHORE ACCESS OVERLOOK + RESTORATION	PROJECT OWNER: TOWN OF LONG BEACH 2402 LAKE SHORE DRIVE LONG BEACH, INDIANA
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SHEET REFERENCE NUMBER
LAYOUT PLAN



TEMPORARY SEEDING DATES

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
WHEAT OR RYE												
OATS												
ANNUAL RYEGRASS												
NON-IRRIGATED*												
IRRIGATED												
DORMANT SEEDING**												

Permanent Seeding Dates

IRRIGATION NEEDED DURING THIS PERIOD. TO CONTROL EROSION AT TIMES OTHER THAN IN THE SHADED AREAS, USE MULCH.

* LATE SUMMER SEEDING DATES MAY BE EXTENDED 5 DAYS IF MULCH IS APPLIED.

** INCREASE SEEDING APPLICATION BY 50%.

APPROXIMATE SEEDING DATES



GLOBAL
ENGINEERING & LAND SURVEYING, LLC
email: shern@global-landsurveying.com
601 FRANKLIN SQ. STE. 407 MICHIGAN CITY, IN 46360
PH. NO. (219)872-4444 FAX NO. (219)879-9920

NO.	DATE	REVISION DESCRIPTION	BY

JEFFREY W. ULTIANS
REGISTERED
NO. LA21300018
STATE OF INDIANA
LANDSCAPE ARCHITECT

NOT FOR CONSTRUCTION UNLESS SIGNED

DRAWN BY: JWO	JOB NO.: IN17004
CHECKED BY: HK	CERTIFIED BY:
SCALE: 1" = 10'-0"	DATE: DECEMBER 15, 2017

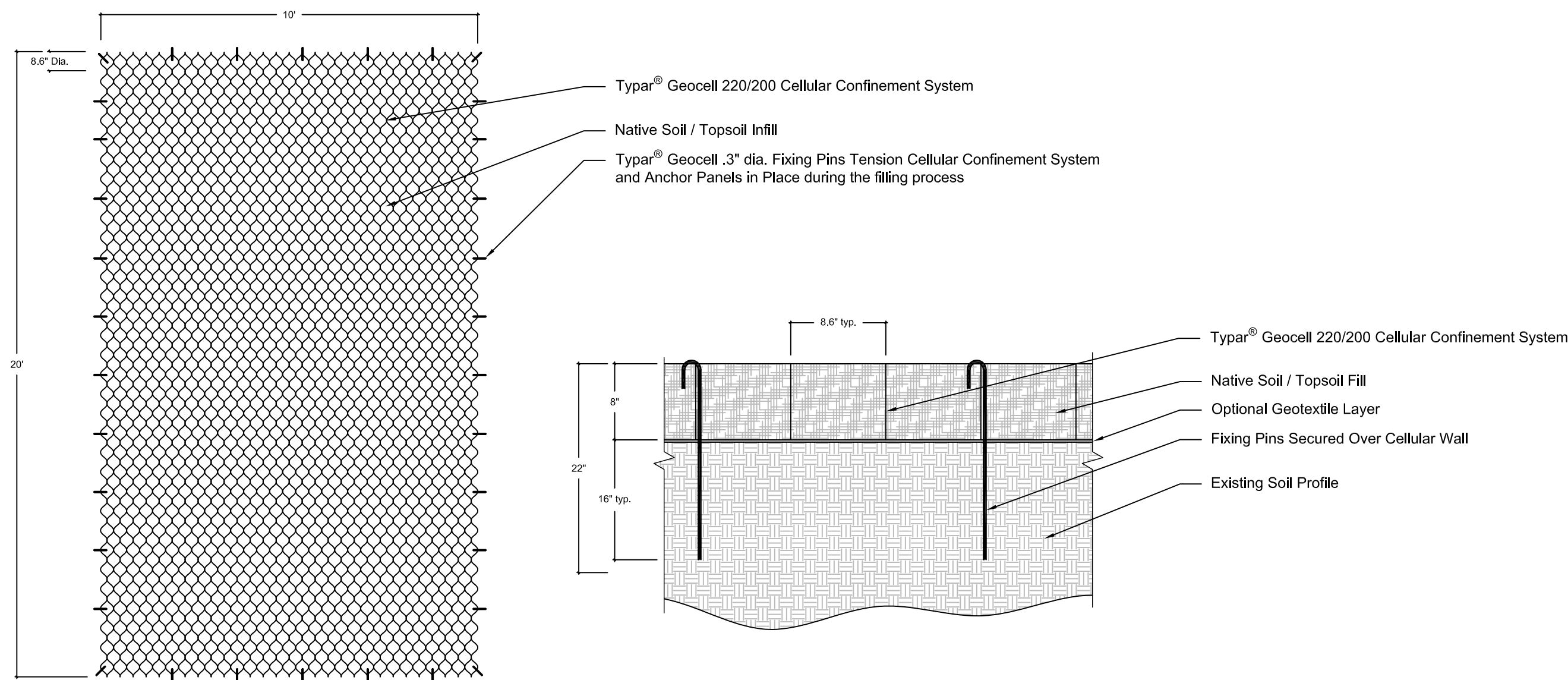
STOP 24 DUNE LAKESHORE ACCESS OVERLOOK + RESTORATION

PROJECT NAME: TOWN OF LONG BEACH
2402 LAKE SHORE DRIVE
LONG BEACH, INDIANA

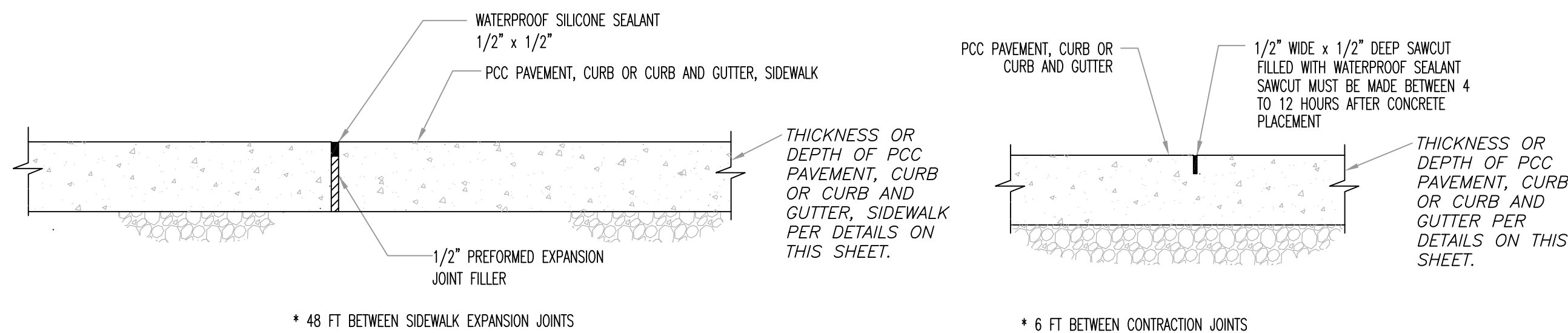
PROJECT OWNER:

SHEET REFERENCE NUMBER

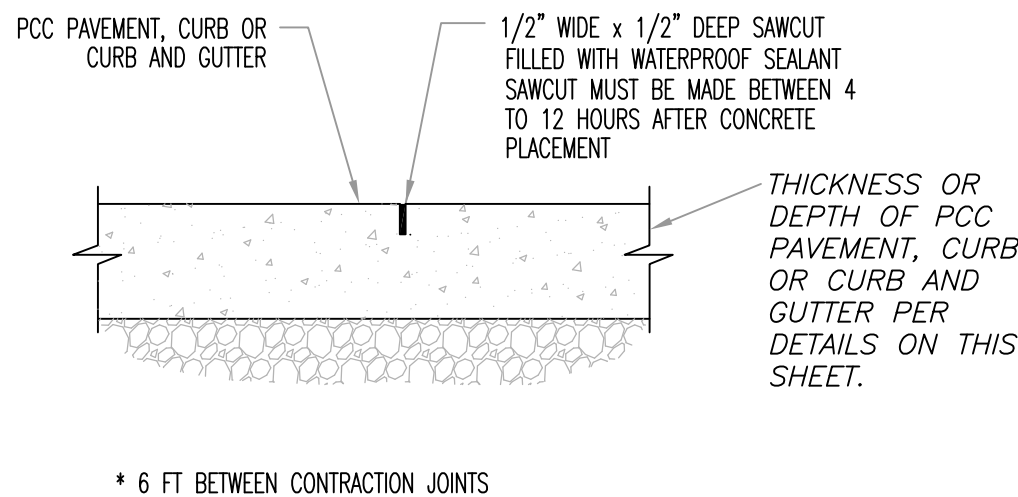
GRADING PLAN



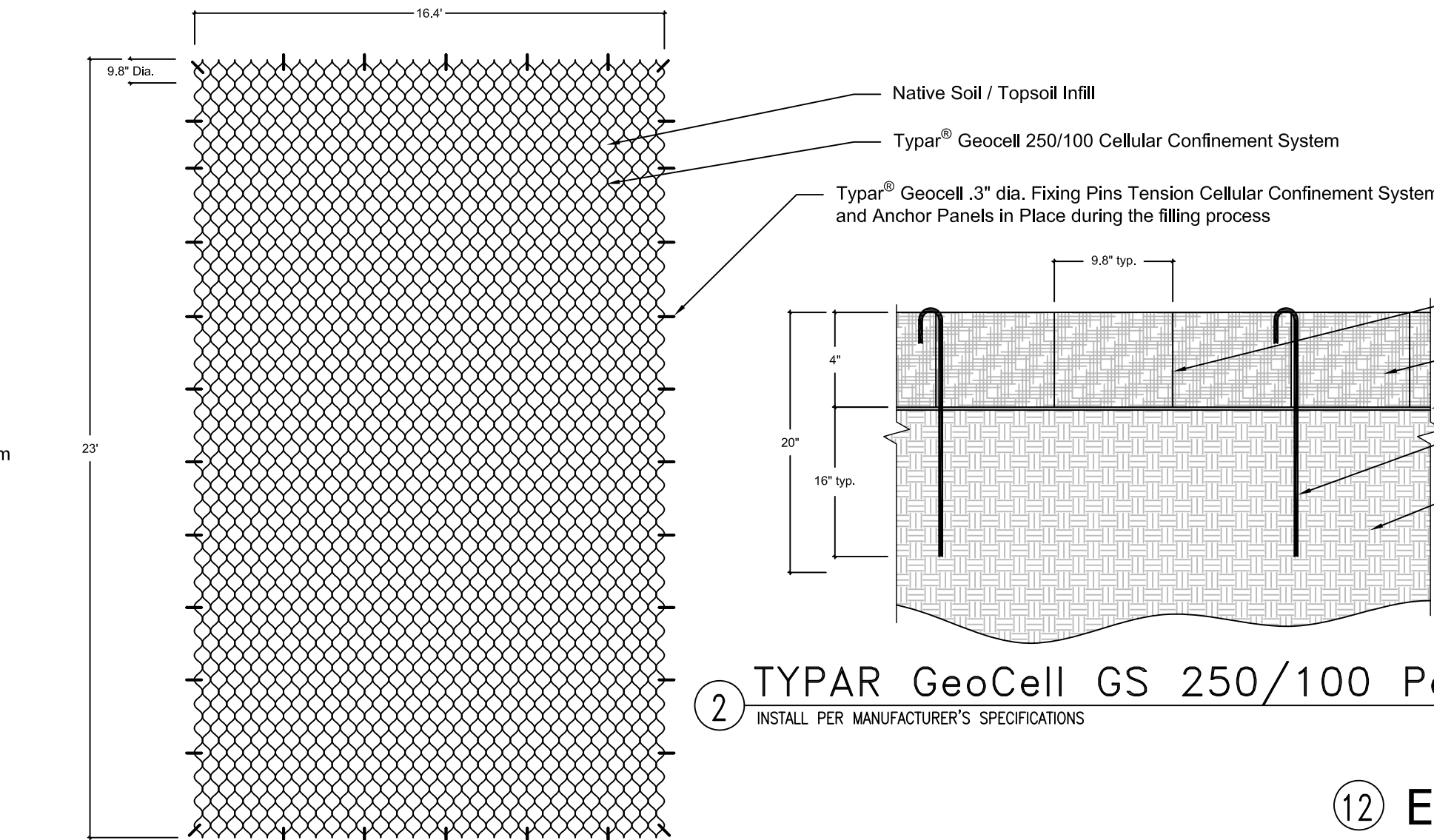
1 TYPAR GeoCell GS 220/200 Heavy Vehicle Load Support System
INSTALL PER MANUFACTURER'S SPECIFICATIONS NOT TO SCALE



3 EXPANSION JOINT
NOT TO SCALE



4 CONTRACTION JOINT
NOT TO SCALE



2 TYPAR GeoCell GS 250/100 Ped./Light Vehicle Load Support System
INSTALL PER MANUFACTURER'S SPECIFICATIONS NOT TO SCALE

12 EROSION CONTROL NOTES

SUMMARY OF BASIC PRINCIPLES:

- * KEEP DISTURBED AREA AS SMALL AS POSSIBLE.
- * STABILIZE AND/OR PROTECT DISTURBED AREAS AS SOON AS POSSIBLE.
- * KEEP STORM WATER RUNOFF VELOCITIES LOW.
- * RETAIN SEDIMENT WITHIN IMMEDIATE CONSTRUCTION AREA.

ALL SOIL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE REGULARLY MAINTAINED BY THE CONTRACTOR THROUGHOUT THE DURATION OF THE PROJECT. COLLECTED SILT AND SEDIMENT SHALL BE REMOVED AS REQUIRED TO MAINTAIN THE EFFECTIVENESS OF THE SILT TRAPS OR SEDIMENTATION CONTROL DEVICES. IN SILT FENCE APPLICATIONS SEDIMENT SHALL BE REMOVED WHEN THE HEIGHT REACHES ONE HALF THE HEIGHT OF THE FABRIC. WHERE REQUIRED THE CONTRACTOR SHALL REPLACE FILTER MATERIALS WHICH HAVE BECOME INEFFECTIVE DUE TO CONTAMINATION OR PHYSICAL DETERIORATION. THE CONTRACTOR SHALL INSPECT ALL SOIL EROSION AND SEDIMENTATION CONTROL DEVICES AFTER ALL STORM EVENTS.

IF POSSIBLE, NO GRUBBING SHOULD TAKE PLACE WITHIN 30 FEET OF AN ACTIVE WATERCOURSE.

ALL TEMPORARY EROSION CONTROL FACILITIES SHOULD BE REMOVED BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION UNLESS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE. CARE SHOULD BE TAKEN DURING REMOVAL TO MINIMIZE SILTATION IN NEARBY DRAINAGE COURSES.

SURFACE DISRUPTION IN ADVANCE OF CONSTRUCTION INCLUDING GRADING, CLEARING, OR SIGNIFICANT SOD REMOVAL SHALL BE LIMITED AS FOLLOWS, UNLESS PERMISSION IS OTHERWISE OBTAINED FROM THE GOVERNING AGENCY.

A. WET WEATHER SEASON (MARCH, APRIL, MAY) - 5 DAYS PRIOR TO BEGINNING ANY EARTH CHANGE ACTIVITY.

B. DRY WEATHER SEASON (JUNE TO NOVEMBER) - 10 DAYS PRIOR TO BEGINNING ANY EARTH CHANGE ACTIVITY.

C. COLD WEATHER SEASON (DECEMBER, JANUARY, FEBRUARY) - 15 DAYS PRIOR TO BEGINNING ANY EARTH CHANGE ACTIVITY.

STOCKPILES OF SOIL SHALL BE PROTECTED WITH SILT FENCE SURROUNDING THE STOCKPILE UNTIL MATERIAL IS RESPREAD.

CONTRACTOR'S RESPONSIBILITY:

NOTE 327 IAC 15-5-7 (b)(18); REQUIRES A SELF MONITORING PROGRAM THAT INCLUDES WRITTEN EVALUATIONS BY TRAINED INDIVIDUALS AT A MINIMUM OF ONCE A WEEK AND BY THE END OF THE NEXT BUSINESS DAY FOLLOWING A RAIN EVENT GREATER THAN 0.5 INCHES. WRITTEN REPORTS MUST ADDRESS THE MAINTENANCE OF EXISTING STORM WATER QUALITY MEASURES TO ENSURE THEY ARE FUNCTIONING PROPERLY, IDENTIFY ADDITIONAL MEASURES NECESSARY TO REMAIN IN COMPLIANCE WITH ALL APPLICABLE STATUTES AND RULES, INCLUDE THE NAME OF THE INDIVIDUAL PERFORMING THE EVALUATION, DATE OF THE EVALUATION, PROBLEMS IDENTIFIED, DETAILS OF CORRECTIVE ACTIONS RECOMMENDED AND COMPLETED. THIS LOG SHALL BE MAINTAINED AND KEPT ON SITE AT ALL TIMES.

TEMPORARY FACILITIES:

THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN EROSION CONTROL FACILITIES TO CONTROL SOIL EROSION ON THE SITE. ALL DISTURBED SURFACE AREAS (INCLUDING UTILITY TRENCHES) SHALL BE TEMPORARILY GRADED AND/OR DITCHED TO DIRECT WATER RUNOFF FROM SUCH AREAS TO SEDIMENTATION CONTROL DEVICES WHICH WILL PREVENT ERODED WATER CARRYING SOIL FROM ENTERING A WATERCOURSE, SEWER, OR ADJACENT LANDS. SUCH SEDIMENTATION CONTROL DEVICES SHALL INCLUDE, BUT NOT LIMITED TO, PROTECTIVE DITCHES, SEDIMENT BASINS, SEDIMENT FILTERS INCLUDING SILT FENCES AND CATCH BASIN TRAPS, DITCH TRAPS, PIPE BARRIERS, STRAW BALE BERMS, AND ANY FILTERS APPROVED FOR USE BY THE LOCAL M54 GOVERNING AGENCY. AFTER THE PROJECT WORK HAS BEEN COMPLETED, INSPECTED, AND APPROVED, THE CONTRACTOR SHALL REMOVE ALL SEDIMENTATION CONTROL DEVICES, MATERIAL, AND THEIR COLLECTED SILT AND DEBRIS AND COMPLETE THE PROJECT WORK IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.

IN ROADWAY AREAS, TEMPORARY AGGREGATE SURFACING SHALL BE PLACED IMMEDIATELY AFTER THE BACKFILLING HAS BEEN COMPLETED. POSITIVE DUST CONTROL MEASURES SHALL BE TAKEN AT ALL TIMES.

WITHIN 15 DAYS FROM THE DATE A PROJECT IMPROVEMENT IS INSTALLED THE CONTRACTOR SHALL PROCEED WITH FINAL CLEANUP AND RESTORATION OF THE PROJECT AREA DISTURBED INCLUDING SPILL AREAS, AND COMPLETE SUCH OPERATIONS WITHIN THE NEXT 15 DAYS, OR TEMPORARY SEED AND MULCH AT MINIMUM. IF SEASONAL CONDITIONS PREVENT FINAL CLEANING AND RESTORATION, THE CONTRACTOR SHALL PROCEED WITH TEMPORARY STABILIZATION OF THE DISTURBED AREAS. FINAL CLEANUP AND RESTORATION WILL CONSIST OF FINAL GRADING, TOPSOILING, SEEDING AND MULCHING AND/OR SODDING OF ALL DISTURBED AREAS OF THE PROJECT. TEMPORARY STABILIZATION SHALL CONSIST OF ROUGH GRADING THE DISTURBED AREAS TO A CONDITION READY TO RECEIVE TOPSOIL, SEEDING, AND MULCHING IN ACCORDANCE WITH THE PROJECT MANUAL FOR THE PROJECT. TEMPORARY STABILIZATION MATERIALS SHALL BE REMOVED AND DISPOSED OF AND FINAL CLEANUP AND RESTORATION SHALL BE COMPLETED NOT LATER THAN 60 DAYS AFTER SEASONAL CONDITIONS ALLOW PERFORMANCE OF THE REQUIRED WORK.

