

<b>Project</b>	Steamboat Base Village Redevelopment	<b>Date</b>	06/21/2021
<b>Project Location</b>	Steamboat, Colorado	<b>Architect's Project Number</b>	03.7835.000
<b>Owner/Client</b>	Alterra Mountain Company / East West Partners	<b>File</b>	6BL <b>This is page</b> 1 of 3
<b>To</b>	Saunders Construction Inc.	<b>Attention</b>	Bryan Sculthorpe
<b>Address</b>	86 Inverness Place North		
<b>City</b>	Englewood	<b>State</b>	CO <b>Zip Code</b> 80112
<b>Delivered via:</b>	<input type="checkbox"/> Messenger	<input type="checkbox"/> Hand carried	<input type="checkbox"/> Facsimile
	<input type="checkbox"/> Express	<input type="checkbox"/> Pick-up	<input type="checkbox"/> E-mail Address
	<input type="checkbox"/> Mail	<input type="checkbox"/> UPS	<input checked="" type="checkbox"/> Website Address BIM360

**This Bulletin Conveys to Contractor** (Check one of the following five choices.):

- Architect's Authorization for Minor Changes**  
Architect recommends modifications to the Work as described below.
- Architect's Clarification / Supplemental Instructions** (Use this Bulletin form in place of *Architect's Supplemental Instructions* form.)  
Contractor shall carry out the Work in accordance with the following supplemental instructions.
- Architect's Confirmation of a Field Order** (Use this Bulletin form in place of a *Field Order* form.)  
This confirms Architect's verbal instructions to (individual's name) \_\_\_\_\_ on (date) \_\_\_\_\_, as described below.  
Note: The above three choices are each subject to the following terms: The change(s), clarification(s) and/or confirmation(s) described below is/are issued in accordance with the Contract Documents, without change in Contract Sum and/or Time.
- Architect's Request for Contractor's Proposal** (Use this Bulletin form in place of an *Estimate Request* form.)  
Please submit an itemized proposal for changes in the Contract Sum and/or Time for proposed modifications to the Contract Documents described herein. Submit proposal **within** \_\_\_\_\_ **days** or notify the Architect in writing of the date on which you anticipate submitting your proposal. This is not a Change Order or a Construction Change Directive or a direction to proceed with the Work described in the proposed modifications.
- Other:** As described below.

<b>Attachments</b>	BP3 - BULLETIN 01		
<b>Requested by</b>	<input checked="" type="checkbox"/> Architect	<input type="checkbox"/> Owner	<input type="checkbox"/> Contractor
	<input type="checkbox"/> Other (specify): _____		
<b>Issued by Gensler by</b>	Jacob Apple	<b>Date Signed</b>	06/18/2021
<b>Issued by Owner by</b>		<b>Date Signed</b>	
	<input type="checkbox"/> Required; Please return signed copy to Gensler	<input type="checkbox"/> Not Required	
<b>Accepted by Contractor by</b>		<b>Date Signed</b>	
	<input type="checkbox"/> Required; Please return signed copy to Gensler	<input type="checkbox"/> Not Required	

**Distribution**  
 Bryan Sculthorpe  
 Greg Morgan  
 Adam Cleveland  
 Ryan Stone  
 Mike Schmidt  
 John Albright  
 Gregg Riker

  
  
 06.21.2021

<b>Prepared by Gensler by</b>	Jacob Apple	<b>Date Signed</b>	06/18/2021
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**Instructions / Description / References / Dates**

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 Tel: +1 303.595.8585  
 Fax: +1 303.825.6823

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<b>Project</b>	Steamboat Base Village Redevelopment	<b>Date</b>	06/21/2021
<b>Project Location</b>	Steamboat, Colorado	<b>This is page</b>	2 of 3

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**Description of Changes:**

**General: This bulletin addresses relocating the transformer from across Burgess Creek to the lower plaza level and snow melt insulation changes:**

Civil Drawing Changes:

1. 1A-C.201 – DETAILED UTILITY PLAN
  - a. Updated plan to reflect new transformer location and probable duct bank/conduit alignments.
2. 1A-C.210 – CONDUIT EXHIBIT
  - a. This is a new sheet that depicts the probable duct bank alignment and profile.
3. 1A-C.301 – SEGREGATED CIVIL GRADING PLAN
  - a. This plan reflects the revisions to the retaining walls to accommodate the transformer location.

Landscape Drawing Changes:

Promenade:

1. 1A-L0-01 Hardscape Reference Plan
  - a. Southern promenade planter walls reconfigured to accommodate transformer.
2. 1A-L3-02 Site Materials Plan
  - a. Southern promenade planter walls reconfigured to accommodate transformer. Transformer pad placed at lower promenade level.
3. 1A-L4-02 Site Layout Plan
  - a. Southern promenade planter walls reconfigured to accommodate transformer. Transformer pad placed at lower level. Dimensions added.
4. 1A-L6-02 Site Lighting Plan
  - a. Fixture Type F8, tree mounted lights redistributed in southern promenade planter to accommodate new wall layout.
5. 1A-L7-08 Composite Sections
  - a. Elevation 2 added and elevation 3 revised to show relationship of southern promenade walls and transformer.
6. 1A-L8-02 Planting Plan
  - a. Trees removed from southern portion of promenade planter, shrubs and groundcovers redistributed to accommodate new wall layout.
7. 1A-L12-02 Site Furnishings Plan
  - a. Southern promenade planter walls reconfigured to accommodate transformer.

Promenade Snowmelt:

8. 1A-M1-01 Mechanical Specification
  - a. Plaza insulation specification was changed to the .25" thick Barrier HL.
9. 1A-M1-02 Mechanical Schedules
  - a. The Manifold Schedule for manifold 14 was changed to reflect the added area for the transformer slab.
10. 1A-M2-01 Mechanical Site Plan
  - a. The layout for zones 12, 13, & 14 were modified as required.
  - b. Manifold Boxes 12, 13, & 14 were shifted slightly.
  - c. Notes on insulation were deleted or changed to reflect the new insulation type.
11. 1A-M2-02 Enlarged Mechanical Site Plan
  - a. The layout for zones 12, 13, & 14 were modified as required.
  - b. Manifold Boxes 12, 13, & 14 were shifted slightly.
  - c. Notes on insulation were deleted or changed to reflect the new insulation type.
12. 1A-M2-04 Enlarged Mechanical Site Plan

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- a. The layout for zones 12, 13, & 14 were modified as required.
- b. Manifold Boxes 12, 13, & 14 were shifted slightly.
- c. Notes on insulation were deleted or changed to reflect the new insulation type.

Goldwalk Snowmelt:

13. 1A-M3-01 Mechanical Details
  - a. Details A, B, D, E, & K were modified to reflect the new insulation.
14. 1B-M1-01 Mechanical Specification
  - a. Plaza insulation specification was changed to the .25" thick Barrier HL.
15. 1B-M1-02 Mechanical Schedules
  - a. The Manifold Schedule for manifold 14 was changed to reflect the added area for the transformer slab.
16. 1B-M3-01 Mechanical Details
  - a. Details A, B, & C were modified to reflect the new insulation.

Architectural Drawing Changes:

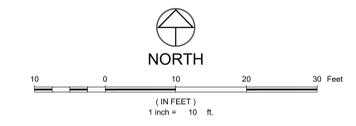
1. 1A-A1.100 – PROMENADE - ARCHITECTURAL SITE PLAN - LOWER LEVEL B1
  - a. ARCHITECTURAL SITE PLAN
    - i. Relocated transformer shown with revised site walls

Electrical Drawing Changes:

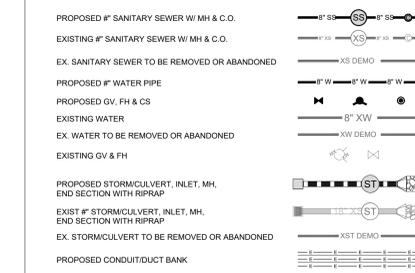
1. Sheet 1A-E0.001
  - a. Removed secondary connection cabinet for secondary feed into building to align with approved VE.
  - b. Modified feeder quantity, size, material, and length for secondary conduits coming into building to align with approved VE.
  - c. Modified short circuit table values based on approved VE of secondary feeder.
2. Sheet 1A-E1.000
  - a. Modified site lighting at SE corner of site to align with request from utility for removal of trees on south side of transformer.
  - b. Modified S1 lighting on Promenade lower façade per recent development plan coordination.
3. Sheet 1A-E1.100U
  - a. Added (2) spare conduits into building from East side of Burgess Creek per request from owner.
  - b. Modified transformer location to align with approved VE.
  - c. Modified utility transformer secondary conduit routing into building.

Specification Changes

1. Revised SECTION 26 05 19 - ELECTRICAL POWER CONDUCTORS AND CABLES
  - a. Added bold italicized text

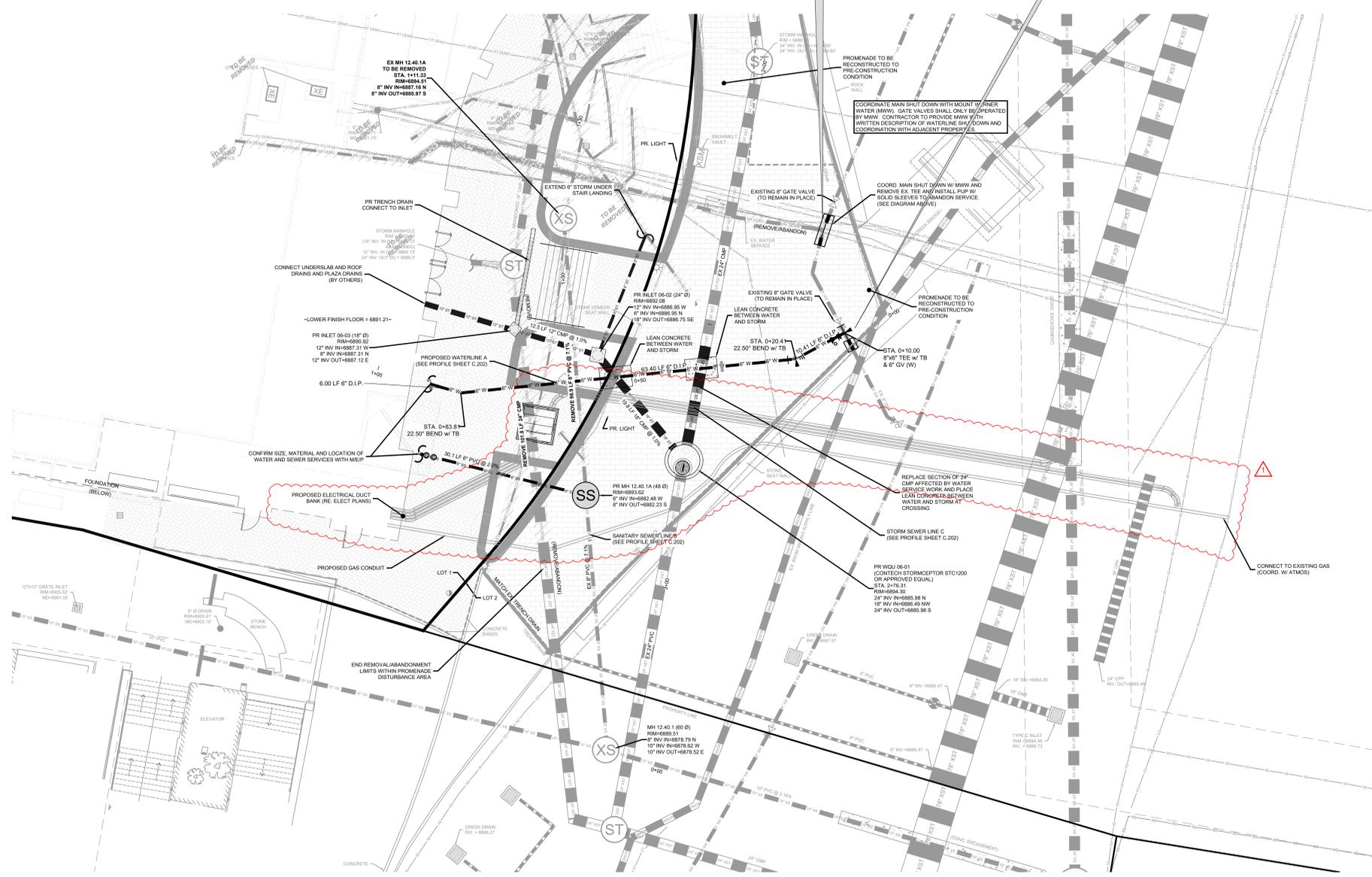
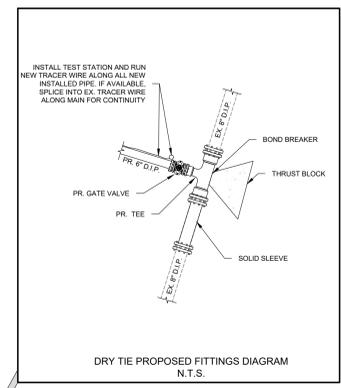
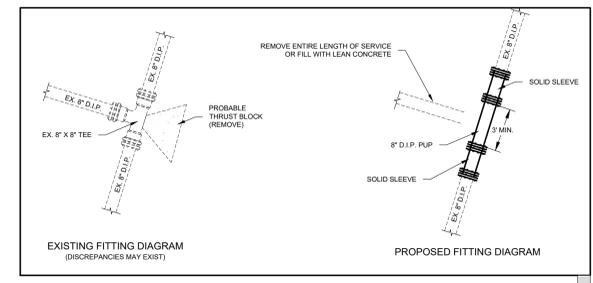


**LEGEND**



**NOTES**

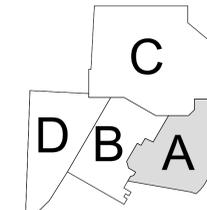
- THE SIZE, TYPE AND LOCATION OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE WHEN SHOWN ON THESE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE OF ALL UNDERGROUND UTILITIES IN THE AREA OF THE WORK. BEFORE COMMENCING NEW CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL BE RESPONSIBLE FOR ALL UNKNOWN UNDERGROUND UTILITIES.
- EXISTING UNDERGROUND AND OVERHEAD PUBLIC AND PRIVATE UTILITIES AS SHOWN ARE INDICATED ACCORDING TO THE BEST INFORMATION MADE AVAILABLE TO THE ENGINEER. THE ENGINEER DOES NOT GUARANTEE NOR IS RESPONSIBLE FOR THE ACCURACY OF SUCH INFORMATION. EXISTING UTILITY MAINS AND SERVICES MAY NOT BE STRAIGHT LINES OR AS INDICATED ON THESE DRAWINGS. CONTRACTOR TO VERIFY EXISTING HORIZONTAL AND VERTICAL LOCATIONS PRIOR TO CONSTRUCTION.
- ALL SEWER CONSTRUCTION SHALL BE PER MOUNT WERNER WATER STANDARD SPECIFICATIONS, LATEST EDITION.
- MAINTAIN 12\"/>



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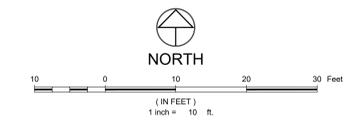
**KEY PLAN**



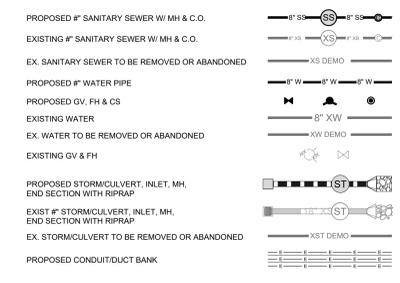
Project Name: GONDOLA PLAZA  
SSRC | BASE AREA IMPROVEMENTS  
Project Number: 003.7835.000  
Description: DETAILED UTILITY PLAN

Scale: SEE GRAPHICAL SCALE

**1A-C.201**



**LEGEND**



**NOTES**

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4. MAINTAIN 12\"/>

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Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT
2021.06.18	BULLETIN NO. 1 - PROMENADE TRANSFORMER

DISCLAIMER:  
THIS DRAWING WAS PREPARED UPON SPECIFIC REQUEST AND SHOULD BE USED FOR REFERENCE PURPOSES ONLY. ADDITIONAL MODIFICATIONS WILL BE REQUIRED INCLUDING REFLECTING FINAL WALL GEOMETRIES, DUCT BANK REQUIREMENTS, VAULT DEPTH AND ACTUAL UTILITY CROSSING LOCATIONS.

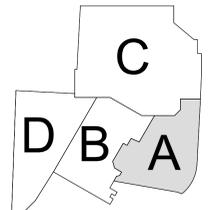


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Seal / Signature

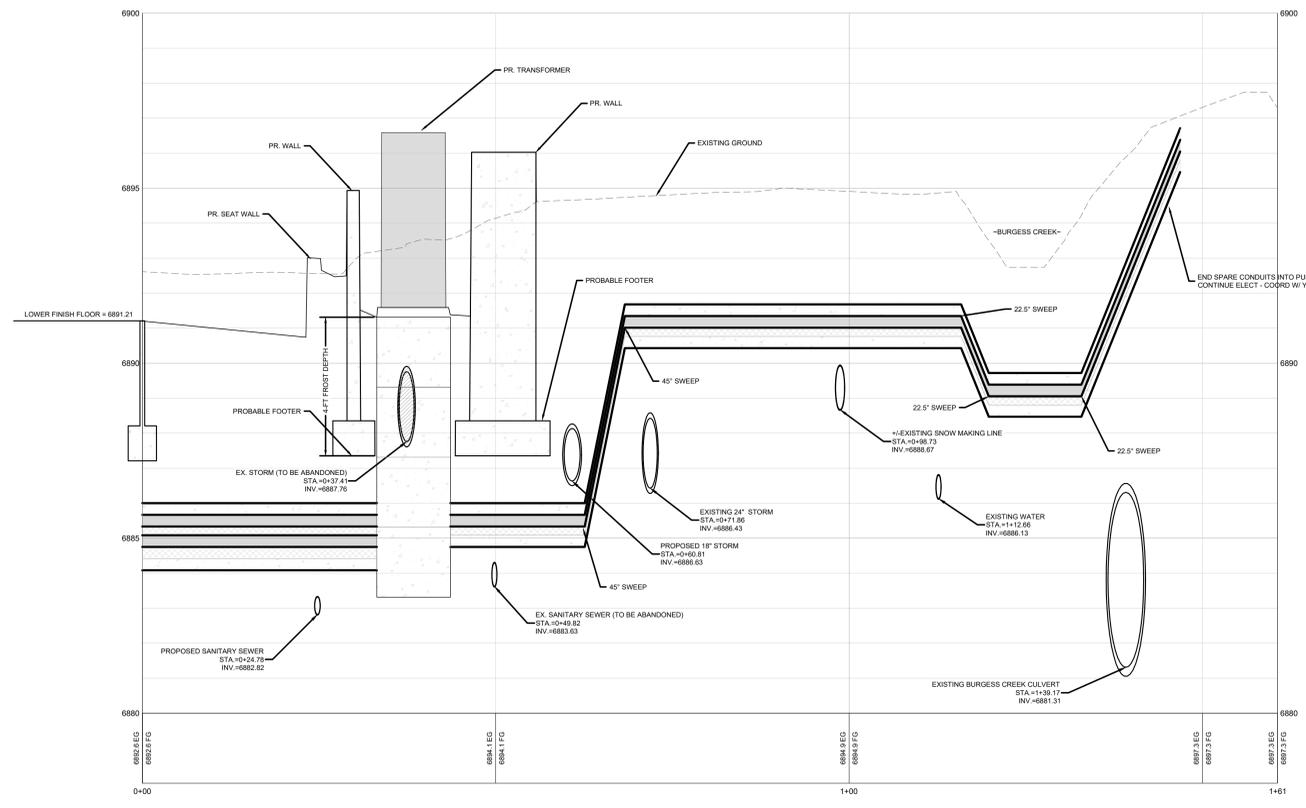


**KEY PLAN**



Scale  
SEE GRAPHICAL SCALE

**1A-C.210**

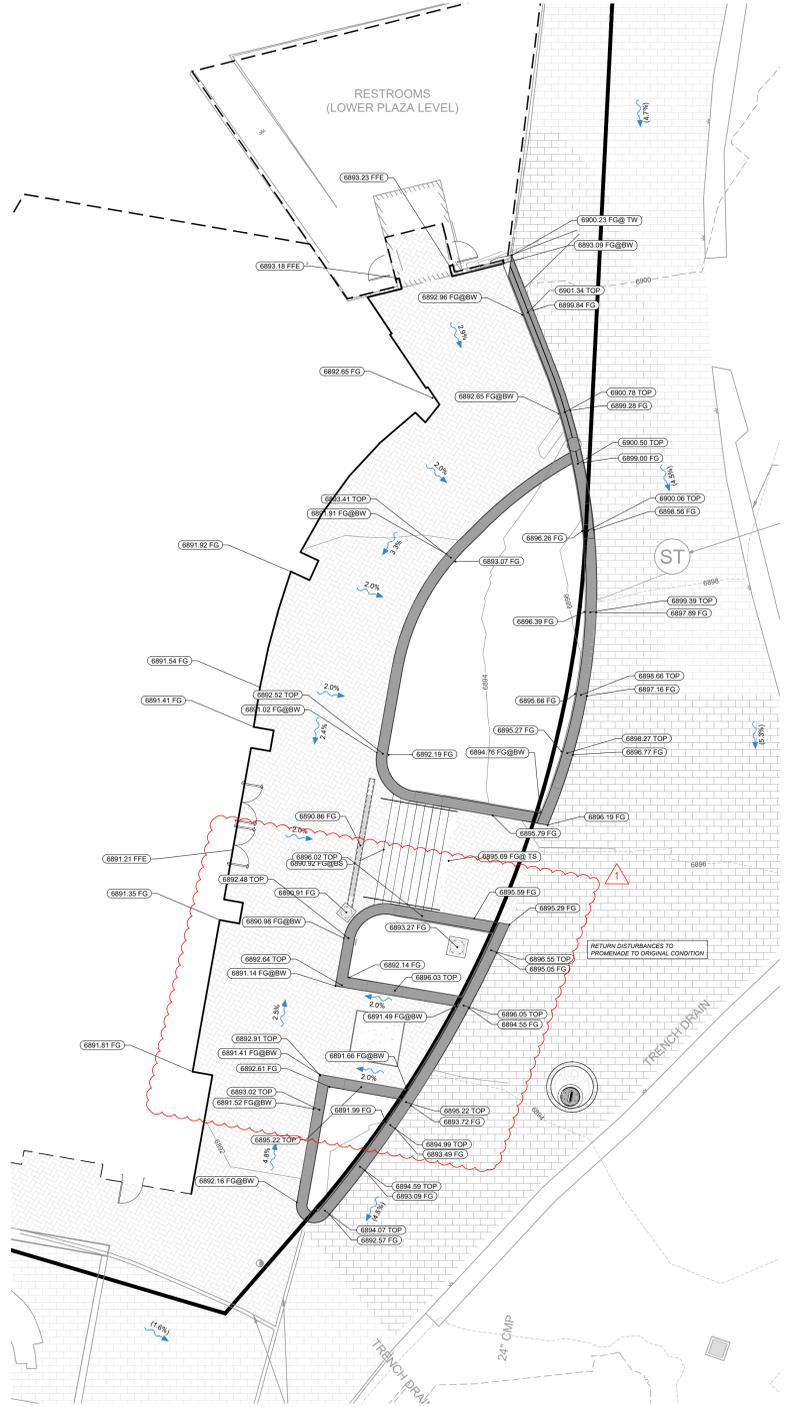


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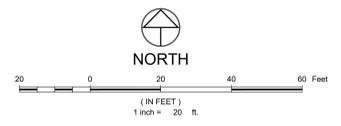
NOTE: ALL INFORMATION SHOWN ON OR ABOVE STRUCTURES ARE FOR CONVENIENCE ONLY. REFER TO GRADING INFORMATION BY OTHERS.



UPPER PLAZA GRADING  
1" = 20"



LOWER PLAZA GRADING  
1" = 10"



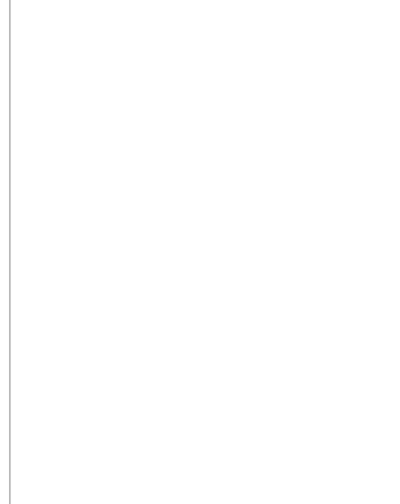
LEGEND

- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- PROPOSED STORM INLET (CURB & AREA)
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED SWALE
- PROPOSED CURB & GUTTER
- PROPERTY BOUNDARY
- PROPOSED LOT LINE
- EXISTING RIGHT OF WAY
- FLOOD HAZARD LIMITS
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- PROPOSED OVERLAND FLOW DIRECTION W/SLOPE
- EXISTING OVERLAND FLOW DIRECTION W/SLOPE
- PROPOSED CHANNELIZED FLOW DIRECTION W/ SLOPE
- EXISTING CHANNELIZED FLOW DIRECTION

NOTES

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2. ALL PROJECT DATA IS ON VERTICAL DATUM, NAVD 88. SEE NOTES SHEET FOR BENCHMARK REFERENCES.
3. ELEVATIONS FOR IMPROVEMENTS THAT ARE CONTROLLED BY ADJACENT EXISTING FACILITIES (SUCH AS PROPOSED GUTTERS ALONG EXISTING ASPHALT) MAY REQUIRE ADJUSTMENT BASED ON ACTUAL CONDITIONS. COORDINATE WITH ENGINEERS TO ENSURE A CONSISTENT SECTION WITH SMOOTH TRANSITIONS WHERE NECESSARY.
4. SEE SOILS REPORT FOR PAVEMENT, SUBGRADE AND MATERIAL PREPARATION, DESIGN AND RECOMMENDATIONS.
5. ALL CURB SPOTS SHOWN ARE FLOWLINE ELEVATIONS, UNLESS NOTED OTHERWISE. ALL OTHER SPOTS ARE FINISHED GRADE ELEVATIONS.

