Standard Form No. 5 Drainage and Stormwater Treatment Scope Approval Form

Prior to starting a development plan and before the first drainage submittal, a Drainage and Stormwater Treatment Scope Approval Form must be submitted for review and signed by the City Engineer. A signed form shall also be included in every drainage submittal as Attachment A. This Scope Approval Form is for City requirements only. Values may be approximate. The City encourages supporting calculations and figures to be attached.

Project Information	
Project name:	Christie Express Relocation
Project location:	Lot 2 Parcel D Replat of Ski Hill Subdivision
Developer name/contact info:	Steamboat Ski & Resort Corp. Jim Schneider, 970-871-5381, jschneider@steamboat.com
Drainage engineer name/contact info:	Deborah Spaustat, P.E., Landmark Consultants, Inc. debs@landmark-co.com, 970-871-9494
Application Type:	Minor Adjustment
Proposed Land Use:	Open Space & Recreation (OR); Ski Area

Project Site Parameters	
Total parcel area (acres):	0.52-acres (lower terminal), 1.23-acres (upper terminal)
Disturbed area (acres):	0.52-acres (lower terminal),1.23-acres (upper terminal)
Existing impervious area (acres, if applicable):	0.01-acres (lower terminal), 0.08-acres (upper terminal)
Proposed new impervious area (acres):	0.05-acres (lower terminal), 0.00-acres (upper terminal)
Proposed total impervious area (acres):	0.06-acres (lower terminal), 0.08--acres (upper terminal)
Proposed number of project outfalls:	1
Number of additional parking spaces:	0
Description and site percentage of existing cover/land use(s):	OR - Open Space & Recreation (100%)
Description and site percentage of proposed cover/land use(s):	OR - Open Space & Recreation (100%)
Expected maximum proposed conveyance gradient (%):	Sheet flow slopes up to 50%
Description of size (acres) and cover/land use(s) of offsite areas draining to the site	none

Type of Study Required:

☐ Drainage Letter
☐ Final Drainage Study
☐ Conceptual Drainage Study
☐ Stormwater Quality Plan

Hydrologic Evaluation:

☑ Rational Method ☐ CUHP/SWMM ☐ HEC-HMS ☐ Other_____

Project Drainage	
Number of subbasins to be evaluated:	2
Presence of pass through flow (circle)	YES (NO)
Description of proposed stormwater conveyance on site:	lower - sheet flow to Burgess Creek, sheet flow to sand filter/det pond to BC culvert mid-station - sheet flow to swales in historical pattern
Project includes roadway conveyance as part of design evaluation (circle):	YES (NO)
Description of conveyance of site runoff downstream of site, identify any infrastructure noted in Stormwater Master Plan noted as lacking capacity for minor or major storm event:	Burgess Creek Culvert to Burgess Creek to Yampa River. Several areas on Burgess Creek have been identified as under capacity. No increase in flow as a result of proposed projecy
Detention expected onsite(circle):	(YES) NO
Presence of Floodway or Floodplain on site (circle):	YES (NO)
Anticipated modification of Floodway or Floodplain proposed (circle):	YES (NO)
Describe culvert or storm sewer conveyance evaluative method:	Storm sewer evaluated using SSA

Permanent Stormwater Treatment Facility Design Standard (check all that apply with only one standard per tributary basin):

☑ WQCV Standard ☐ TSS Standard ☐ Infiltration Standard
☐ Constrained Redevelopment WQCV Standard
☐ Constrained Redevelopment TSS Standard
☐ Constrained Redevelopment Infiltration Standard
☐ Does not Require Permanent Stormwater Treatment (attach Exclusion Tracking Form)

Project Permanent Stormwater Treatment	
Justification of choice of proposed design standard, including how the site meets the constrained redevelopment standard, infiltration test results, etc.	WQCV standard applies to all sites and can be combined to achieve required detention
Concept-level permanent stormwater treatment facility design details (type, location of facilities, proprietary structure selection, treatment train concept, etc.):	Sand filter to be located next to lower terminal
Proposed LID measures to reduce runoff volume:	providing stormwater quality was a primary concern for the site design
Will treatment evaluation include off-site, pass through flow (circle):	YES NO

Approvals

	12/2021/2021	970-871-9494
Prepared By: (Insert drainage engineer name & firm)	Date	Phone number

Approved By:

Printed Name: City Engineer	Date

12/13/2021
Christie Peak Express Relocation
Deborah Spaustat, P.E.