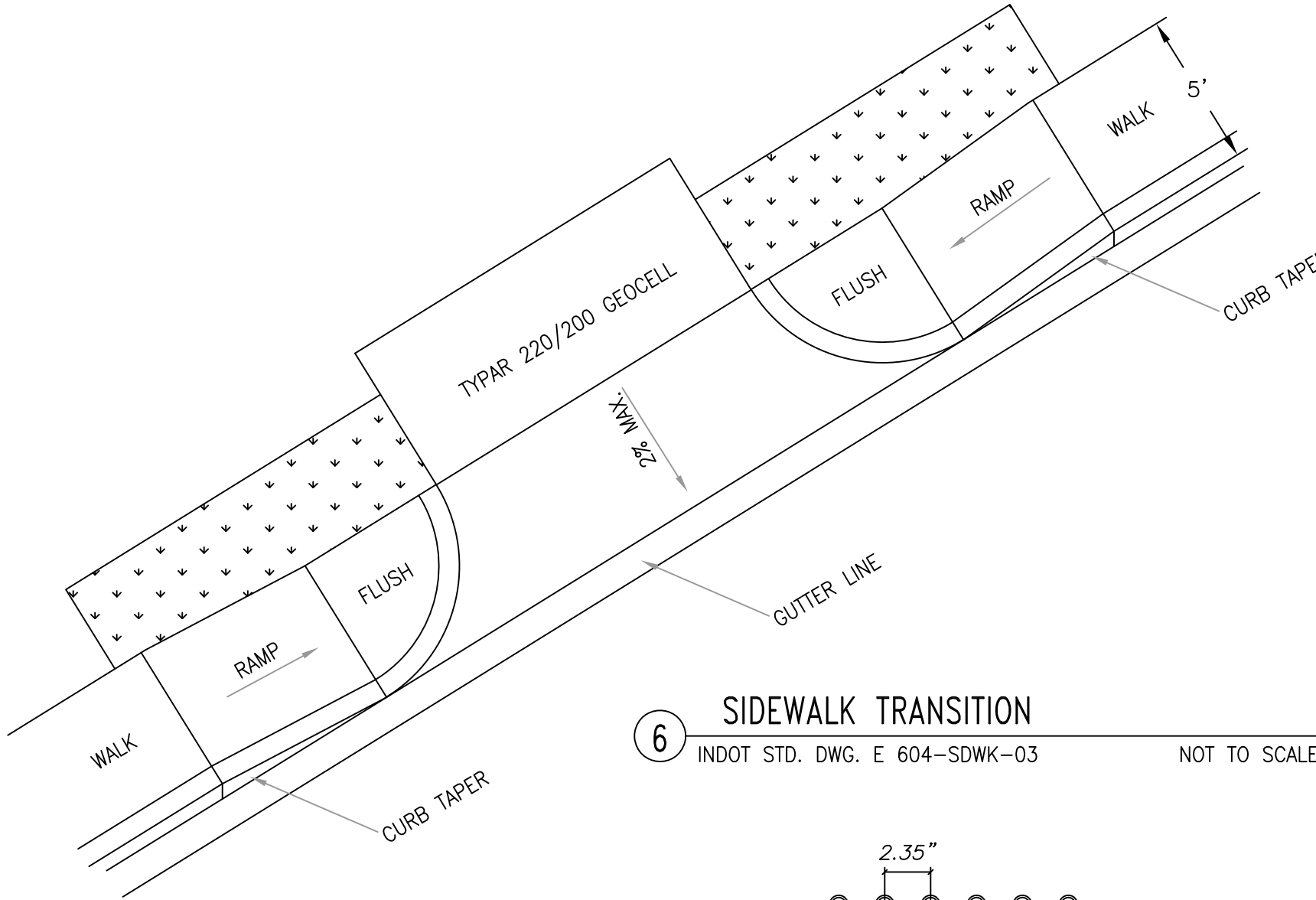
SEQUENCE OF CONSTRUCTION ACTIVITIES:

- INSTALL SILT FENCE AND OTHER PROTECTIONS OF EXISTING SITE FEATURES/ELEMENTS AS PART OF INITIAL PHASE OF ANY WORK TO ENSURE MAXIMUM SILT RETENTION ON SITE.
- MASS GRADE THE SITE KEEPING DISTURBED AREAS TO A MINIMUM AT ALL TIMES. SEED AND MULCH SIDES OF SWALES, MOUNDS, AND PONDS IMMEDIATELY UPON COMPLETION. TEMPORARY SEEDING WILL BE REQUIRED FOR ALL DISTURBED AREAS THAT CANNOT BE FINAL SEEDED WITHIN 15 DAYS OF DISTURBANCE. ALL TEMPORARY SEEDED AREAS SHALL BE STRAW MULCHED OR HYDRO-MULCHED.
- CONTROL MUD ACCUMULATION ON ALL STREETS SURROUNDING PROJECT BY INSTALLING STONE SURFACE AT EACH LOCATION WHERE CONSTRUCTION TRAFFIC LEAVES THE SITE. KEEP DUST TO A MINIMUM BY UTILIZING SPRINKLING, CALCIUM CHLORIDE, VEGETATIVE COVER, SPRAY ON ADHESIVES, OR OTHER APPROVED METHODS.
- MAINTAIN ALL FILTERS AND TRAPS DURING CONSTRUCTION TO PREVENT ANY BLOCKAGES FROM ACCUMULATING SEDIMENT. CLEAN SEDIMENT TRAPS, FILTERS, AND FENCING AFTER EACH STORM EVENT AND ON A WEEKLY BASIS. LOG EACH INSPECTION AND REPLACE ALL MATERIALS THAT ARE CLOGGED OR INEFFECTIVE.
- AS STORM SEWER LINES AND OTHER FACILITIES ARE INSTALLED, INSTALL A SILT BARRIER AT EACH INLET OR OUTLET WHERE EROSION COULD OCCUR. ON DRAINAGE SWALES, PLACE PROTECTION AT 100 FOOT INTERVALS.
- PAVE PROPOSED PAVED AREAS AS SOON AS POSSIBLE AFTER THE SUB-GRADE IS PREPARED.
- REMOVE TEMPORARY EROSION AND SEDIMENT CONTROLS ONLY WHEN SUFFICIENT GROWTH OF GROUND COVER IS ESTABLISHED TO PREVENT FURTHER EROSION.

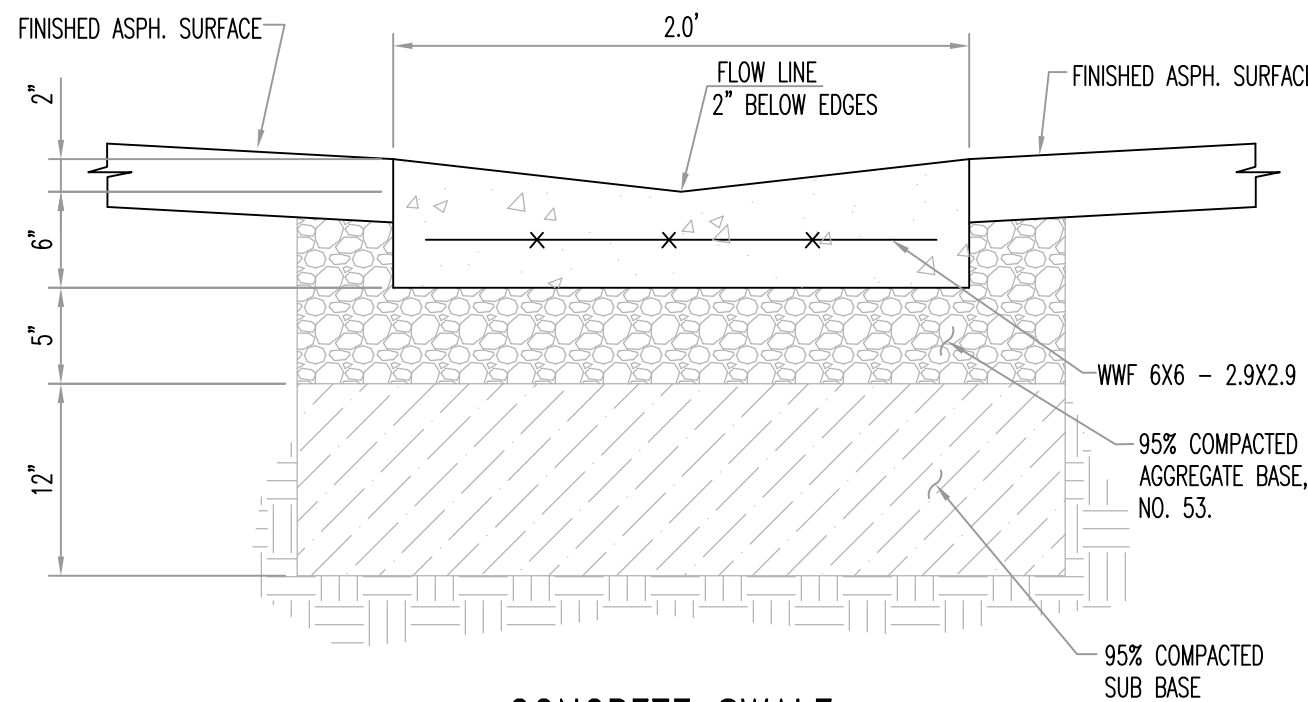
GENERAL NOTES:

- * FOR SILT FENCING, PROVIDE A MAXIMUM OF 6 FEET ON CENTER FOR POSTS UNLESS SPECIFIED OTHERWISE BY THE MANUFACTURER.

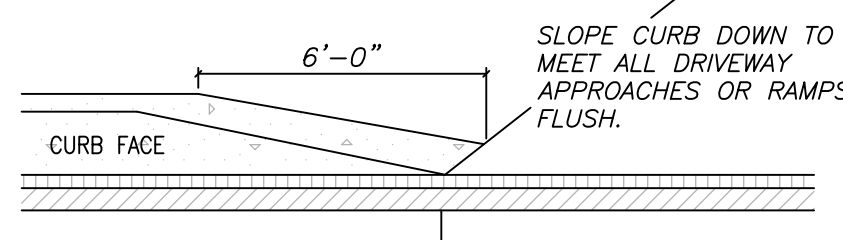
- * MAKE SURE THAT IRRIGATION METHODS HAVE BEEN ESTABLISHED PRIOR TO PLACEMENT OF SEED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING HEALTHY GROWTH OF GROUND COVER FOR THE PERIOD DELINEATED IN THE SPECIFICATIONS UNLESS THE OWNER RELEASES THE CONTRACTOR FROM THIS RESPONSIBILITY IN WRITING.