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT
2021.06.18	BULLETIN NO. 1 - PROMENADE TRANSFORMER



CALL UTILITY NOTIFICATION CENTER OF COLORADO  
**811**  
Know what's below. Call before you dig.  
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG. GRADE. SEE EXPLANATION FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

KEY PLAN



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Seal / Signature

Project Name GONDOLA PLAZA  
SSRC | BASE AREA IMPROVEMENTS  
Project Number 003.7835.000  
Description Segregated Civil Grading Plan

Scale SEE GRAPHICAL SCALE

1A-C.301



REFERENCE DESIGN  
WORKSHOP'S SCHEMATIC DESIGN  
PACKAGE DATED 12/23/2020 FOR  
PROPOSED LANDSCAPE AND  
HARDSCAPE IMPROVEMENTS FOR  
TRANSIT CENTER AND BRIDGE

PROJECT BENCHMARK  
(N): 1412534.95'  
(E): 2636559.73'  
(EL): 6935.31'  
3" BRASS CAP 2' BELOW GRADE

REFER TO GOLD  
WALK PACKAGE  
UNDER SEPARATE  
COVER

ESCALATOR AND STAIR

TIMBER &  
TORCH

LIMIT OF WORK

SLOPE  
SLIDE PLAZA

ICE RINK

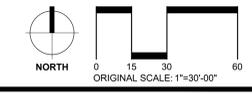
F & B BUILDING

THE PROMENADE

ONE STEAMBOAT PLACE

SKI BEACH

MT. WERNER CIRCLE



Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT
2021.06.18	BULLETIN 01: TRANSFORMER RELOCATION

Seal / Signature



Project Name  
**BP3 PROMENADE PERMIT AND CONSTRUCTION**

Project Number  
003.7835.000

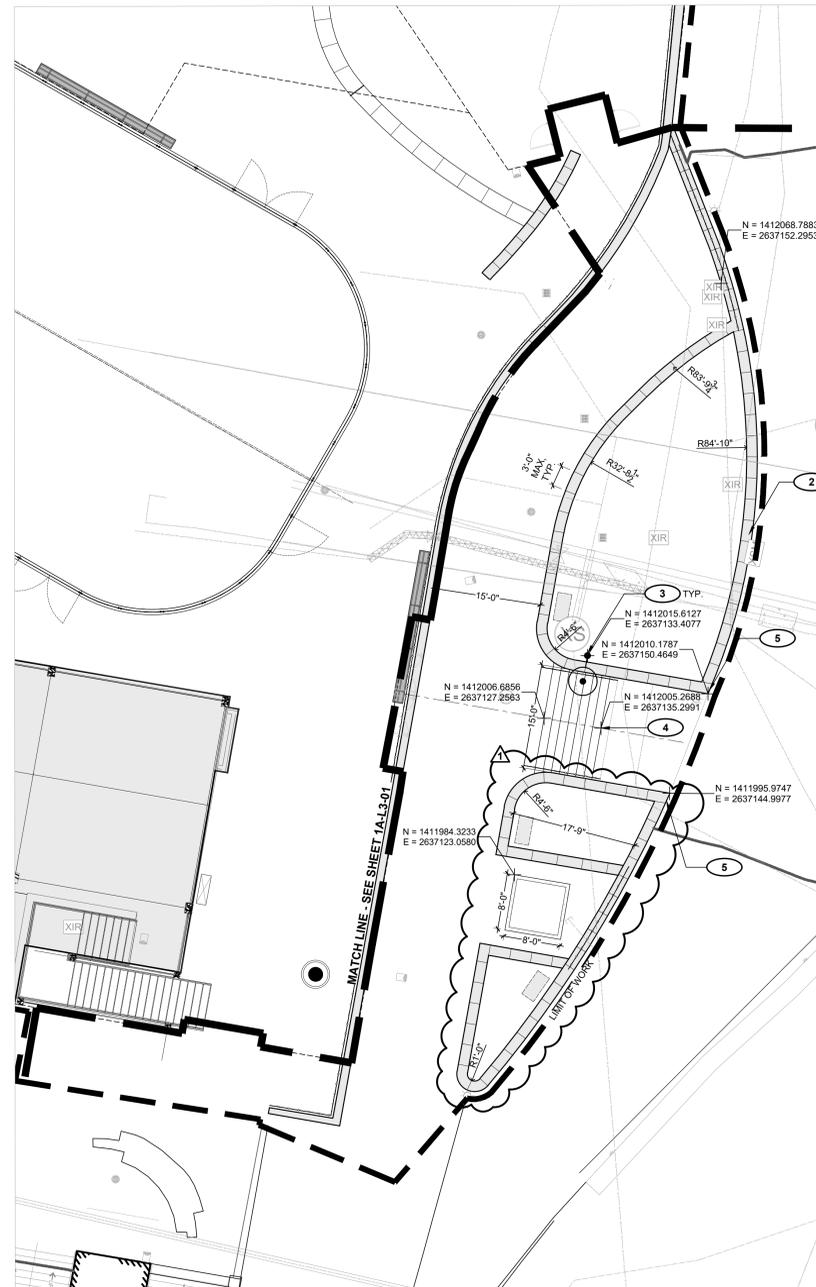
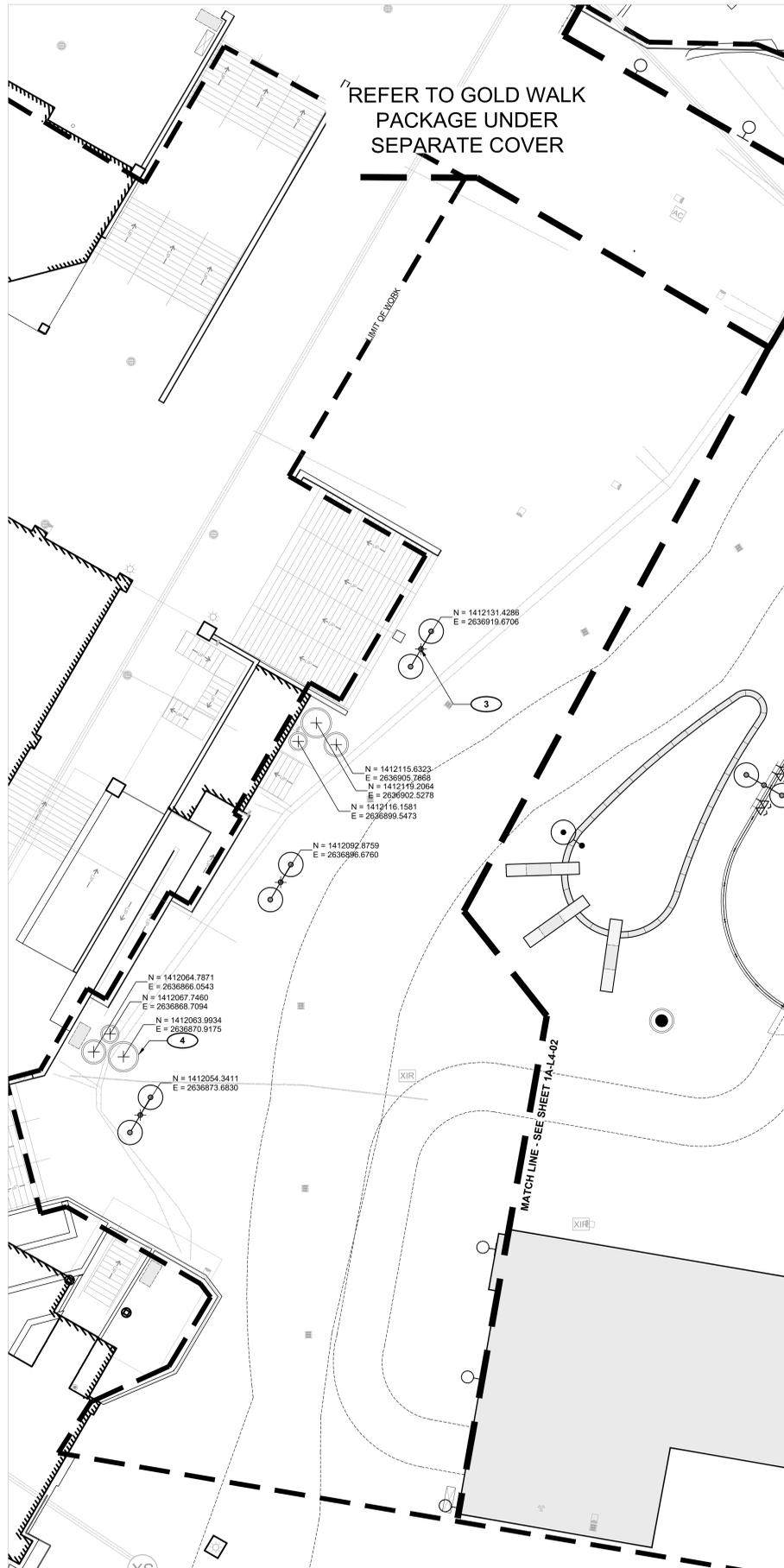
DW Project Number  
6466

Description  
BP3: PROMENADE - ISSUE FOR BID AND PERMIT

**HARDSCAPE REFERENCE PLAN**

**1A-L0-01**





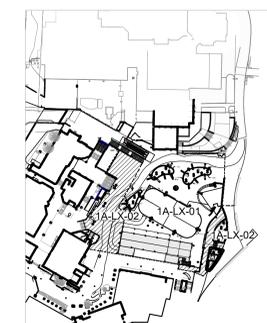
NOTE: Refer to General Information Sheet 1A-LG-04 for General and Series Specific Notes, Legends, Abbreviations, Lists and Schedules.



SITE LAYOUT REFERENCE NOTES

- 1 Align ice rink with Promenade building gridlines.
- 2 Wall to align with edge of existing promenade pavement.
- 3 Refer to L6 Lighting Series for light pole layout.
- 4 Northings and Eastings marked on center. Refer to L7 Site Details for dimensions
- 5 Joining pattern point of beginning. To be spaced equally.

KEY PLAN



ALTRERA east west partners  
MOUNTAIN COMPANY

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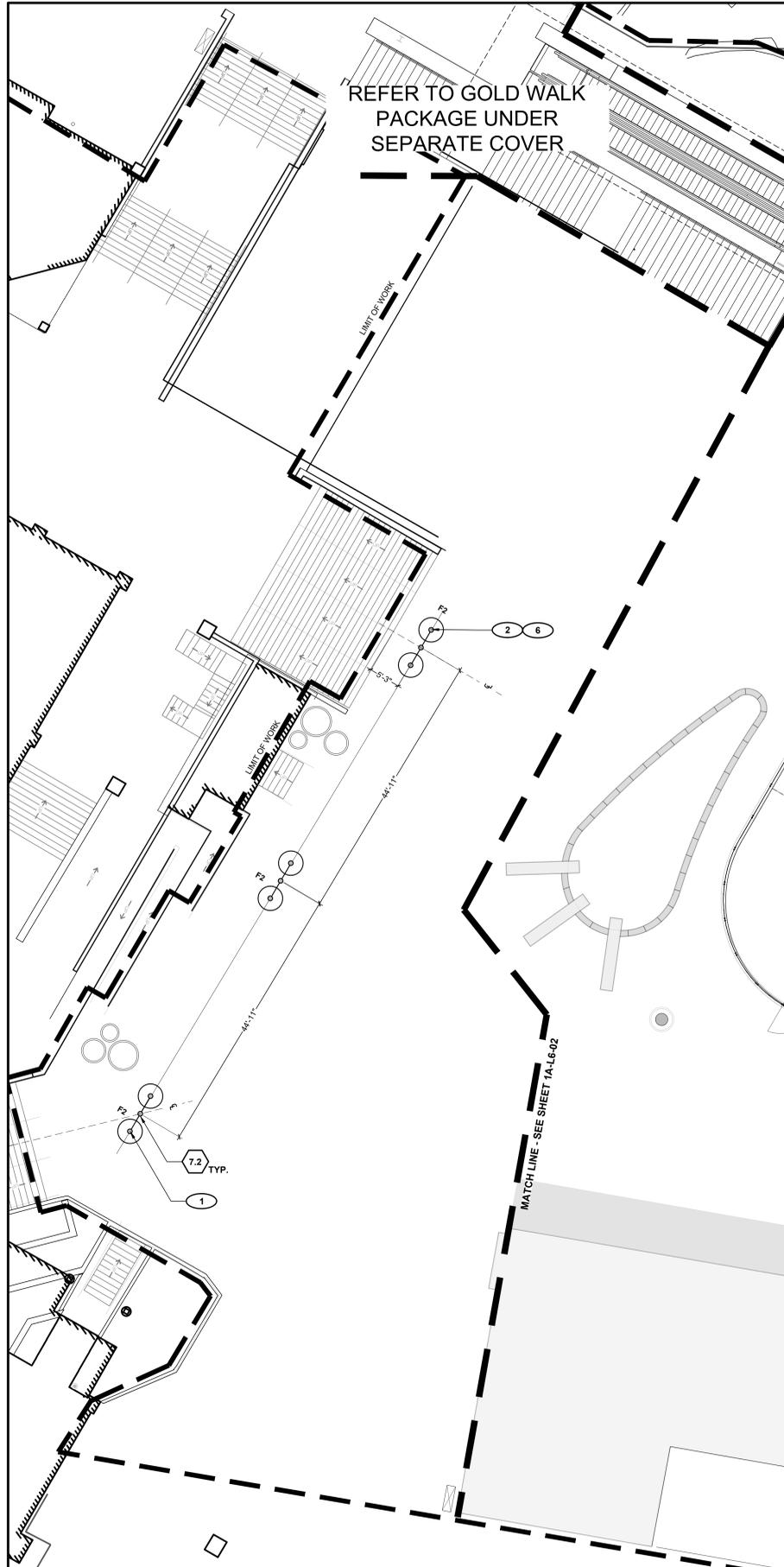
Project Name  
BP3 PROMENADE PERMIT AND CONSTRUCTION

Project Number DW Project Number  
003.7835.000 6466

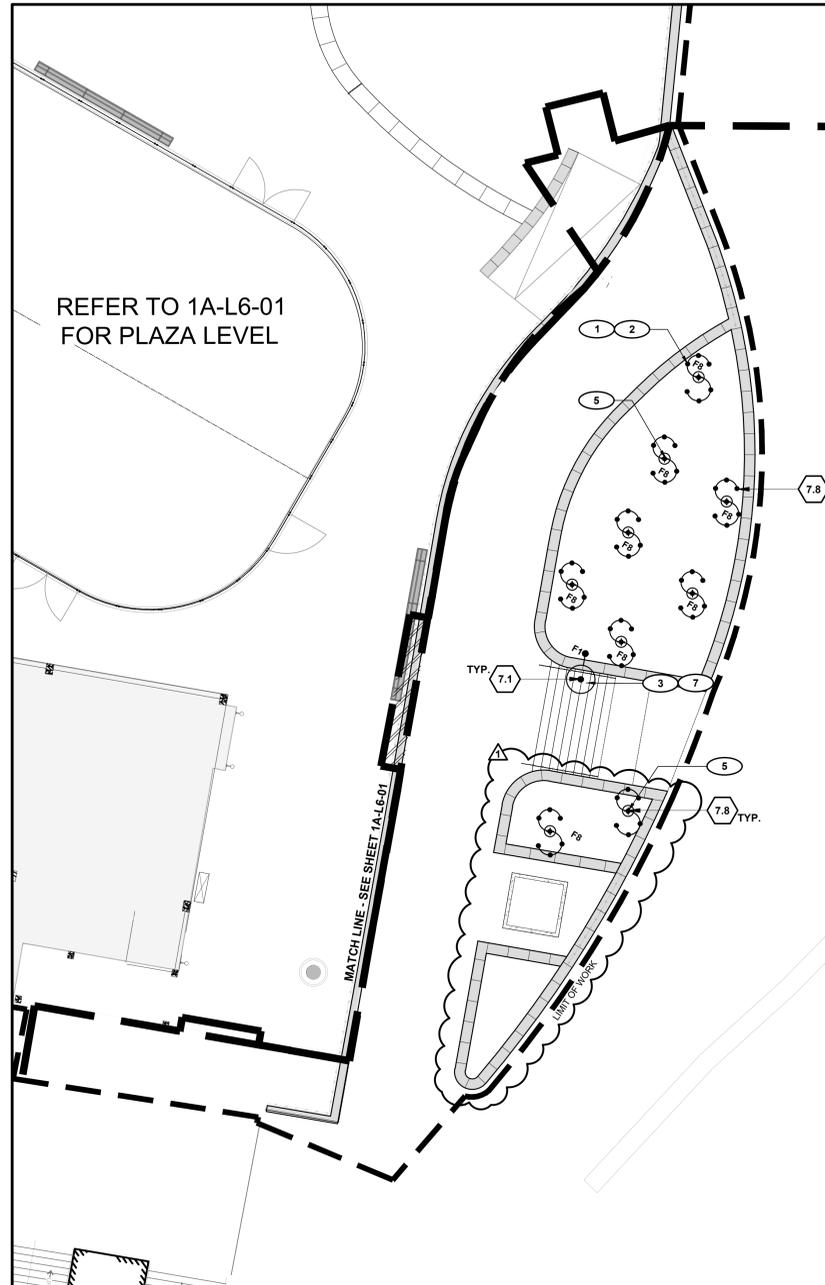
Description  
BP3: PROMENADE - ISSUE FOR BID AND PERMIT

SITE LAYOUT PLAN

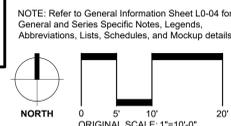
1A-L4-02



**1 LIGHTING PLAN: SLOPESIDE PLAZA WEST**  
1"=10'-0"



**2 LIGHTING PLAN: SLOPESIDE PLAZA LOWER**  
1"=10'-0"



**SITE KEYNOTES:**

DETAIL / SHEET	RELATED DETAILS	SPEC. SECTION
7.0 Lighting		
7.1 Pedestrian Light (F1)	Ref Electric	Ref Electric
7.2 Double-Headed Pedestrian Light (F2)	Ref Electric	2/1A-L7-10 Ref Electric
7.7 Double-Headed Pedestrian Light with Mast Mounted Flood Lights (F7)	Ref Electric	2/1A-L7-10 Ref Electric
7.8 Tree Mounted Light Strings (F8)	Ref Electric	1/1A-L7-10 Ref Electric

**SITE LIGHTING REFERENCE NOTES**

- 1 Refer to L0-04 - General Information Sheet for symbol list and lighting schedule (TYP).
- 2 Reference Electrical Drawings for building mounted fixtures, controls, power distribution, receptacle locations, and emergency lighting (TYP).
- 3 Light pole base to be 18" off edge of planter wall.
- 4 Orient hand-hole in pole for maximum accessibility (TYP).
- 5 Type F8 Fixtures to be serviced by direct burial remote transformers in the planter area. Coordinate exact location with Landscape Architect (TYP).
- 6 Pole to be located directly over and attached to existing foundation structure. Contractor to verify location with structural engineer. See mounting details in structural engineering drawings.
- 7 For Type F1 Fixtures mounted in planters, scale the pole location from plan and confirm with Landscape Architect prior to final installation.



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Seal / Signature



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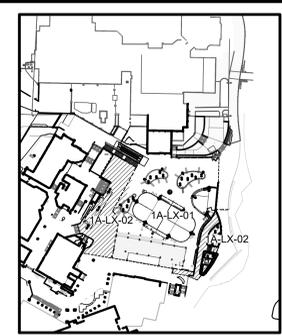
DW Project Number  
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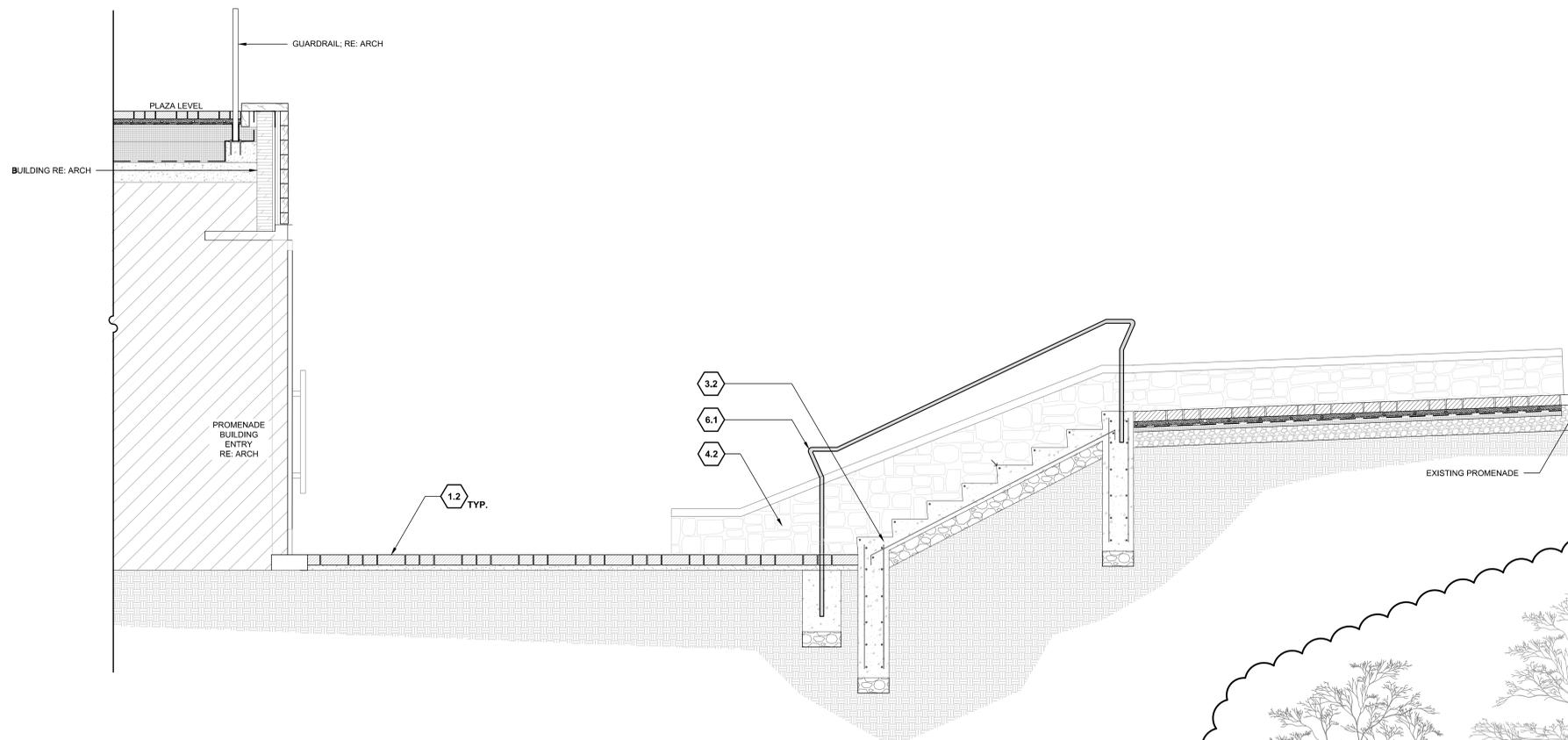
Description  
BP3: PROMENADE - ISSUE FOR BID AND PERMIT