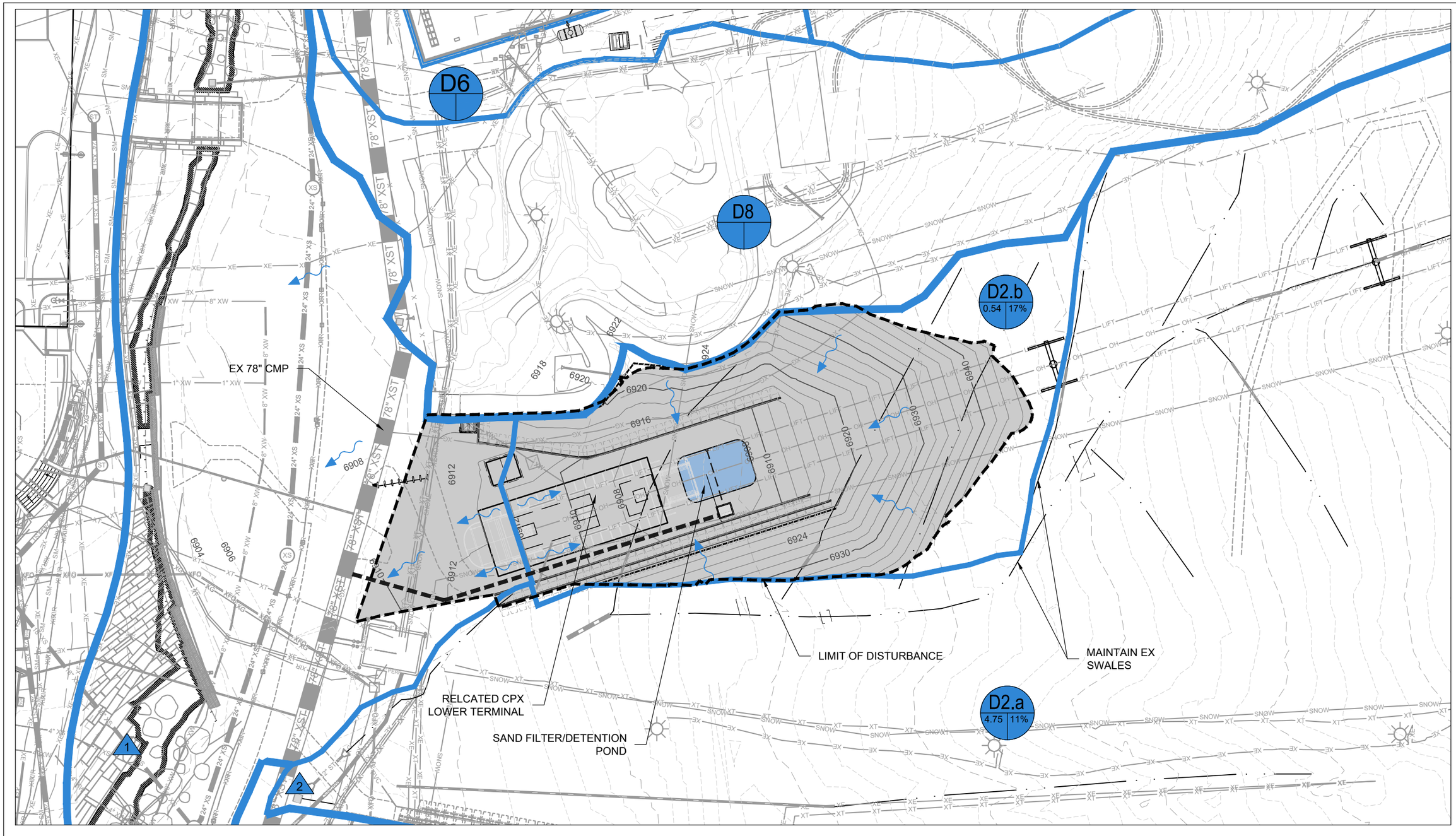
Drainage and Stormwater Treatment Scope Approval Narrative

Steamboat Ski Resort Corporation (SSRC) is applying for a Minor Adjustment permit to relocate the lower terminal and mid-station of the Christie Peak Express chairlift at the Steamboat Ski Area. The Minor Adjustment application checklist does not include a drainage study requirement; however, the project team has evaluated the impacts to the existing drainage patterns and included new infrastructure to safely convey runoff to historical discharge points. These drainage improvements include a sand filter/detention pond to treat runoff from the lower terminal and a rock lined swale at the mid-station to collect runoff adjacent to an existing driveway.

The removal of the lower CPX terminal station is addressed in the Wild Blue Gondola Development Plan. Its relocation in different basin will result in a small increase in runoff that will be mitigated in the detention pond. The terminal station consists of roof structure covering the mechanics of the chairlift operation. Unlike the Silver Bullet Gondola relocation and the new Wild Blue Gondola, no hardscape is proposed for the “maze” or skier access. The area below the roof structure will be largely vegetated ground with the same imperviousness as the rest of the ski slope. The sand filter will treat 81% of the site.