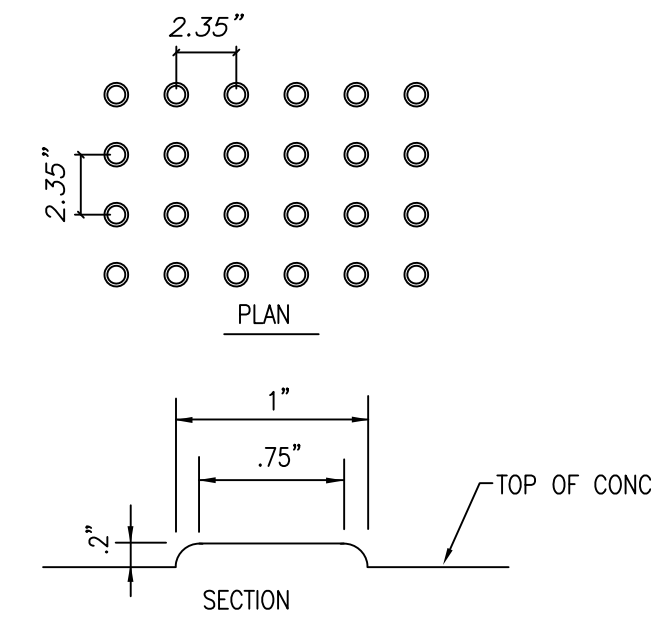
6 SIDEWALK TRANSITION
INDOT STD. DWG. E 604-SDWK-03 NOT TO SCALE



7 CONCRETE SWALE
SCALE: 1\"/>

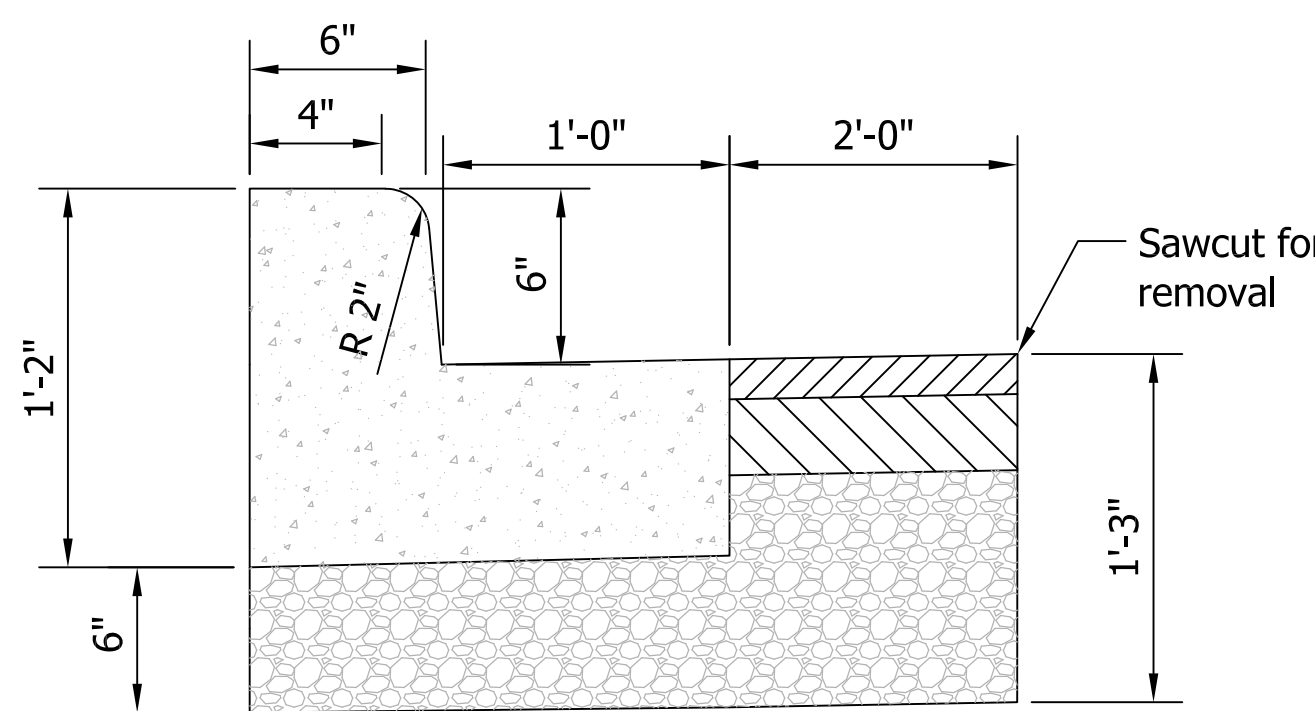


8 CURB TAPER
SCALE: 3/4\"/>

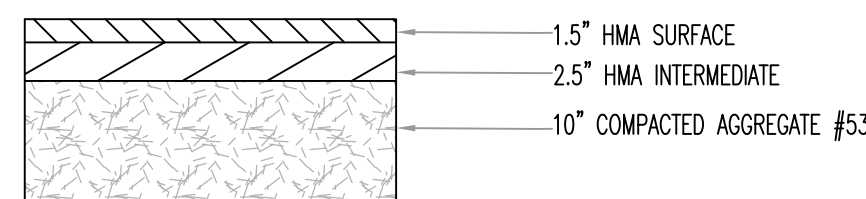


NOTE: INSTALL DETECTIBLE WARNING MATS AT THE BOTTOM OF ALL RAMPED WALKS WHICH MEET VEHICULAR AREAS IN A BAND 2'-0\"/>

9 DETECTIBLE WARNING
NOT TO SCALE

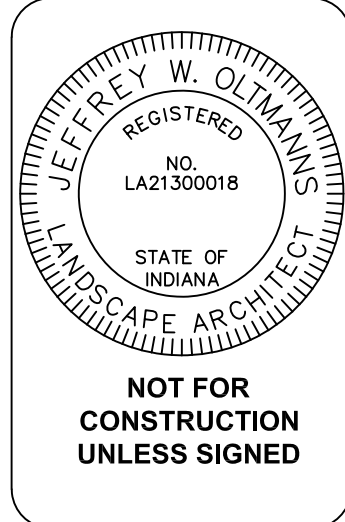


10 COMBINED CONC. CURB AND GUTTER, TYPE B (SLOPING)
NOT TO SCALE



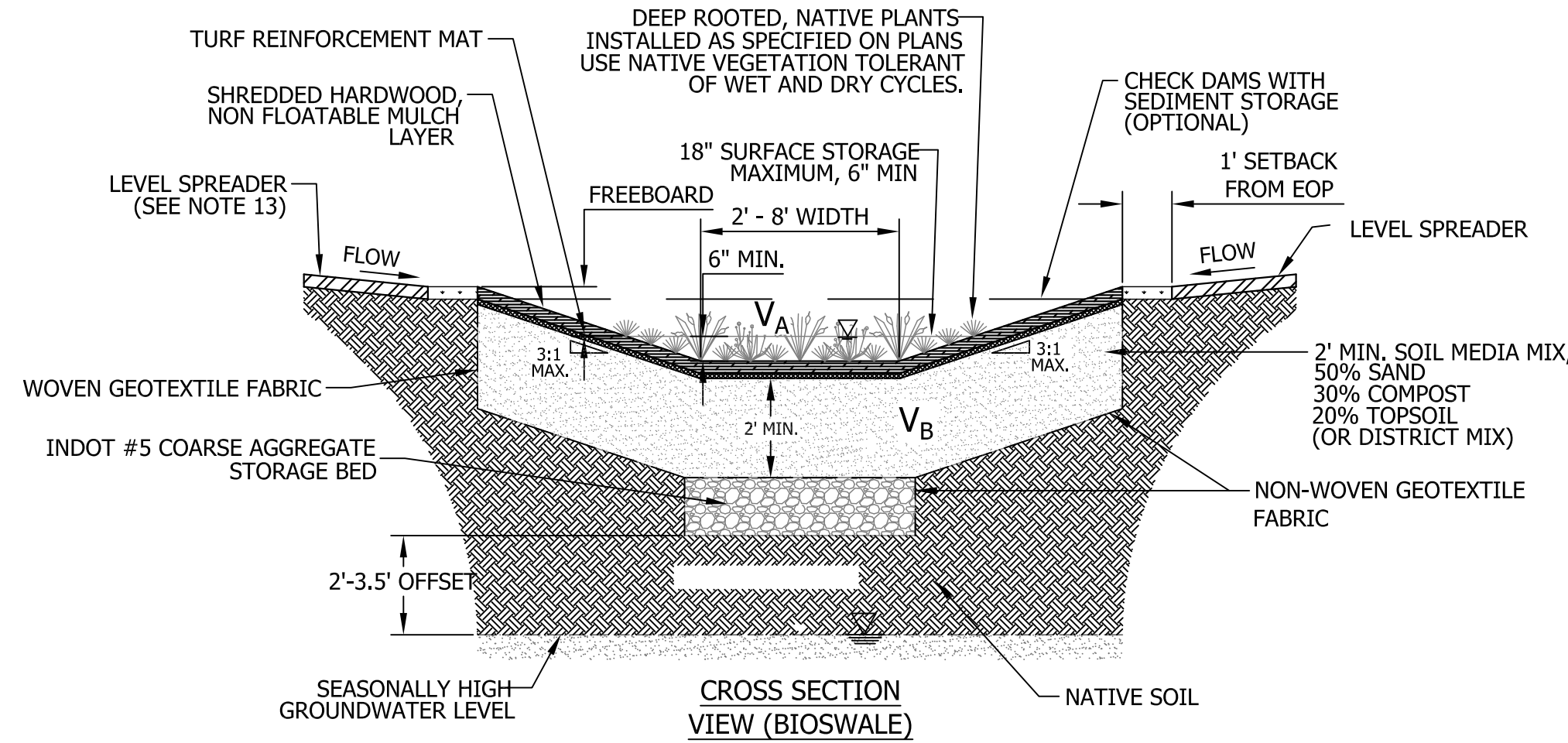
11 HMA ASPHALT PAVEMENT
NOT TO SCALE

NO.	DATE	REVISION DESCRIPTION	BY