**SITE LIGHTING PLAN**

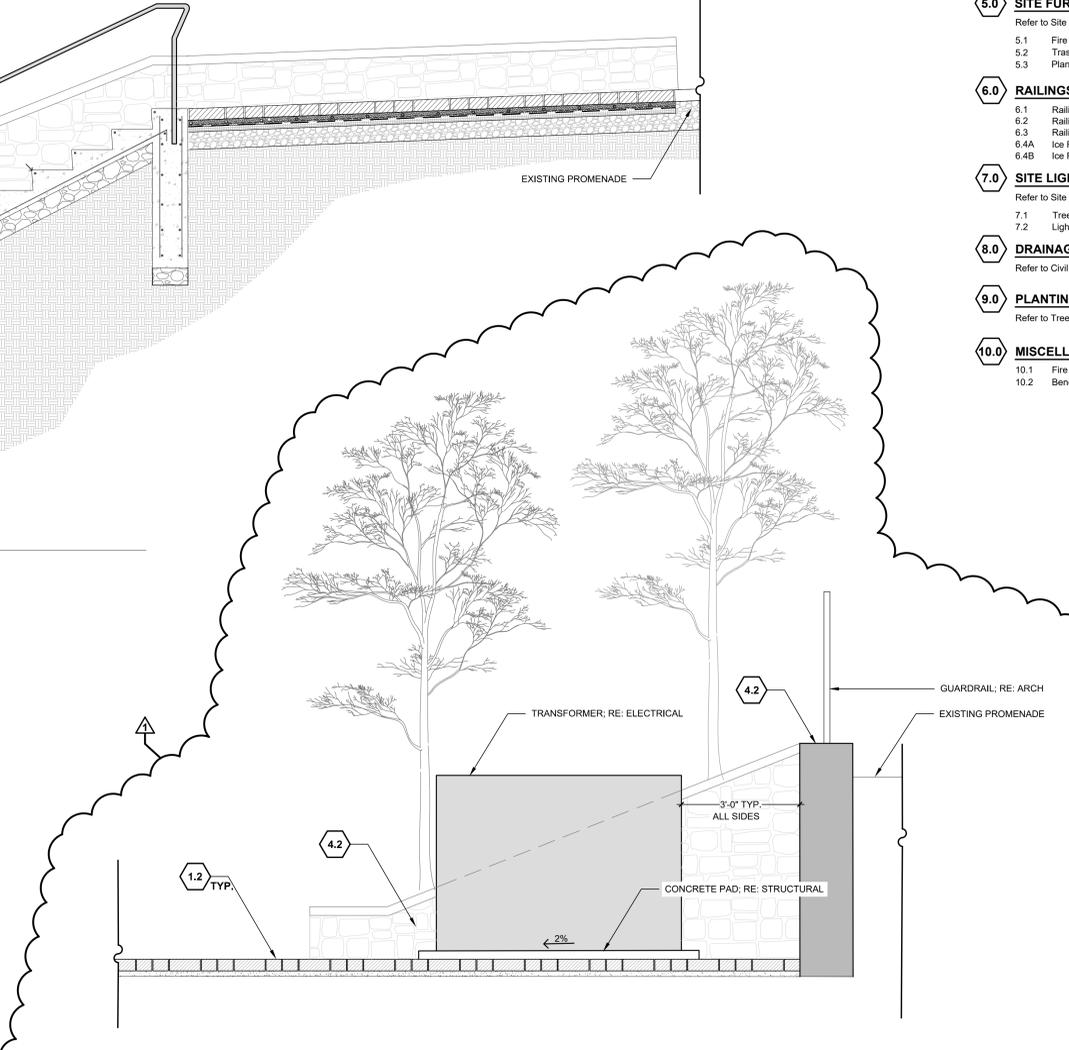
**1A-L6-02**

**KEY PLAN**

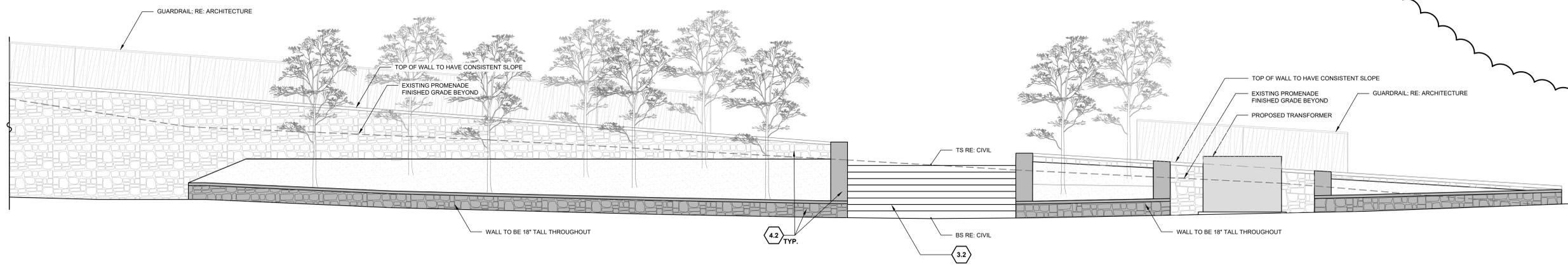




**1 Promenade Building and Wall Section**  
1/2" = 1'-0"



**2 Promenade Wall Elevation Looking North**  
1/2" = 1'-0"



**3 Promenade Wall Elevation Looking East**  
1/4" = 1'-0"

**SITE KEYNOTES:**

DETAIL / SHEET	RELATED DETAILS	SPEC. SECTION
<b>1.0 PAVEMENTS, RAMPS, CURBS</b>		
1.1	Concrete Paving at Ice Rink: Refrigerated Slab	1 / 1A-L7-01 Ref Division 13
1.2	Unit Paving Type 1: At Grade	4 / 1A-L7-01 7.9/1A-L7-01 321400
1.3	Unit Paving Type 2: Over Structure	5 / 1A-L7-01 7.9/1A-L7-01 321400
1.4	Unit Paving Type 3: At Elevated Plaza	6 / 1A-L7-01 7.9/1A-L7-01 321400
1.5A	Threshold at Ice Rink: Over Structure	2 / 1A-L7-01 321400
1.5B	Threshold at Ice Rink: At Grade	3 / 1A-L7-01 321400
<b>2.0 JOINTING</b>		
2.1	Expansion Joint	8 / 1A-L7-01 321373
2.2	Sand Joint	10 / 1A-L7-01 321400
<b>3.0 STEPS</b>		
3.1	Stairs Type 1: at Elevated Plaza	1 / 1A-L7-02 033000
3.2	Stairs Type 2: At Promenade Building	2 / 1A-L7-02 033000
3.3	Seating Steps at Elevated Plaza	3 / 1A-L7-02 033000
<b>4.0 SITE WALLS/ EMBANKMENTS</b>		
4.1	Wall Type 1: Concrete Planter Walls	1 / 1A-L7-03 033000
4.2	Wall Type 2: Concrete Retaining Wall with Stone Veneer at Promenade	2 / 1A-L7-03 2/1A-L7-08 033000 Ref Arch: Exterior Stone ST1
4.3	Wall Type 3: Concrete Retaining Wall with Stone Veneer at Elevated Plaza	1 / 1A-L7-04 033000 Ref Arch: Exterior Stone ST1
<b>5.0 SITE FURNITURE</b>		
Refer to Site Furnishings Series		
5.1	Fire Bowl	103000
5.2	Trash Receptacle	By Owner
5.3	Planter Pots	323300
<b>6.0 RAILINGS, BARRIERS, FENCING</b>		
6.1	Railing Type 1: At Stairs	2 / 1A-L7-04 055213
6.2	Railing Type 2: At Ice Rink	1 / 1A-L7-05 323119
6.3	Railing Type 3: Drink Ledge	2 / 1A-L7-05 323119
6.4A	Ice Rink Gate: Double	3 / 1A-L7-05 323119
6.4B	Ice Rink Gate: Single	4 / 1A-L7-05 323119
<b>7.0 SITE LIGHTING</b>		
Refer to Site Lighting Series		
7.1	Tree Mounted Lighting (Type FB)	Ref Electric 1/1A-L7-10 Ref Electric
7.2	Light Pole Fountain Under Pavers	Ref Electric 2/1A-L7-10 Ref Electric
<b>8.0 DRAINAGE</b>		
Refer to Civil Drawings		
<b>9.0 PLANTING AND LANDSCAPE</b>		
Refer to Tree Planting and Shrub and Groundcover Series Drawings		
<b>10.0 MISCELLANEOUS ELEMENTS</b>		
10.1	Fire Pit	1 / 1A-L7-06 103000
10.2	Bench: Type 1	1 / 1A-L7-07 055000/ 061063



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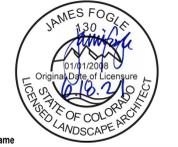
12499 West Colfax Ave.  
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Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT
2021.06.18	BULLETIN 01: TRANSFORMER RELOCATION

Seal / Signature



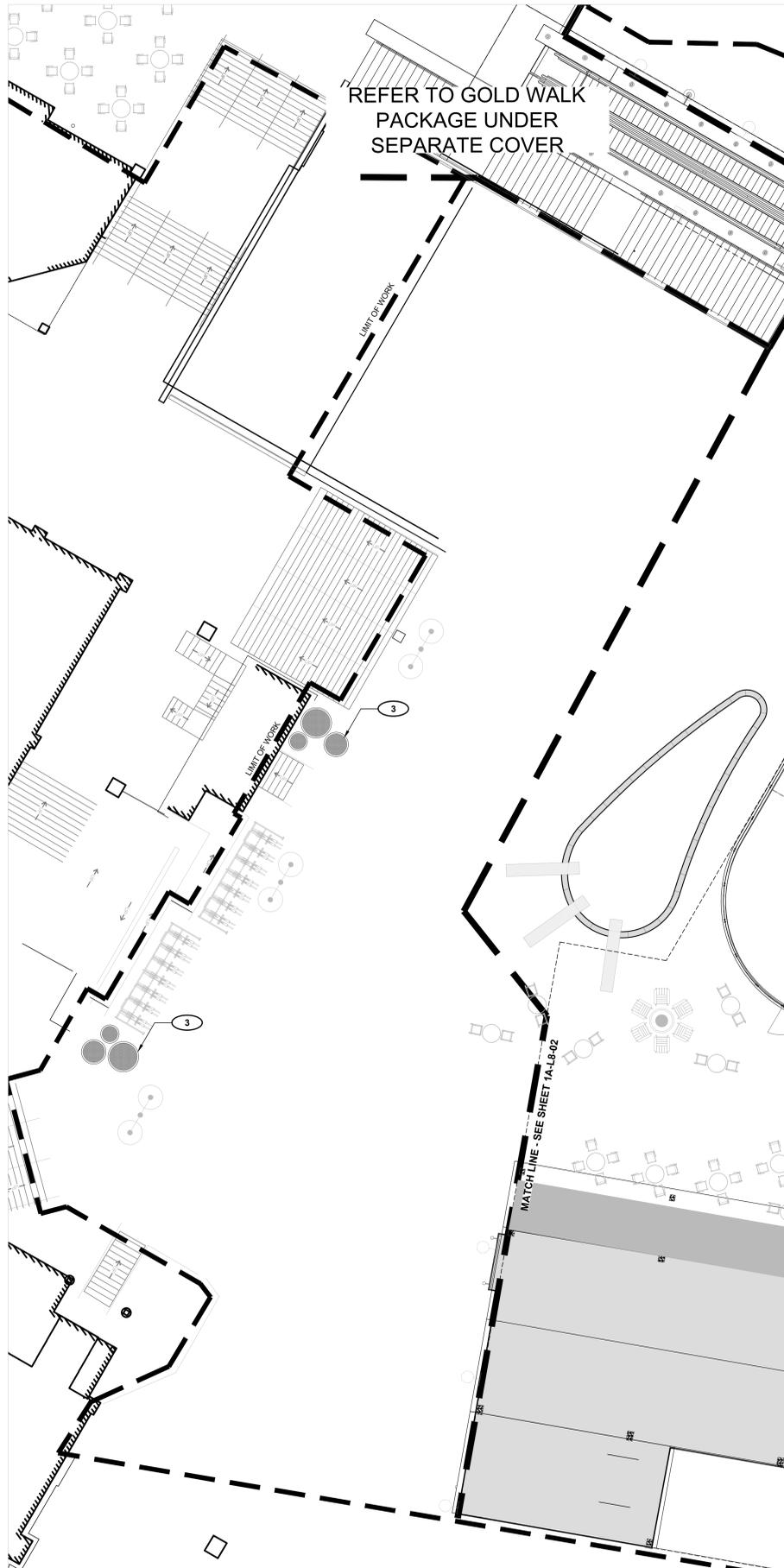
Project Name  
**BP3 PROMENADE PERMIT AND CONSTRUCTION**

Project Number  
003.7835.000

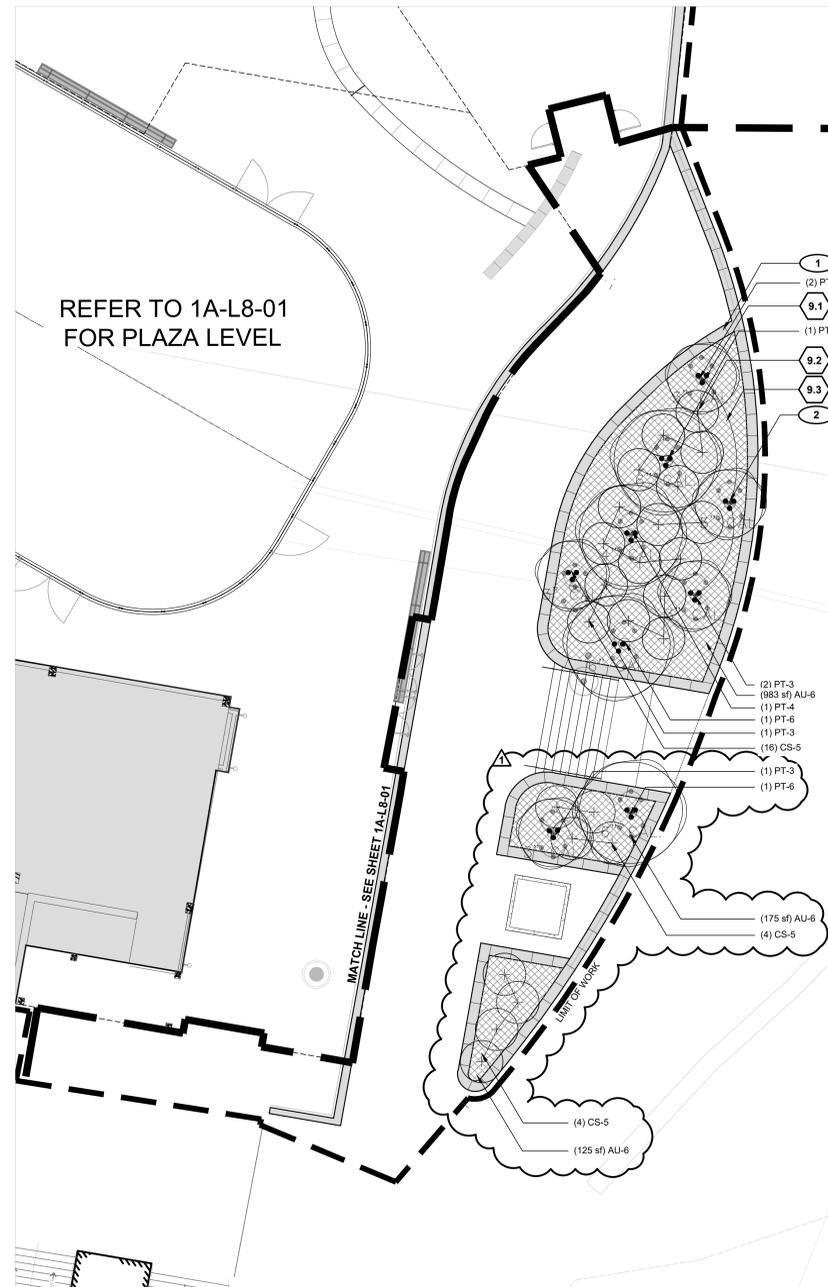
DW Project Number  
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Description  
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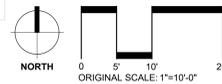
**COMPOSITE SECTIONS**  
**1A-L7-08**



**1** PLANTING PLAN: SLOPESIDE PLAZA WEST  
1"=10'-0"



**2** PLANTING PLAN: SLOPESIDE PLAZA LOWER  
1"=10'-0"



**SITE KEYNOTES:**

9.0	PLANTING AND LANDSCAPE	DETAIL / SHEET	RELATED DETAILS	SPEC. SECTION
9.1	Deciduous Tree	1 / L11-01		329300
9.2	Deciduous Shrub	2 / L11-01		329300
9.3	Groundcover	3 / L11-01		329300

**PLANTING KEY LEGEND**

ABBR.	BOTANICAL NAME	COMMON NAME
<b>DECIDUOUS TREES</b>		
PT-3	<i>Populus tremuloides</i>	Aspen
PT-4	<i>Populus tremuloides</i>	Aspen
PT-6	<i>Populus tremuloides</i>	Aspen
<b>DECIDUOUS &amp; EVERGREEN SHRUBS</b>		
CS-5	<i>Cornus sericea</i>	Red Twig Dogwood
<b>GROUNDCOVERS/ PERENNIALS/ ORNAMENTAL GRASSES</b>		
AU-6	<i>Arctostaphylos uva-ursi</i>	Bearberry

**TREE, SHRUB AND GROUNDCOVER REFERENCE NOTES**

- 1 Coordinate shrub layout with utilities and furnishings. Report conflicts to landscape architect.
- 2 Tree locations per plan and verified by landscape architect prior to installation.
- 3 Plantings in planters by owner.



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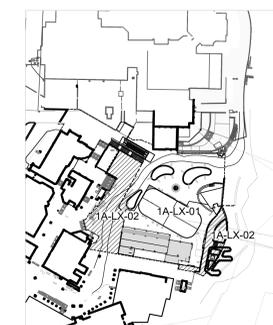
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**KEY PLAN**



Project Name  
**BP3 PROMENADE PERMIT AND CONSTRUCTION**

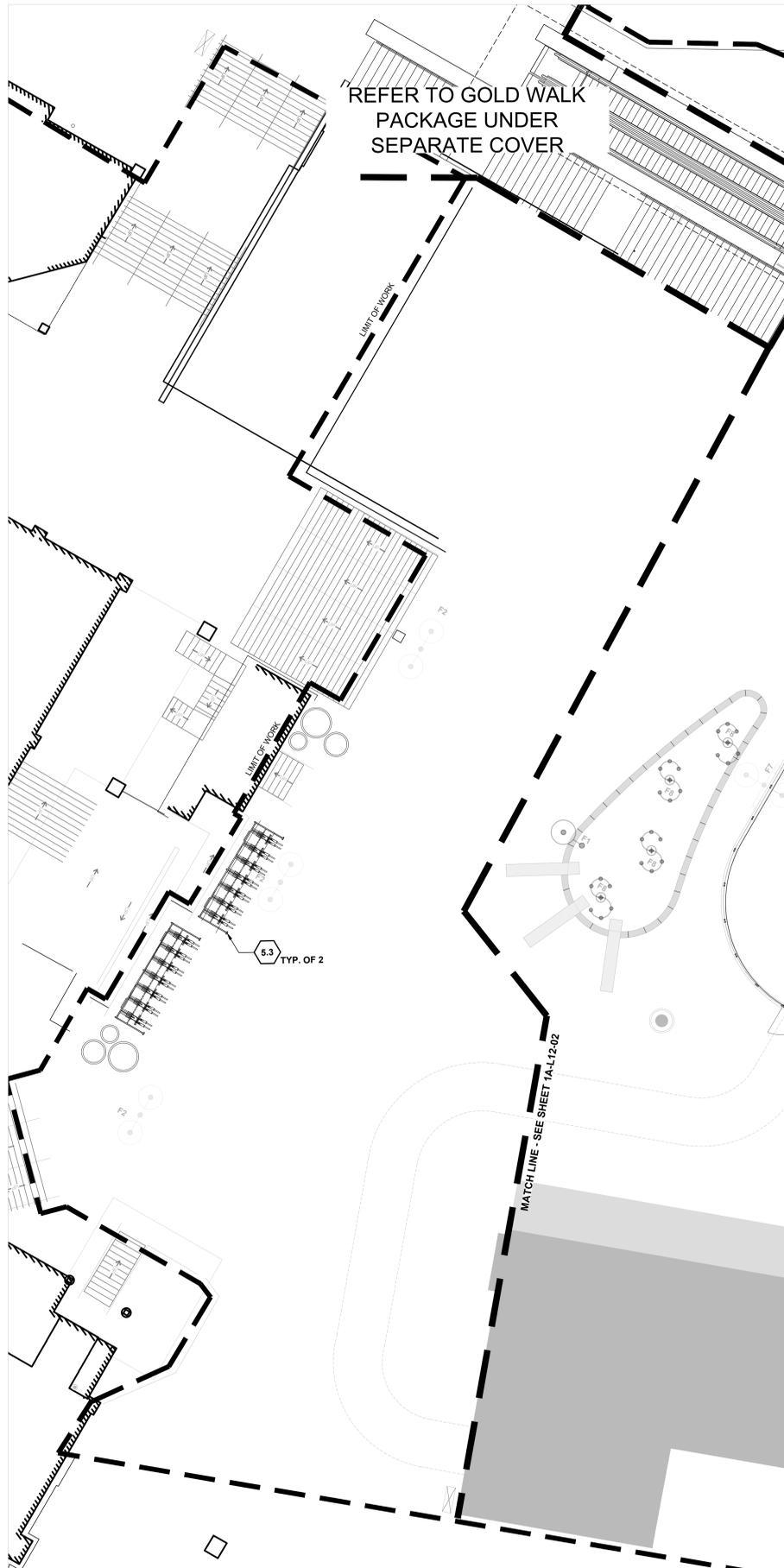
Project Number  
003.7835.000

DW Project Number  
6466

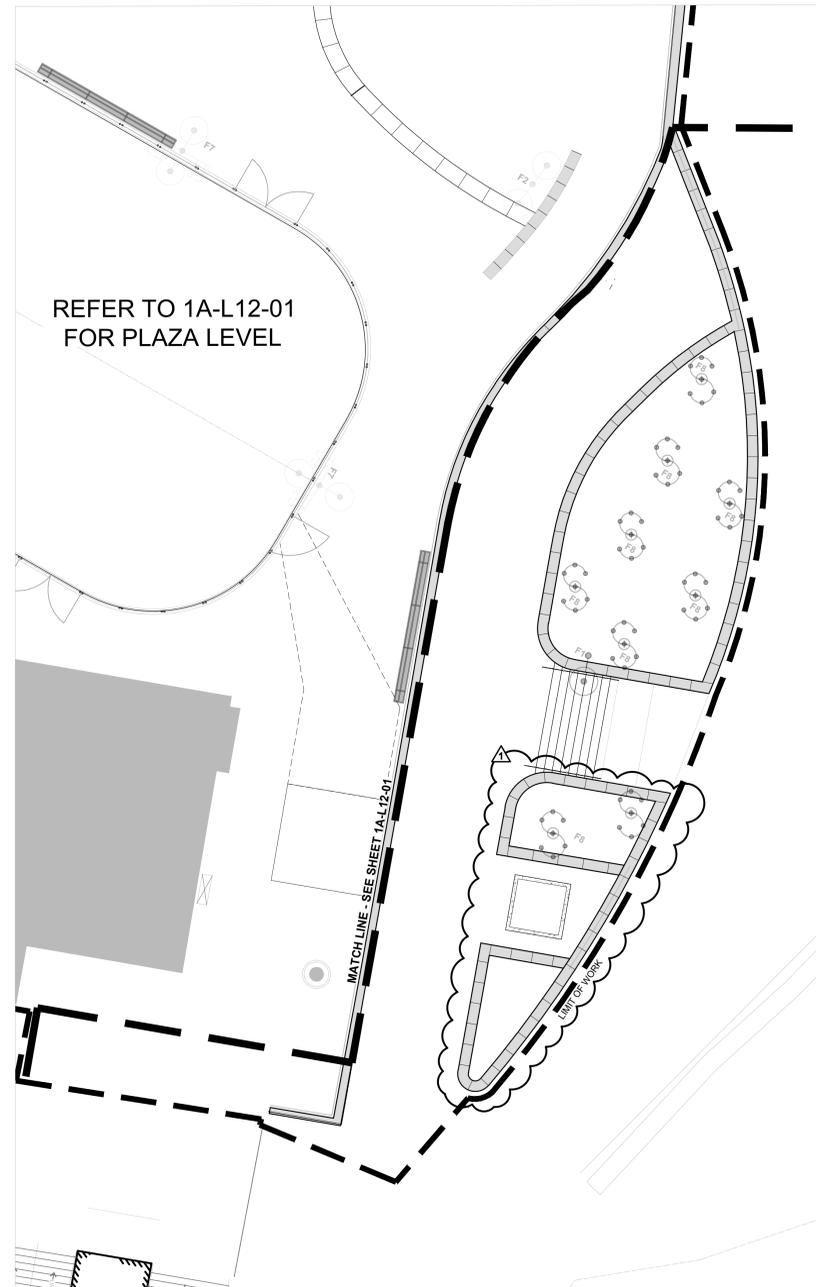
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BP3: PROMENADE - ISSUE FOR BID AND PERMIT

**PLANTING PLAN**

**1A-L8-02**

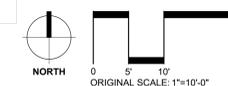


**1 FURNISHINGS PLAN: SLOPESIDE PLAZA WEST**  
1"=10'-0"



**2 FURNISHINGS PLAN: SLOPESIDE PLAZA LOWER**  
1"=10'-0"

NOTE: Refer to General Information Sheet LO-04 for General and Series Specific Notes, Legends, Abbreviations, Lists, Schedules and Mockup details.