The mid-station will be relocated to a new spot in the same drainage basin, which will not change the imperviousness of the basin or the peak runoffs. Existing drainage swales will be maintained, and a riprap lined swale will be installed on the south side of the basin to collect runoff from the terminal and convey it around the adjacent driveway to the main collector swale. No detention or water quality treatment is proposed for this site.

It is important to note that once construction is complete, any stormwater quality BMP’s will be treating mainly roof runoff and vegetated areas with little pollutant potential. The sites will receive very little vehicular traffic.



PROJECT: 1012-052	NO.	DATE:	BY:	DESCRIPTION:
DATE: 12/13/2021				REVIEW SET NOT FOR CONSTRUCTION XX/XX/XX
DRAWN BY: DCS				
CHECKED BY:				

LANDMARK CONSULTANTS, INC.
CIVIL ENGINEERS | SURVEYORS
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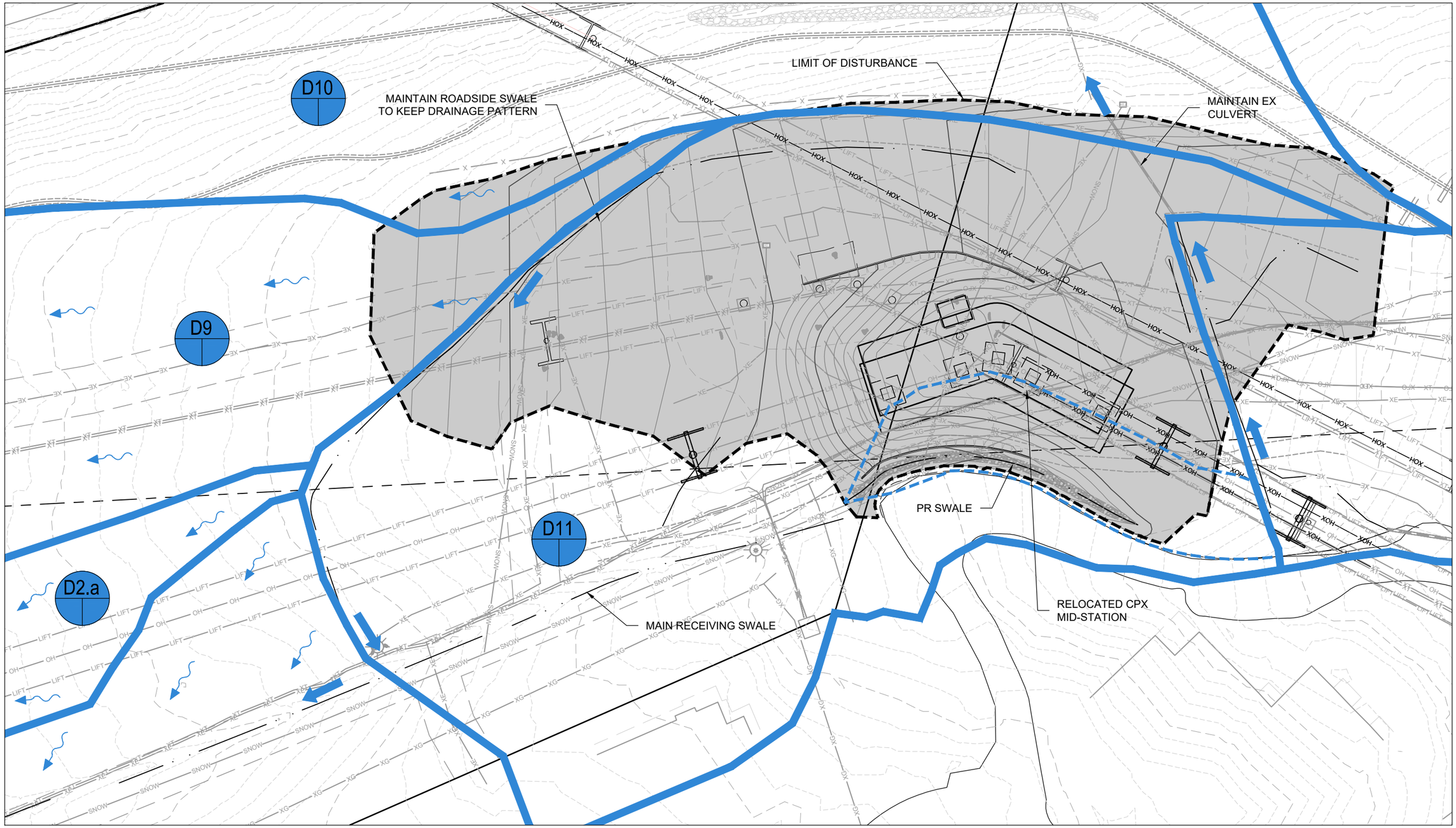
Christie Peak Express Relocation
Drainage and Stormwater Treatment Scope Approval Exhibit

SHEET 1 Of 2 Sheets



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