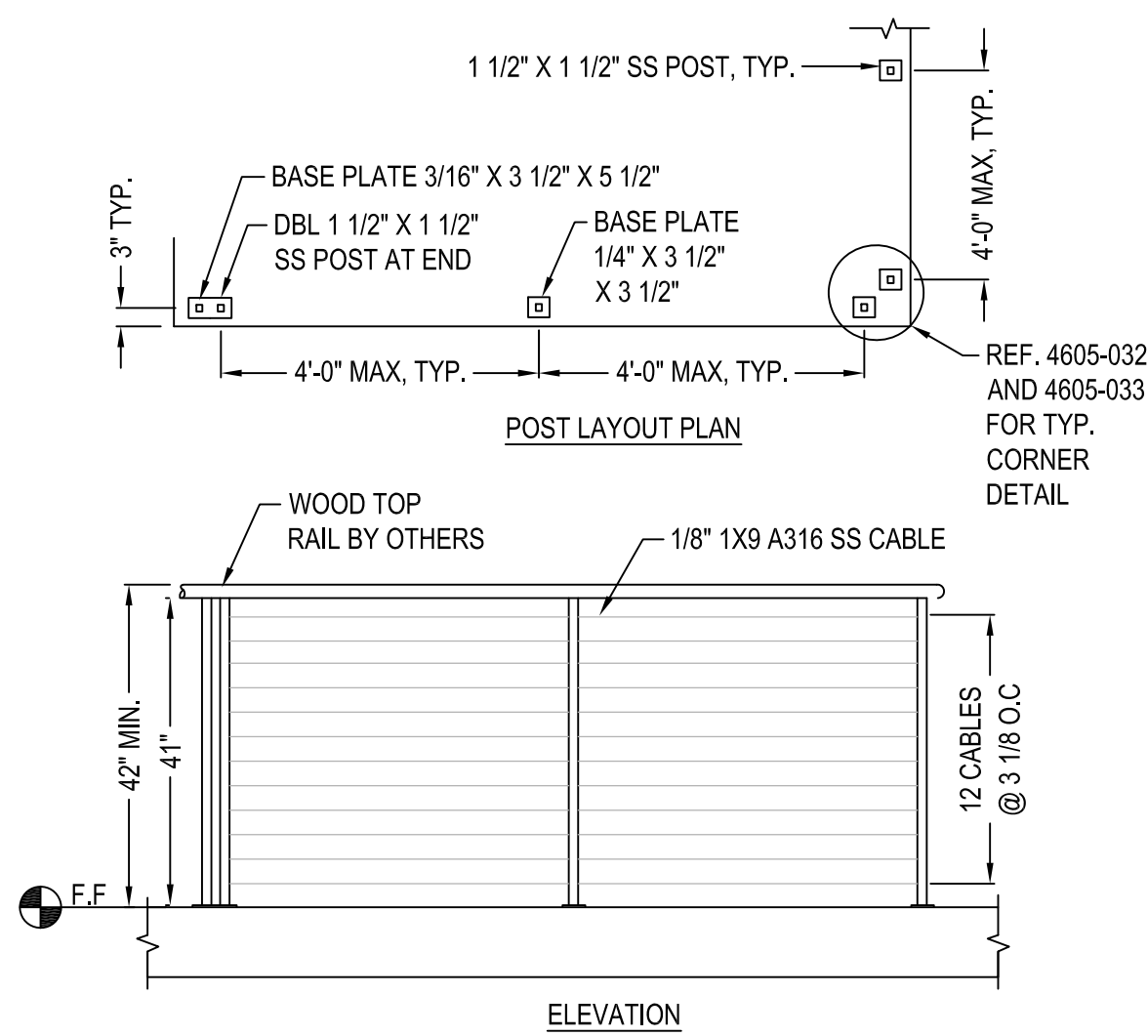
DRAWN BY:	JWO	CHECKED BY:	HK	SCALE:	AS INDICATED
JOB NO.:	INT7004	CERTIFIED BY:		DATE:	DECEMBER 15, 2017

PROJECT NAME:	STOP 24 DUNE LAKESHORE ACCESS OVERLOOK + RESTORATION	PROJECT OWNER:	TOWN OF LONG BEACH 2402 LAKE SHORE DRIVE LONG BEACH, INDIANA
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13 BIOSWALE DETAIL

3:1 SIDE SLOPES SHALL BE PLANTED WITH MESIC TO DRY PRAIRIE SEED MIX BY CARDNO. THE BOTTOM OF THE SWALE SHALL BE PLANTED WITH WET TO MESIC PRAIRIE SEED BY CARDNO.



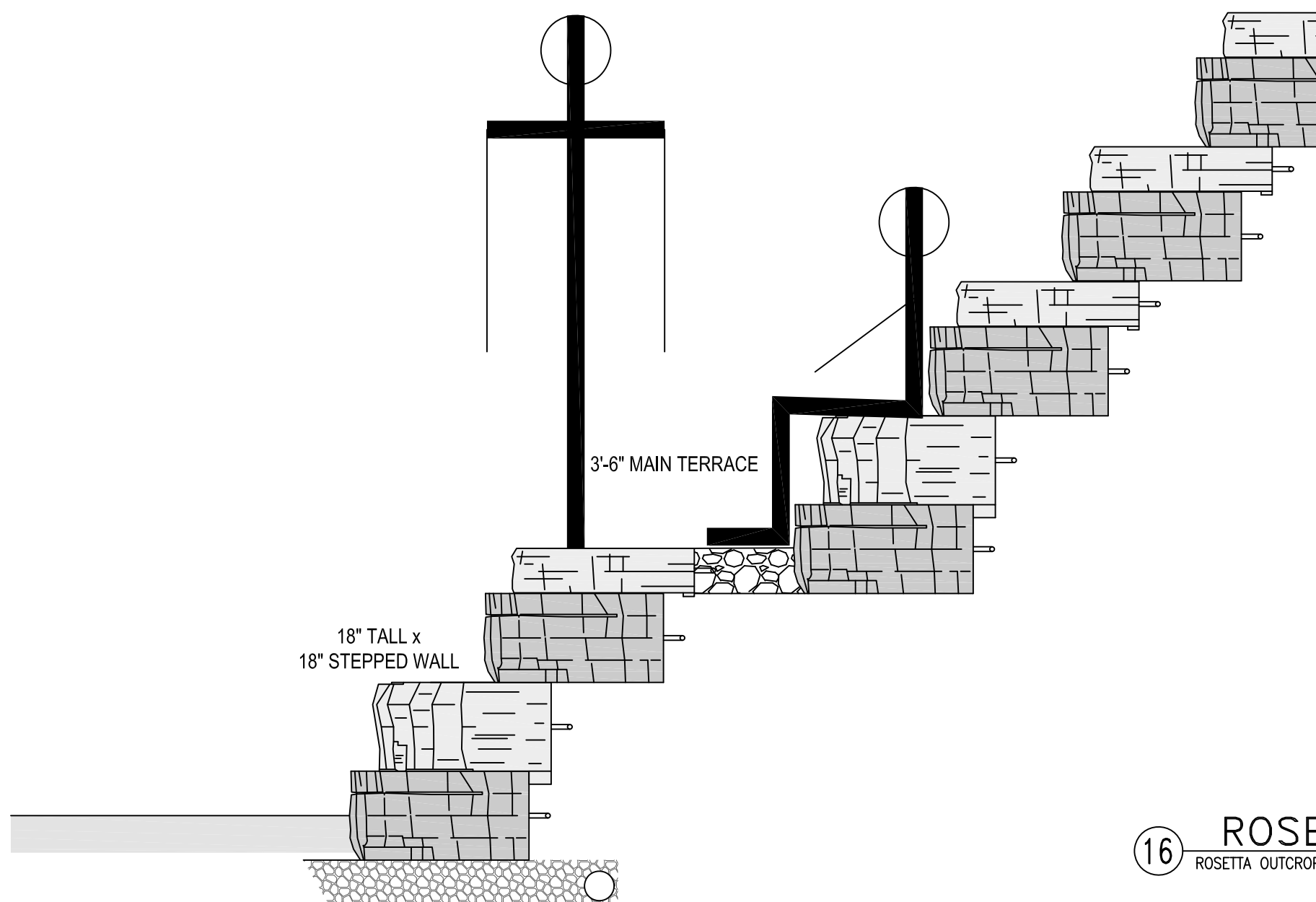
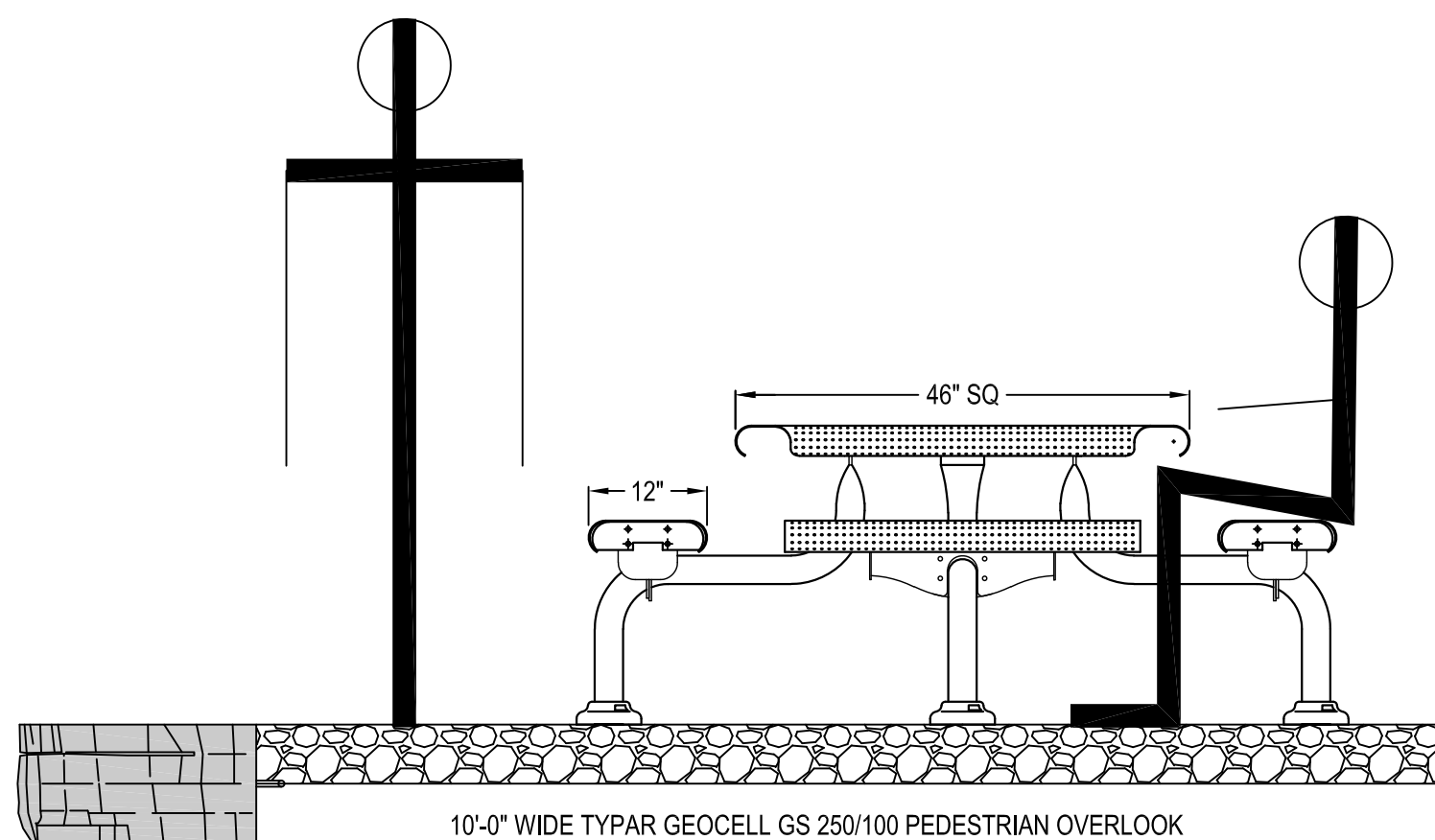
NOTES:

1. RAILING COMPONENTS ARE AVAILABLE IN GRADE 304 OR 316 STAINLESS STEEL.
2. MANUFACTURER WILL DETERMINE ACTUAL POST LAYOUT.
3. FOLLOW MANUFACTURER'S POST MOUNTING DETAILS.
4. SUBMIT MANUFACTURER'S FINISH AND MATERIAL DETAILS AND OPTIONS FOR OWNER SELECTION.
5. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
6. DO NOT SCALE DRAWING.
7. THIS DETAIL IS NOT FOR CONSTRUCTION, FOLLOW MANUFACTURER'S INSTRUCTION.

14 42" CABLE GUARD RAIL AT CIRCLE DRIVE

AGS STAINLESS, INC., ULTRA-TEC, OR COMPARABLE EQUAL

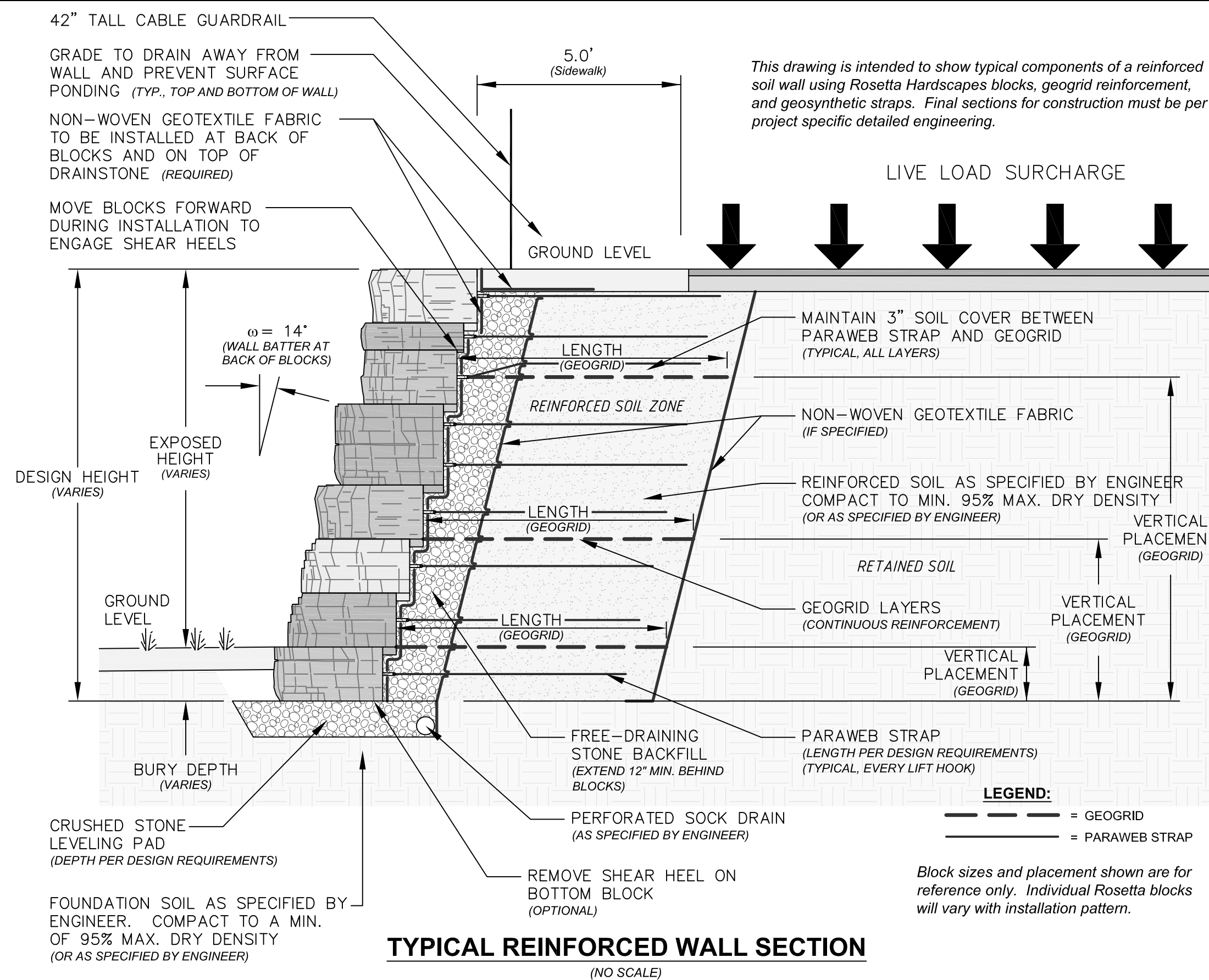
NOT TO SCALE



16 ROSETTA STEPPED RETAINING WALL

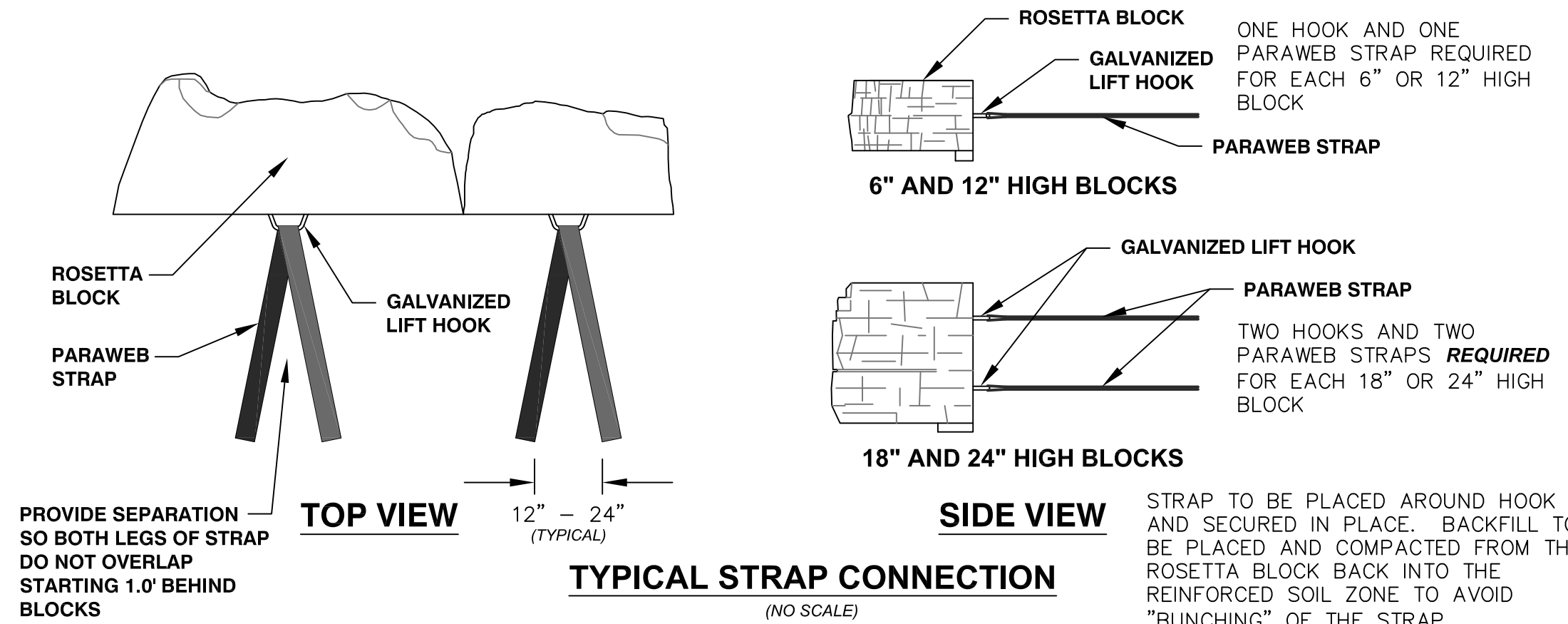
ROSETTA OUTCROPPING COLLECTION SHOWN

NOT TO SCALE



TYPICAL REINFORCED WALL SECTION

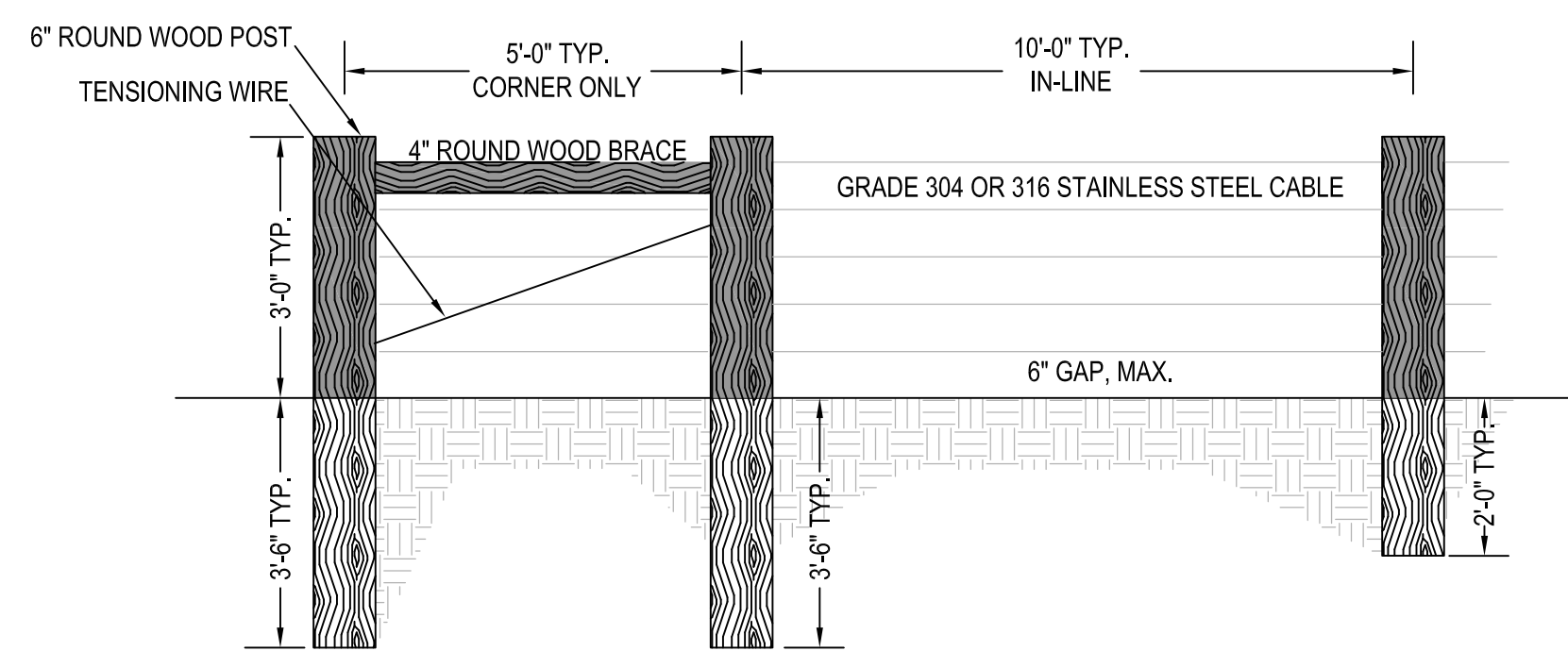
(NO SCALE)



15 ROSETTA RETAINING WALL AT CIRCLE DRIVE

ROSETTA OUTCROPPING COLLECTION SHOWN

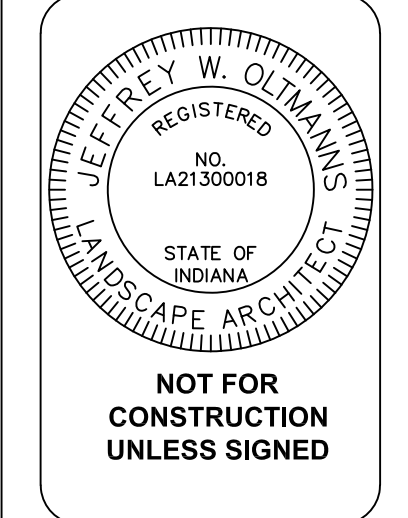
NOT TO SCALE



17 30" WOOD AND CABLE EXCLUSION FENCING

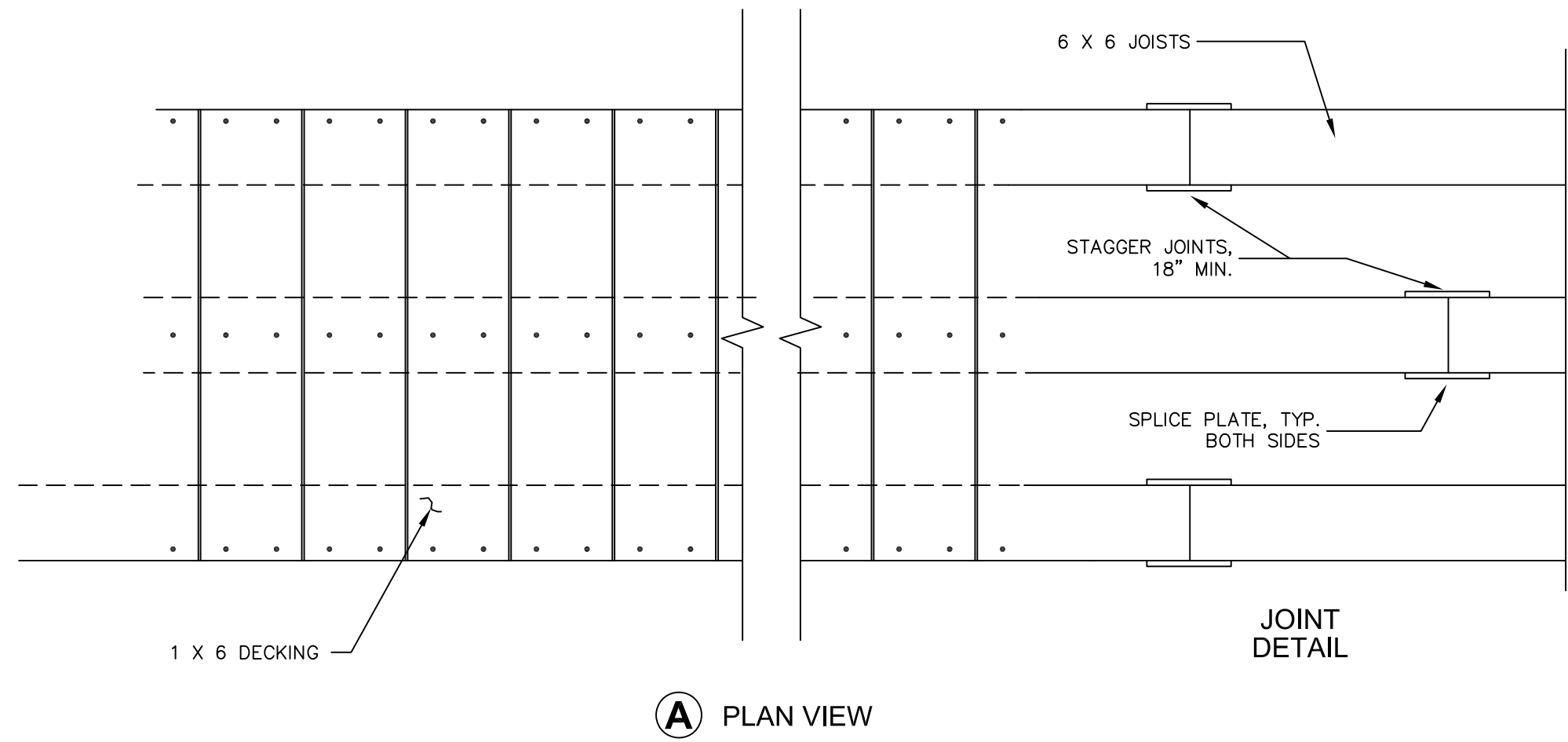