**SITE KEYNOTES:**

**5.0 SITE FURNITURE**

- Refer to Site Materials Plan for fixed site furnishings.
- 5.3 Bike Rack
  - 5.4 Table Type 1: moveable, dining height
  - 5.5 Table Type 2: moveable, standing height
  - 5.6 Chair Type 1: moveable, bistro
  - 5.7 Chair Type 2: moveable, bar stool
  - 5.8 Chair Type 3: moveable, Adirondack

DETAIL / SHEET    RELATED DETAILS    SPEC SECTION

By Owner  
By Owner  
By Owner  
By Owner  
By Owner  
By Owner



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Project Name

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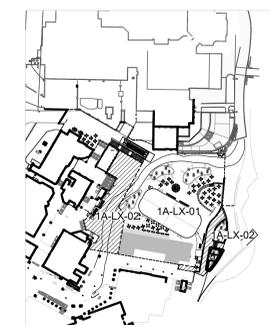
Project Number 003.7835.000    DW Project Number 6466

Description  
BP3: PROMENADE - ISSUE FOR BID AND PERMIT

**SITE FURNISHINGS PLAN**

**1A-L-12-02**

**KEY PLAN**



**MECHANICAL SPECIFICATIONS:**

**GENERAL**

- Follow all applicable Codes and Ordinances. Pay all fees, permits, and obtain the same.
- All equipment, insulation, installation, and controls to meet adopted Energy Code.
- Visit site and ascertain existing conditions prior to bid.
- The information presented on the drawings are diagrammatic and are not to be scaled. The drawings do not necessarily represent all elbows, duct extensions, offsets, hangers, etc. required for a complete working system. Absolute accuracy is not guaranteed, and the contractor shall obtain and verify exact locations, measurements, levels, space requirements, potential conflicts with other trades, etc. The contractor shall satisfactorily adapt his work to the actual conditions of the job.
- As-built scale drawings shall be submitted to Mechanical Engineer at completion showing all piping, duct, and equipment changes.
- Shop drawings shall be submitted on all valves, fixtures, insulation, G.R.D.'s and equipment for response prior to ordering. Clearly note any deviation between submitted items and specified items on the cover sheet of the submittal. Failure to submit may cause items to be rejected and replaced at the contractor's expense. Product equivalency shall be determined by the engineer. If a product submitted as an equivalent is deemed unacceptable to the engineer, the specified product shall be provided at no extra cost to the project. Submittals shall include revised and supplemented control diagrams. The contractor shall be responsible for coordinating clearance, dimensions, electrical and other utility requirements, and connections to other work.
- This Contractor is responsible for verifying all field conditions prior to the purchase of any materials and the commencement of any work and is to notify the Architect of any discrepancies for resolution.
- Provide Owner "Operating Instructions" for all systems and equipment, including manufacturer's maintenance manuals. Include approved equipment submittals, equipment start-up reports, lubrication, filter types and sizes, balance report, starting and stoping procedures, and list service contractor's 24-hour telephone numbers.
- Provide factory authorized start-ups and written start-up reports on all equipment.
- The contractor shall contact the local building department, gas utility, water department, sanitation district and health department prior to starting work.
- Guarantee all labor and equipment for a minimum of one year from the date of acceptance by owner.
- The drawings are diagrammatic and show certain physical relationships which must be established within this Division's work and its interface with other work. Establishing this relationship in the field is the exclusive responsibility of the contractor. This division shall coordinate its work with all divisions of the work and adjust its work as required by the actual conditions of the project. Notify the Architect of any conditions that may affect layout for resolution prior to installation.
- Certain systems require engineering of installation details by contractor. Unless fully detailed in the contract documents, such engineering is the exclusive responsibility of the contractor.
- It is the contractor's responsibility to determine where clearances are limited, and where installation drawings or schematics, "construction drawings", or coordination drawings may be required. The contractor shall prepare all such coordination drawings as part of the base contract. Such drawings may be submitted to the architect/engineer for record and comment (at the contractor's option).
- Examine the contract documents of all trades.
- Coordinate necessary equipment, ductwork, and piping locations so that the final installation is compatible with the materials and equipment of the other trades. Coordinate and adjust all work between trades and existing conditions to accomplish a neat, integrated, and efficient installation.
- As necessary, prepare shop drawings for installation of all new work before installation to verify coordination of work between trades.
- Conceal all work in finished areas.
- Cut and patch to match adjacent areas. No structural member shall be cut or notched without structural engineer's written approval.
- Electrical Coordination
  - Verify the electrical service provided by the electrical contractor before ordering any mechanical equipment requiring electrical connections.
  - Provide high efficiency motors with 1.15 service factor on all equipment, motors shall be capable of operating continuously at 115°F under job site conditions and altitude.
  - Unless noted otherwise, all mechanical equipment shall be provided with MCA switch and starter or VFD compatible with equipment and Building Management System (BMS). Starters and VFDs shall be provided by this Division unless in a motor control center. All disconnects shall be furnished by the Electrical Division. Notify engineer of any discrepancies prior to bid.
  - The electrical power for certain equipment provided under this Division of the work has not been specifically indicated on the electrical drawings and must be provided by field coordinated by the trade requiring such power. It is not permissible to utilize "spare" power from adjacent power circuits to serve any of these loads. All power must come from dedicated circuits.
- Suspend each trade's work separately from the structure. Ductwork shall be held tight to structure except where otherwise shown.
- Install all equipment and materials in accordance with manufacturer's recommendations unless specifically indicated otherwise or where local codes or regulations take precedence.
- Provide manufacturer's recommended service clearance all around all equipment requiring

- same.
- Provide for safe conduct of the work, careful removal and disposition of materials and protection of property which is to remain undisturbed.
- Insulation, all installed insulation shall meet or exceed ASHRAE Standard 90.1, and the adopted version of the IECC. For insulated piping, provide hangers of size to fit outside insulation. Seal all piping which is normally colder than ambient with vapor barrier rated mastic. All insulation materials shall conform to ASTM 84, NFPA 50A and 255, and UL 723 not to exceed ratings of 25 flame spread and 50 smoke developed.
- Fireproof all penetrations of rated floor/wall/ceiling/roof assemblies. Fireproofing and installation to be UL classified and ICB0 approved, suitable for moisture and vibration. Meta caulk by Rectoseal or equal. Install per all manufacturer's recommendations. Submit fire stop schedule by manufacturer.
- Provide access doors for all oil equipment, valves, cleanouts, actuators, and controls which require access for adjustment or servicing, and which are in otherwise inaccessible locations. For equipment located in "accessible locations" such as lay-in ceilings: Locate equipment to provide adequate service clearance for normal maintenance without removing architectural, electrical, or structural elements such as the ceiling support system, electrical fixtures, etc. "normal maintenance" includes but is not limited to: filter changing; greasing of bearings; using P/T ports for pressure or temperature measurements; servicing control valves and servicing control panels.
- Provide nickel-plated floor, wall, and ceiling escutcheons of adjustable type on all pipes passing through walls, partitions and floors after painting is completed.

**MECHANICAL**

- Identify all equipment as to the area served by the equipment.
- All mechanical systems, piping, valves, and equipment shall be purchased and installed per the boiler room specifications.
- Receive, uncrate, assemble, insure, and install in conformance to Manufacturers' recommendations all equipment furnished by the contractor and furnished by the Owner.
- Plaza Insulation:
 

The snowmelt system shall include an insulation layer. The insulation shall have a minimum R-Value of 5.0 at 75°F and a compressive resistance of 25 PSI. The R-value shall include the insulation product and the 6" layer of dry gravel below insulation. The insulation shall be 0.25" thick. A roll or board product is acceptable. This product shall be installed per the manufacturer's instructions. Northwestern Ohio products, Inc. Barrier HL or equivalent.

Where called for in the plans a drainage board layer shall be installed. The drainage board shall be a composite produced from a high compressive strength polystyrene core and a Mirafix 140N nonwoven filter geotextile which is bonded to one side. The composite shall have a thickness of 0.4" and a compressive strength of 18,000 paf. The listed flow rate shall be 21 gpm per foot. TenCate Geosynthetics G100N G-Series drainage composite or equivalent.
- Landscape fabric:
 

Where called for in the plans a landscape fabric shall be installed. The fabric shall be a nonwoven product made of polypropylene fibers formed into a stable network so that the fibers retain their relative position. The fabric shall be inert to biological degradation. TenCate Mirafix 140N or equivalent.
- Piping Materials:
 

Direct Bury Pre-Insulated Piping: Direct bury pre-insulated pipe shall be Insulpep, as supplied by Rehau or approved equal. Carrier pipe shall be: Crosslinked polyethylene (PEX) and shall conform to the requirements of one or more of the following: ASTM F876, ASTM F877, DIN 16892 and/or DIN 16893. PEX carrier pipe shall have a minimum degree of crosslinking of 70% when tested in accordance with ASTM D2765, Method B, and shall be capable of continuous operation at 200°F. The piping shall have an oxygen diffusion barrier, a coextruded barrier layer that limits oxygen diffusion through the PEX carrier pipe to less than 0.32 mg/m<sup>2</sup>/day at 104°F temperature, as defined by DIN 4726, shall be applied to the PEX carrier pipe. The insulation shall completely fill the annular space between the service pipe and jacket and shall be completely bonded to both. Thermal insulation shall be made from closed-cell polyurethane foam. Minimum density to be 3.5 lb/ft<sup>3</sup>, measured in accordance with ASTM D1622. Closed cell structure to have a maximum thermal conductivity of 0.02 BTU-inr-ft<sup>-2</sup>-F, measured in accordance with ASTM C177. The outer protective jacket shall be corrugated seamless polyethylene completely encompassing and protecting the insulation from moisture and damage, designed for H-20 loading at a burial depth of 2-ft minimum. Permanently mark each buried main to identify supply and return piping. The outer casing shall be marked with the following information, repeated no less than every 5 feet (1.5 meters):

  - Manufacturer name or trade name
  - Carrier pipe nominal size and Standard Dimensional Ratio (SDR)
  - Minimum bend radius
  - Temperature and pressure ratings
  - Footage markings

Install each run of piping with a locating wire in the same trench. Test all piping prior to burying. Fittings: Mechanical fittings to be of compression nut or compression-sleeve style, manufactured of metal suitable for the fluid application, in a size suitable for the PEX carrier pipe dimensions. Fittings with Solder-joint Ends: Solder-joint end dimensions shall be in accordance with ASME B16.18, ASME B16.22 or MSS SP-104. Tapered Threaded Ends: Fitting threads shall be right-hand, conforming to ASME B1.20.1, and shall be tapered threads (NPT).

Compression Nut Fittings: Mechanical compression nut fittings to consist of a barbed insert, a compression ring, and a compression nut. Fittings must meet the temperature and pressure performance requirements of the PEX carrier pipe.  
 Compression-Sleeve Fittings: Mechanical compression-sleeve cold-expansion fittings to consist of a metal ribbed insert and a metal compression-sleeve. Fittings must meet the temperature and pressure performance requirements of the PEX carrier pipe.

Snowmelt tubing shall be with an oxygen diffusion barrier. Snow and ice melt system pipe shall be high-density crosslinked polyethylene manufactured using the high-pressure peroxide method of crosslinking (PEXa). Pipe shall conform to ASTM F876, ASTM F877 and CSA B137.5. Pipe shall be rated for continuous operation of 100 psi gauge pressure at 180°F temperature (690 kPa @ 42°C), and 80 psi gauge pressure at 200°F temperature (550 kPa @ 93°C). Pipe shall have a co-extruded oxygen diffusion barrier capable of limiting oxygen diffusion through the pipe to less than 0.10 mg/day at 104°F (40°C) water temperature, in accordance with DIN 4726. The minimum bend radius for cold bending of the pipe shall be not less than five (5) times the outside diameter. Bends with a radius less than this shall require the use of a bending template as supplied by the pipe manufacturer, and/or hot air.

Pipe to have a Flame Spread Index of less than 25, and a Smoke Developed Index of less than 50 when tested in accordance with ASTM E84 (in U.S.) or CANULC S102.2 (in Canada). In any case where the pipe does not conform to these standards, appropriate piping insulation shall be installed in order to meet the standard. Tubing sizes shall be as called out on the plans. All tubing in the snow melted areas shall be installed without fittings after the manifolds. Manifolds to be copper. Supply side manifolds to come with isolation and balancing valves for each loop and connections for 3/4" PEX tubing. Return side manifolds shall come with isolation valves for each loop and connections for 3/4" PEX tubing. Each 2" copper manifold shall have a 2" shutoff valve and a temperature control valve on the supply side and a 2" shutoff valve and a balancing valve on the return side. All tubing, fittings, and manifolds shall be installed per the manufacturer's instructions. All buried copper piping shall be type K. Buried piping shall be fully wrapped for cathodic protection, use Protecto Wrap Tape 200-35 4" wide or equivalent.

Underground and Under Slab Gas Piping  
 Piping - TracPipe PSII Underground piping shall consist of 300 type stainless steel CSST with an integral polyethylene sleeve. The piping system shall be designed to withstand superimposed loads. The sleeve shall have internal vent channels running lengthwise to direct any leakage along the pipe to the fitting.  
 Fittings - TracPipe PSII fittings shall be made of yellow brass and be tested and listed by CSA International for concealed use. Joints shall be a metal-to-metal seal with no gaskets.

Installation - For gas piping under building slabs, requirements for Plumbing, Mechanical and Fuel Gas Codes shall be followed for encasement in non-metallic conduit with venting to the atmosphere. The construction of TracPipe PSII pre-sleeved system shall provide the encasement and venting capabilities required by codes. Joints - Underground fittings are not permitted between the above grade manifold and the termination at the utility box. The piping system shall be marked by the manufacturer with the word "GAS" in black letters every two feet. Do not paint, stencil, or apply unapproved labels to the piping system. Flexible gas piping shall be bonded in accordance with the National Electrical Code NFPA 70 Article 250.104 and the National Gas Code NFPA 54, and any local requirement which may exceed the national codes. If bonding is required, a bonding clamp must be attached to the brass fitting or to a black pipe component in the same electrically continuous gas piping system. The corrugated stainless-steel portion of the gas piping shall not be used as a bonding attachment under any circumstance.

- Balancing:
 

The Mechanical Contractor shall procure the services of an independent testing and balancing firm specializing in this work. The firm must have a Registered Professional Engineer, an AABC Certified Test and Balance Engineer, or a NEBB Certified Testing, Balancing and Adjusting Supervisor, who is an employee or principal of the firm, in charge of the work. All work must be done under the direct supervision of and the results attested by the person listed above. Sequence work to commence after completion of systems and start-up procedures and schedule completion of work before Substantial Completion of Project. Testing and Balancing Contractor shall visit the site and coordinate with Mechanical Contractor to make sure all items such as: thermometer wells, pressure test cocks, access doors, etc., are furnished and installed as required to allow tests and adjustments to be made as described in this Section. The Mechanical Contractor shall provide all such devices required to allow the balancing to be accomplished. Testing and balancing shall not begin until the systems have been completed and are in full working order. Put all equipment into full operation and continue operation of same during each working day of testing and balancing. Preliminary testing, adjusting and balancing requirements shall be ascertained prior to the commencement of work through a review of available plans and specifications for the project. In addition, visual observations at the site during construction shall be made to determine the location of required balancing devices and that they are being installed properly for the need.

Before any balance work is done, the system(s) shall be checked for the following:

  - Equipment is operable and in a safe and normal condition.
  - Proper pump rotation.
  - Excessive equipment vibration.
  - Strainer baskets are clean and in place.
  - Service and balance valves are open.
  - Proper control valve installation and operation.

Proper flow meter and check valve installation. All control valves shall be open at this time. Promptly report defects or deficiencies noted during balance or abnormal conditions in the mechanical system which prevent system balance to the appropriate responsible person. Make special note of any discrepancy between tabulated conditions and specified conditions including, but not limited to, missing items, non-functioning items, items without final connections, etc., and call to the pertinent Contractor's attention. Rebalance and re-tabulate information as required by the Consulting Mechanical Engineer to provide a properly performing building. Beginning of work means acceptance of existing conditions. Adjust and balance all systems within +10% to -5% of design flow rates. Check, adjust and balance all systems to meet the design conditions and tabulate all information on acceptable forms. All systems shall be checked for proper performance during design conditions, both heating and cooling. Recorded data shall represent actual measured or observed condition. Affinity or fan law conversion to obtain readings is not allowable. Permanently mark settings of valves, dampers, and other adjustment devices allowing settings to be restored. Set and lock all memory stops. Leave systems in proper working order.

Hydronic balance: Adjust water systems to provide required or design quantities. Hydronic Systems with Meters. The system shall be balanced using calibrated valves or flow meters to determine flow rates. On completion of the balance, the following information shall be recorded in the report: Flow meter or calibrated valve size and brand, required flow rate and pressure drop, valve settings on meters or valves with a readable scale, flow rate in both full coil flow and full bypass modes. Hydronic Systems without meters (thermal or terminal rated pressure balance). The system shall be balanced proportionally to the terminal ratings. On completion of the balance the following information shall be recorded in the report: Design entering and leaving water temperature/pressure drop, final balance entering and leaving water temperature/pressure drop. Adjust systems to provide specified pressure drops and flows through heat transfer elements prior to thermal testing. Perform balancing by measurement of temperature differential in conjunction with air balancing. Balance system with automatic control valves fully open to heat transfer elements. Control valve bypass loops shall be set with the balancing valve to provide equal flow in either mode. Confirm in writing. Adjust hydronic systems by means of balancing valves or fittings. Do not use service or shut-off valves for balancing.

**MANIFOLD BOXES**

Manifold boxes shall be sized by the contractor to hold the size snowmelt piping manifold Required. The box shall be medium duty rated, ANSISCTE-77, Tier 15, FRP construction with a flush polymer concrete cover. Minimum depth shall be 18" with the actual depth determined by the contractor. The box shall be constructed with fiberglass resin sidewalls and a polymer concrete top. Straight of sloped walls are acceptable. All openings cut into the box shall be smooth and all piping extending through the cut openings shall be protected from damage. Install the box in accordance with the manufacturers instructions for a stable safe installation. OLDCASTLE FRP or equivalent.

**UTILITY ACCESS COVERS**

Covers shall be as manufactured by Undercovers. The cover shall consist of a 316 or 304 Stainless steel tray and frame. Each component shall be manufactured to work together as a unit. The cover shall be reinforced to support a minimum live load of 16,000 LBF per ASHTO M306. Removal of the cover shall be smooth and easy with controlled operation throughout the entire opening and closing. The operation of the cover shall not be affected by temperature. The larger models will have a removable cross beam under and/or between the trays. This cross beam will rest within the frame. Cover shall be fitted with the proper frame and cross beams. The lifting lugs will have a plastic insert or metal plug to seal the surface opening. The mounting hardware shall be Stainless Steel concrete bolts or mushroom spikes. Powers Mushroom spike 6646 and Powers Wedge-bolt, 3/8", 7705N or equivalent. Provide one removable exterior lift tool, as manufactured by the Utility cover manufacturer.

Submit the manufacturer's product data, size and location for each cover. Submit shop drawings including profiles, accessories, location, adjacent construction interface, and dimensions.

Warranty: Provide manufacturer's standard warranty. Materials shall be free of defects in material and workmanship for a period of five years from the date of purchase. Should a part fail to function in normal use within this period, manufacturer shall furnish a new part at no charge. Submit an executed copy of manufacturer's standard warranty.

Date	Description
2021.05.19	BP3 PROMENADE - ISSUE FOR BID AND PERMIT
2021.06.18	BULLETIN 01: TRANSFORMER RELOCATION

**TEMPERATURE CONTROLS:**

The temperature control system shall be a stand-alone system with BacNet interface to tie into other control systems if required. The system shall include the snow/ice detection along with slab temperature sensing as shown on the drawings. A control panel shall provide a point where all the sensors can be read and the three-way control valves on the supply pumps can be modulated. The temperature control contractor shall be responsible for all the components of the control system including, but not limited to, the actuators on the three-way Bellow valves supplied with the pump skid, snow, ice, and temperature sensors, outdoor temperature sensor, pvc control wire conduit, controllers, pipe temperature sensors and wells. Sequence: All temperatures listed in this sequence shall be adjustable by the operator/owner. The snowmelt supply pumps (SMP-1 through SMP-9) shall run whenever the outdoor air temperature is below 42°F. The three-way valve actuator shall slowly modulate the supply water temperature (148F max) to satisfy the slab/surface temperature sensor(s) associated with each pump. When there is no moisture sensed, the slab shall be idled at 32°F. This temperature shall be individually adjustable for each pump/zone. Upon sensing moisture, the system shall increase the slab temperature to 38°F. This temperature shall also be individually adjustable for each pump/zone. This temperature shall be maintained for a period of 2 hours (adj) at which time if no moisture is present the slab/surface temperature shall be allowed to return to the idle setpoint. The pumps shall shut-off whenever the outside temperature rises to 45°F or the slab/surface temperature of the lowest temperature sensed in that zone is 3 degrees above idle setpoint. If one pump/zone is served by more than one snow, ice sensor (SIS) then the sensor with the lowest reading shall control the zone. The system shall be set-up so that any sensor can be assigned to any zone for control. SMP-1 is controlled with SIS #5. SMP-2 is controlled with SIS #4, #2, #1. SMP-3 is controlled with SIS #1. SMP-4 is controlled with SIS #4, #P1. SMP-5 is controlled with SIS #11. SMP-6 is controlled with SIS #6, #7. SMP-7, #8, &9 is controlled from a future group of sensors. The Sensors shall be Tekmar 90 type installed in a type 91 socket. The control wiring shall be in PVC conduit below grade and match the building spec for all conduit inside the buildings. Install a temperature control panel/enclosure. This enclosure will house a fanless industrial host machine running Windows 10 IOT. Install Niagara4 Supervisor software to be the front end/ graphical user interface. Connect to a Distech field controller using BacNet IP. This controller will accomplish the sequence of control.



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MECHANICAL LEGEND								
SYMBOL	ABBREV.	DESCRIPTION	SYMBOL	ABBREV.	DESCRIPTION	SYMBOL	ABBREV.	DESCRIPTION
	CWS	CONDENSER WATER SUPPLY		CWR	CONDENSER WATER RETURN		CS	CHILLED WATER SUPPLY
	CR	CHILLED WATER RETURN		CHS	DUAL TEMPERATURE SUPPLY		CHR	DUAL TEMPERATURE RETURN
	RS	REFRIGERANT SUCTION		RL	REFRIGERANT LIQUID		RDL	REFRIGERANT DISCHARGE
	D	DRAIN		HWS	HEATING WATER SUPPLY		HWR	HEATING WATER RETURN
	HPS	HIGH PRESSURE STEAM		HPSR	HIGH PRESSURE STEAM RETURN		LPS	LOW PRESSURE STEAM
	LPSR	LOW PRESSURE STEAM RETURN		PC	PUMPED CONDENSATE		FOS	FUEL OIL SUPPLY
	FOR	FUEL OIL RETURN		FOV	FUEL OIL VENT		VAC	VACUUM
	AIR	AIR		N	NITROGEN		DI	DEIONIZED WATER
	DIR	DEIONIZED WATER RETURN		F	FIRE		CW	COLD WATER
	HW	HOT WATER		HWC	HOT WATER RECIRCULATE		W	WASTE PIPE
	VENT	VENT PIPE		SAN	SANITARY WASTE		ST	STORM PIPE
	GW	GREASE WASTE		GAS	GAS PIPE		OXY	OXYGEN PIPE
	PIPE UP	PIPE UP		PIPE DOWN	PIPE DOWN		PIPE TEE DOWN	PIPE TEE DOWN
	GATE VALVE	GATE VALVE IN GROUND BOX		GLOBE VALVE	GLOBE VALVE		CHECK VALVE	CHECK VALVE
	AUTO FLOW CONTROL VALVE	AUTO FLOW CONTROL VALVE		PLUG VALVE	PLUG VALVE		BUTTERFLY VALVE	BUTTERFLY VALVE
	STOP & DRAIN VALVE	STOP & DRAIN VALVE		BALL VALVE	BALL VALVE		BALANCING VALVE	BALANCING VALVE
	BALANCE/PLUG IN RISER	BALANCE/PLUG IN RISER		GATE VALVE IN RISER	GATE VALVE IN RISER		TEMP. CONTROL - 2-WAY	TEMP. CONTROL - 2-WAY
	TEMP. CONTROL - 3-WAY	TEMP. CONTROL - 3-WAY		3-WAY VALVE	3-WAY VALVE		PRESSURE REDUCING VALVE	PRESSURE REDUCING VALVE
	SOLENOID VALVE	SOLENOID VALVE		MOTORIZED GATE VALVE	MOTORIZED GATE VALVE		WATER BALANCE VALVE	WATER BALANCE VALVE
	REDUCED PRESSURE BACKFLOW PREVENTER	REDUCED PRESSURE BACKFLOW PREVENTER		GAS COOK	GAS COOK		UNION	UNION
	PIPE REDUCER	PIPE REDUCER		STRAINER	STRAINER		STRAINER W/ BLOWOFF VALVE	STRAINER W/ BLOWOFF VALVE
	FLOOR DRAIN	FLOOR DRAIN		EQUIPMENT ROOM DRAIN	EQUIPMENT ROOM DRAIN		FLOOR SINK - HALF GRATE	FLOOR SINK - HALF GRATE
	FLOOR SINK - 1/4 GRATE	FLOOR SINK - 1/4 GRATE		DRAIN ABOVE	DRAIN ABOVE		ROOF DRAIN	ROOF DRAIN
	ROOF DRAIN - OVERFLOW	ROOF DRAIN - OVERFLOW		DOWNSPOUT NOZZLE	DOWNSPOUT NOZZLE		CLEANOUT - VERTICAL	CLEANOUT - VERTICAL
	CLEANOUT - HORIZONTAL	CLEANOUT - HORIZONTAL		PIPE CAP	PIPE CAP		BREAK - MISC.	BREAK - MISC.
	VENT THRU ROOF	VENT THRU ROOF		W H	WALL HYDRANT		H B	HOSE BIBB
	PUMP	PUMP		EXISTING ITEM LINE WEIGHT	EXISTING ITEM LINE WEIGHT		DEMO ITEM LINE WEIGHT	DEMO ITEM LINE WEIGHT
	NEW ITEM LINE WEIGHTS	NEW ITEM LINE WEIGHTS		PRESSURE/TEMP. RELIEF	PRESSURE/TEMP. RELIEF		AIR VENT	AIR VENT
	PIPE GUIDE (SLEEVE)	PIPE GUIDE (SLEEVE)		PIPE EXPANSION JOINT	PIPE EXPANSION JOINT		PIPE ANCHOR	PIPE ANCHOR
	SMOKE DETECTOR	SMOKE DETECTOR		BOILER DRAIN VALVE	BOILER DRAIN VALVE		DIFFUSER	DIFFUSER
	BOILER DRAIN VALVE	BOILER DRAIN VALVE		THROW BLOCKING	THROW BLOCKING		NECK SIZE	NECK SIZE
	SQ. FACE SIZE	SQ. FACE SIZE		DIFFUSER I.D.	DIFFUSER I.D.		SEE DIFFUSER SCHEDULE	SEE DIFFUSER SCHEDULE

NOTE: NOT ALL SYMBOLS ON THIS LEGEND ARE NECESSARILY USED ON THIS PROJECT.

2020-1A-M1-01-PRINC-COVER-SHEET RES 06-18-21 09:34

**MECHANICAL SPECIFICATION**

1A-M1-01

FOR PUMPS AND OTHER SCHEDULES  
SEE SHEET 1B-M1-02.

MECHANICAL LEGEND								
SYMBOL	ABBREV.	DESCRIPTION	SYMBOL	ABBREV.	DESCRIPTION	SYMBOL	ABBREV.	DESCRIPTION
	CWS	CONDENSER WATER SUPPLY			BALANCE/PLUG IN RISER GATE VALVE IN RISER			VACUUM BREAKER
	CWR	CONDENSER WATER RETURN			CHILLED WATER SUPPLY			THERMOMETER
	CS	CHILLED WATER RETURN			DUAL TEMPERATURE SUPPLY			PRESSURE GAUGE
	CHR	DUAL TEMPERATURE RETURN			REFRIGERANT SUCTION			FLOW SENSOR
	RL	REFRIGERANT LIQUID			REFRIGERANT DISCHARGE			DUCT SIZE INDICATING SHEET
	D	DRAIN			MOTORIZED GATE VALVE			WATER BALANCE VALVE
	HWS	HEATING WATER SUPPLY			VENTURI			DUCT ELBOW W/ TURNING VANES
	HWR	HEATING WATER RETURN			REDUCED PRESSURE BACKFLOW PREVENTER			DUCT TEE W/ TURNING VANES
	HPS	HIGH PRESSURE STEAM			GAS COCK			MANUAL DAMPER W/ LOCKING QUADRANT
	HPSR	HIGH PRESSURE STEAM RETURN			UNION			MOTORIZED DAMPER
	LPS	LOW PRESSURE STEAM			PIPE REDUCER			STRAINER
	LPSR	LOW PRESSURE STEAM RETURN			STRAINER W/ BLOWOFF VALVE			FLOOR DRAIN
	PC	PUMPED CONDENSATE			EQUIPMENT ROOM DRAIN			FLOOR SINK - HALF GRATE
	FOS	FUEL OIL SUPPLY			FLOOR SINK - 1/4 GRATE			DRAIN ABOVE
	FOR	FUEL OIL RETURN			ROOF DRAIN			ROOF DRAIN - OVERFLOW
	FOV	FUEL OIL VENT			DOWNSPOUT NOZZLE			CLEANOUT - VERTICAL
	VAC	VACUUM			SANITARY WASTE			CLEANOUT - HORIZONTAL
	AIR	AIR			BREAK - MISC.			PIPE CAP
	N	NITROGEN			VENT THRU ROOF			WALL HYDRANT
	DI	DEIONIZED WATER			HOSE BIBB			PUMP
	DIR	DEIONIZED WATER RETURN			PRESSURE/TEMP. RELIEF			AIR VENT
	FIRE	FIRE			P-T TAP			PLUG VALVE
	CW	COLD WATER			BUTTERFLY VALVE			STOP & DRAIN VALVE
	HW	HOT WATER RECIRCULATE			BALL VALVE			BALANCING VALVE
	W	WASTE PIPE						
	V	VENT PIPE						
	SAN	SANITARY WASTE						
	ST	STORM PIPE						
	GW	GREASE WASTE						
	G	GAS PIPE						
	OXY	OXYGEN PIPE						
		PIPE UP						
		PIPE DOWN						
		PIPE TEE DOWN						
		GATE VALVE						
		GLOBE VALVE						
		CHECK VALVE						
		AUTO FLOW CONTROL VALVE						
		PLUG VALVE						
		BUTTERFLY VALVE						
		STOP & DRAIN VALVE						
		BALL VALVE						
		BALANCING VALVE						
		DIFFUSER FLEX			THROW BLOCKING			RIGID DUCT
		FLEX			NECK SIZE			SO. FACE SIZE
		RIGID DUCT			DIFFUSER I.D.			SEE DIFFUSER SCHEDULE
NOTE: NOT ALL SYMBOLS ON THIS LEGEND ARE NECESSARILY USED ON THIS PROJECT.								

MANIFOLD SCHEDULE								
MANIFOLD BOX	LOCATION	TYPE	ZONE	AREA (SQFT)	GPM FLOW	BOX FLOW	TUBING	OC DISTANCE
1	SKIER PLAZA	BOX	1	1578	23.7	23.7	3/4"	8"
2	SKIER PLAZA	BOX	2A	1865	28	56	3/4"	8"
2	SKIER PLAZA	BOX	2B	1867	28		3/4"	8"
3	SKIER PLAZA	BENCH	3	2060	30.9	30.9	3/4"	8"
4	SKIER PLAZA	BENCH	4A	1100	16.5	39	3/4"	8"
4	SKIER PLAZA	BENCH	4B	1500	22.5		3/4"	8"
5	SKIER PLAZA	BENCH	5A	1505	22.6	42.1	3/4"	8"
5	SKIER PLAZA	BENCH	5B	1300	19.5		3/4"	8"
6	SKIER PLAZA	BENCH	6A	1310	19.7	41.8	3/4"	8"
6	SKIER PLAZA	BENCH	6B	1470	22.1		3/4"	8"
7	SKIER PLAZA	BENCH	7A	1345	20.2	41.2	3/4"	8"
7	SKIER PLAZA	BENCH	7B	1397	21		3/4"	8"
8	SKIER PLAZA	BENCH	8A	1073	16.1	45.2	3/4"	8"
8	SKIER PLAZA	BENCH	8B	1939	29.1		3/4"	8"
9	SKIER PLAZA	BENCH	9A	1260	18.9	44.5	3/4"	8"
9	SKIER PLAZA	BENCH	9B	1705	25.6		3/4"	8"
10	SKIER PLAZA	BENCH	10A	2116	31.7	59.7	3/4"	8"
10	SKIER PLAZA	BENCH	10B	1869	28		3/4"	8"
11	SKIER PLAZA	BENCH	11A	1604	24.1	54.5	3/4"	8"
11	SKIER PLAZA	BENCH	11B	2025	30.4		3/4"	8"
12	SOUTHERN PROM	BOX	12	1990	29.9	29.9	3/4"	8"
13	LOWER PLAZA	BOX	13	1649	24.7	24.7	3/4"	8"
14	LOWER PLAZA	BOX	14	1415	21.3	21.3	3/4"	8"
15	GOLD WALK	BOX	15	1823	27.3	27.3	3/4"	8"
16	GOLD WALK	WALL MOUNT	16	910	13.7	13.7	3/4"	8"
17	GOLD WALK	BOX	17	1592	23.9	23.9	3/4"	8"
18	GOLD WALK	BOX	18	1028	15.4	15.4	3/4"	8"
19	GOLD WALK	BOX	19	1882	28.2	28.2	3/4"	8"
2C	EXISTING PROMENADE	BOX 8 CKTS	2C	FIELD VERIFY	20.8	20.8	5/8"	FIELD VERIFY EXISTING
2F	EXISTING PROMENADE	BOX 6 CKTS	2F	FIELD VERIFY	15.6	15.6	5/8"	FIELD VERIFY EXISTING
5G	EXISTING PROMENADE	BOX 8 CKTS	5G	FIELD VERIFY	20.8	20.8	5/8"	FIELD VERIFY EXISTING
5H	EXISTING PROMENADE	BOX 12 CKTS	5H	FIELD VERIFY	31.2	31.2	5/8"	FIELD VERIFY EXISTING
5I	EXISTING PROMENADE	BOX 10 CKTS	5I	FIELD VERIFY	26	26	5/8"	FIELD VERIFY EXISTING
5K	EXISTING PROMENADE	BOX 9 CKTS	5K	FIELD VERIFY	1620	27	3/4" NEW	8" NEW TUBING
	EXISTING TIMB. + TORCH	BOX 6 CKTS	TT1	-	15.6	15.6	5/8"	FIELD VERIFY EXISTING
	EXISTING TIMB. + TORCH	BOX 8 CKTS	TT2	-	20.8	20.8	5/8"	FIELD VERIFY EXISTING
	EXISTING TIMB. + TORCH	BOX 10 CKTS	TT3	-	26	26	5/8"	FIELD VERIFY EXISTING
	EXISTING TIMB. + TORCH	BOX 7 CKTS	TT4	-	18.2	18.2	5/8"	FIELD VERIFY EXISTING

Date	Description
2021.05.19	BP3 PROMENADE - ISSUE FOR BID AND PERMIT
2021.06.18	BULLETIN 01: TRANSFORMER RELOCATION



Project Name: 6-18-2021  
**BP3 PROMENADE PERMIT AND CONSTRUCTION**  
 Project Number: DW Project Number  
**003.7835.000 6466**  
 Description:

**MECHANICAL SCHEDULES**

**1A-M1-02**



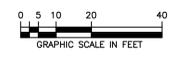
**WORK NOTES:**

- 1 CONNECT NEW BURIED INSULATED PEX PIPING TO THE EXISTING PIPING SERVING THE TIMBER AND TORCH PATIO AND AREAS NORTH. FIELD VERIFY SIZE AND LOCATION. REBALANCE THE FLOWS TO EACH OF THE EXISTING MANIFOLDS. CONNECT TO WIRING AND CONDUIT FROM SIS T1 AT THIS LOCATION.
- 2 CONNECT NEW BURIED INSULATED PEX PIPING TO THE EXISTING PIPING SERVING THE NORTHERN PROMENADE AREA. FIELD VERIFY SIZE AND LOCATION. REBALANCE THE FLOWS TO EACH OF THE EXISTING MANIFOLDS. CONNECT TO WIRING AND CONDUIT FROM SIS P1 AT THIS LOCATION.
- 3 CONNECT NEW BURIED INSULATED PEX PIPING TO THE EXISTING PIPING SERVING THE SOUTHERN PROMENADE AREA. FIELD VERIFY SIZE AND LOCATION. BALANCE THE FLOWS TO EACH OF THE NEW AND EXISTING MANIFOLDS.
- 4 BENCH TYPE MANIFOLD LOCATION. THIS BENCH HAS TWO BUILT-IN MANIFOLDS EACH SERVING ONE ZONE. THE MANIFOLD NUMBER IS IN THE BOX.
- 5 DOUBLE MANIFOLD BOX. THIS BOX CONTAINS TWO MANIFOLDS EACH SERVING ONE ZONE. PROVIDE A WUNDERCOVER ON EACH MANIFOLD BOX BURIED IN THE PLAZA.
- 6 THIS AREA IS TO BE SERVED FROM A FUTURE MANIFOLD IN THE F+B BUILDING. DO NOT INSTALL THE TUBING.
- 7 INSULATED PEX PIPING EXTING THE BUILDING BELOW THE STAIRS. INSULPEX BY REHAU. THE SIZE DESIGNATES THE SIZE OF THE CARRIER PIPE. INSTALL PER THE MFG. INSTRUCTIONS IN THE TRENCH SURROUNDING BY SAND. COORDINATE LOCATION WITH EXISTING UTILITIES.
- 8 THE FOOTPRINT OF THE F+B BUILDING AND THE ICE RINK SHALL NOT HAVE A SNOWMELT SYSTEM.
- 9 CAP EXISTING BURIED INSULATED PEX PIPING THAT WAS SERVING THE SOUTHERN PROMENADE AREA. FIELD VERIFY SIZE AND LOCATION.
- 10 PENETRATE INTO THE BELOW GRADE PROMENADE BUILDING. SEE DETAILS ON SHEET 1A-M3-01. PIPING IN THE BUILDING TO BE INSTALLED BY THE SNOWMELT CONTRACTOR. COORDINATE EXACT ROUTE WITH THE PROMENADE BUILDING PLANS AND CONTRACTORS INVOLVED IN THE BUILDING.
- 11 CONNECT PIPING ROUTED THROUGH THE PROMENADE BUILDING TO BELOW GRADE INSULPEX TO SERVE MANIFOLDS 12, 13, AND 14. SEE WALL PENETRATION DETAILS ON SHEET 1A-M3-01.
- 12 EXISTING PIPING TO SERVE THE NORTHERN PROMENADE AREA.
- 13 SEE WUNDERCOVER PLANS FOR INFORMATION IN THIS AREA.
- 14 SEE DETAIL K FOR INSULATION IN THESE AREAS.
- 15 NON PIPING FOR FUTURE MANIFOLDS IN THE F+B BUILDING. CAP FOR FUTURE.
- 16 MECHANICAL EQUIPMENT PAD. SNOWMELT TUBING IS NOT REQUIRED IN THIS AREA.
- 17 EXISTING SNOWMELT MANIFOLD TO REMAIN. SEE MANIFOLD SCHEDULE FOR REBALANCING.
- 18 ZONE "K" SERVED FROM EXISTING MANIFOLD "K" WITH NEW 3/4" TUBING. SEE MANIFOLD SCHEDULE AND DETAIL "K" ON SHEET 1A-M3-01.
- 19 ALL MANIFOLD BOXES UNDER THE STAIRS SHALL HAVE A WUNDERCOVER. SEE DETAILS.
- 20 CAP FOR FUTURE CONNECTION.
- 21 SNOW, ICE AND SLAB TEMPERATURE SENSOR. EXTEND WIRE IN THE CONDUIT BACK TO CONTROLLER IN THE BOILER ROOM.
- 22 EXISTING SNOW, ICE AND SLAB TEMPERATURE SENSOR. LOCATE CONTROL WIRE CONDUIT. REPLACE UNIT AND EXTEND CONDUIT AND NEW WIRING BACK TO THE CONTROLLER.
- 23 LAYOUT SNOWMELT PIPING IN THE CAST IN PLACE CONCRETE SEATING STAIR. 2" BELOW THE SURFACE, 2" FROM THE NOSE AND 8" ON CENTER. A TOTAL OF 4 ROWS OF TUBING SHOULD BE USED IN EACH SEAT.
- 24 FOR INSULATION ON STAGE. SEE DETAIL "K" (SIMILAR) ON SHEET 1A-M3-01.

**MANIFOLD BOX SCHEDULE**

[Symbol]	SINGLE MANIFOLD BOX
[Symbol]	DOUBLE MANIFOLD BOX
[Symbol]	BENCH TYPE DOUBLE MANIFOLD BOX
[Symbol]	MANIFOLD BOX NUMBER
[Symbol]	ZONE DESIGNATION

**1 MECHANICAL PROMENADE SITE PLAN**  
SCALE: 1" = 20'-0"



Date	Description
2021.05.19	BP3 PROMENADE - ISSUE FOR BID AND PERMIT
2021.06.18	BULLETIN 01: TRANSFORMER RELOCATION



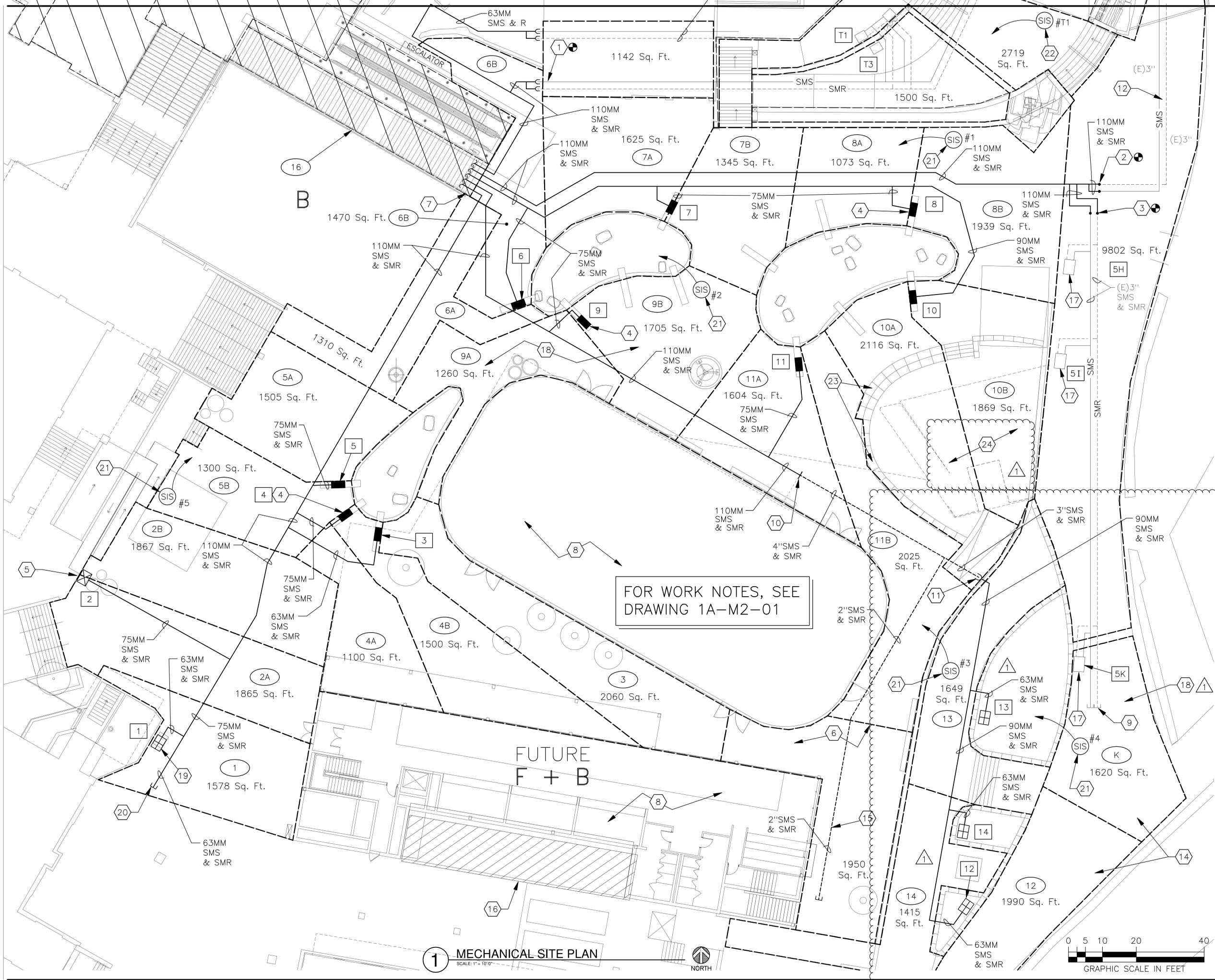
Project Name  
**BP3 PROMENADE PERMIT AND CONSTRUCTION**

Project Number  
**003.7835.000**

DW Project Number  
**6466**

Description

2021-11-14 10:45:01 - P:\M2-01 - MECHANICAL - SITE PLAN - 1A-M2-01 - 10/28/21



FOR WORK NOTES, SEE  
DRAWING 1A-M2-01

**1 MECHANICAL SITE PLAN**  
SCALE: 1" = 10'-0"



Date	Description
2021.05.19	BP3 PROMENADE - ISSUE FOR BID AND PERMIT
2021.06.18	BULLETIN 01: TRANSFORMER RELOCATION

Seal / Signature

Project Name  
**BP3 PROMENADE PERMIT AND CONSTRUCTION**

Project Number  
003.7835.000

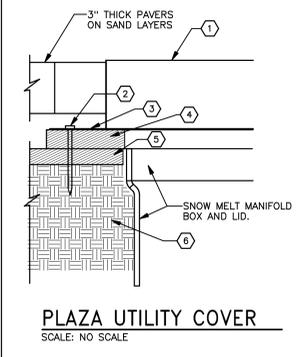
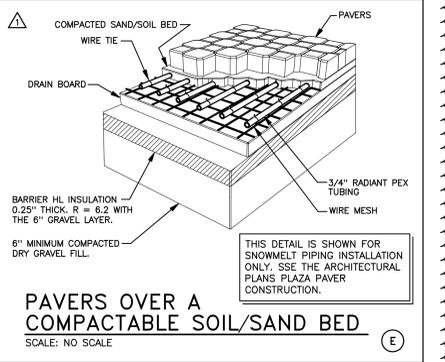
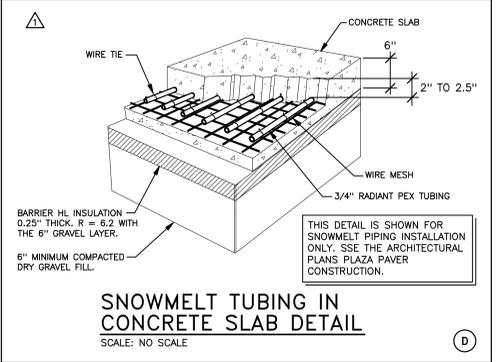
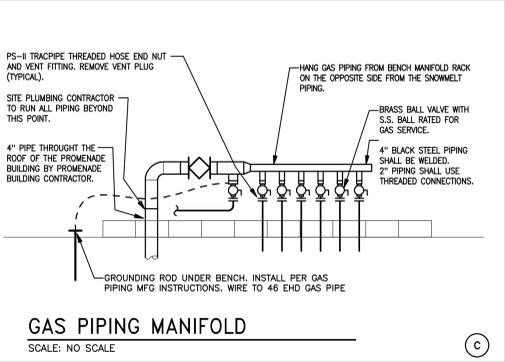
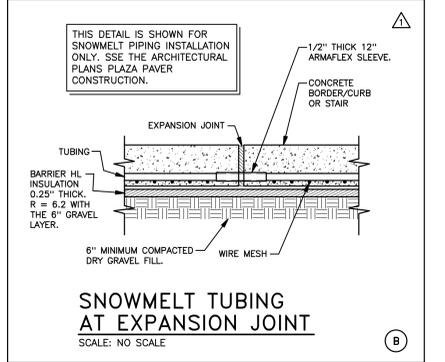
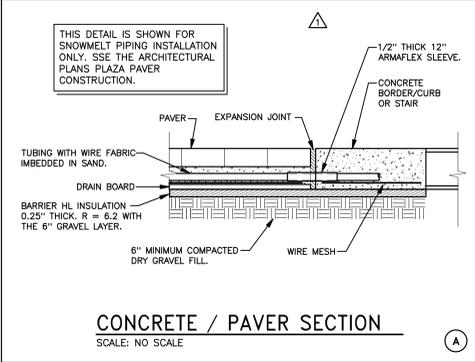
DW Project Number  
6466

Description

**ENLARGED MECHANICAL SITE PLAN 1A-M2-02**

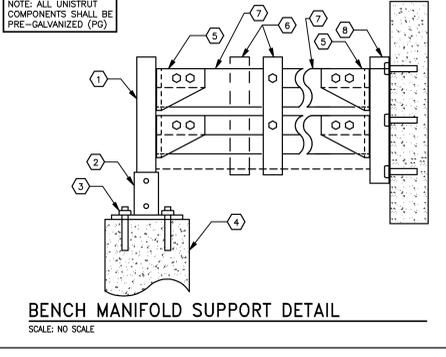
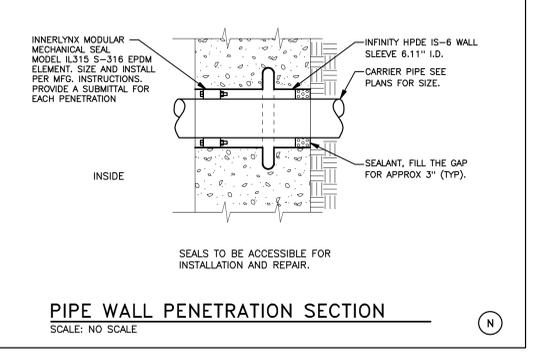
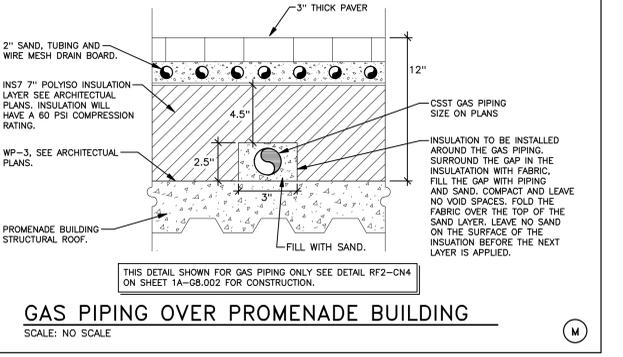
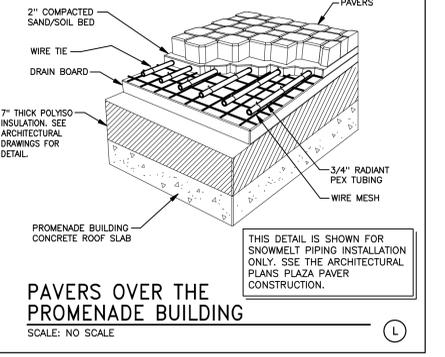
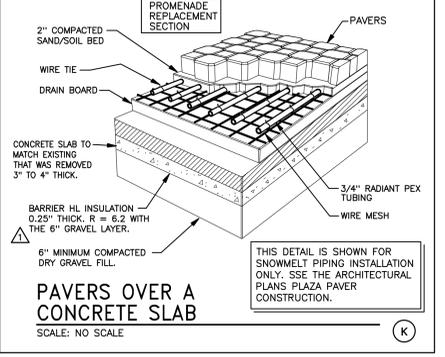
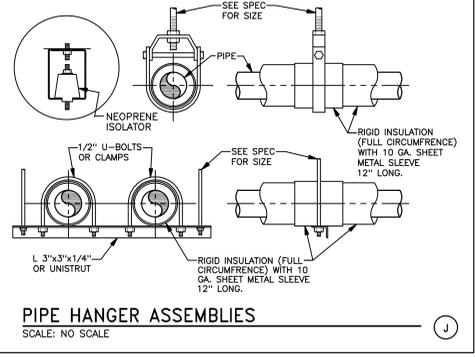
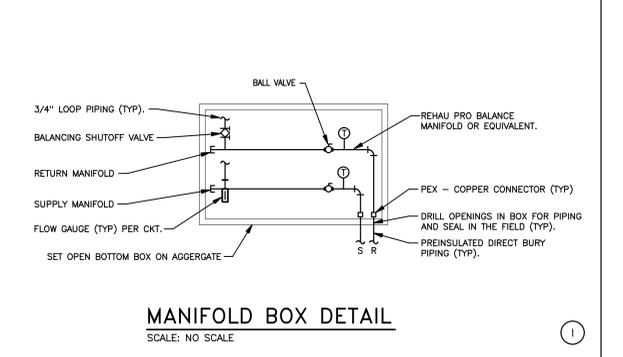
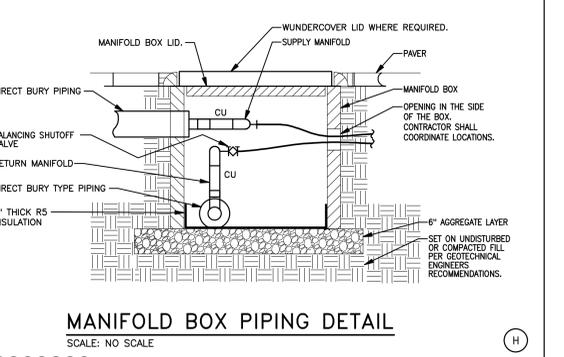
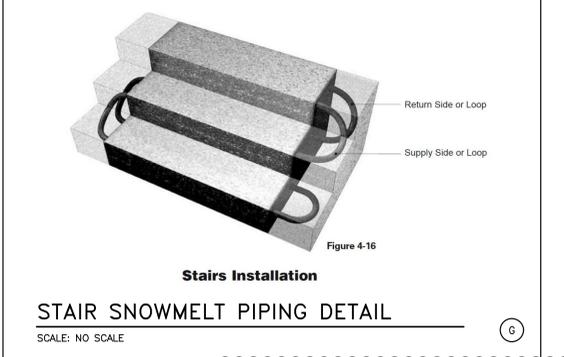
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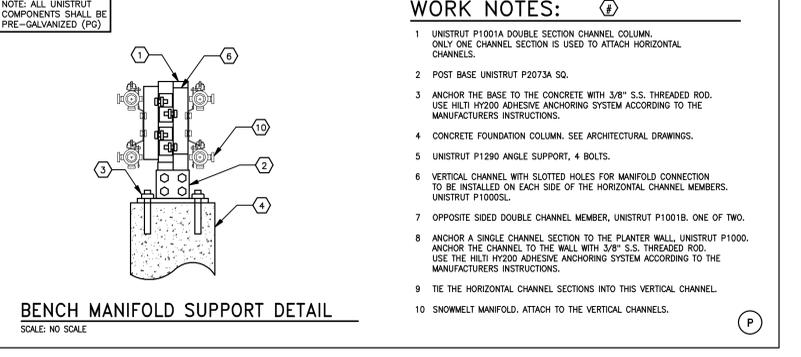
**WORK NOTES: THIS DETAIL**