NOT TO SCALE

NO.	DATE	REVISION DESCRIPTION	BY



DRAWN BY:	JWO	CHECKED BY:	HK	SCALE:	AS INDICATED
JOB NO.:	IN17004	CERTIFIED BY:		DATE:	DECEMBER 15, 2017

PROJECT NAME:	STOP 24 DUNE LAKESHORE ACCESS OVERLOOK + RESTORATION	PROJECT OWNER:	TOWN OF LONG BEACH 2402 LAKE SHORE DRIVE LONG BEACH, INDIANA
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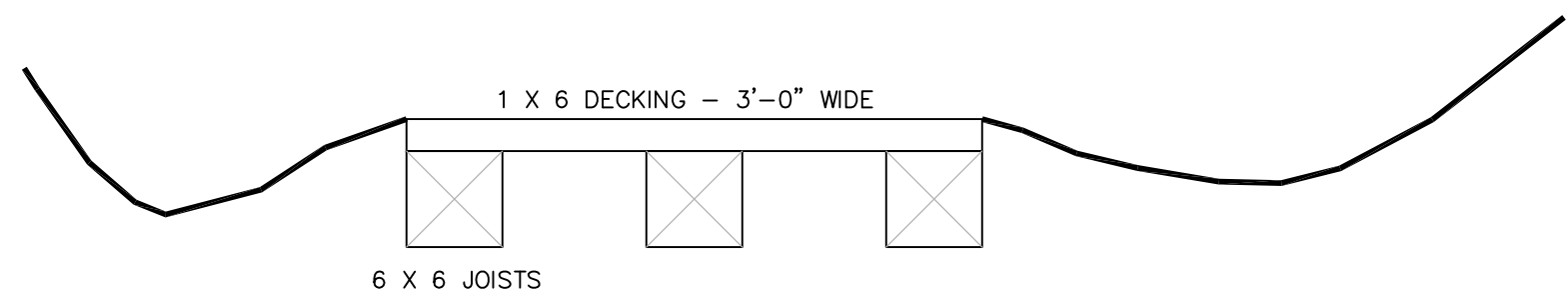


PRESERVATIVE TREATMENT - (REFER TO AWPA USE CATEGORY SYSTEM)			
PRESERVATIVE TYPE	TREATMENT TYPE	USE CATEGORY	COMMENTS
P1	WB	UC4A	X
P2	WB	UC3B	
P3	XX	XXXX	

TREATMENT TYPE
WB = WATERBORNE
OT = OIL-BORNE

USE CATEGORY
UC3B = ABOVE GROUND - EXPOSED
UC4A = GROUND CONTACT - GENERAL USE
UC4B = GROUND CONTACT - HEAVY DUTY

- NOTES:
1. ALL MATERIAL TYPE SHALL BE DOUGLAS FIR OR SOUTHERN PINE NO. 2 OR BETTER.
 2. ALL FASTENERS SHALL BE GALVANIZED.
 3. FASTENERS:
DECKING: 60d 6 INCH RING SHANK NAILS OR DECK SCREWS 2 PER DECK JOIST CONNECTION.
JOISTS: 7/8 CARRIAGE BOLTS 8 INCH..