- UTILITY COVER, WITH 4" TRAY LOADED WITH A 1" LAYER OF SAND AND 3" PAVERS, INSTALL COVER PER MANUFACTURERS INSTRUCTIONS. COORDINATE THE PAVER LAYOUT PATTERN WITH THE ARCHITECT.
- SPIKE THE FRAME INTO PLACE TO HOLD THE UNIT UNTIL THE INSTALLATION IS COMPLETE. PREDRILL THE HOLES FOR THE SPIKES, THE SAME DIAMETER AS THE SPIKES, THROUGH THE INSULATION TO PREVENT CRACKING THE INSULATION.
- 1" 100 PSI COMPRESSION RATED TYPE INSULATION INSTALLED AS A LEVELING STRIP. ALL PORTIONS OF THE FRAME REQUIRING SUPPORT SHALL SET SECURELY ON THE INSULATION.
- TRAY FLANGE.
- INSULATION. SEE ARCHITECTURAL PLANS FOR PLAZA CONSTRUCTION DETAILS. THE ENTIRE COVER TO BE INSTALLED ON FIRMLY COMPACTED SOILS TO PREVENT ANY MOVEMENT.
- 6" MINIMUM COMPACTED AGGREGATE PAVES SETTING ON SUBGRADE SOILS. SEE ARCHITECTURAL PLANS FOR PLAZA CONSTRUCTION DETAILS.



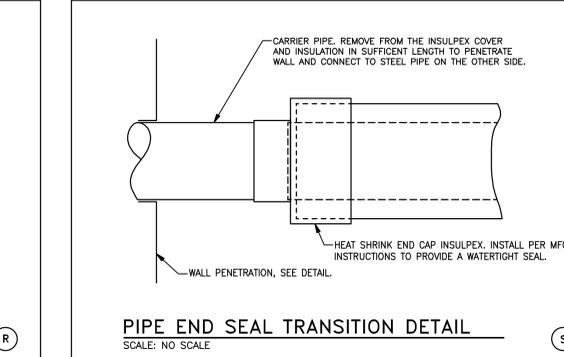
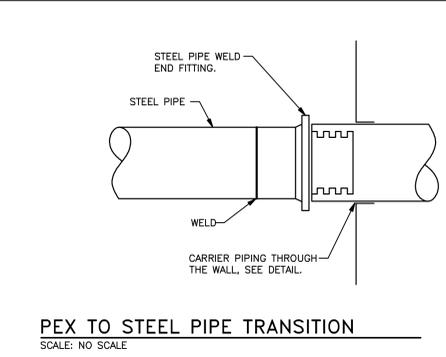
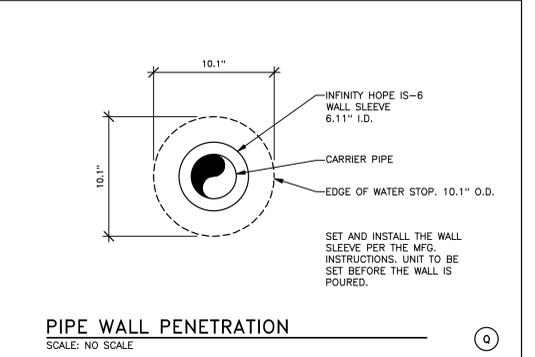
**WORK NOTES: THIS DETAIL**

- UNISTRUT P1001A DOUBLE SECTION CHANNEL COLUMN. ONLY ONE CHANNEL SECTION IS USED TO ATTACH HORIZONTAL CHANNELS.
- POST BASE UNISTRUT P2073A SQ.
- ANCHOR THE BASE TO THE CONCRETE WITH 3/8" S.S. THREADED ROD. USE HILTI HY200 ADHESIVE ANCHORING SYSTEM ACCORDING TO THE MANUFACTURERS INSTRUCTIONS.
- CONCRETE FOUNDATION COLUMN. SEE ARCHITECTURAL DRAWINGS.
- UNISTRUT P1290 ANGLE SUPPORT, 4 BOLTS.
- VERTICAL CHANNEL WITH SLOTTED HOLES FOR MANIFOLD CONNECTION TO BE INSTALLED ON EACH SIDE OF THE HORIZONTAL CHANNEL MEMBERS. UNISTRUT P1000SL.
- OPPOSITE SIDED DOUBLE CHANNEL MEMBER, UNISTRUT P1001B, ONE OF TWO.
- ANCHOR A SINGLE CHANNEL SECTION TO THE PLANTER WALL. UNISTRUT P1000. ANCHOR THE CHANNEL TO THE WALL WITH 3/8" S.S. THREADED ROD. USE THE HILTI HY200 ADHESIVE ANCHORING SYSTEM ACCORDING TO THE MANUFACTURERS INSTRUCTIONS.
- TIE THE HORIZONTAL CHANNEL SECTIONS INTO THIS VERTICAL CHANNEL.
- SNOWMELT MANIFOLD. ATTACH TO THE VERTICAL CHANNELS.



**WORK NOTES: THIS DETAIL**

- UNISTRUT P1001A DOUBLE SECTION CHANNEL COLUMN. ONLY ONE CHANNEL SECTION IS USED TO ATTACH HORIZONTAL CHANNELS.
- POST BASE UNISTRUT P2073A SQ.
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- TIE THE HORIZONTAL CHANNEL SECTIONS INTO THIS VERTICAL CHANNEL.
- SNOWMELT MANIFOLD. ATTACH TO THE VERTICAL CHANNELS.



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Tel 303.870.5170

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT
2021.06.18	BULLETIN 01: TRANSFORMER RELOCATION

Seal / Signature

6-18-2021  
Project Name  
**BP3 PROMENADE PERMIT AND CONSTRUCTION**  
Project Number  
003.7835.000  
DW Project Number  
6466  
Description

**MECHANICAL DETAILS**  
1A-M3-01  
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Date	Description
2021.05.19	BP3 GOLDWALK - ISSUE FOR BID AND PERMIT
2021.06.18	BULLETIN 01: TRANSFORMER RELOCATION

MECHANICAL LEGEND					
SYMBOL	ABBREV.	DESCRIPTION	SYMBOL	ABBREV.	DESCRIPTION
	CWS	CONDENSER WATER SUPPLY			BALANCE/PLUG IN RISER
	CWR	CONDENSER WATER RETURN			GATE VALVE IN RISER
	CS	CHILLED WATER SUPPLY			TEMP. CONTROL - 2-WAY
	CR	CHILLED WATER RETURN			TEMP. CONTROL - 3-WAY
	CHS	DUAL TEMPERATURE SUPPLY			PRESSURE REDUCING VALVE
	CHR	DUAL TEMPERATURE RETURN			SOLENOID VALVE
	RS	REFRIGERANT SUCTION			MOTORIZED GATE VALVE
	RL	REFRIGERANT LIQUID			WAFAER BALANCE VALVE
	RDL	REFRIGERANT DISCHARGE			VENTURI
	D	DRAIN			REDUCED PRESSURE BACKFLOW PREVENTER
	HWS	HEATING WATER SUPPLY			GAS COCK
	HWR	HEATING WATER RETURN			PIPE REDUCER
	HPS	HIGH PRESSURE STEAM			STRAINER
	HPSR	HIGH PRESSURE STEAM RETURN			STRAINER W/ BLOWOFF VALVE
	LPS	LOW PRESSURE STEAM		F.D.	FLOOR DRAIN
	LPSR	LOW PRESSURE STEAM RETURN			EQUIPMENT ROOM DRAIN
	PC	PUMPED CONDENSATE		F.S.	FLOOR SINK - 1/4 GRATE
	FOS	FUEL OIL SUPPLY			DRAIN ABOVE
	FOR	FUEL OIL RETURN		R.D.	ROOF DRAIN
	FOV	FUEL OIL VENT		O.R.D.	ROOF DRAIN - OVERFLOW
	VAC	VACUUM			DOWNSPOUT NOZZLE
	AIR	AIR		CO	CLEANOUT - VERTICAL
	N	NITROGEN		CO	CLEANOUT - HORIZONTAL
	DI	DEIONIZED WATER		BRK	PIPE CAP
	DIR	DEIONIZED WATER RETURN			BREAK - MISC.
	FIRE	FIRE		VTR	VENT THRU ROOF
	CW	COLD WATER		W H	WALL HYDRANT
	HW	HOT WATER		H B	HOSE BIBB
	HWC	HOT WATER RECIRCULATE		P#	PUMP
	W	WASTE PIPE			PRESSURE/TEMP. RELIEF
	V	VENT PIPE			AIR VENT
	SAN	SANITARY WASTE			P-T TAP
	ST	STORM PIPE			PIPE GUIDE (SLEEVE)
	GW	GREASE WASTE			PIPE EXPANSION JOINT
	GAS	GAS PIPE			PIPE ANCHOR
	OXY	OXYGEN PIPE			SMOKE DETECTOR
		PIPE UP			BOILER DRAIN VALVE
		PIPE DOWN			
		GATE VALVE			
		GLOBE VALVE			
		CHECK VALVE			
		AUTO FLOW CONTROL VALVE			
		PLUG VALVE			
		BUTTERFLY VALVE			
		STOP & DRAIN VALVE			
		BALL VALVE			
		BALANCING VALVE			

MANIFOLD SCHEDULE								
MANIFOLD BOX	LOCATION	TYPE	ZONE	AREA (SQFT)	GPM FLOW	BOX FLOW	TUBING	OC DISTANCE
1	SKIER PLAZA	BOX	1	1578	23.7	23.7	3/4"	8"
2	SKIER PLAZA	BOX	2A	1865	28	56	3/4"	8"
2	SKIER PLAZA	BOX	2B	1867	28		3/4"	8"
3	SKIER PLAZA	BENCH	3	2060	30.9	30.9	3/4"	8"
4	SKIER PLAZA	BENCH	4A	1100	16.5	39	3/4"	8"
4	SKIER PLAZA	BENCH	4B	1500	22.5		3/4"	8"
5	SKIER PLAZA	BENCH	5A	1505	22.6	42.1	3/4"	8"
5	SKIER PLAZA	BENCH	5B	1300	19.5		3/4"	8"
6	SKIER PLAZA	BENCH	6A	1310	19.7	41.8	3/4"	8"
6	SKIER PLAZA	BENCH	6B	1470	22.1		3/4"	8"
7	SKIER PLAZA	BENCH	7A	1345	20.2	41.2	3/4"	8"
7	SKIER PLAZA	BENCH	7B	1397	21		3/4"	8"
8	SKIER PLAZA	BENCH	8A	1073	16.1	45.2	3/4"	8"
8	SKIER PLAZA	BENCH	8B	1939	29.1		3/4"	8"
9	SKIER PLAZA	BENCH	9A	1260	18.9	44.5	3/4"	8"
9	SKIER PLAZA	BENCH	9B	1705	25.6		3/4"	8"
10	SKIER PLAZA	BENCH	10A	2116	31.7	59.7	3/4"	8"
10	SKIER PLAZA	BENCH	10B	1869	28		3/4"	8"
11	SKIER PLAZA	BENCH	11A	1604	24.1	54.5	3/4"	8"
11	SKIER PLAZA	BENCH	11B	2025	30.4		3/4"	8"
12	SOUTHERN PROM	BOX	12	1990	29.9	29.9	3/4"	8"
13	LOWER PLAZA	BOX	13	1849	24.3	24.3	3/4"	8"
14	LOWER PLAZA	BOX	14	1415	21.3	21.3	3/4"	8"
15	GOLD WALK	BOX	15	1623	27.3	27.3	3/4"	8"
16	GOLD WALK	WALL MOUNT	16	910	13.7	13.7	3/4"	8"
17	GOLD WALK	BOX	17	1592	23.9	23.9	3/4"	8"
18	GOLD WALK	BOX	18	1028	15.4	15.4	3/4"	8"
19	GOLD WALK	BOX	19	1882	28.2	28.2	3/4"	8"
20	GOLD WALK	BOX	20	1882	28.2	28.2	3/4"	8"
2C	EXISTING PROMENADE	BOX 8 CKTS	2C	FIELD VERIFY	20.8	20.8	5/8"	FIELD VERIFY EXISTING
2F	EXISTING PROMENADE	BOX 6 CKTS	2F	FIELD VERIFY	15.6	15.6	5/8"	FIELD VERIFY EXISTING
5G	EXISTING PROMENADE	BOX 8 CKTS	5G	FIELD VERIFY	20.8	20.8	5/8"	FIELD VERIFY EXISTING
5H	EXISTING PROMENADE	BOX 12 CKTS	5H	FIELD VERIFY	31.2	31.2	5/8"	FIELD VERIFY EXISTING
5I	EXISTING PROMENADE	BOX 10 CKTS	5I	FIELD VERIFY	26	26	5/8"	FIELD VERIFY EXISTING
5K	EXISTING PROMENADE	BOX 9 CKTS	5K	FIELD VERIFY	1620	27	3/4" NEW	8" NEW TUBING
	EXISTING TIMB. + TORCH	BOX 6 CKTS	TT1	-	15.6	15.6	5/8"	FIELD VERIFY EXISTING
	EXISTING TIMB. + TORCH	BOX 8 CKTS	TT2	-	20.8	20.8	5/8"	FIELD VERIFY EXISTING
	EXISTING TIMB. + TORCH	BOX 10 CKTS	TT3	-	26	26	5/8"	FIELD VERIFY EXISTING
	EXISTING TIMB. + TORCH	BOX 7 CKTS	TT4	-	18.2	18.2	5/8"	FIELD VERIFY EXISTING

GLYCOL FEEDER UNIT SCHEDULE								
TAG	MANUFACTURER MODEL	TANK MATERIAL	SIZE (GAL.)	GPM	HEAD (PSI)	AMPS	ELECTRICAL VOLT / PHASE	ADDITIONAL FEATURES REQUIRED
SM-GF-1	AXIOM INDUSTRIES SF-100HP-L	POLYPROPYLENE	100	1.3	85	0.9	115/1	4, 5, 6, 7

NOTES:  
 1. DIGITAL CONTROL UNIT  
 2. DISCONNECT  
 3. STRUCTURAL STEEL STAND  
 4. 50% SOLUTION OF PROPYLENE GLYCOL  
 5. 3 PRONG PLUG IN  
 6. INTEGRAL CHECK VALVE  
 7. UNIT TUBE PREASSEMBLED

EXPANSION TANK SCHEDULE							
TAG	MANUFACTURER MODEL	MODEL	TOTAL VOLUME	ACCEPTANCE VOLUME	PRECHARGE PRESSURE	WEIGHT (lbs.)	ADDITIONAL FEATURES REQUIRED
SM-ET-1	AMTROL L-SERIES	3000L	792	782	20 PSI	2500	1

NOTES:  
 1. 50% PROPYLENE GLYCOL

AIR SEPARATOR SCHEDULE						
TAG	MANUFACTURER MODEL	PIPE SIZE	GPM	PRESSURE DROP FT/H2O	WEIGHT (lbs.)	ADDITIONAL FEATURES REQUIRED
SM-AS-1	TACO ACT 1-125	10"	1850	2.0	660	1, 2, 3

NOTES:  
 1. STRAINER  
 2. 50% PROPYLENE GLYCOL  
 3. ANGLE TABS, WELDED TO BODY FOR ANCHORING.

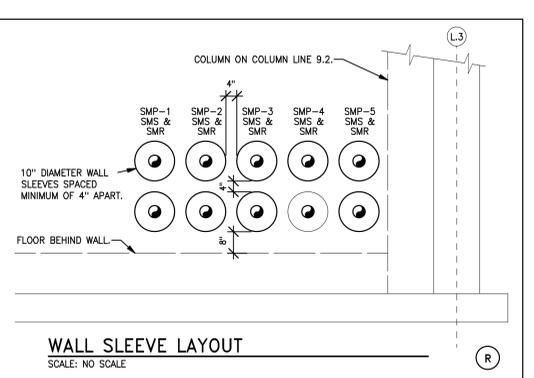
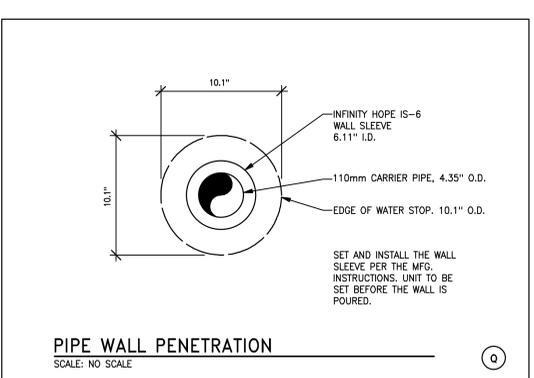
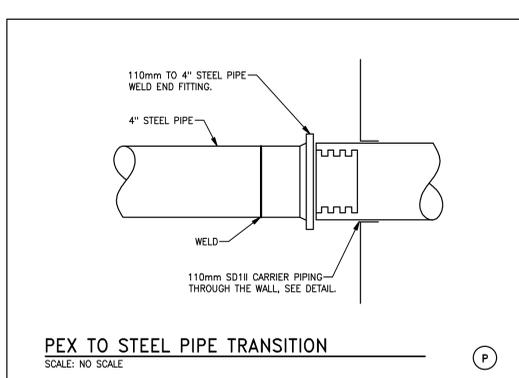
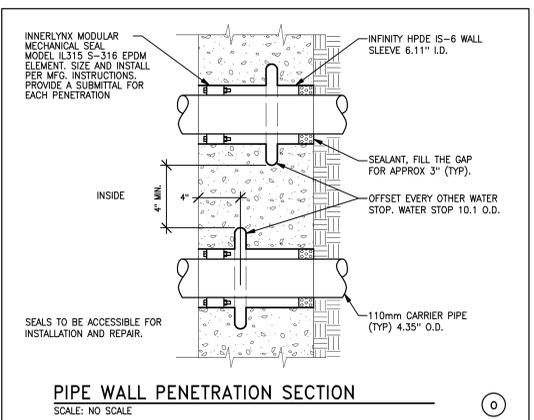
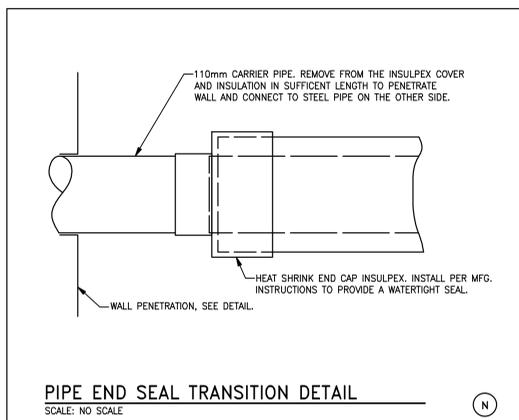
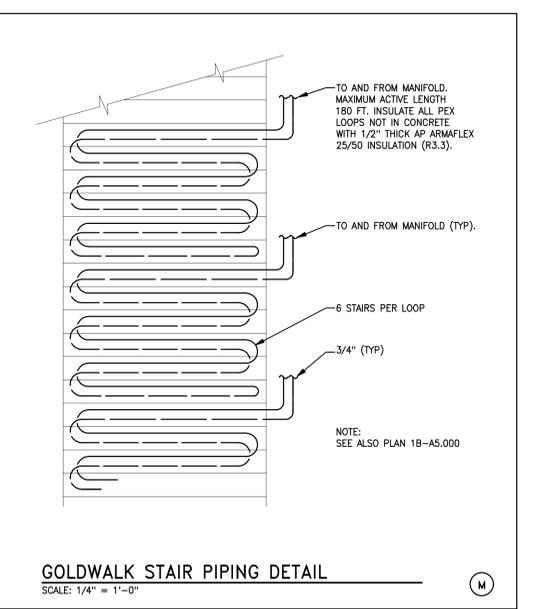
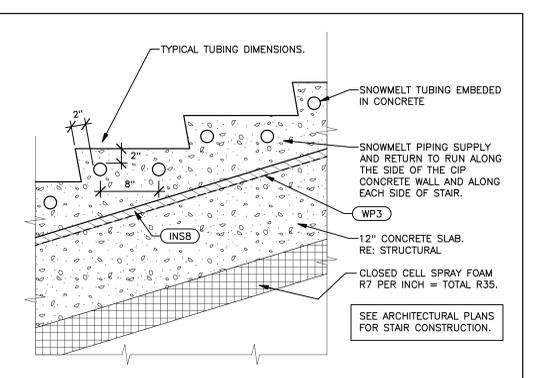
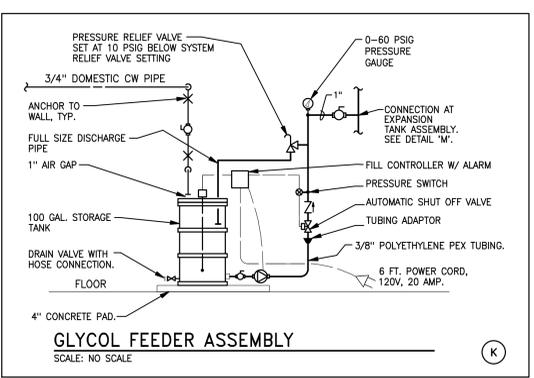
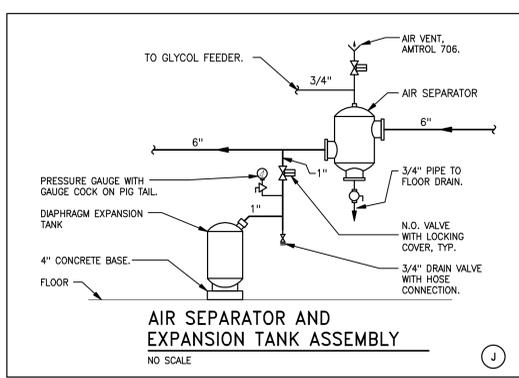
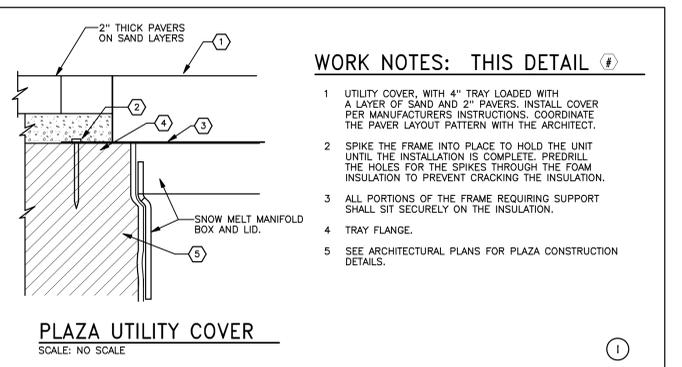
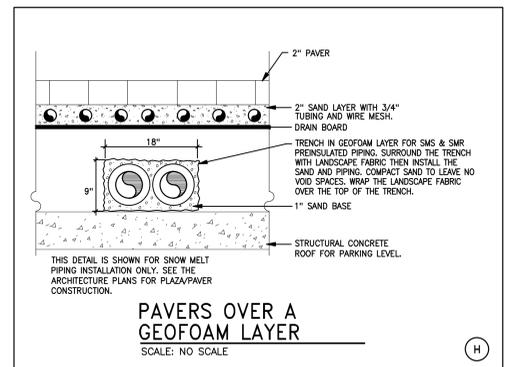
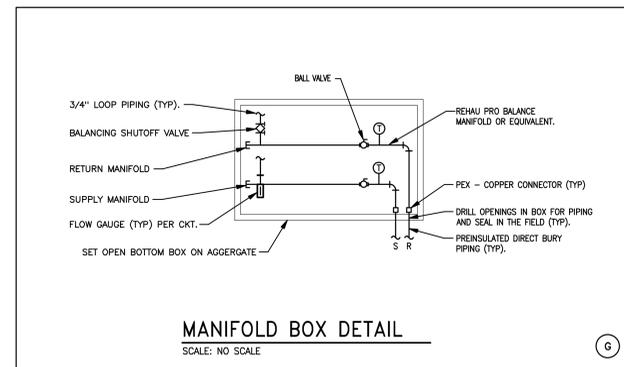
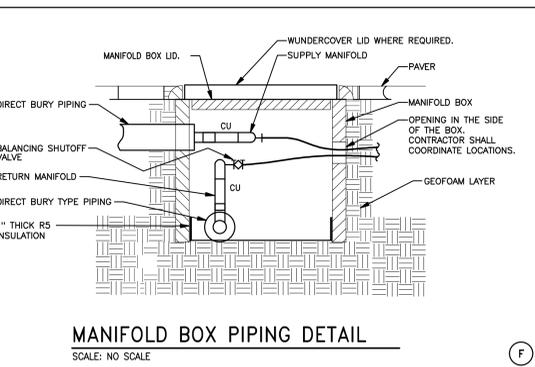
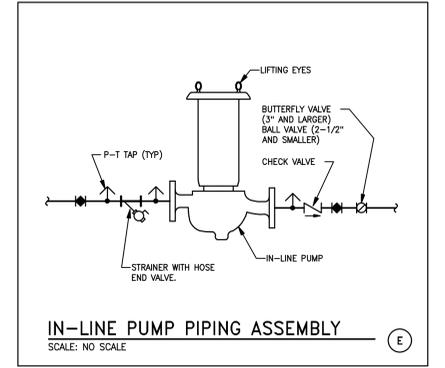
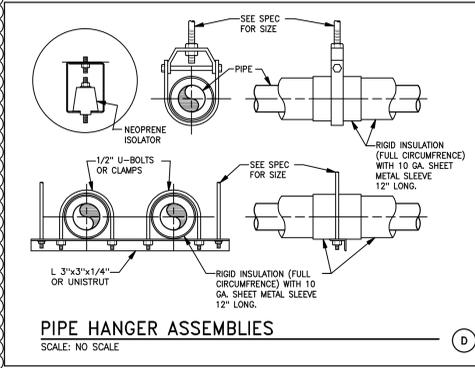
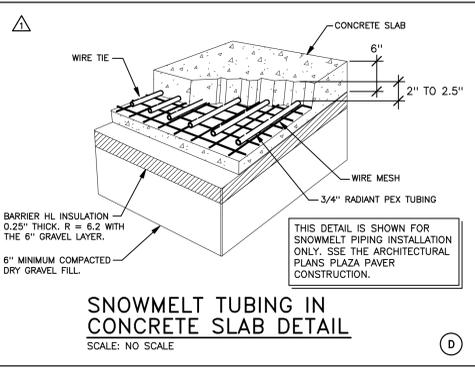
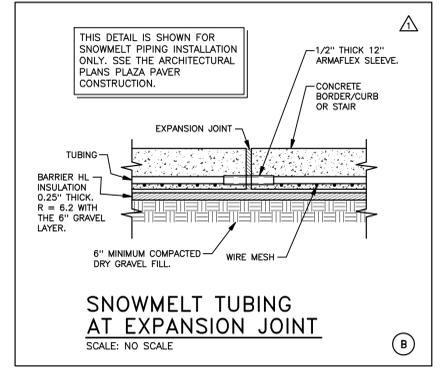
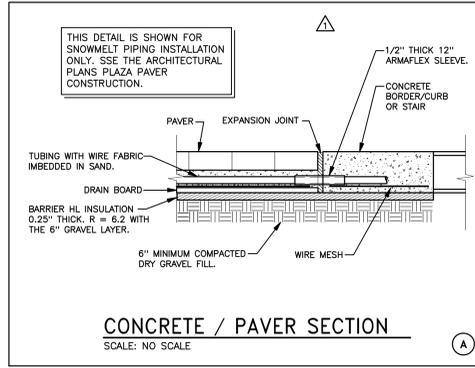
PUMP SKID SCHEDULE										
TAG	SERVES/ AREA	MANUFACTURER/ MODEL	SIZE	RPM	FLOW (GPM)	HEAD	FLUID/TEMP	HP	VOLTAGE/PH	FEATURES
SMP-1	PLAZA WEST MANIFOLDS 1,2,3,4,5,+ FUTURE	TACO SKV-3006D	3X3	3500	220	135	50% PROPYLENE/ 120F	15	460/3	1,3,4,5,6,7,8,9,10,11,12,13,14
SMP-2	LOWER LEVEL + LOWER PROMENADE MANIFOLDS 9, 11, 12, 13, 14,+ F+B	TACO SKV-3006D	3X3	3500	225	135	50% PROPYLENE/ 120F	15	460/3	1,3,4,5,6,7,8,9,10,11,12,13,14
SMP-3	PLAZA NORTH MANIFOLDS 6, 7,8,+10	TACO SKV-3006D	3X3	3500	200	125	50% PROPYLENE/ 120F	15	460/3	1,3,4,5,6,7,8,9,10,11,12,13,14
SMP-4	PROMENADE NORTH AND SOUTH	TACO SKV-2007D	2X2	3500	200	140	50% PROPYLENE/ 120F	15	460/3	1,3,4,5,6,7,8,9,10,11,12,13,14
SMP-5	TIMBER + TORCH	TACO SKV-2007D	2X2	3500	150	130	50% PROPYLENE/ 120F	10	460/3	1,3,4,5,6,7,8,9,10,11,12,13,14
SMP-6	GOLD WALK	TACO SKV-3006D	3X3	3500	225	130	50% PROPYLENE/ 120F	15	460/3	1,3,4,5,6,7,8,9,10,11,12,13,14
SMP-7	FUTURE TRANSIT PLAZA	TACO SKV-3006D	3X3	3500	275	130	50% PROPYLENE/ 120F	15	460/3	1,2,3,4,5,6,7,8,9,10,11,12,13,14
SMP-8	FUTURE TRANSIT PLAZA	TACO SKV-3006D	3X3	3500	275	130	50% PROPYLENE/ 120F	15	460/3	1,2,3,4,5,6,7,8,9,10,11,12,13,14
SMP-9	FUTURE MID LEVEL WALK	TACO SKV-3006D	3X3	3500	225	130	50% PROPYLENE/ 120F	15	460/3	1,2,3,4,5,6,7,8,9,10,11,12,13,14

FEATURES:  
 1. PUMP SKID TO BE FACTORY CONSTRUCTED AND COMPLETE AND OPERATIONAL, INCLUSIVE OF ALL LISTED THE FEATURES.  
 2. FUTURE PUMPS TO BE INSTALLED IN THE SKID AT A FUTURE DATE. FLANGE OFF ALL OPEN PIPES AND MAKE SAFE ALL ELECTRICAL CONNECTIONS FOR FUTURE INSTALLATION.  
 3. EACH PUMP TO HAVE A BELIMO THREE WAY CONTROL VALVE TO CONTROL SUPPLY WATER TEMPERATURE.  
 4. SUITABLE AND SELECTED FOR 50% PROPYLENE GLYCOL.  
 5. WYE STRAINERS WITH HOSE CONNECTIONS, METRASHERE FLEXIBLE RUBBER ISOLATOR ON INLET AND OUTLET.  
 6. VFD MOUNTED ON THE PUMP MOTOR.  
 7. FACTORY FABRICATED SINGLE POINT ELECTRICAL CONNECTION PANEL.  
 8. INDIVIDUAL PUMP DISCONNECT SWITCHES IN THE MAIN PANEL.  
 9. MAIN PANEL DISCONNECT.  
 10. NON-OVERLOADING MOTOR SELECTION.  
 11. 10" WELDED CARBON STEEL SUPPLY AND 8" RETURN HEADER. BLIND FLANGES AT ONE END.  
 12. STRUCTURAL STEEL FRAME TO BE SELF SUPPORTING.  
 13. FREIGHT AND STARTUP OF VFDs.  
 14. FULL APPROVED SUBMITTAL REQUIRED PRIOR TO PRODUCTION.

Seal / Signature



Project Name  
**BP3 GOLDWALK PERMIT AND CONSTRUCTION**  
 Project Number  
**003.7835.000**  
 DW Project Number  
**6466**  
 Description



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Date	Description
2021.05.19	BP3 GOLDWALK - ISSUE FOR BID AND PERMIT
2021.06.18	BULLETIN 01: TRANSFORMER RELOCATION



Project Name  
**BP3 GOLDWALK PERMIT AND CONSTRUCTION**

Project Number  
003.7835.000

DW Project Number  
6466

Description

**MECHANICAL DETAILS**

**1B-M3-01**

**SHEET NOTES**

- 01 REDEVELOPED LOWER LEVEL OUTDOOR PATIO PER LANDSCAPE PLAN
- 02 [E] PUBLIC RESTROOMS ON LOWER LEVEL TO REMAIN, NOT IN PROJECT SCOPE
- 03 [N] PROMENADE BUILDING BELOW PLAZA LEVEL, 24,212 GROSS SF
- 04 RE: C.300 FOR CONNECTION TO EXISTING GRADE @ EXISTING BUILDING
- 05 FIRE LANE VEHICULAR ACCESS, RE: C.700
- 06 RE: LANDSCAPE PLAN FOR PLANTER, BENCH AND SITE WALL INFORMATION
- 07 [N] OUTDOOR AMENITY PLAZA, RE: L.01 FOR SEATING, LANDSCAPE FEATURES AND OUTDOOR USE DETAILS
- 08 LOADING AND SERVICE ACCESS ON LOWER LEVEL BELOW, SEE DP 100
- 09 [E] RETAINING WALL BEYOND PROPERTY LINE TO REMAIN AS IS
- 10 NEW PLANTER WALL WITHIN PROJECT PROPERTY LINE, RE: CIVILLANDSCAPE

**GENERAL NOTES**

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT
2021.06.18	BULLETIN 01: TRANSFORMER RELOCATION

Seal / Signature



06.21.2021

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

Description

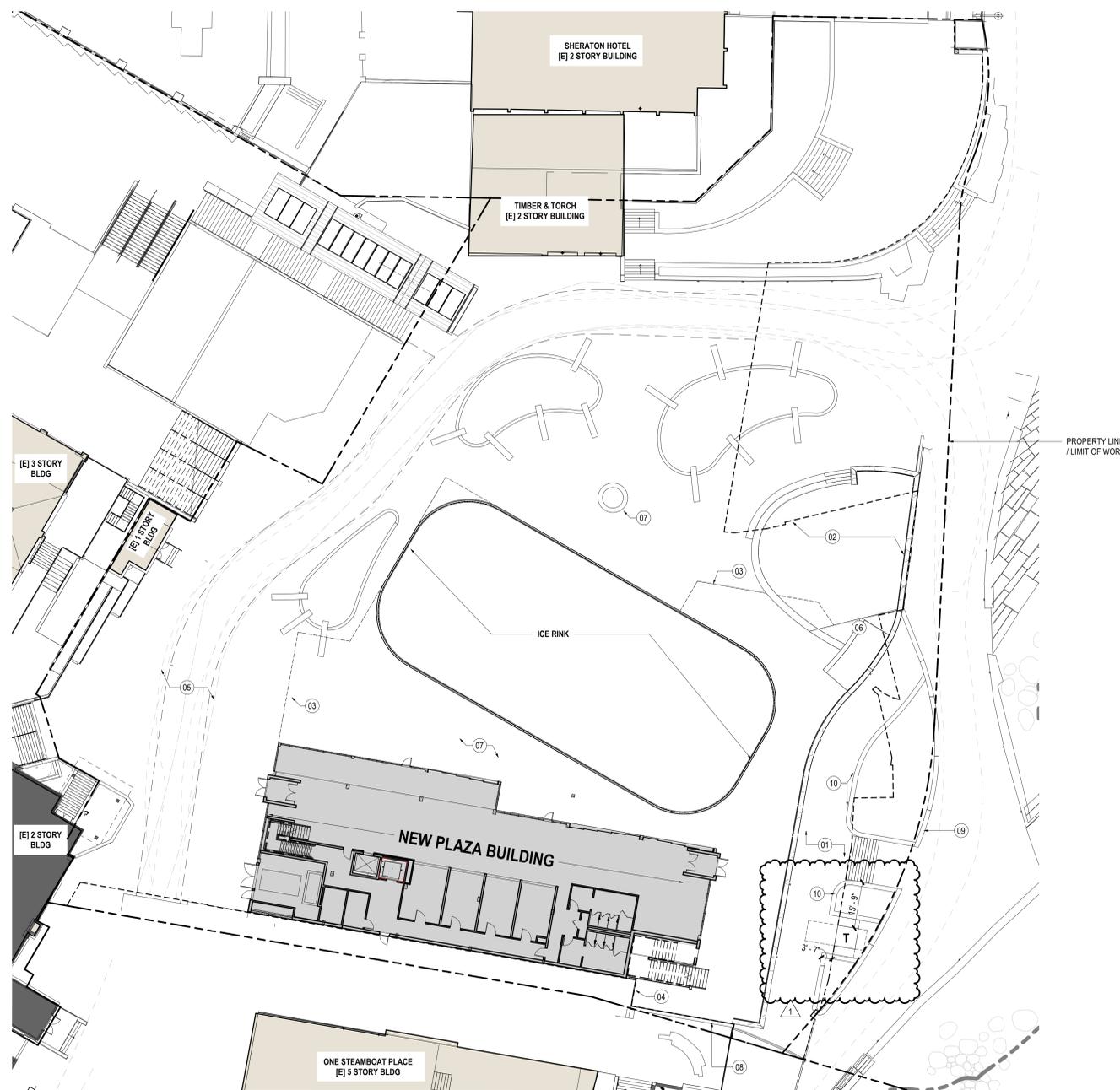
PROMENADE - ARCHITECTURAL SITE PLAN

Scale

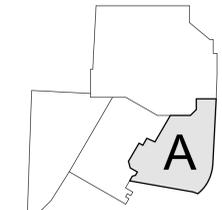
1" = 20'-0"

Ref North

**1A-A1.100**



**KEY PLAN**



LOCATION: MSB		VOLTAGE: 480/277 Wye				BUS: 2500 A			
SUPPLY FROM:		SCCR:				MAIN: 2500 A - MCB			
LOADS SUMMARY		LTG	RECPT	MOTOR	MISC.	KITCHEN	ELECTRIC HEAT	EV CHARGE	Load
T-R1N1	144	12360	9504				720		22728 VA 27 A
L1N2	3831				180				3831 VA 5 A
L1N1	6711								6881 VA 8 A
T-FBDB									0 VA 0 A
M1N3				33255					33255 VA 40 A
M1N2	1200	51327	951	23520			150		77148 VA 93 A
M1N1			86167	5100			1365		95459 VA 115 A
CH 2A.01			266751						266751 VA 321 A
ICE PLANT MCC			237770						237770 VA 286 A
CONNECTED TOTALS (V-A)		11886	63687	634398	28800		2235		743833 VA 895 A
DIVERSITY FACTORS		100%	58%	111%	100%		100%		-
DEMAND TOTAL (V-A)		11886	36844	701086	28800		2235		784384 VA 943 A

TRANSFORMER TABLE - 480V PRIMARY - 208Y/120V SECONDARY									
KVA	FL	AMP	BKR	FDR	TRANSFORMER	FL	BKR	FDR	
			SIZE		(WIRE) PIPE		SIZE		
3PH	480V	(1)	(2)	F30	(#8 CU) 3/4"	208V	(1)	(2)	
15	18	30	F30	(#8 CU) 3/4"	42	90	FN50A		
30	36	60	F30	(#8 CU) 3/4"	83	100	FN100A		
45	54	70	F70	(#8 CU) 3/4"	125	150	FN150		
75	90	125	F125	(#8 CU) 3/4"	208	250	FN250A		
112.5	135	175	F175	(#10 CU) 1"	312	400	FN400A		
150	180	225	F225	(#10 CU) 1"	416	500	FN500A		
225	271	360	F360	(#10 CU) 1"	628	800	FN800A		
300	361	450	F450	(#10 CU) 1"	833	1000	FN1000A		
500	601	800	F800	(#10 CU) 1"	1388	1600	FN1600A		

NOTE:  
1 USE DEVICE TYPES INDICATED ON SINGLE LINE DIAGRAM  
2 REFERENCE FEEDER TABLE FOR FEEDER SIZE

SHORT CIRCUIT STUDY		
ALL EQUIPMENT MUST BE FULLY RATED FOR SHORT CIRCUIT / FAULT VALUES SHOWN BELOW. SERIES RATING NOT PERMITTED.		
KEY	AVAILABLE AMPS	
1	23,100	
2	23,455	
3	7,486	
4	6,905	
5	15,942	
6	14,670	
7	15,445	
8	14,424	
9	18,624	
10	5,253	
11	12,342	
12	10,920	
13	11,358	
14	5,508	

TRANSFORMERS (150KVA OR LESS) BASED ON INFINITE IMPEDANCE ON THE PRIMARY. THE AVAILABLE FAULT CURRENTS ON THE SECONDARY OF A TRANSFORMER IS AS FOLLOWS

15KVA	1343
30KVA	1665
45KVA	3903
75KVA	7330
112.5KVA	9184
150KVA	13787

ME FEEDER TABLE									
BKR/OC/PD	TAG	SETS	COPPER			COPPER			
			FEEDER/PIPE [3W]	TAG	SETS	FEEDER/PIPE [4W]			
20	F20	1	(3#12,#12G) 3/4"	FN20	1	(4#12,#12G) 3/4"			
30	F30	1	(3#10,#10G) 3/4"	FN30	1	(4#10,#10G) 3/4"			
40	F40	1	(3#8,#10G) 3/4"	FN40	1	(4#8,#10G) 3/4"			
50	F50	1	(3#8,#10G) 3/4"	FN50	1	(4#8,#10G) 3/4"			
50	-	-	-	FD50A	1	(4#8,#8G) 1"			
60	F60	1	(3#6,#8G) 1"	FN60	1	(4#6,#8G) 1"			
70	F70	1	(3#4,#8G) 1-1/4"	FN70	1	(4#4,#8G) 1-1/4"			
80	F80	1	(3#4,#8G) 1-1/4"	FN80	1	(4#4,#8G) 1-1/4"			
90	F90	1	(3#3,#8G) 1-1/4"	FN90	1	(4#3,#8G) 1-1/4"			
100	F100	1	(3#3,#8G) 1-1/4"	FN100	1	(4#3,#8G) 1-1/2"			
100	-	-	-	FN100A	1	(4#3,#8G) 1-1/2"			
100	-	-	-	FD100A	1	(5#3,#6G) 1-1/2"			
110	F110	1	(3#2,#6G) 1-1/2"	-	-	-			
125	F125	1	(3#2,#6G) 1-1/2"	FN125	1	(4#1,#6G) 2"			
150	F150	1	(3#10,#6G) 1-1/2"	FN150	1	(4#10,#6G) 2"			
175	F175	1	(3#10,#6G) 2"	FN175	1	(4#10,#6G) 2"			
200	F200	1	(3#10,#6G) 2"	FN200	1	(4#10,#6G) 2-1/2"			
225	F225	1	(3#10,#6G) 2-1/2"	FN225	1	(4#10,#6G) 2-1/2"			
250	F250	1	(3#250,#4G) 3"	FN250	1	(4#250,#4G) 3"			
250	-	-	-	FN250A	1	(4#250,#2G) 3"			
250	-	-	-	FD250A	1	(5#250,#2G) 3"			
300	F300	1	(3#350,#4G) 3"	FN300	1	(4#350,#4G) 3"			
350	F350	1	(3#500,#3G) 3"	FN350	1	(4#500,#3G) 3-1/2"			
400	F400	2	(3#30,#3G) 2"	FN400	2	(4#30,#3G) 2-1/2"			
400	-	-	-	FN400A	2	(4#30,#10G) 2-1/2"			
400	F400B	1	(3#600,#3G) 4"	FN400B	1	(4#600,#3G) 4"			
400	-	-	-	FD400A	2	(5#300,#10G) 2-1/2"			
450	F450	2	(3#410,#2G) 2-1/2"	FN450	2	(4#410,#2G) 2-1/2"			
500	F500	2	(3#250,#2G) 2-1/2"	FN500	2	(4#250,#2G) 3"			
500	-	-	-	FN500A	2	(4#250,#10G) 3"			
500	-	-	-	FD500A	2	(5#250,#10G) 3"			
600	F600	2	(3#350,#1G) 3"	FN600	2	(4#350,#1G) 3"			
700	F700	2	(3#500,#10G) 3"	FN700	2	(4#500,#10G) 3-1/2"			
750	F750	2	(3#500,#10G) 3"	-	-	-			
800	F800	3	(3#600,#10G) 3"	FN800	3	(4#600,#10G) 3"			
800	-	-	-	FN800A	3	(4#300,#20G) 3"			
800	F800B	2	(3#600,#10G) 3-1/2"	FN800B	2	(4#600,#10G) 4"			
800	-	-	-	FD800A	3	(5#300,#20G) 3"			
1000	F1000	3	(3#400,#20G) 3"	FN1000	3	(4#400,#20G) 3-1/2"			
1000	-	-	-	FN1000A	3	(4#400,#30G) 3-1/2"			
1000	-	-	-	FD1000A	3	(5#400,#30G) 3-1/2"			

NOTE:  
ALL CONDUCTORS ARE WITH THINWALL WIRE WITH 75DEG TERMINATIONS.  
ALL ALUMINUM FEEDERS SHALL INCLUDE COPPER EQUIPMENT GROUND CONDUCTORS.  
ALL ALUMINUM FEEDERS TO UTILIZE COMPRESSION TERMINATIONS.  
ALL FEEDERS AND BRANCH CIRCUITS TO MECHANICAL AND VIBRATING EQUIPMENT SHALL BE COPPER CONDUCTORS.  
ALL EMERGENCY FEEDERS TO BE COPPER CONDUCTORS.  
FEEDERS STARTING WITH "FD" CONTAIN DOUBLE NEUTRAL.

- KEYNOTES:**
- PROVIDE E-GAUGE PRO SERIES METERING FOR PANEL FEEDER. METERING POINT CAN SHARE A COMMON METER PROVIDED ALL LOAD IS MONITORED ON EACH PANEL. REFER TO PLAN FOR METER LOCATIONS WITHIN EACH ROOM.
  - FEEDER LENGTHS ARE INDICATED FOR CALCULATION PURPOSES ONLY. THIS DRAWING IS NOT TO SCALE. FEEDER LENGTHS MUST BE CONFIRMED WITH THE CONTRACTOR.
  - ALL CONDUIT RUNS SHALL BE RAN PERPENDICULAR AND PARALLEL TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT RUNS SHALL BE COORDINATED WITH ARCHITECT PRIOR TO INSTALLATION.
  - FOR CALCULATION PURPOSES THE FOLLOWING TRANSFORMER (2015 DOE) IMPEDANCES AND MAXIMUM SHORT CIRCUIT VALUES WERE USED:  
15 KVA-3.1%Z, ISC-1.343A  
30 KVA-2.5%Z, ISC-1.665A  
45 KVA-3.2%Z, ISC-3.903A  
75 KVA-2.8%Z, ISC-7.350A  
112.5 KVA-3.4%Z, ISC-9.184A
  - PROVIDE FULL BUSSING FOR ALL SPACES INDICATED ON PANEL BOARDS.
  - CONNECT ALL TRANSFORMER GROUNDING ELECTRODES TO GROUND BUS RISER AND COLD WATER PIPE.
  - ALL EQUIPMENT TO BE FULLY RATED FOR THE AVAILABLE FAULT. ASSUME 42,000 AMPS AVAILABLE AT THE MAIN SERVICE.
  - REFER TO DETAIL SHEET E8.001 FOR PANELBOARD AND SWITCHBOARD NAMEPLATE DETAILS.
  - ALL NEW PANELS INDICATED HERE SHALL HAVE INTEGRAL SURGE PROTECTION DEVICES LOCATED INTERNAL TO PANEL SURGE PROTECTION DEVICE TO HAVE ALL MODES OF PROTECTION.
  - UNLESS OTHERWISE NOTED, SCOPE IS TO BE PROVIDED IN PHASE 1 OF THIS PROJECT. PHASE 2 SCOPE HAS BEEN INDICATED ON THIS ONE-LINE DIAGRAM.