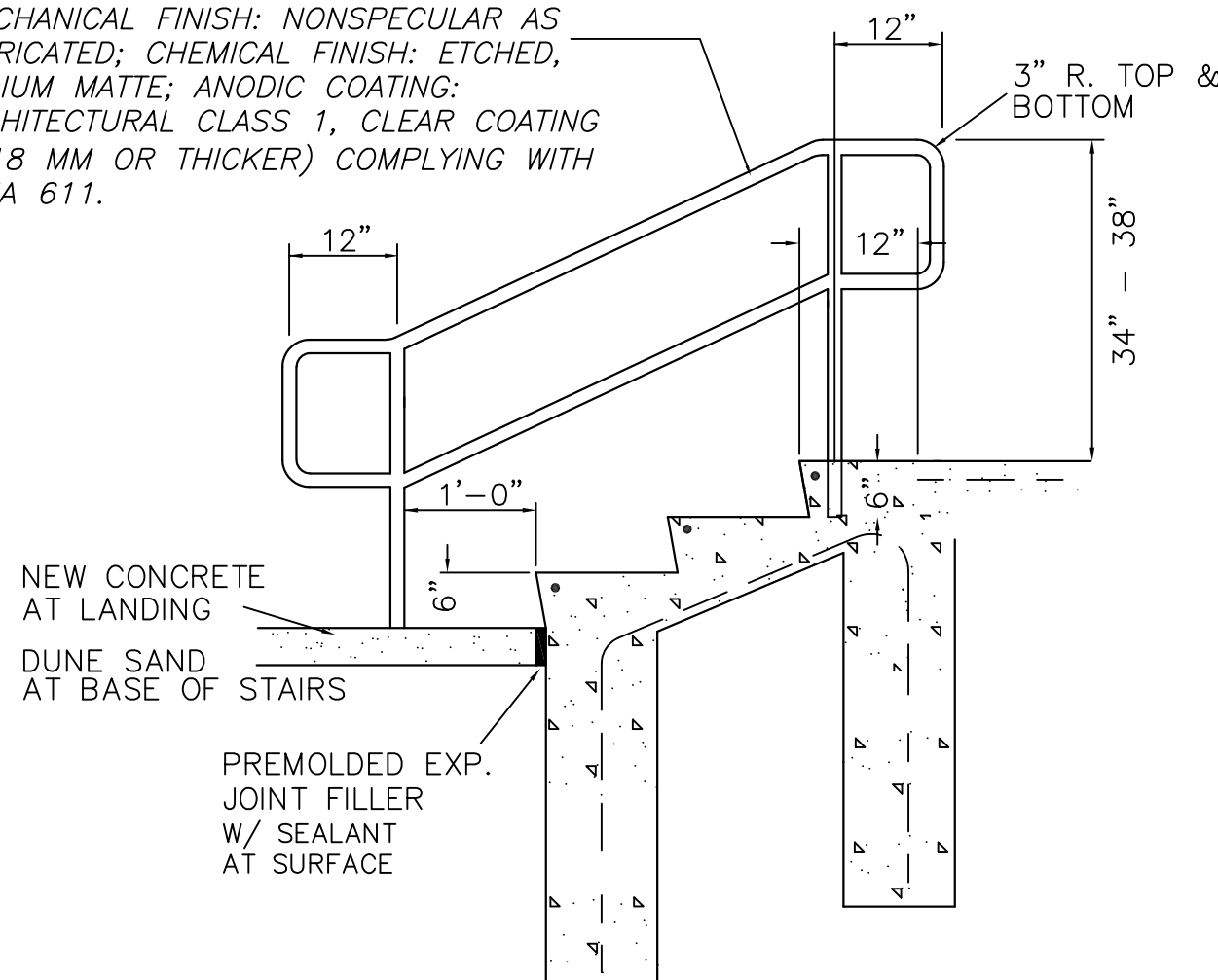


18 BOARDWALK DETAILS

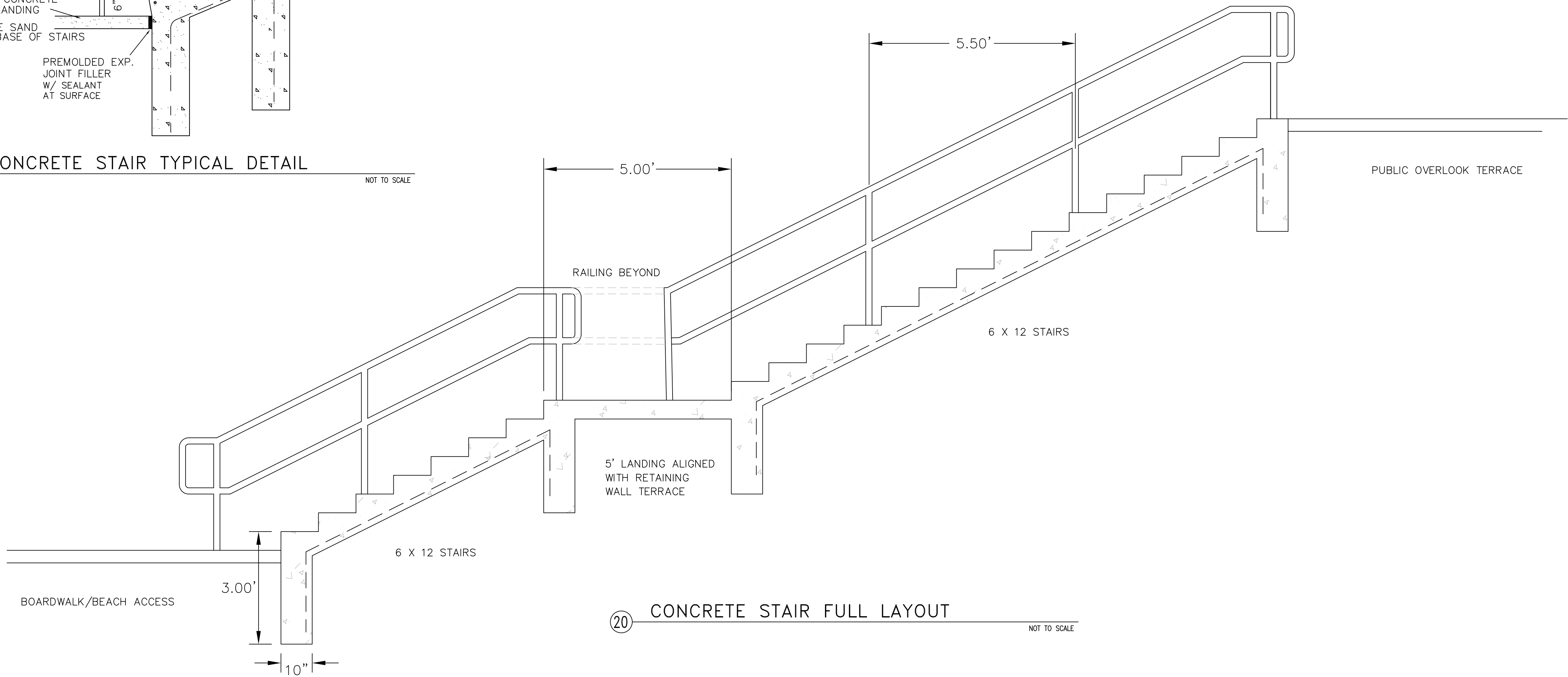
NOT TO SCALE

PROVIDE ALUMINUM RAILING RECOMMENDED BY ALUMINUM PRODUCER AND FINISHER FOR TYPE OF USE.

PROVIDE CLASS 1, CLEAR ANODIC FINISH: ALUMINUM ASSOCIATION-M12C22A41 (MECHANICAL FINISH: NONSPECULAR AS FABRICATED; CHEMICAL FINISH: ETCHED, MEDIUM MATTE; ANODIC COATING: ARCHITECTURAL CLASS 1, CLEAR COATING 0.018 MM OR THICKER) COMPLYING WITH AAMA 611.

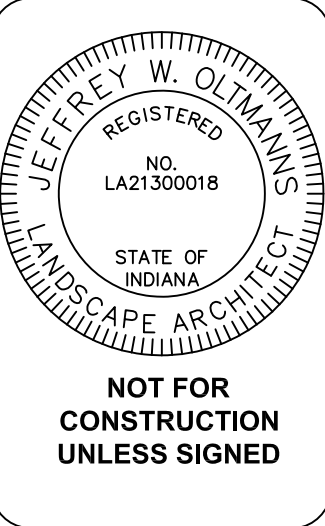


NOT TO SCALE



NOT TO SCALE

NO.	DATE	REVISION	DESCRIPTION	BY



DRAWN BY:	JWO	CHECKED BY:	HK	SCALE:	AS INDICATED
JOB NO.:	INT7004	CERTIFIED BY:		DATE:	DECEMBER 15, 2017

PROJECT NAME:	STOP 24 DUNE LAKESHORE ACCESS OVERLOOK + RESTORATION
PROJECT OWNER:	TOWN OF LONG BEACH 2402 LAKE SHORE DRIVE LONG BEACH, INDIANA