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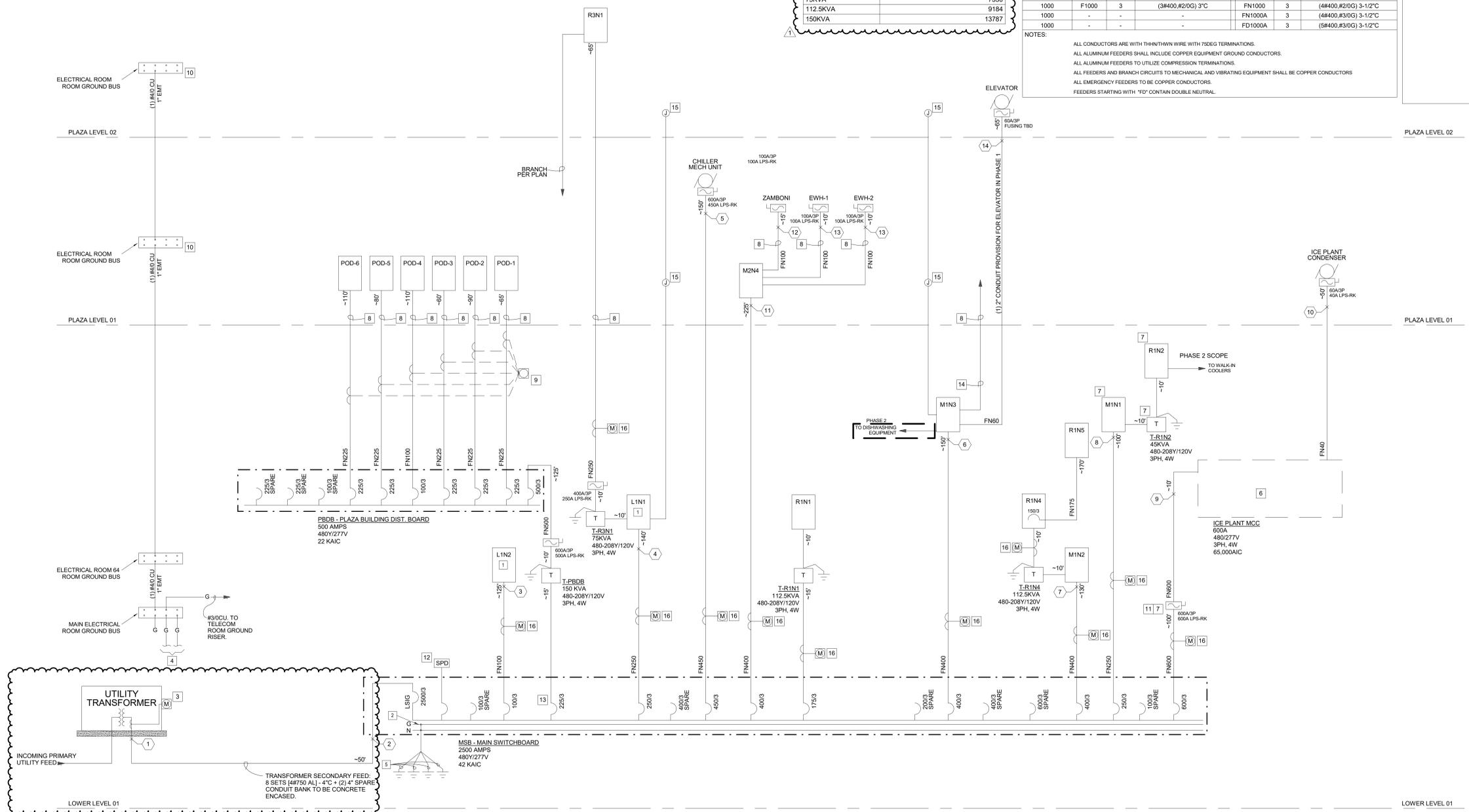
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2021.05.19 B3: PROMENADE - ISSUE FOR BID AND PERMIT  
2021.06.18 Bulletin No. 1 - Promenade Transformer

**KEYNOTES:**

- PROVIDE LIGHTING CONTROL PANEL ADJACENT TO THIS PANEL.
- NEUTRAL GROUND BOND.
- PROVIDE CT AND METERING PER UTILITY REQUIREMENTS.
- CONNECT TO MAIN SERVICE SWITCHBOARD GROUND BUS WITH 4# AWG COPPER IN 1" CONDUIT. PVC PERMITTED BELOW GRADE.
- PROVIDE BUILDING GROUNDING SYSTEM WITH CONNECTION TO PERIMETER GROUND LOOP. BUILDING STEEL, COLD WATER PIPE, UFER GROUND, AND ROOM GROUND BUS.
- EQUIPMENT AND EQUIPMENT CONNECTIONS SHALL BE PROVIDED BY ICE PLANT. REFRIGERATION CONTRACTOR UNLESS OTHERWISE NOTED.
- PROVIDE NEMA 3R (OR GREATER) ENCLOSURE.
- PROVIDE CONDUIT WITH PULL STRING FOR PHASE 1 SCOPE. WIRING AND TERMINATIONS TO BE PROVIDED AS PHASE 2 SCOPE.
- PROVIDE E-GAUGE METERING FOR FOOD SERVICE INFRASTRUCTURE. PROVIDE ALL RESPECTIVE SOFTWARE AND START-UP FOR METERING. METER LOCATION PER PLAN. METERING AND CT'S SHALL BE PHASE 2 SCOPE.
- BOND TO COLD WATER PIPE AT THIS LEVEL.
- ELECTRICAL CONTRACTOR TO TERMINATE CONDUCTORS ON THE LINE SIDE OF THE DISCONNECT. ICE PLANT CONTRACTOR SHALL BRING CONDUCTORS FROM LOAD SIDE OF DISCONNECT TO MOTOR CONTROL CENTER.
- PROVIDE EXTERNALLY MOUNTED SPD FOR SERVICE ENTRANCE SWITCHBOARD. MINIMIZE FEEDER DISTANCE. PROVIDE BREAKER SIZE PER MANUFACTURER REQUIREMENTS.
- PROVIDE LOCKOUT BREAKER AT SWITCHBOARD.
- PROVIDE (1) 2" CONDUIT FROM THIS PANEL TO EACH POD IN THE PLAZA BUILDING. TOTAL OF (6) 2" CONDUITS (1) PER POD EXCLUDING POD 7 AT BAR AREA ON PLAZA LEVEL 02.
- PROVIDE BRANCH CIRCUITS ON THIS LEVEL FROM PANEL INDICATED.





**GENERAL NOTES:**

- REFER TO SHEET 1A-E1.002 FOR LIGHTING FIXTURE SCHEDULE.
- REFER TO LANDSCAPE DRAWINGS FOR ALL SITE FIXTURE LOCATIONS MOUNTED IN HARDSCAPE OR SOFTSCAPE. FIXTURE LOCATIONS ARE DIAGRAMMATIC. THE INTENT IS TO ALIGN, CENTER, OR SPACE FIXTURES BETWEEN ARCHITECTURAL AND LANDSCAPE ELEMENTS.
- ALL LANDSCAPE OR EXTERIOR BUILDING LIGHTING SHALL BE CONTROLLED VIA THE LIGHTING CONTROL SYSTEM.
- REFER TO ARCHITECTURAL EXTERIOR ELEVATIONS FOR ALL FIXTURE LOCATIONS ON THE EXTERIOR OF THE BUILDING. FIXTURE LOCATIONS ARE DIAGRAMMATIC. THE INTENT IS TO ALIGN, CENTER, OR SPACE FIXTURES BETWEEN ARCHITECTURAL AND STRUCTURAL ELEMENTS.
- PROVIDE A MINIMUM 1" PVC CONDUIT FOR ALL UNDERGROUND BRANCH CIRCUITS. ALL 90DEGREE ELBOWS SHALL BE PVC COATED RIGID.
- ALL BACK BOXES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. ALL VERTICAL SECTIONS OF CONDUIT SHALL BE CONCEALED. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AND BACK BOXES IN CONCRETE, MASONRY AND GYP. WALLS.
- ALL WORK INDICATED ON THIS SHEET IS CONSIDERED PHASE 1 SCOPE OF WORK.

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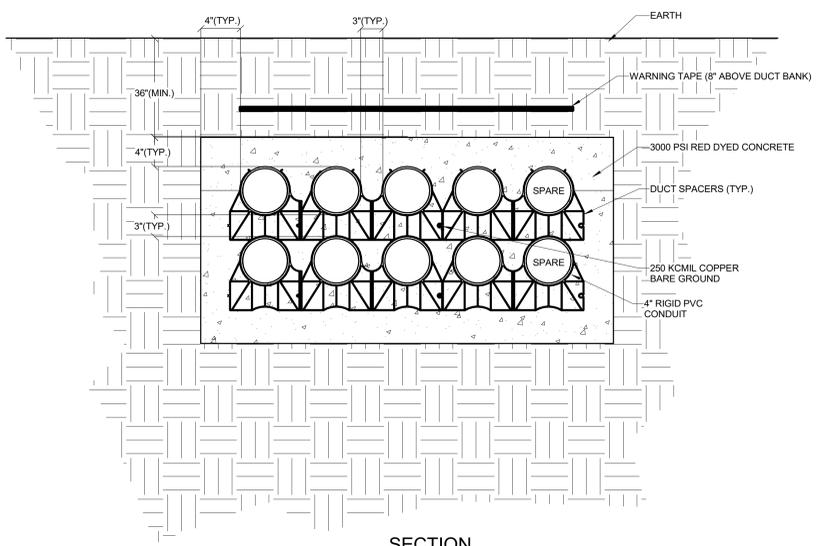
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**KEYNOTES**

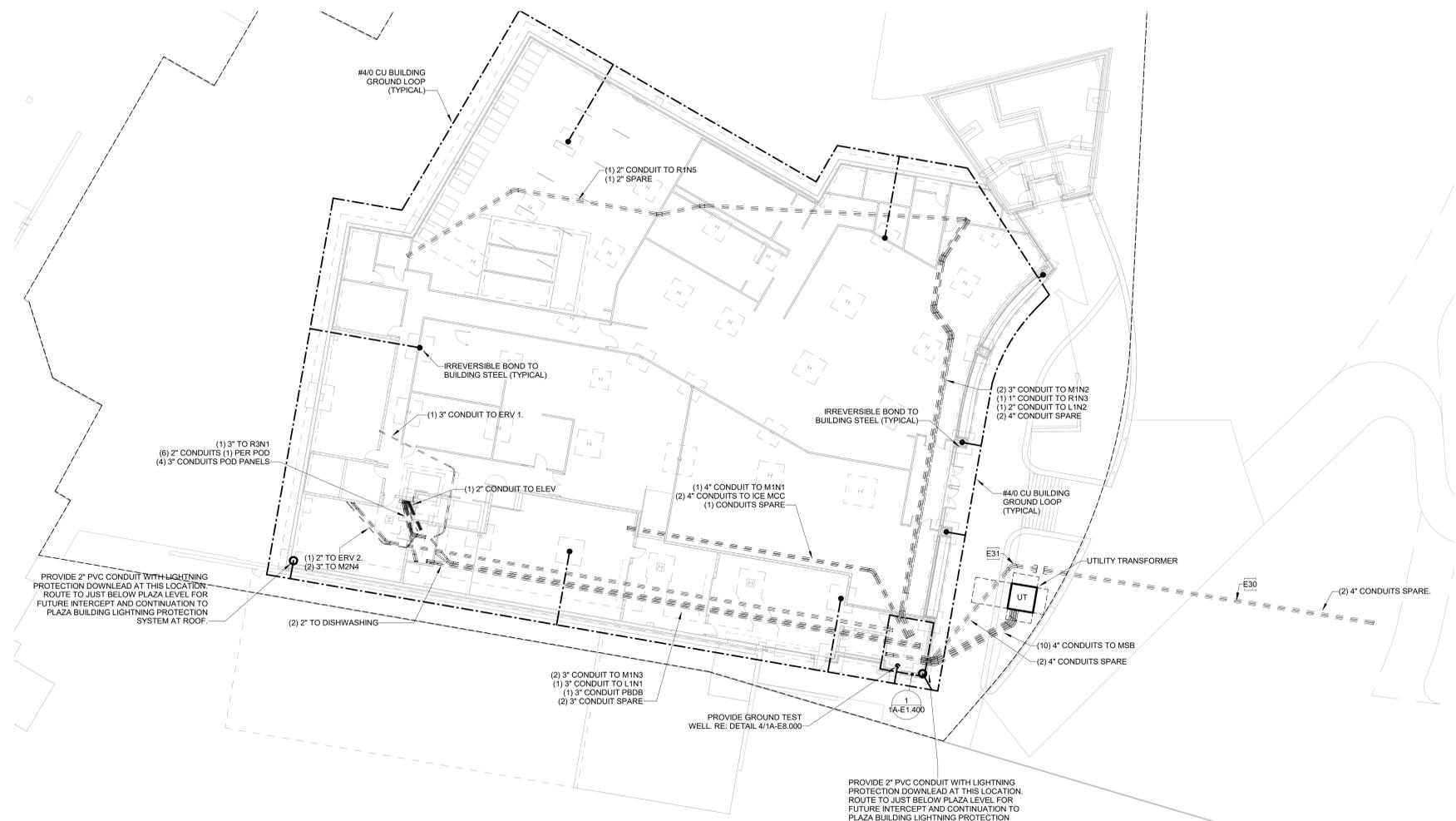
- E30** SPARE CONDUITS TO BE ROUTED ACROSS BURGESS CREEK. CONDUITS TO BE INSTALLED BY UTILITY IN COMMON TRENCH WITH PRIMARY CONDUITS SERVING PROMENADE TRANSFORMER. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH YVEA FOR INTERCEPT AND EXTENSION INTO THE PROMENADE BUILDING AS INDICATED PER PLAN. REFER TO CIVIL DRAWINGS FOR EXACT PROFILE AND CONDUIT ROUTING ACROSS CREEK.
- E31** ELECTRICAL CONTRACTOR TO INTERCEPT AND CONTINUE CONDUIT ROUTING ONCE SPARE CONDUITS HAVE BEEN INSTALLED BY UTILITY ACROSS BURGESS CREEK. INSTALL CONDUITS AS INDICATED PER PLAN AND TERMINATE IN JUNCTION BOX IN MAIN ELECTRICAL ROOM MOUNTED ON WALL. REFER TO CIVIL DRAWINGS FOR EXACT ROUTING AND OTHER UTILITIES.



**SECTION**

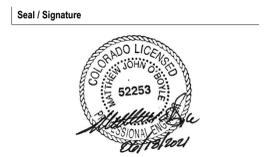
- DUCT BANK SHALL BE CONCRETE ENCASED WITH A MINIMUM OF 4" OF COVER ON ALL OUTSIDE EDGES (MINIMUM 3000 PSI RED DYED CONCRETE).
- CONTRACTOR SHALL PROVIDE DUCT SPACERS EVERY 2'-6" FOR ALL UNDERGROUND CONDUIT (PVC.)
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER PRIOR TO PROCEEDING WITH WORK.

**3 DUCT BANK**  
SCALE: NO SCALE



**1 ELECTRICAL UNDERGROUND SITE PLAN**  
SCALE: 1/16" = 1'-0"

Date	Description
2021.05.19	BP3: PROMENADE - ISSUE FOR BID AND PERMIT
2021.06.18	Bulletin No. 1 - Promenade Transformer



Project Name  
**SSRC | BASE AREA IMPROVEMENTS**

Project Number  
**003.7835.000**

Description  
**PROMENADE - ELECTRICAL UNDERGROUND CONDUIT PLAN**

Scale  
As indicated

**1A-E1.100U**

## **SECTION 26 05 19 - ELECTRICAL POWER CONDUCTORS AND CABLES**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Requirement of the following Division 26 Sections apply to this section:
  - 1. Electrical Requirements

#### **1.2 SUMMARY**

- A. This Section includes wires, cables, and connectors for power, lighting, signal, control and related systems rated 600-Volts and less.
- B. Related Sections: The following Sections contain requirements that relate to this section:
  - 1. Division 31 Section "Earthwork" for trenching and backfilling.
  - 2. Division 26 Section "Electrical Boxes and Fittings" for connectors for terminating cables in boxes and other electrical enclosures.
  - 3. Division 26 Section "Raceways and Boxes" for MC cable, raceway and boxes.

#### **1.3 SUBMITTALS**

- A. Product Data for electrical wires, cables and connectors.
- B. Submit pulling tension calculations for all underground feeders.

#### **1.4 QUALITY ASSURANCE**

- A. Regulatory Requirements: Comply with provisions of the following code:
- B. NFPA 70 "National Electrical Code."
  - 1. Conform to applicable codes and regulations regarding toxicity of combustion products of insulating materials.

- C. UL Compliance: Provide components, which are listed and labeled by UL under the following standards.
1. UL Standard 44 Rubber Insulated Wires and Cables
  2. UL Standard 83 Thermoplastic-Insulated Wires and Cables
  3. UL Standard 486A Wire Connectors and Soldering Lugs for Use with Copper Conductors
  4. UL Standard 854 Service Entrance Cable
  5. UL Standard 2196 Testing for Fire Resistive Cables
  6. UL Standard 1424 Cables for Power-Limited Fire-Alarm Circuits
- D. NEMA/ICEA Compliance: Provide components which comply with the following standards:
1. WC-5: Thermoplastic-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.
  2. WC-7: Cross Linked Thermosetting Polyethylene-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.
- E. IEEE Compliance: Provide components, which comply with the following standard.
1. Standard 82: Test procedures for Impulse Voltage Tests on Insulated Conductors.

## **PART 2 - PRODUCTS**

### **2.1 WIRES AND CABLES (600-VOLT COPPER CONDUCTORS)**

- A. General: Provide suitable wire and cable for the temperature, conditions and location where installed. All wires and cables shall be new and delivered to the site in unbroken packages and reels.
- B. All wires and cables shall be of the same manufacturer throughout the entire project.
- C. Conductors: Provide solid conductors for power and lighting circuits #10 AWG and smaller. Provide stranded conductors for #8 AWG and larger.
- D. Conductor Material: All wires and cables shall be copper, single conductor rated at 600-Volts, which conform to or exceed ICEA specifications and the following:
1. In sizes 1/0 AWG to 4/0: Cross-linked polyethylene insulation type XHHW-2 (90°C) or THWN-2.
  2. In sizes 250 KCMIL and larger: Type XHHW-2 (90°C) or THWN.
  3. In sizes 1 AWG and smaller: All conductors shall have heat/moisture resistant thermoplastic insulation type THWN-2 (90°C) except as follows:
    - a. Where conduit temperature will exceed 100°F, use type THHN (90°C).
    - b. In 120-Volt incandescent fixtures, type SF-2 or SFF-2 (150 - 200°C).

- c. In wireway of fluorescent lighting fixtures type THHN (90°C).
- E. Rated Conductor Material: Where required by these specifications and code, provide 2-hour rated cable conforming to the following requirements:
  - 1. Cabling must meet current UL requirements for fire alarm resistance.
  - 2. Cabling must meet current NEC 700 and 760 requirements.
- F. Grounding conductors: Shall be of the same type as its associated phase conductors.
- G. All conductors shall be labeled with wire size, insulation rating, etc. using an engraved process, computer scan on labels are not permitted.
- H. Color Coding for phase identification in accordance with Table 1 in Part 3 herein.
- I. Connectors for Conductors:
  - 1. Provide UL-listed factory-fabricated, solderless metal connectors of sizes, ampacity ratings, materials, types and classes for applications and for services indicated. Use connectors with temperature ratings equal to or greater than those of the wires upon which used.
  - 2. For wires that are #8 AWG and smaller: Insulated pressure type with live spring, rated 105°C, 600-Volt, for building wiring and 1000-Volt in signs or fixtures.
  - 3. For wires that are #6 AWG and larger: Compression type with 3M #33 or equal tape insulation.
- J. Splices and Taps:
  - 1. No. 10 AWG and smaller - Connectors for solid conductors shall be solderless, screw-on, spring pressure cable type, 600-Volt, 105°C with integral insulation and UL approved for aluminum and copper conductors. Connectors for stranded conductors shall be crimp-on type with integral insulating cover.
  - 2. No. 8 AWG and larger - Hydraulically applied crimping sleeve or tap connector sized for the conductors. Insulate the hydraulically applied connector with 90-degree, 600-Volt insulating cover provided by the connector manufacturer. Insulator materials and installation shall be approved for the specific application, location, voltage, and temperature and shall not have an insulation value less than the conductors being joined.

**2.2 ALUMINUM WIRES AND CABLES (ALTERNATE DESIGN, IF VE IS ACCEPTED)**

- A. *Where indicated on drawings as AL: aluminum alloy, compact stranded, Type XHHW-2 or THHN/THWN, 90 °C meeting requirements of UL#44 and Federal Spec A-A-59544 with XLPE insulation and AA-8000 series alloy only may be used in lieu of copper conductors.*
- B. *Terminations shall be compression bolted lug with appropriate joint compounds and Belleville spring washers.*
- C. *Installation and terminations shall be in strict accordance with manufacturer's recommendations and as identified in specifications.*

- D. Uses not allowed:**
- 1. If not specifically shown on drawings with AL identifier.**
  - 2. For service-entrance conductors where Utility Company standards prohibit aluminum conductors**
  - 3. For any feeders or branch circuits to mechanical and vibrating equipment.**
  - 4. For any applications 100 Amps and below.**
  - 5. Where terminations that are unable to utilize compression, bolted lug fittings.**
  - 6. For use as emergency and standby system feeders or branch circuits.**
- E. All grounding conductors shall be copper.**
- F. Refer to feeder table on drawings for conductor and conduit sizes to correspond with over current protection device size.**

## **PART 3 - EXECUTION**

### **3.1 WIRING METHOD**

- A. Use the following wiring methods as indicated:**
- 1. Install all wire in raceway. Power and control wiring shall be installed in separate raceways.**

### **3.2 INSTALLATION OF WIRES AND CABLES**

- A. General: Install electrical cables, wires, and connectors in compliance with NEC.**
- B. Coordinate cable and wire installation with other Work.**
- C. Do not install more conductors in a raceway than indicated on the drawings. A maximum of three ungrounded conductors are to be installed in any one conduit on a 3-phase, 4-wire system, unless specifically noted otherwise on the drawings. When more than three ungrounded conductors are installed in a raceway, the conductor size shall be increase per code for derating. No two ungrounded conductors of the same phase are to be installed in the same conduit, unless specifically noted otherwise on the drawings.**
- 1. Where multi-wire circuits are permitted by these specifications, all grounded and ungrounded conductors shall be grouped by wire markers, cable ties or similar means with the panelboard or wireway at least one location.**
- D. Provide dedicated neutral conductor for all single phase circuits. Shared neutral conductor is not acceptable on single phase circuits.**
- E. Minimum wire size shall be a No.12 AWG except for control or signal circuits, which may be No. 14 AWG.**

- F. Unless otherwise indicated on drawings, all wiring for branch circuits shall be a minimum No. 12 AWG in ¾” conduit, protected by 20 amperes circuit breakers. If distance from panel to first outlet is 75 feet or greater for 120-Volt circuits, and 125 feet or greater for 277-Volt circuits, No. 10 AWG shall be installed throughout the circuit, unless noted otherwise on the drawings.
- G. Size of current carrying conductors, unless noted otherwise on drawings, shall be determined from Table 310.15(B)(16) of the latest National Electric Code for the load served.
- H. Pull conductors simultaneously where more than one is being installed in same raceway. Use UL listed pulling compound or lubricant, where necessary.
- I. Use pulling means including fish tape, cable, rope, and basket weave wire/cable grips which will not damage cables or raceways. Do not use rope hitches for pulling attachment to wire or cable.
- J. Size of conduits, unless specifically shown, shall be determined from Appendix C of the latest National Electrical Code.
- K. Keep conductor splices to a minimum. All splices shall be made within junction boxes, wiring troughs and other enclosures as permitted by the National Electrical Code.
  - 1. Splices shall not be permitted within 25 feet of any panel or electrical room.
  - 2. Do not splice conductors in panelboards, safety switches, switchboards, motor control centers or motor control enclosures.
  - 3. Splices in conductors installed below grade will not be permitted, unless approved in writing by the Architect and Engineer.
- L. Install splice and tap connectors, which possess equivalent or better mechanical strength and insulation rather than conductors being spliced.
- M. Use splice and tap connectors which are compatible with conductor material.
- N. Provide adequate length of conductors within electrical enclosures and train the conductors to terminal points with no excess. Bundle multiple conductors, with conductors larger than No. 10 AWG cabled in individual circuits. Make terminations so there is no bare conductor at the terminal.
- O. Tighten electrical connectors and terminals, including screws and bolts, in accordance with manufacturers’ published torque tightening values. Where manufacturers’ torque requirements are not indicated, tighten connectors and terminals to comply with tightening torque values specified in UL 486A and UL 486B. After tightening the connection/terminal, mark the bolt surface and that of the product or workpiece. Then loosen the bolt. Re-tighten it until the markings re-align. The torque needed to return the bolt to its original position is the torque value of the bolt.

### 3.3 FIELD QUALITY CONTROL

- A. Prior to energizing, check installed wires and cables with megohm meter to determine insulation resistance levels to assure requirements are fulfilled.
- B. Prior to energizing, test wires and cables for electrical continuity and for short circuits.
- C. Subsequent to wire and cable hook-ups, energize circuits and demonstrate proper functioning. Correct malfunctioning units, and retest to demonstrate compliance.
- D. Prior to completion of project, an infrared scan of switchgear and panelboard feeder equipment connection shall be performed when all loads are energized.
- E. TABLE I: Color Coding for Phase Identification:

- 1. Color code secondary service, feeder, and branch circuit conductors with factory applied color as follows:

<u>208V/120-Volts</u>	<u>Phase</u>	<u>480V/277-Volts</u>
Black	A	Brown
Red	B	Orange
Blue	C	Yellow
White	Neutral	Gray
Green	Ground	Green

### 3.4 FEEDER TESTING

- A. Products
  - 1. Material: Contractor shall provide all necessary testing equipment and devices required to perform the test described in this section.
- B. Execution
  - 1. Visual and Mechanical Inspection
    - a. Inspect cables for physical damage and proper connection in accordance with one-line diagrams.
    - b. Test cable mechanical connections to manufacturer's recommended values using a calibrated torque wrench.
    - c. Check cable color coding with specification section 26 05 53 and National Electrical Code standards.
  - 2. Electrical Tests
    - a. Perform insulation-resistance test on each conductor with respect to ground and adjacent conductors. Applied potential shall be 1000-Volts D.C. for 1 minute.
    - b. Perform continuity test to insure proper cable connection.

3. Test Values
  - a. Evaluate results by comparison with cables of same length and type. Investigate any insulation-resistance values less than 50 megohms.
  - b. Submit results to Engineer for approval in accordance with Section 26 05 10.

**END OF SECTION 26 05 19**